

Inter-charity competition under spatial differentiation: sorting, crowding, and spillovers

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The '**Perfect Ask**' (Bekkers & Wiepking 2011 ...)

How to mobilize private giving to charitable causes?

▶ **Many Answers ...**

- ▶ Social information (List & Lucking-Reiley 2002 ...)
- ▶ Seed money (Bracha et al. 2011 ...)
- ▶ Small gifts (Eckel et al. 2015 ...)

▶ **Most Common Answer:** '**Match** your Donations!' (Huck & Rasul 2011 ...)

- ▶ Increases both the **propensity** to give &
- ▶ The **size** of donations to the charity applying the match

The Market for Charitable Giving (List 2011)

How does competition between charities affect aggregate giving?

- ▶ **No Clear Answer** (so far ...)

- ▶ **Theoretical** (Rose-Ackerman 1982 ...)

- 'Excessive' fundraising

- ▶ **Observable data** (Scharf et al. 2022 ...)

- Mixed evidence

- ▶ **Experimental data** (Schmitz 2021 ...)

- Mixed evidence, depending on whether charities are
complements or **substitutes**

Spatially Differentiated Market for Charitable Giving

Charities often spatially differentiate to appeal to local donor

- ▶ **Highly substitutable:** Different charities providing the same service (e.g., food banks, animal shelters)
- ▶ **Spatially designated:** Charities' location as distinguishing factor

Example: UK Food Bank Network (London)



Research Questions

Giving & Social Distance (*... stepping stone ...*)

Do donors prefer to give to socially closer ('home') charity over a socially more distant ('away') charity?

Giving & Social Distance & Matching

What are the effects of a classic linear ('dollar-for-dollar') match?

- ▶ **Intra-charity** perspective: Crowding effect on the matched home or away charity
- ▶ **Inter-charity** perspective: Spillover effect on the unmatched home or away charity

Field Setting

- ▶ Two substitutable food banks in two neighboring cities
- ▶ Competing for donations from residents in both cities

Experimental Variation

- ▶ Social distance between potential donors and charities
- ▶ 1:1-Match to one of the competing charities

Main Result

- ▶ Matching the [home](#) charity increases aggregate giving

Two Food Banks: Located in the same metro region ($\sim 25\text{km}$)

- ▶ **Charity A:** Caritas Tafel, located in **Mannheim**
- ▶ **Charity B:** German Red Cross Tafel, located in **Heidelberg**



Background: Heidelberg / Mannheim – Citizen Panel

- ▶ Initialized & maintained by University of Heidelberg / ZEW
- ▶ Started with $> 10,000$ invitation letters distributed to random household in both cities
- ▶ Regularly invited to surveys and online experiments
- ▶ Individual payments via shopping card (*usable at gas stations, retail, online shops . . .*)
- ▶ $\sim 1,000$ active members

Recruitment

- ▶ Email invitation to > 700 registered panel members
 - ▶ Donor A, in Mannheim
 - ▶ Donor B, in Heidelberg
- ▶ Survey (... *speed limits* ...) with fixed rewards of 15 Euro
- ▶ > 400 participants completed the survey

Programming

- ▶ Via LimeSurvey

End of the Survey aka Start of the Experiments

- ▶ Upon completion: *'If you wish, you can donate a share or all of your compensation to a charitable cause'*
- ▶ Unknown to participants we randomly assign five treatments

Balance Table (... between subject randomization ...)

