Information, Donations, and Intergenerational Mobility

Ricardo Perez-Truglia,¹ Maria Petrova,² Andrei Simonov,³ and Pinar Yildirim⁴

¹Microsoft Research
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Mapping Political Preferences Conference March 18th, 2016

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Intro

- Individual donations: large part of economic activity
 - ▶ 2% GDP charitable donations, 0.25% GDP political donations for U.S.
 - ★ small donations is a form of pro-social behavior
 - Some common drivers
 - ★ social pressure (DellaVigna et al. 2012, Crucez and Perez-Truglia 2016)
 - ★ warmglow (giving to feel good about oneself)?
- Are political and charitable donations related? What are the limits on individual contributions/pro-social behavior in giving?



- Thaler (1985, 1990): mental accounting can explain spending behavior
 - people make sub budget allocation decisions to various items that they pre-construct in their minds and make spending decisions accordingly
- Hastings and Shapiro (2013): households spent fixed amount of money on given categories
 - e.g. have "gas money" that remain the same regardless of changes if relative prices of gas of different quality
- Do people have fixed budget for donations?
 - spend on politics or charity depending on salience of one or anotherity

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- Look at two different types of voluntary contributions: political donations and charitable donations
- Look at information shocks that can directly affect each type of donations
 - foreign natural disasters as a trigger of charity donations
 - political advertising as a trigger of political donations
- Check if these donations are substitutable in donors' minds, i.e.
 - if foreign natural disasters decrease political donations
 - ▶ if political advertising decrease charitable donations
- Check if beliefs about "just world" affect people's responsiveness to information shocks

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- Responsiveness to information
 - whether potential donors can change their behavior
- Some people are more likely to donate
 - ▶ older males with higher incomes and higher education (List 2011)
 - but: their beliefs about the world are likely to be important
- Intergenerational mobility: one way to capture beliefs in a just world
 - higher mobility if chances of children to get high income are less dependent on the income of the parents
- Idea: check if intergenerational mobility increases or decreases donors' responsiveness to information shocks

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- Theoretical framework
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- Onations and political advertising
- Responsiveness of donations and intergenerational mobility

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Theoretical framework

(in the spirit of DellaVigna et al. 2012 and Karlan and Wood 2014)

If an individual has an option to give money to charity (c) and politics (p), and the main motivation of charitable giving is to feel good about giving ("warmglow"), s/he solves the following problem:

$$U_{i} = V(C_{i}) + \beta_{ic}e_{ic}W_{c}(g_{ic}) + \beta_{ip}e_{ip}W_{p}(g_{ip}) \rightarrow \max_{C_{i},g_{ic},g_{ip}} s.t. C_{i} + g_{ic} + g_{ip} \leq B_{i}$$

where

 C_i is private consumption

 $g_{ic}(g_{ip})$ is donation to charity (politics)

 e_{ij} is emotional attachment to the cause (can be affected by media)

 $W_{j}(g_{ij})$ is warmglow component of utility received from donation β_{ii} is a weight of warmglow utility for individual i

here $j \in \{c, p\}$ is "charitable" or "political"

4 11 2 4 4 12 2 4 12 2 2 4 12 2 2 4 12 2

Charitable donations - proprietary data from American Red Cross (RC)

- available at the individual level, but anonymized
- know zipcode and date of donations, fundraising materials sent,
- Political donations individual contributions above \$200 from Federal
- Foreign natural disasters from EMDAT
- Political advertising data from Kantar Media



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 - so far, aggregate at zipcode level for symmetry
- Foreign natural disasters from EMDAT
 - largest (top 10%) disasters in terms of the number of people killed, from outside U.S., stories about these disasters are most likely to appear on TV
- Political advertising data from Kantar Media
 - available at ad-media market-week level



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- Natural disasters bring attention to needs of poor people suffered from bad shocks
 - ▶ a lot of information in mass media, pictures, videos
 - for some time after natural disasters
- What we do: look whether natural disasters abroad affect
 - charitable donations, at zipcode-week or zipcode-month (direct effect)
 - political donations, at zipcode-weekor zipcode-month (indirect effect)
- Control for zipcode f.e. and month f.e.
 - identification from f.e. and exogenous nature of disasters
 - identifying assumptions disaster should not affect donations throughout channels we are not controlling for
 - in addition: check other important events during the time of disaster (Eisensee and Stromberg 2007)

