AREC 815: Experimental and Behavioral Economics

Charitable Giving: Altruism vs. Social Pressure

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Social Pressure vs. Social Preferences

Two Models of Distributional Preferences

Differences between CES model and model of fairness ideals:

$$U_i = \left[\alpha\pi_i^{\rho} + (1-\alpha)\,\pi_j^{\rho}\right]/\rho$$

versus

$$U_i = y_i - \frac{\beta}{2X}\left(y_i - m_i(X)\right)^2$$

- Both represent homothetic distributional preferences
  - CES model focuses on responses to price changes
  - Fairness model focuses on changes in the provenance of income
- CES model implies giving to others **increases** utility, while model of fairness ideals suggests subjects pay a cost because of their ideals

How much of actual ("real world") giving is welfare-enhancing altruism toward others, and how much is utility-reducing guilt, obligation, etc?

Opting Out of Dictator Games

Lazear et al (*AEJ: Applied*, 2012) conduct DGs with an **opt out** option; recipients never learn that they were part of a DG but received nothing

- Test whether dictators actually have a preference for giving

Propose the existence of three social preference types:

- Nonsharers
- Willing sharers
- Reluctant sharers

Obvious prediction:

- Mean allocation to recipient should decrease with option to opt out

Opting Out of Dictator Games: Theory

Let $D_i = 1$ if i participates in a DG, $D_i = 0$ otherwise

- Participating means that recipient learns structure of game

Utility function: $U_i = u_i(D_i, \pi_i, \pi_j)$

- Dictators allocate $\pi_j > 0$ to recipient if: $u(1, m - x, x) > u(1, m, 0)$
- Standard assumption is that this implies: $u(1, m - x, x) > u(0, m, 0)$

Anonymous dictators may feel an obligation to "be nice"

- Willing sharers: $u(1, m - x, x) > u(0, m, 0)$
- Reluctant sharers: $u(0, m, 0) > u(1, m - x, x) > u(1, m, 0)$

Opting Out of Dictator Games: Results

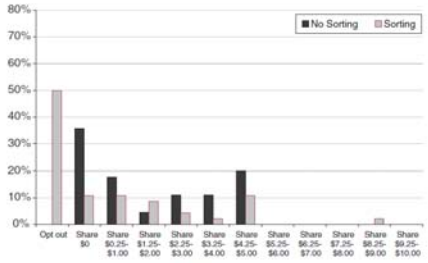


FIGURE 1A. DISTRIBUTIONS OF AMOUNTS SHARED
(*Experiment 1, Berkeley*)

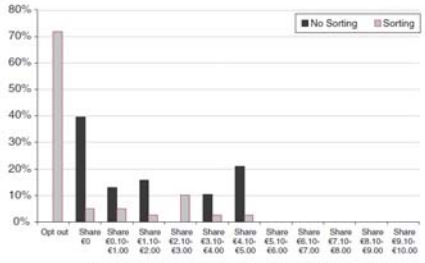


FIGURE 1B. DISTRIBUTIONS OF AMOUNTS SHARED
(*Experiment 1, Barcelona*)

Opting Out of Dictator Games: Results

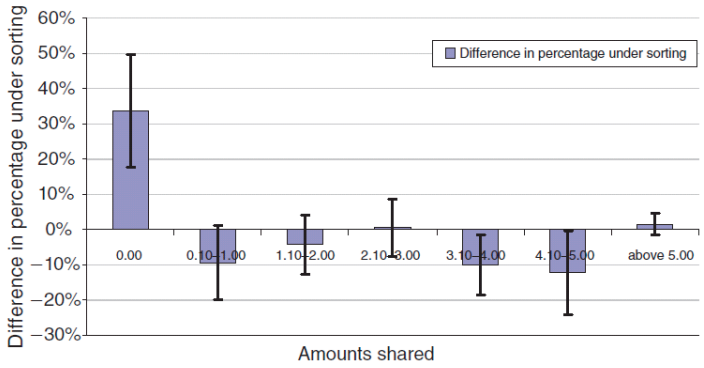


FIGURE 1C. DISTRIBUTION OF DIFFERENCE IN AMOUNTS SHARED
(*Experiment 1, Berkeley and Barcelona*)

Some reluctant sharers seem to allocate a lot to the recipient!

