

# Heterogenous Spillovers in Unconditional Cash Transfer

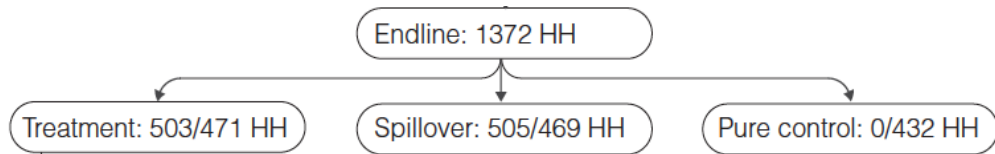
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# Motivation

- ▶ 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



**Figure:** Treatment, Spillover, and Pure Control Groups

# 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

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

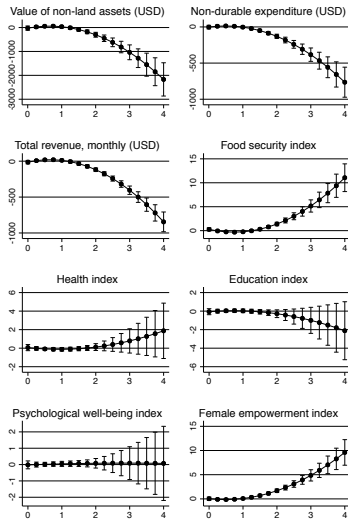
- ▶ Squared deviations from village averages

$$D_{i,v}^2 = \frac{(Y_{i,v,t=0} - \bar{Y}_{v,t=0})^2}{SD_v}$$

- ▶ Mahalanobis measure

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

# Results



	Interaction	Treated village
Value of non-land assets (USD)	-107.11*** (39.30)	95.96*** (32.64)
Non-durable expenditure (USD)	-51.67*** (10.78)	34.27*** (9.75)
Total revenue, monthly (USD)	-68.45*** (15.78)	48.88*** (9.42)
Food security index	0.51*** (0.16)	-0.34*** (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*** (39.30)	95.96*** (32.64)	203.39*** (31.69)	384.05 (208.69)	899
Non-durable expenditure (USD)	-51.67*** (10.78)	34.27*** (9.75)	52.68*** (6.90)	165.38 (90.90)	899
Total revenue, monthly (USD)	-68.45*** (15.78)	48.88*** (9.42)	98.17*** (11.93)	52.66 (95.22)	899
Food security index	0.51*** (0.16)	-0.34*** (0.13)	-0.63*** (0.14)	-0.06 (1.26)	899
Health index	0.04 (0.15)	-0.08 (0.12)	-0.01 (0.12)	0.06 (1.06)	899
Education index	0.20 (0.15)	-0.09 (0.11)	0.04 (0.12)	-0.01 (1.03)	724
Psychological well-being index	0.05 (0.10)	-0.01 (0.10)	0.01 (0.08)	-0.19 (0.94)	1321
Female empowerment index	0.99*** (0.15)	-0.58*** (0.12)	-0.92*** (0.11)	-0.21 (1.15)	621

Notes: The unit of observation is the household for all outcome variables except for the psychological well-being index, where it is the individual. The sample is restricted to co-habiting 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.

# Conclusion