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Direct effect: natural disasters and charitable donations

| VARIABLES Foreign Natural Disaster | | Log (aggregate amount of RC donations) | | | | | | |
|-------------------------------------|-----------|--|-----------|------------|------------|-------------|--|--|
| | 0.152*** | 0.246*** 0.245*** 0.251*** | | 0.250*** | 0.250*** | | | |
| | [0.0173] | [0.0231] | [0.0232] | [0.0252] | [0.0211] | [0.0232] | | |
| | | | Year, | Year, | Year, | State-Year, | | |
| | | Year, Month | Month, | Month, Zip | Month, Zip | Month, Zip | | |
| Fixed Effects | | | County | code | code | code | | |
| RC mailing controls | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Lagged disasters | | | | | Yes | Yes | | |
| Observations | 1,852,383 | 1,852,383 | 1,852,383 | 1,852,383 | 1,852,383 | 1,852,383 | | |
| R-squared | 0.327 | 0.346 | 0.351 | 0.403 | 0.409 | 0.408 | | |

Disasters, RC donations, and important media events

Table. Charitable Donations, Natural Disasters, and Daily New Pressure. Weekly data.

| VARIABLES | | Log (aggregate amount of RC donations) | | | | | |
|---|------------|--|------------|------------|------------|--|--|
| Foreign Natural Disasters x Other important events | -0.0349*** | -0.0332*** | -0.0305*** | -0.0188*** | -0.0222*** | | |
| | [0.00582] | [0.00461] | [0.00396] | [0.00282] | [0.00356] | | |
| Foreign Natural Disasters | 0.255*** | 0.261*** | 0.239*** | 0.144*** | 0.178*** | | |
| | [0.0506] | [0.0432] | [0.0371] | [0.0249] | [0.0318] | | |
| Other important events | 0.0121*** | -0.0141*** | -0.0145*** | -0.0161*** | -0.0163*** | | |
| | [0.00280] | [0.00315] | [0.00298] | [0.00279] | [0.00258] | | |
| | | Month | Month, | Month, Zip | Month, Zip | | |
| Fixed Effects | | WOITH | County | code | code | | |
| RC mailing controls | Yes | Yes | Yes | Yes | Yes | | |
| Lagged disasters | | | | | Yes | | |
| Observations | 5,304,354 | 5,304,354 | 5,304,354 | 5,304,354 | 5,256,426 | | |
| R-squared | 0.016 | 0.114 | 0.134 | 0.231 | 0.231 | | |

Robust standard errors in brackets

^{***} p<0.01, ** p<0.05, * p<0.1

Indirect effect: natural disasters and political donations

| VARIABLES Foreign Natural Disaster | | Log (aggregate amount of political donations) | | | | | | |
|-------------------------------------|-----------|---|-----------|------------|------------|-------------|--|--|
| | 0.235*** | -0.0483** | -0.0483** | -0.0483** | -0.0453* | -0.0453* | | |
| | [0.0267] | [0.0208] | [0.0208] | [0.0209] | [0.0233] | [0.0258] | | |
| | | | Year, | Year, | Year, | State-Year, | | |
| | | Year, Month | Month, | Month, Zip | Month, Zip | Month, Zip | | |
| Fixed Effects | | | County | code | code | code | | |
| RC mailing controls | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Lagged disasters | | | | | Yes | Yes | | |
| Observations | 4,176,480 | 4,176,480 | 4,176,480 | 4,176,480 | 4,176,480 | 4,176,480 | | |
| R-squared | 0.001 | 0.036 | 0.154 | 0.541 | 0.542 | 0.548 | | |