Opting Out of Dictator Games: Results

TABLE 1—EFFECT OF SORTING ON SHARING

Model:	OLS		Tobit		Probit	
Dependent variable:	Proportion Shared		Proportion Shared		Proportion Shared	
	(1)	(2)	(3)	(4)	(5)	(6)
Sorting	−0.102**	−0.079*	−0.234***	−0.173**	−0.309***	−0.253**
	(0.029)	(0.043)	(0.0578)	(0.078)	(0.073)	(0.102)
Barcelona		−0.013		−0.024		−0.041
		(0.045)		(0.074)		(0.112)
Sorting × Barcelona		−0.050		−0.145		−0.139
		(0.058)		(0.124)		(0.154)
Observations	168	168	168	168	168	168
(Pseudo-) R^2	0.070	0.084	0.086	0.107	0.070	0.082

Notes: Sorting is a dummy equal to 1 in treatments where subjects can opt out. The dependent variable Proportion Shared is 0 for subjects who opted out. The dependent variable Shared Something is a dummy equal to one if the subject shared a positive amount. The tobit model accounts for 89 observations being left-censored at zero. The probit model estimates are marginal effects. Robust standards are in parentheses (with bias-correction (HC3) in the linear case, see MacKinnon and White 1985) and are calculated using jackknife estimation for the tobit model. Constant included.

Opting Out: Within-Subject Evidence

Within-subject follow-up experiment:

- Intended to show which types are least willing to participate in DGs
- In Decisions 2 through 5: choice between participating in a dictator game with budget $m \geq 10$ or opting out of the DG and receiving 10

			Dictators' Decisions (Means)	
Decision	**Endowment**	**Sorting?**	**Allocations**	**Participation**
1	\$10.00	No	\$2.42 (24 percent)	100
2	\$10.00	Yes	\$1.22 (12 percent)	46
3	\$10.50	Yes	\$1.34 (13 percent)	57
4	\$11.00	Yes	\$1.42 (13 percent)	74
5	\$12.00	Yes	\$1.52 (13 percent)	76

Opting Out: Within-Subject Evidence

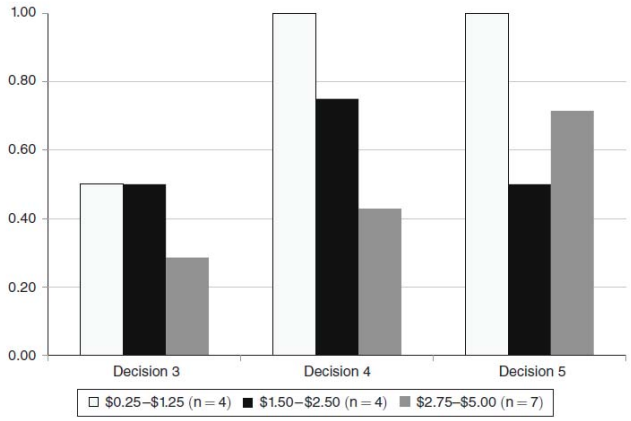


FIGURE 2A. PROPORTION OF RELUCTANT SHARERS CHOOSING TO ENTER BY DECISION AND INITIAL AMOUNT SHARED (*Anonymity*)

Opting Out: Within-Subject Evidence

TABLE 4—DETERMINANTS OF ENTRY INTO SHARING ENVIRONMENT
(Experiment 2, excluding decisions 1 and 2)

Sample:	All classified subject	Willing and reluctant sharers			Reluctant sharers
	(1)	(2)	(3)	(4)	(5)
Initial proportion shared		0.003	−0.502***	0.282	−0.823***
		(0.175)	(0.182)	(0.417)	(0.265)
Nonsharers	−0.154**				
	(0.077)				
Reluctant sharers	−0.346***		−0.350***	−0.025	
	(0.060)		(0.052)	(0.196)	
Initial prop. shared × reluctant sharers				−0.882*	
				(0.460)	
Endowment in dictator game	0.068***	0.059***	0.067***	0.066***	0.086***
	(0.009)	(0.010)	(0.010)	(0.010)	(0.014)
Observations	312	234	234	234	141
Pseudo-R^2	0.228	0.113	0.270	0.279	0.223

Notes: The table reports marginal effects of probit estimations. The dependent variable is an indicator equal to one if the subject shared any positive amount. Robust standard errors are in parentheses.

Opting Out of Dictator Games: Takeaways

Heterogeneity is important (yet again!)