	T1	T2	T3	T4	T5
Participants	76	73	53	78	67
Age (in years)	37	40	40	41	41
Female (in %)	41	40	45	38	45
Income (in €)	2,960	2,730	2,500	2,600	2,670
Education (in years)	16	15	15	15	14

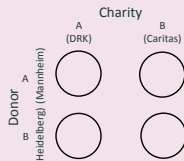
w/o Spatial Differentiation w/o Match

Baseline to mimic inter-charity competition

- ▶ Potential donors could choose between two charities or leave without making a decision
- ▶ **German Red Cross Tafel (DRK)** and **Caritas Tafel (CT)**

Location is not revealed

- ▶ Donor A: Charity A or Charity B
- ▶ Donor B: Charity A or Charity B



w/ Spatial Differentiation w/o Match

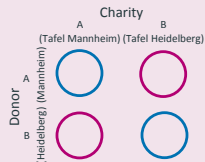
Manipulate social distance between donors and charities

- ▶ Potential donors could choose between two charities or leave without making a decision
- ▶ Replaced DRK and CT by local chapter's name:

Tafel Mannheim and **Tafel Heidelberg**

Location is revealed

- ▶ Donor A: Charity A (**home**) or Charity B (**away**)
- ▶ Donor B: Charity A (**away**) or Charity B (**home**)



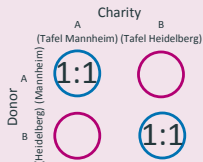
w/ Spatial Differentiation w/ Home Match

Introduce common fundraising instrument

- ▶ For each 1 € that is given to the socially close **home** charity an additional 1 € is given to the same charity by a third party
- ▶ In a competitive environment this lowers the relative costs of giving to the socially close **home** charity

Location is revealed w/ home match

- ▶ Matched: Close **home** charity
- ▶ Unmatched: Distant **away** charity



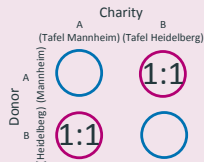
w/ Spatial Differentiation w/ Away Match

Introduce common fundraising instrument


- ▶ For each 1 € that is given to the socially distant **away** charity an additional 1 € is given to the same charity by a third party
- ▶ In a competitive environment this lowers the relative costs of giving to the socially more distant **away** charity

Location is revealed w/ away match

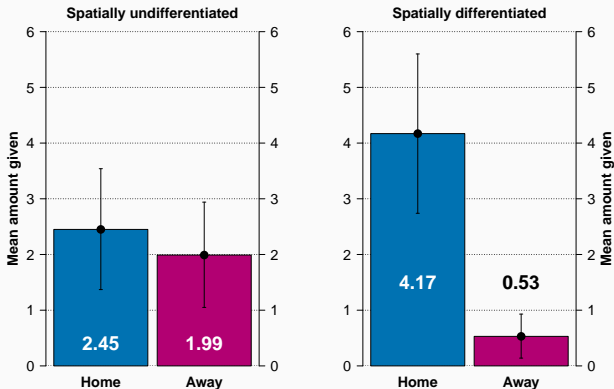
- ▶ Matched: Distant **away** charity
- ▶ Unmatched: Close **home** charity



Overview

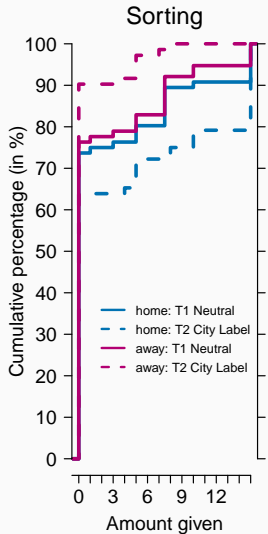
Treatment	Spatial Differentiation	Match	
T1: Neutral	✗	✗	76
T2: City Label	+	✗	73
T3: Match	✗	+ (both)	53
T4: Home Match	+	+ home	78
T5: Away Match	+	+ away	67