Disasters, political donations, and important media events

| VARIABLES | Log (aggregate amount of political donations) | | | | | | |
|---|---|-----------|---------------|-----------------|-----------------|--|--|
| Foreign Natural Disasters x Other important events | 0.0193*** | 0.0216*** | 0.0279*** | 0.0402*** | 0.0442*** | | |
| | [0.00451] | [0.00379] | [0.00411] | [0.00539] | [0.00541] | | |
| Foreign Natural Disasters | -0.175*** | -0.217*** | -0.280*** | -0.403*** | -0.447*** | | |
| | [0.0432] | [0.0365] | [0.0388] | [0.0502] | [0.0514] | | |
| Other important events | 0.0205*** | -0.00732* | -0.00940** | -0.00745 | -0.00536 | | |
| | [0.00722] | [0.00380] | [0.00412] | [0.00604] | [0.00665] | | |
| Fixed Effects | | Month | Month, County | Month, Zip code | Month, Zip code | | |
| RC mailing controls | Yes | Yes | Yes | Yes | Yes | | |
| Lagged disasters | | | | | Yes | | |
| Observations | 417,080 | 417,080 | 417,080 | 417,080 | 327,390 | | |
| R-squared | 0.001 | 0.022 | 0.115 | 0.346 | 0.353 | | |

Political advertising: can inform or persuade viewers

- some papers suggest that political advertising is informative, but we do not take any stance
- Political advertising might affect the behavior of donors
 - direct effect for political donations
 - indirect effect for charitable donations
- Two approaches to identification:
 - location f.e.: identifying assumption is that unexplained time-variant component of donations is not correlated with political advertising. More plausible for charitable donations!
 - use of border discontinuities, as political advertising changes discontinuously at designated market area (DMA) border

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 - use of border discontinuities, as political advertising changes discontinuously at designated market area (DMA) border

- Political advertising: can inform or persuade viewers
 - some papers suggest that political advertising is informative, but we do not take any stance
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Political advertising and political donations, f.e.

Table. Political donations and political advertising.

| VARIABLES | Log (aggregate political donations) | | | | |
|---|-------------------------------------|-----------|---------------|------------------------|--|
| Log (\$ on political advertising, DMA-week) | 0.0144*** | 0.0155*** | 0.0286*** | 0.0289*** | |
| | [0.00526] | [0.00368] | [0.00387] | [0.00412] | |
| RC Mailing Controls | Yes | Yes | Yes | Yes | |
| Fixed effects | | Year | Year, Zipcode | Month-Year, Zipcode | |
| Lagged advertising controls | | | | | |
| Observations | 125,123 | 125,123 | 125,123 | 125,123 | |
| R-squared | 0.001 | 0.053 | 0.242 | 0.247 | |

Political advertising and charitable donations, f.e.

Table. Charitable donations and political advertising.

| VARIABLES | | Log (aggregate RC donations) | | | | | |
|---|-----------------------|------------------------------|-----------------------|------------------------|---|--|--|
| Log (\$ on political advertising, DMA-week) | 0.000300 [0.00342] | 0.000283 [0.00422] | -0.00444 [0.00448] | -0.00626* [0.00316] | -0.00607* [0.00318] | | |
| RC Mailing Controls | Yes | Yes | Yes | Yes | Yes | | |
| Fixed effects | | Year | Year, Zipcode | Month-Year, Zipcode | Month-Year, Zipcode, State x Year | | |
| Observations | 702,015 | 702,015 | 702,015 | 702,015 | 702,015 | | |
| R-squared | 0.069 | 0.085 | 0.199 | 0.220 | 0.220 | | |

Robust standard errors in brackets

^{***} p<0.01, ** p<0.05, * p<0.1

Political advertising and political donations, matching

Table. Political donations and political advertising. County matching across the border.

| VARIABLES | Difference in logs of aggregate political donations | | | | |
|--|---|-----------------|-------------------------------|--|--|
| Difference in logs of \$ spent on political advertising, DMA-week) | 0.561*** | 0.221*** | 0.222*** | 0.197*** | 0.194*** |
| , | [800.0] | [0.013] | [0.013] | [0.009] | [0.009] |
| Fixed effects | | Matched Pair | Matched Pair, State x Year | Matched Pair, State x Year, Week | Matched Pair, State x Year, Week, Politician |
| Observations | 132,465 | 132,465 | 132,465 | 132,465 | 132,465 |
| R-squared | 0.122 | 0.672 | 0.673 | 0.695 | 0.697 |