- Some dictators **are** motivated by a desire to give
  - In other words, giving is utility-increasing for them
- Other dictators feel a utility-decreasing compunction to give
  - Must be driven by a desire to avoid "letting down" the recipient
  - Self-signalling, etc., cannot explain opting out in DGs

Capturing the range of human motivations in a model is tough!

- Highlights the (welfare) importance of targeting opportunities to give, potential costs of nudges designed to increase charitable giving

Social Pressure and Charitable Giving

Social Pressure and Charitable Giving

DellaVigna et al (*QJE*, 2012) conduct closely related field experiment built around door-to-door fundraising campaign for two charities

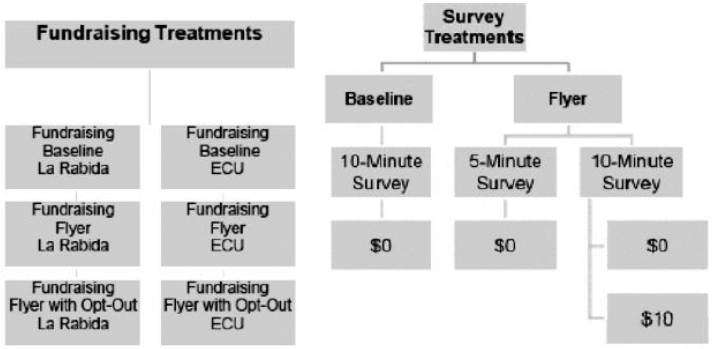
Treatments allowing for opting out, solicitation avoidance

- No information
- Flyer
- Flyer w/ opt out option

Measure importance of "social pressure" in charitable giving

Model of opening door, giving conditional on opening door

Experimental Design



Optimal Response to Solicitation

Utility depends on:

- Money income: $W - g$
- Supply of the public good: $a \ln(g + G_{-i})$
- Social cost of rebuffing a fundraiser: $s(g) = [S(g_s - g)]\,\mathcal{I}(g \leq g_s)$
  - g_s is minimum "acceptable" donation

Heterogeneity in terms of W, a

Optimal Response to Solicitation

Utility of giving $g > 0$ to door-to-door campaigner:

$$U(g) = u(W - g) + a\left[v(g + G_{-i})\right] - s(g)$$

$$= (W - g) + a\left[\ln(g + G_{-i})\right] - \left[S(g_s - g)\right]\mathcal{I}(g \leq g_s)$$

Note that $U(g)$ is strictly concave if $\partial v^2/\partial^2 g < 0$ and $a > 0$

- Claim: $g^*(a)$ is weakly increasing in a

Optimal Response to Solicitation

Case 1: $g^* = 0 \Leftrightarrow \left.\frac{\partial U(g)}{\partial g}\right|_{g=0} \leq 0$

Optimal Response to Solicitation

Case 4: $g^* > g_s \Leftrightarrow \left.\frac{\partial U(g)}{\partial g}\right|_{g \to g_s^+} > 0$

Optimal Response to Solicitation

Case 3: $g^* = g_s \Leftrightarrow \left.\frac{\partial U(g)}{\partial g}\right|_{g \to g_s^-} \geq 0$ AND $\left.\frac{\partial U(g)}{\partial g}\right|_{g \to g_s^+} \leq 0$

Optimal Response to Solicitation

Case 2: $g^* \in (0, g_s)$

$$\left.\frac{\partial U(g)}{\partial g}\right|_{g=0} > 0 \quad \text{and} \quad \left.\frac{\partial U(g)}{\partial g}\right|_{g \to g_s^-} < 0$$

together imply an interior solution for g^* which i below g_s

Solving for interior solution:

Optimal Response to Solicitation

Case	Donation	Utility
$a \leq \underline{a}(S)$	$g^* = 0$	
$\underline{a}(S) < a < \underline{a}(S)$	$g^* \in (0, g_s)$	
$\underline{a}(S) \leq a \leq \overline{a}(S)$	$g^* = g_s$	
$\overline{a}(S) < a$	$g^* > g_s$	

When to Open the Door

In absence of flyer, Pr(donor at home) $= h_0$

Donor observes flyer with probability $r \in (0, 1)$

After observing flyer, donor chooses when to avoid opening the door:

$$h\left[U(g^*)\right] + (1-h)\left[U(0)\right] - \underbrace{\frac{(h-h_0)^2}{2\eta}}_{\text{cost of avoidance}}$$

Claim: $\exists!\ a_0 \in \left(\underline{a}(S), \overline{a}(S)\right)$ such that

$$h^*(a) < h_0 \Leftrightarrow a < a_0$$
$$h^*(a) > h_0 \Leftrightarrow a > a_0$$