Undifferentiated w/o Match vs. Differentiated w/o Match

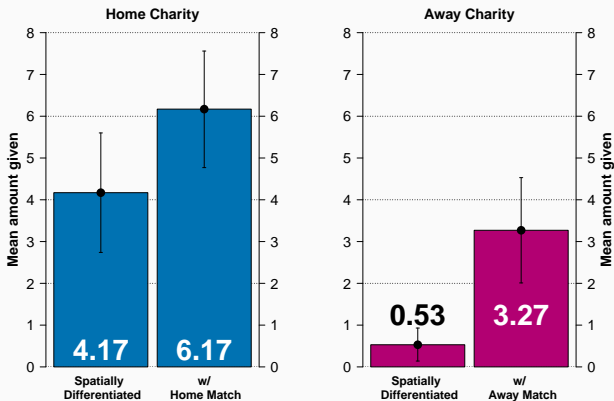


► **Obs. 0.** In a spatially (un-)differentiated charitable sector, donations are (not) sorted (p -value = 0.748, p -value < 0.000)

Cumulative Distribution

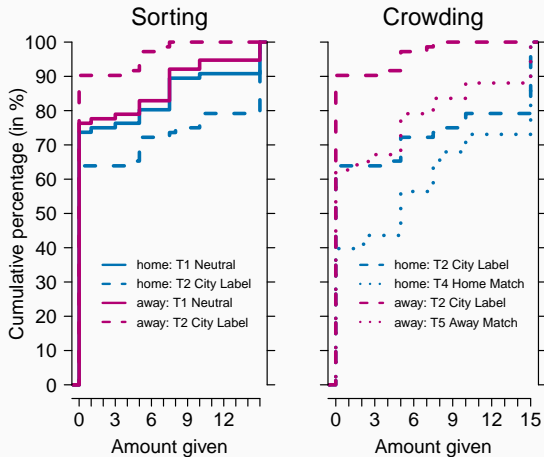


Differentiated w/o Match vs. Differentiated w/ Match

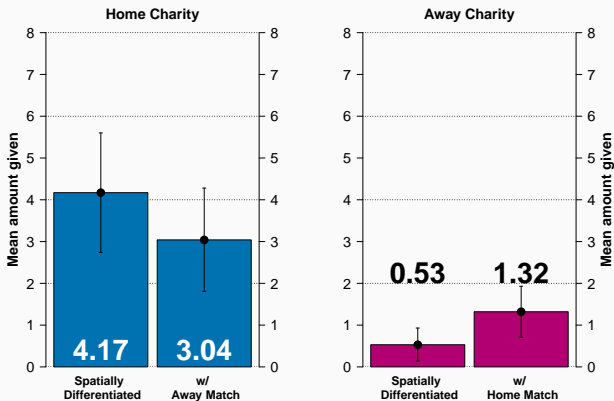


► **Obs. 1.** In a spatially differentiated sector, matches crowd in giving to the **home** and **away** charity ($p\text{-value} = 0.017$, $p\text{-value} < 0.000$)

Cumulative Distribution

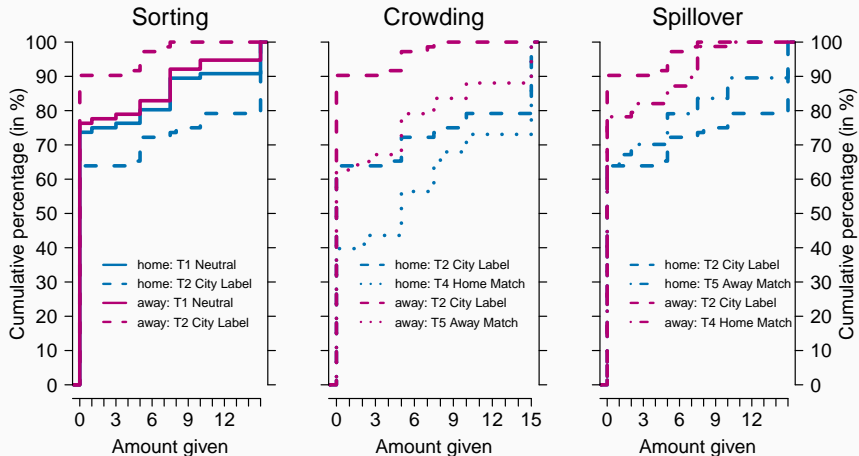


Differentiated w/o Match vs. Differentiated w/ Match



► **Obs. 2.** In a spatially differentiated sector, no evidence that matches used by one charity result in negative spillovers on giving to the unmatched charity (p -value = 0.536, p -value = 0.037)