Political advertising and charitable donations, matching

Table. Charitable donations and political advertising. County matching across the border.

| VARIABLES | Difference in logs of aggregate RC donations | | | | | |
|--|--|--------------|-------------------------------|--|--|--|
| Difference in logs of \$ spent on political advertising, DMA-week) | 0.023*** | -0.002* | -0.002* | -0.002* | | |
| | [0.002] | [0.001] | [0.001] | [0.001] | | |
| RC Mailing Controls | Yes | Yes | Yes | Yes | | |
| Fixed effects | | Matched Pair | Matched Pair, State x Year | Matched Pair, State x Year, Week | | |
| Observations | 157,819 | 157,819 | 157,819 | 157,819 | | |
| R-squared | 0.143 | 0.377 | 0.378 | 0.378 | | |

- Do charitable organizations have less fundraising activities?
 - No noticeable change in Red Cross behavior
- Does the costs of advertising change during the campaign?
 - ▶ No, according to Kantar Media data
- Do news about elections crowd out news about disasters, and vice versa?
 - no significant evidence in favor of this hypothesis

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- We identified indirect effect of information shocks on patterns of individual donations
 - foreign natural disasters decrease political donations
 - political advertising decreases chartiable donations
- Consistent with the same warmglow being motivation for both charitable and political donations
 - individual want to feel good about giving (classic warmglow model)
 - give money to cause that is perceived to be the most important at the moment
- Implication: category budgeting for warmglow
 - some households have "giving money" that they give away depending on perceived needs

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- We know that people who give money to charity are more likely to be:
 - richer, older, educated
 - ▶ have higher level of trust (social capital
- We know that people who give money to politics are likely to be:
 - richer older
 - have strong ideological preferences
- Beliefs in a just world (Benabou and Tirole 2006) may be a determinant:
 - People with beliefs about a just world could be more likely to have high taste for warmglow from donations (high β s in our theoretical framework)
 - Empirically, we test whether people from places with higher intergenerational mobility are more likely to be affected by information shocks

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- How does relative position of children in local income distribution depend on relative positions of their parents in the same distribution?
- Chetty et al. (2015a,2015b): use micro data to estimate intergenerational mobility (IM)
- Conceptually, intergenerational mobility seems to be correlated with
 - social capital
 - education
 - ▶ turnout
- We assume that intergenerational mobility is a proxy for people's beliefs in a just world, two possibilities:
 - ▶ beliefs in a just world ⇒ higher responsiveness to information
 - ▶ see that luck is less important for places with high IM ⇒ lower responsiveness to information

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Charitable donations and intergenerational mobility

VARIABLES

Log (aggregate amount of RC donations)

| VARIABLES | Log | (aggregate amo | unt of RC donati | ons) |
|--|--------------|----------------|------------------|--------------|
| Foreign Natural Disaster | 0.259*** | 0.257*** | 0.353*** | 0.356*** |
| | [0.00280] | [0.00280] | [0.00653] | [0.00665] |
| Foreign Natural Disaster x | -0.0105 | -0.0165** | 0.0250** | 0.0206* |
| Intergenerational Mobility | [0.00682] | [0.00667] | [0.0106] | [0.0106] |
| Foreign Natural Disaster x | | | 0.102*** | 0.0779*** |
| Log (mean income) | | | [0.0105] | [0.0107] |
| Foreign Natural Disaster x | | | 0.0112 | 0.00645 |
| Log (population) | | | [0.00971] | [0.00993] |
| Foreign Natural Disaster x | | | -0.000880*** | -0.000413 |
| Share of Blacks | | | [0.000256] | [0.000259] |
| Foreign Natural Disaster x | | | -0.000322 | -0.000243 |
| Share of Hispanic | | | [0.000216] | [0.000219] |
| Foreign Natural Disaster x | | | 0.252** | 0.221* |
| Share of Poor | | | [0.116] | [0.118] |
| Foreign Natural Disaster x | | | -0.216 | -0.298** |
| Share of Rich | | | [0.139] | [0.140] |
| Foreign Natural Disaster x | | | 0.000782*** | 0.000239 |
| Obama vote share | | | [0.000270] | [0.000272] |
| Foreign Natural Disaster in previous month | | 0.295*** | | 0.401*** |
| | | [0.00272] | | [0.00636] |
| Foreign Natural Disaster in previous month x | | 0.0370*** | | 0.0163 |
| Intergenerational Mobility | | [0.00678] | | [0.0103] |
| Foreign Natural Disaster in previous month , | | | | V |
| interacted with other controls | | | | Yes |
| RC mailing controls | Yes | Yes | Yes | Yes |
| Fixed Effects | Month, Year, | Month, Year, | Month, Year, | Month, Year, |
| | Zip code | Zip code | Zip code | Zip code |
| Observations | 1,765,567 | 1,765,567 | 918,124 | 918,124 |
| R-squared | 0.403 | 0.407 | 0.377 | 0.385 |