When to Open the Door

Case 1: $g^* = 0$

$$h\left[W + a\left[\ln\left(G_{-i}\right)\right] - Sg_s\right] + (1-h)\left[W + a\left[\ln\left(G_{-i}\right)\right]\right] - \frac{(h-h_0)^2}{2\eta}$$

Interior solution for h^* solves:

When to Open the Door

Case 4: $g^* > g_s$

$$h\left[W - g^* + a\left[\ln\left(g^* + G_{-i}\right)\right]\right] + (1-h)\left[W + a\left[\ln\left(G_{-i}\right)\right]\right] - \frac{(h-h_0)^2}{2\eta}$$

When to Open the Door

Cases 2 and 3: $g^* \in (0, g_s]$

$$\Rightarrow U(g^*) = W - g^* + a\left[\ln\left(g^* + G_{-i}\right)\right] - S(g_s - g^*)$$

Optimal $h^*(a, S)$ solves:

$$W - g^*(a) + a\left[\ln\left(g^*(a) + G_{-i}\right)\right] - S[g_s - g^*(a)] - \left[W + a\left[\ln\left(G_{-i}\right)\right]\right] = \frac{1}{\eta}(h^* - h_0)$$

Differentiating $h^*(a, S)$ wrt a demonstrates monotonicity

Opting Out

Implication: $\exists! a_0 \in \left(\underline{a}(S), \overline{a}(S)\right)$ such that $h^*(a, S) = h_0$

What if donors are given the option to "opt out" of solicitation?

- Donors with $a < a_0(S)$ will clearly opt out

Suppose a is distributed according to CDF F

How will behavior vary across treatments (nf, f, oo)?

Testable Predictions

Let $P(H)_t = \Pr(\text{opening door} | \text{treatment} = t)$

$$P(H)_{nf} = h_0$$

$$P(H)_f = (1 - r)h_0 + r \int_{\infty}^{\infty} h^*(a, S) dF$$

$$P(H)_{oo} = (1 - r)h_0 + r \int_{a_0}^{\infty} h^*(a, S) dF$$

How will the treatments impact $P(H)$ in practice?

- Under social pressure only: $P(H)_{nf} > P(H)_f > P(H)_{oo}$
- Under altruism only: $P(H)_f = P(H)_{oo} > P(H)_{nf}$

Testable Predictions

Similar story with unconditional probability of giving:

$$P(G)_{nf} = h_0 \left[1 - F(\underline{a}(S))\right]$$

$$P(G)_{f} = (1-r)h_0 \left[1 - F(\underline{a}(S))\right] + r \int_{\underline{a}(S)}^{\infty} h^*(a,S)dF$$

$$P(G)_{oo} = (1-r)h_0 \left[1 - F(\underline{a}(S))\right] + r \int_{a_0}^{\infty} h^*(a,S)dF$$

Under social pressure only: $P(G)_{nf} > P(G)_{f} > P(G)_{oo}$

Under altruism only: $P(G)_{f} = P(G)_{oo} > P(G)_{nf}$

Reduced Form Results

SUMMARY STATISTICS

Panel A: Fund-raising treatments

Variable:	Share of households answering the door			Share of households giving In person			Number of households giving via mail or internet	
Sample:	Pooled (1)	ECU (2)	La Rabida (3)	Pooled (4)	ECU (5)	La Rabida (6)	ECU (7)	La Rabida (8)
Baseline (no-flyer) treatment	0.4090 ($N = 3166$)	0.4228 ($N = 946$)	0.4032 ($N = 2220$)	0.0629	0.0507	0.0680	Zero donations across all treatments	One ($25) donation across all treatments
Flyer treatment	0.3753 ($N = 3432$)	0.3993 ($N = 1172$)	0.3628 ($N = 2260$)	0.0585	0.0460	0.0650		
Flyer with opt-out treatment	0.3355 ($N = 1070$)	0.3503 ($N = 588$)	0.3174 ($N = 482$)	0.0514	0.0289	0.0788		
N	$N = 7668$	$N = 2706$	$N = 4962$	$N = 7668$	$N = 2706$	$N = 4962$	$N = 2706$	$N = 4962$

