Pakistan's Zakat Transfer System: Using Volatility to Measure Effects on the Poor

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Overview

- Effectiveness of public transfers
- Crowding out
- Pakistan’s public zakat program
- Endogeneity challenge
- “Natural experiment” identification strategy
- Results

Motivation

- Better targeting and use of public transfers
- Do public transfers crowd out private transfers?
- If so, some of the benefit of the public transfer goes to the original donor, not to the intended recipient
- Reduced effectiveness of targeting to the poor
- Complete crowding out -> transfers have no effect on income!

Debate: how to target transfers

- Formally targeted
  - Criteria e.g. widow, income < 3,000 Rs.
  - Advantages: transparent, uniformly applied
  - Expensive?
  - Best measure of need?
- Community targeted
  - Recipients identified as needy by local leaders / organizations
  - Better measure of need?
  - Vulnerable to capture?
  - **Better measure of alternative sources of assistance?**

Conceptual Framework

- Relationship between private and public transfers determined by reasons for the private transfer
- Private transfers
  - Altruism (Becker) – crowding out
  - "Warm glow" (Andreoni) – no crowding out
  - Quid pro quo (Cox) – no crowding out (in long run)
- Reasons for private transfers may differ depending on recipient characteristics

Crowding out and program targeting

- Crowding out still occur in a community-based transfer program?
- Community selection could account for this
  - Better identification of those with few other sources of assistance (“A has a son in the city who can send remittances, B does not”)
  - Social pressure (“we will withdraw your mother’s transfer if you stop doing your part to support her”)
- But (to my knowledge) crowding out has not been studied in community-targeted transfers

Pakistan's public zakat program

- Zia-ul-Haq administration
- "The needy, the indigent and the poor particularly orphans and widows, the handicapped and the disabled"
- Subsistence grants and rehabilitation (loans, educational grants)
- Program is community-targeted
- Between 40-60 percent of goes to the bottom income quintile; what about the rest? (World Bank, 1995, 2007, Heltberg, 2004, Arif, Toor and Nasar, 2003, Bea, 1995, Shirazi, 1996)
  - Better targeting of the needy?
  - Elite capture / corruption?

Identification problem

- Straight comparison of transfer recipients and non-recipients would be misleading
- By definition, community targeting uses unobserved variables to select recipient!
- Endogeneity bias would affect any comparison or matching of recipients / nonrecipients on observables

Identification strategy

- In 1995 Benazir Bhutto government centralized the zakat program
- Clark (2001): government “collected zakat, but did not disburse it...except for a few cosmetic disbursements in Islamabad…about Rs. four billion per year were collected but not disbursed in 1995, 1996, and 1997".
- Letter to the editor, *Dawn* Jan. 1997: “It is unbelievable, but it is true. For the last three years not a single rupee out of zakat fund has been paid to the mustahiqeen in Karachi”

Identification strategy

- Use the centralization as a “natural experiment”
- Households surveyed before and after 1995 centralization similar in all other respects
- Only change is exogenous change in program
- Use this to test the impact of a change in zakat on private transfers

Data

- HIES rounds 1990, 1992, 1993, 1996
- Interview dates reveal that households were visited from 1991-1998 (each round implementation took ~1.5-2 years)
- Report zakat received; not clear whether reporting public only or both
  - However, data show a dramatic drop from 1995, consistent with the qualitative literature
  - So any crowding out estimated is a lower bound
- Report other transfer income: domestic and international remittances, other private transfers

Empirical model

- First stage

$$ln(Z_{it}+1) = \alpha + \beta X_i + \gamma_1 POST_t + \gamma_2 X_i * POST_t + \epsilon_{it}$$

- Second stage

$$ln(TR_{it}+1) = \delta + \zeta X_i + \eta POST_t + \xi \hat{(}ln(Z_{it}+1)) + \epsilon_{it}$$

Results

Table 8: Crowding out IV Preferred Specification: First stage

	(1)
VARIABLES	Log zakat
Female head	0.580***
	(0.0719)
Rural	0.0341*
	(0.0198)
Maximum	-0.0399***
education	(0.00429)
Post	-0.0657**
centralized	(0.0321)
Post ×	-0.0483*
rural	(0.0254)
Post ×	-0.0948
female head	(0.0910)
Post ×	0.0136**
Max. ed.	(0.00541)
Constant	0.268***
	(0.0245)
Observations	49866
R-squared	0.018

Robust standard errors in parentheses

Results

Table 9: Crowding out IV Preferred Specification: Second stage

VARIABLES	(1) i1 Log other cash transfers
Log zakat	-2.479**
	(1.163)
Female head	7.956***
	(0.616)
Rural	0.316***
	(0.0704)
Max.	0.0354
Ed	(0.0382)
Post	-0.284***
centralized	(0.0798)
Constant	1.491***
	(0.303)
Observations	49866
Kleibergen-Paap rk Wald F statistic	7.795
Critical value for 10% max IV relative bias	9.08
Critical value for 20% max IV relative bias	6.46

Results

Table 10: Crowding out IV Preferred Specification: Components of Private Cash Transfers

VARIABLES	(1) Log remittances	(2) Log other assistance
Log zakat	-2.244**	0.0431
	(1.042)	(0.514)
Female head	7.792***	0.176
	(0.554)	(0.269)
Rural	0.392***	-0.0916***
	(0.0617)	(0.0297)
Maximum education	0.0368	0.0106
	(0.0342)	(0.0169)
Post centralized	-0.193***	-0.0963**
	(0.0675)	(0.0406)
Constant	1.119***	0.343**
	(0.269)	(0.139)
Observations	49866	49866
Kleibergen-Paap rk Wald F statistic	7.530	7.530
Critical value for 10% max IV relative bias	9.08	9.08

Results

Table 12: Crowding out: in-kind transfers

VARIABLES	(1) Log in-kind Transfer total	(2) Log in-kind Transfer - medical	(3) Log in-kind Transfer - food
Log zakat	-1.131	0.344	0.421
	(1.122)	(0.498)	(0.601)
Female head	1.388**	-0.0684	0.0929
	(0.601)	(0.262)	(0.316)
Rural	1.195***	-0.121***	0.782***
	(0.0730)	(0.0219)	(0.0405)
Maximum education	-0.0976**	0.0538***	-0.0316
	(0.0380)	(0.0173)	(0.0202)
Post centralized	0.264***	0.0334	0.0976**
	(0.0794)	(0.0411)	(0.0386)
Constant	1.848***	0.0300	0.439***
	(0.292)	(0.136)	(0.153)
Observations	49865	49865	49865

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

- Hansen test statistics are high for remittances estimation: remittances
- Restricted dates: test statistics improve, similar pattern and magnitude of results, although lose significance
- Small number of observations receive zakat so not surprising

Conclusions

- Suggestive that community targeting may be a partial success in
- Future work: political determinants of zakat distribution
- Remittances / insurance dimension… long term versus short term changes

Thank you