Political donations and intergenerational mobility

| VARIABLES | Log (aggregate amount of political donations) | | | nations) | | |
|--|---|--------------|--------------|--------------|--|--|
| Foreign Natural Disaster | -0.0506*** | -0.0577*** | -0.0982*** | -0.109*** | | |
| | [0.00243] | [0.00245] | [0.0107] | [0.0106] | | |
| Foreign Natural Disaster x | -0.0311*** | -0.0294*** | -0.0348*** | -0.0322** | | |
| Intergenerational Mobility | [0.00704] | [0.00698] | [0.0127] | [0.0126] | | |
| Foreign Natural Disaster x | | | 0.0603*** | 0.0574*** | | |
| Log (mean income) | | | [0.0171] | [0.0169] | | |
| Foreign Natural Disaster x | | | 0.0258 | 0.0252 | | |
| Log (population) | | | [0.0165] | [0.0163] | | |
| Foreign Natural Disaster x | | | -0.00150*** | -0.00137*** | | |
| Share of Blacks | | | [0.000331] | [0.000330] | | |
| Foreign Natural Disaster x | | | -0.000162 | -8.89e-05 | | |
| Share of Hispanic | | | [0.000308] | [0.000306] | | |
| Foreign Natural Disaster x | | | 0.0593 | 0.0427 | | |
| Share of Poor | | | [0.150] | [0.149] | | |
| Foreign Natural Disaster x | | | -0.115 | -0.0984 | | |
| Share of Rich | | | [0.184] | [0.182] | | |
| Foreign Natural Disaster x | | | -0.000682* | -0.000666* | | |
| Obama vote share | | | [0.000349] | [0.000347] | | |
| Foreign Natural Disaster in previous month | | -0.0831*** | | -0.138*** | | |
| | | [0.00247] | | [0.00972] | | |
| Foreign Natural Disaster in previous month x | | -0.0443*** | | -0.0685*** | | |
| Intergenerational Mobility | | [0.00737] | | [0.0130] | | |
| Foreign Natural Disaster in previous month , | | | | V | | |
| interacted with other controls | | | | Yes | | |
| Fixed Effects | Month, Year, | Month, Year, | Month, Year, | Month, Year, | | |
| TIMEU LITECTS | Zip code | Zip code | Zip code | Zip code | | |
| Observations | 3,898,200 | 3,898,200 | 1,633,560 | 1,633,560 | | |
| | | | | | | |

0.543

R-squared

0.509

0.509

0.543

Political donations, political advertising, and IM

VARIABLES

Δ(log of aggregate political donations)