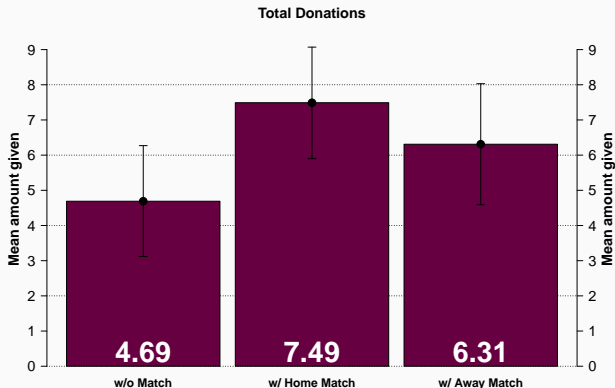
Cumulative Distribution



Propensity to Give to Both Charities

Panel A. Home Match			
	Home \cap Away	Home	Away Home
T2: City Label	10.96 (3.66)	36.97 (5.65)	29.63 (8.79)
T4: Home Match	21.79* (4.67)	60.26*** (5.54)	36.17 (7.01)
Panel B. Away Match			
	Home \cap Away	Away	Home Away
T2: City Label	10.96 (3.66)	10.96 (3.66)	100.00 (0.00)
T5: Away Match	22.39* (5.09)	37.31** (5.91)	60.00** (9.80)

Results | Aggregate Perspective



► **Obs. 3.** In a spatially differentiated sector, aggregate giving is significantly higher in the presence of a **Home Match** (p -value = 0.007).

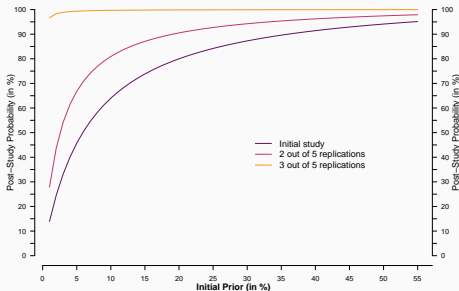
Initial Priors & Added Value aka Post-Study Probability

(Maniadis et al. 2014 ...) ... more formally ...

Probability that positive spillovers are true – made upon reaching statistical significance

Depends on:

- ▶ Initial prior
- ▶ **#** of succ. rep.
- ▶ Level of stat. sig.
- ▶ Level of power



- ▶ **Initial Study:** Increases priors from 1% to 14%; 10% to 64% ...
- ▶ **Replications 2 (3) out of 5:** Increase priors from 1% to 28% (1% to 96%) ...

Main Question

How does fundraising in a spatially differentiated charitable market affects crowding to and spillovers between two competing charities?

Main Results

- ▶ **'Home Bias'**: Donations sort spatially
- ▶ **Home Match**: Crowds-in donations to home charity & positive spillover to away charity
- ▶ **Away Match**: Crowds-in donations to away charity & no spillover to home charity

Bottom Line

Home Match increases aggregate giving

Thank you!

Appendix

Post-Study Probability, more formally ...

We need ...

- ▶ Prior: π
- ▶ Significance: α
- ▶ Power: $1-\beta$
- ▶ Replications: n
- ▶ Successful replications: r

➔ w/o Replications

$$PSP(\pi) = \frac{(1-\beta)\pi}{(1-\beta)\pi + \alpha(1-\pi)}$$

➔ w Replications

$$PSP^r(\pi) = \frac{\binom{n}{r}(1-\beta)^r \beta^{n-r} PSP(\pi)}{\binom{n}{r}(1-\beta)^r \beta^{n-r} PSP(\pi) + \binom{n}{r}(\alpha)^r (1-\alpha)^{n-r} (1-PSP(\pi))}$$