Heterogenous Spillovers in Unconditional Cash Transfer

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Motivation

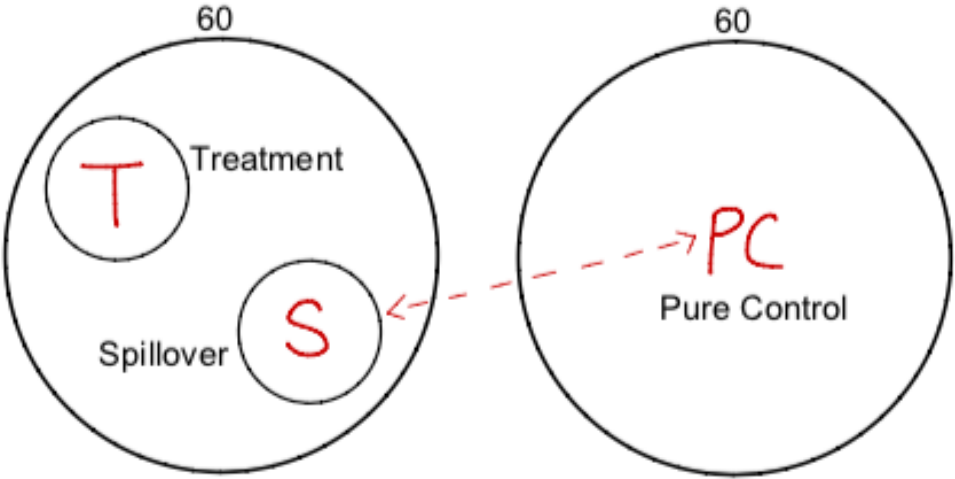
- Househofer and Sharpiro (2016) RCT: villages where villagers were given transfers saw even those who did not receive transfers obtain spillover benefits.

- Our question:
  Does everyone experiences the same amount of spillover?

Intervention

- Households eligible for study based on a thatched roof criteria
- GiveDirectly transfered cash amounting to $404 PPP
- Households are subsistence farmers making $85 PPP per month
- Data from pre-treatment and post-treatment surveys

Intervention



Identifying heterogeneity

- Heterogeneity in linear spillover effects:

$$Y_{i,v} = \beta_0 + \beta_1 S_v + \beta_2 D_{i,v} + \beta_3 S_v \times D_{i,v} + \varepsilon_{i,v}$$

- $Y_{i,v}$: Outcome variable of interest
- S_v: Indicator for living in a treatment village
- $D_{i,v}$: Measure of demographic distance of individual i

Measuring Demographic Distance

- Absolute distance

$$D_{i,v} = \frac{|Y_{i,v,t=0} - \bar{Y}_{v,t=0}|}{\text{SD}_v}$$

- Squared deviations from village averages

$$D^2_{i,v} = \frac{(Y_{i,v,t=0} - \bar{Y}_{v,t=0})^2}{\text{SD}_v}$$

- Mahalanobis measure

$$D^{\text{M.}}_{i,v} = \sqrt{(X_i - \bar{X})' \hat{S}_v^{-1} (X_i - \bar{X})}$$

Spillover Effects: Linear Estimates

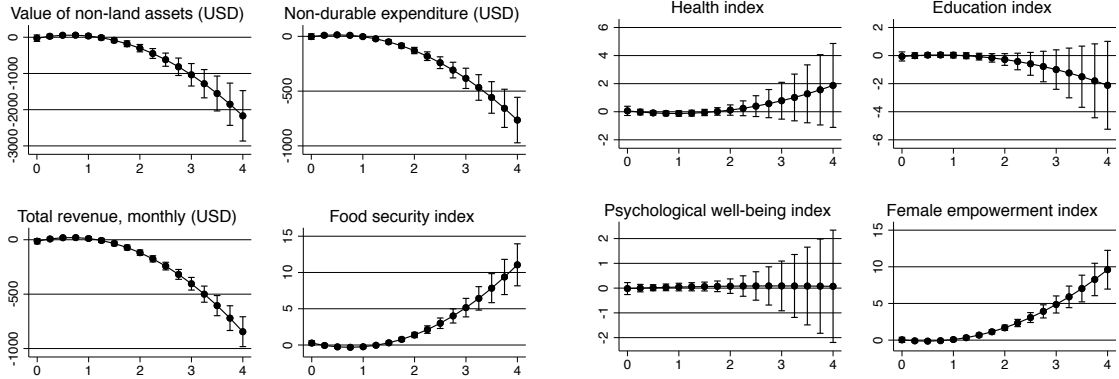
	Interaction	Treated village
Value of non-land assets (USD)	-107.11***	95.96***
	(39.30)	(32.64)
Non-durable expenditure (USD)	-51.67***	34.27***
	(10.78)	(9.75)
Total revenue, monthly (USD)	-68.45***	48.88***
	(15.78)	(9.42)
Food security index	0.51***	-0.34***
	(0.16)	(0.13)

Table 2: Spillover effects by absolute distance from village means

	Interaction	Treated village	Abs. distance	Control mean (Std. dev.)	Obs.
Value of non-land assets (USD)	-107.11***	95.96***	203.30***	384.05	899
	(39.30)	(32.64)	(31.69)	(298.69)	
Non-durable expenditure (USD)	-51.67***	34.27***	52.68***	165.38	899
	(10.78)	(9.75)	(6.90)	(90.90)	
Total revenue, monthly (USD)	-68.45***	48.88***	98.17***	52.66	899
	(15.78)	(9.42)	(11.93)	(95.22)	
Food security index	0.51***	-0.34***	-0.63***	-0.06	899
	(0.16)	(0.13)	(0.14)	(1.26)	
Health index	0.04	-0.08	-0.01	0.06	899
	(0.15)	(0.12)	(0.12)	(1.06)	
Education index	0.20	-0.09	0.04	-0.01	724
	(0.15)	(0.11)	(0.12)	(1.03)	
Psychological well-being index	0.05	-0.01	0.01	-0.19	1321
	(0.10)	(0.10)	(0.08)	(0.94)	
Female empowerment index	0.99***	-0.58***	-0.92***	-0.21	621
	(0.15)	(0.12)	(0.11)	(1.15)	

Notes: The unit of observation is the household for all outcome variables except for the psychological variables index, where it is the individual. The sample is restricted to co-habitating couples for the female empowerment index, and households with school-age children for the education index. All columns include village-level fixed effects, control for baseline outcomes, and cluster standard errors at the village level. * denotes significance at 10 pct., ** at 5 pct., and *** at 1 pct. level.

Spillover Effects: Quadratic Estimates



Conclusion

- Sizable spillovers for some outcomes within villages where some received cash transfers
- Spillovers are positive on average
- Spillovers vary by how demographically similar non-treated villagers are to the treated
- For those very dissimilar, suggestive evidence of *negative* spillovers