| Δ(Log of \$ spent on political advertising, DMA-wee | ek) 0.076*** | 0.070*** | 0.070*** | 0.092*** | 0.086*** |
|--|-----------------|--------------|---------------|-----------|-------------------------------|
| | [0.006] | [0.006] | [0.006] | [0.010] | [0.009] |
| Δ(Log of \$ spent on political advertising) x | 0.049** | 0.050*** | 0.048*** | 0.047** | 0.047** |
| Intergenerational Mobility | [0.021] | [0.018] | [0.018] | [0.022] | [0.019] |
| $\Delta(Log \ of \ \$ \ spent \ on \ political \ advertising) \ x$ | | | | 0.010 | 0.010 |
| Log (mean income) | | | | [0.014] | [0.013] |
| $\Delta(Log \ of \ \$ \ spent \ on \ political \ advertising) \ x$ | | | | -0.025* | -0.024** |
| Log (population) | | | | [0.013] | [0.012] |
| $\Delta(Log \ of \ \$ \ spent \ on \ political \ advertising) \ x$ | | | | 0.000 | 0.000 |
| Share of Blacks | | | | [0.001] | [0.000] |
| Δ(Log of \$ spent on political advertising) x | | | | 0.000 | 0.000 |
| Share of Hispanic | | | | [0.001] | [0.001] |
| Δ(Log of \$ spent on political advertising) x | | | | -0.178 | -0.172 |
| Share of Poor | | | | [0.181] | [0.175] |
| $\Delta(Log\ of\ \$\ spent\ on\ political\ advertising)\ x$ | | | | 0.235 | 0.236 |
| Share of Rich | | | | [0.237] | [0.207] |
| $\Delta(Log \ of \ \$ \ spent \ on \ political \ advertising) \ x$ | | | | 0.001 | 0.001 |
| Obama vote share | | | | [0.001] | [0.000] |
| | | | Week, | | |
| Fixed Effects | Matched Pair | Week, | Matched Pair, | Matched | Week, |
| rixeu Enects | iviaterieu i an | Matched Pair | Candidate, | Pair | Matched Pair |
| | | | State-Year | | |
| Observations | 78,908 | 78,908 | 78,908 | 59,739 | 59,739 |
| R-squared | 0.308 | 0.353 | 0.357 | 0.322 | <u>=</u> 0.372 ₀ ⊘ |
| D . C' 12/11! | .: 6 .: | 1.84 1.99 | | 10/00/001 | c oc / oo |

Charitable donations, political advertising, and IM

VARIABLES Log (Aggregate RC Donations)

| Log (\$ on political advertising, DMA-week) | -0.00685*** [0.000855] | -0.00258*** [0.000856] | -0.0113*** [0.00220] | -0.00486** [0.00220] |
|---|---------------------------|---------------------------|-------------------------|-------------------------|
| Log (\$ on political advertising) x | 0.000312 | 0.000830] | -0.00736** | -0.00757** |
| Intergenerational Mobility | [0.00161] | [0.00161] | [0.00341] | [0.00339] |
| Log (\$ on political advertising) x | [0.00101] | [0.00101] | 0.00351 | 0.00448 |
| Log (mean income) | | | [0.00306] | [0.00301] |
| Log (\$ on political advertising) x | | | 0.00283 | 0.000728 |
| Log (population) | | | [0.00279] | [0.00276] |
| Log (\$ on political advertising) x | | | -0.000162** | -0.000113 |
| Share of Blacks | | | [8.21e-05] | [8.13e-05] |
| Log (\$ on political advertising) x | | | -0.000149** | -6.78e-05 |
| Share of Hispanic | | | [7.25e-05] | [7.27e-05] |
| Log (\$ on political advertising) x | | | 0.0693** | 0.0520 |
| Share of Poor | | | [0.0344] | [0.0340] |
| Log (\$ on political advertising) x | | | -0.000530 | 0.0229 |
| Share of Rich | | | [0.0457] | [0.0453] |
| Log (\$ on political advertising) x | | | -0.000270*** | -0.000280*** |
| Obama vote share | | | [8.95e-05] | [8.83e-05] |
| | Month-Year, | Week, | Month-Year, | Week, |
| Fixed Effects | Zipcode | Zipcode | Zipcode | Zipcode |
| Observations | 663,904 | 663,904 | 297,705 | 297,705 |
| R-squared | 0.221 | 0.231 | 0.215 | 0.227 |



- Fixed budget on donating to "feel good", i.e. for warmglow
 - Warmglow drives different types of pro-social behavior
- Donations respond to information
 - reponsiveness depends on "beliefs in just world", stronger for places with higher intergenerational mobility

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