Reduced Form Results

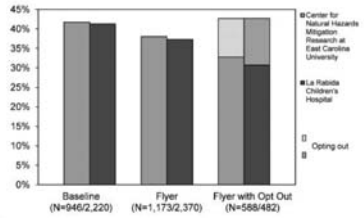
RESULTS FOR FUND-RAISING TREATMENTS

Specification:	OLS regressions									
Dep. var.:	Indicator for answering the door		Indicator for giving		Indicator for giving: Small amount (≤ $10)		Indicator for giving: Large amount (> $10)		Amount given (including $0)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Flyer treatment	−0.0387		−0.0011		−0.0033		0.0022		−0.1459	
	(0.0137)***		(0.0062)		(0.0052)		(0.0035)		(0.1357)	
Flyer with opt-out treatment	−0.0967		−0.0195		−0.0193		−0.0002		−0.3041	
	(0.0194)***		(0.0084)**		(0.0081)**		(0.0051)		(0.1653)*	
Indicator ECU charity	0.01	0.0041	−0.0249	−0.0263	−0.0127	−0.0107	−0.0123	−0.0155	−0.7611	−0.9767
	(0.0143)	(0.0234)	(0.0049)***	(0.0085)***	(0.0053)**	(0.0085)	(0.0032)***	(0.0052)***	(0.1368)***	(0.2014)***
Flyer treatment * ECU charity		−0.0365		0.0006		−0.0045		0.0051		0.1154
		(0.0313)		(0.0094)		(0.0076)		(0.0045)		(0.1240)
Flyer with opt-out * ECU charity		−0.089		−0.0183		−0.0222		0.0039		−0.0907
		(0.0271)***		(0.0100)*		(0.0098)**		(0.0058)		(0.1268)
Flyer treatment * La Rabida charity		−0.0396		−0.0019		−0.0028		0.0009		−0.2545
		(0.0144)***		(0.0078)		(0.0066)		(0.0046)		(0.1841)
Flyer with opt-out * La Rabida charity		−0.106		−0.0202		−0.0161		−0.0042		−0.4573
		(0.0319)***		(0.0132)		(0.0128)		(0.0087)		(0.2885)
Omitted treatment	No-flyer, La Rabida		No-flyer, La Rabida		No-flyer, La Rabida				No-flyer, La Rabida	
Mean of dep. var. for omitted treatment	0.413		0.0717		0.0414	0.0414	0.0215	0.0215	1.161	1.161
Fixed effects for solicitor, date-location, hour, and area rating	X	X	X	X	X	X	X	X	X	X
N	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$	$N = 7668$

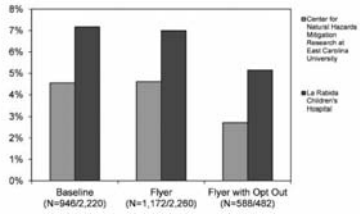
Notes. Estimates for a linear probability model, with standard errors clustered by solicitor-date, in parentheses. The omitted treatment is the baseline no-flyer fund-raising treatment for the La Rabida charity. The regressions include fixed effects for the solicitor, for the date-town combination, for the hour of day, and for a subjective rating of home values in the block. * significant at 10%; ** significant at 5%; *** significant at 1%.

Reduced Form Results

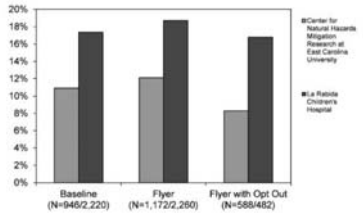
Opening the Door



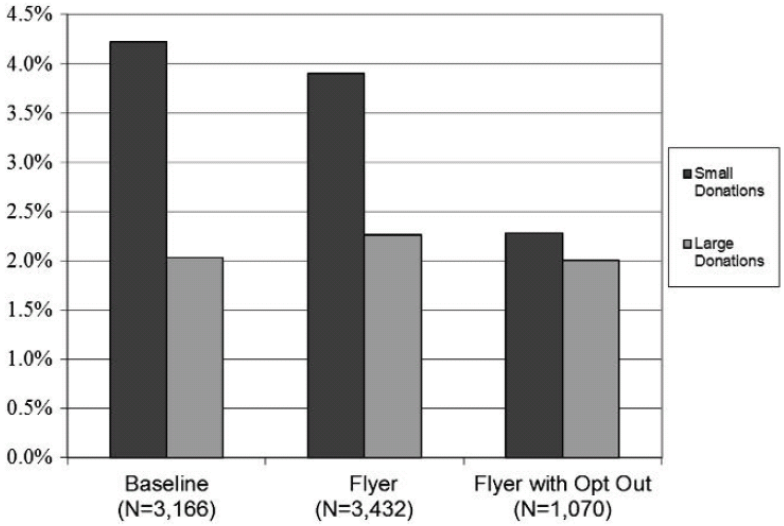
Unconditional Giving



Conditional Giving



Reduced Form Results



Estimates of Model Parameters

Assumptions:

- Functional form for utility function
- Altruism parameter normally distributed

Survey experiment to identify avoidance cost parameters

Minimum distance estimator: $(m(\xi) - \hat{m})' W (m(\xi) - \hat{m})$

Estimates of Model Parameters

MINIMUM-DISTANCE ESTIMATES: BENCHMARK RESULTS

Common parameters	Benchmark estimates (1)	No social pressure (2)
Prob. of home presence (h) year 2008	0.414	0.383
	(0.004)	(0.003)
Prob. of home presence (h) year 2009	0.414	0.392
	(0.007)	(0.008)
Prob. of observing flyer (r)	0.341	0.426
	(0.012)	(0.017)
Elasticity of home presence (*eta*)	0.040	0.008
	(0.011)	(0.003)
Implied cost of altering prob. home by 10 pp.	0.126	0.656
Survey parameters		
Mean utility (in $) of doing 10-minute survey	−26.863	−17.203
	(4.204)	(3.466)
Std. dev. of utility of doing survey	29.591	28.347
	(5.129)	(5.374)
Value of time of one-hour survey	80.656	83.039
	(22.762)	(24.898)
Social pressure cost if saying no to survey	6.197	0.000
	(1.492)	(—)

Estimates of Model Parameters

Charity parameters	La Rabida	ECU	La Rabida	ECU
Share with zero altruism a	0.753	0.763	0.723	0.747
	(0.048)	(0.071)	(0.01)	(0.024)
Mean altruism a, conditional on $a>0$	12.786	9.659	14.167	10.272
	(1.444)	(1.485)	(0.452)	(0.876)
Std. dev. of altruism a, conditional on $a>0$	10.545	7.994	11.569	8.455
	(1.038)	(1.103)	(0.389)	(0.773)
Curvature of altruism function	10.606		10.606	
	(4.466)		(—)	
Social pressure cost of giving 0 in person	3.751	1.438	0	0
	(0.581)	(0.784)	(—)	(—)
SSE	86.618		366.620	

Welfare Impacts

WELFARE AND DECOMPOSITION OF GIVING

Specification: Charity:	Minimum-distance La Rabida charity (1)	Benchmark estimates ECU charity (2)
Panel A. Welfare		
Welfare in standard (no-flyer) fund-raiser		
Welfare per household contacted (in $)	−1.102 (0.145)	−0.442 (0.301)
Money raised per household contacted	0.719 (0.035)	0.333 (0.046)
Money raised per household, net of salary	0.244 (0.035)	−0.142 (0.046)
Welfare in fund-raiser with flyer		
Welfare per household contacted (in $)	−0.952 (0.122)	−0.410 (0.288)
Money raised per household contacted	0.860 (0.044)	0.389 (0.057)
Money raised per household, net of salary	0.249 (0.044)	−0.221 (0.057)
Welfare in fund-raiser with opt-out		
Welfare per household contacted (in $)	−0.564 (0.077)	−0.234 (0.201)
Money raised per household contacted	0.808 (0.045)	0.370 (0.055)
Money raised per household, net of salary	0.292 (0.045)	−0.145 (0.055)

Welfare Impacts

Panel B. Decomposition of giving in standard (no-flyer) fund-raiser		
Share of givers who would give	0.745	0.848
without social pressure ($S = 0$)	(0.056)	(0.079)
Share of amount that would be given	0.726	0.816
without social pressure ($S = 0$)	(0.03)	(0.093)
Share of givers who seek	0.518	0.528
the fund-raiser (happy givers)	(0.041)	(0.095)
Panel C. Sorting in fund-raiser with flyer		
Increase in answering the door due to	0.007	0.003
altruism (sorting in)	(0.001)	(0.001)
Decrease in answering the door due to	−0.045	−0.018
social pressure (sorting out)	(0.01)	(0.01)

Summary and Conclusions

Evidence of heterogeneity in whether giving increases utility

- Lab and field evidence is consistent
- Many people do not feel comfortable saying no

Charitable fundraising may make people (donors) worse off

- Allowing for opt-out can improve efficiency