Building State Capacity:
Evidence from Biometric Smartcards in India
GR 6307 class presentation by Louise Guillouët, Spring 2018

Muralidharan, Niehaus, Sukhtankar

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Motivation and objectives

- State capacity is important for economic development in general (Acemoglu, Johnson, Robinson)
- Particularly important in delivery of services to the poor
- But it can be difficult when it involves people and services that involve cash.
- Where it goes wrong: misreporting, corruption, etc.
- One possibility is using incentives (positive or negative) to control officials.
- Another is using technology to bypass corrupted individuals?

Context

- India, Andhra Pradesh, 2010's
- Two major government programs, one of workfare: NREGS, and the other retirement/disability without work, SSP.
- Evidence of leakage and over reporting for NREGS.
- The federal government wants to implement biometric cards linked to bank accounts.
- Objective: reduce evaporation of cash transfers and improve processes.

Research design/empirical strategy

- Randomize the rollout of Smartcards across villages
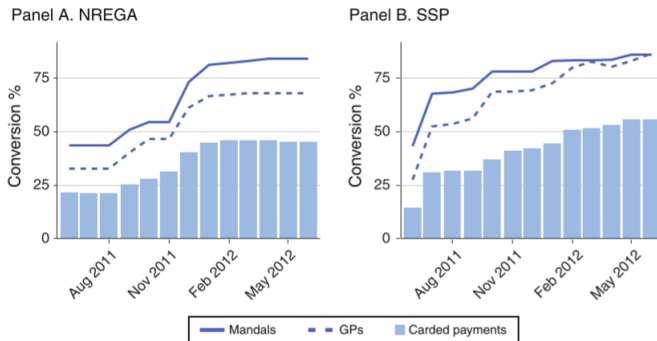- Measure impact on delivery of NREGS and SSP payments.

Figure 3. Rollout of Smartcard Integration with Welfare Programs

TABLE 2—ACCESS TO PAYMENTS

	Time to collect (min)				Avg. payment lag (days)		Abs. payment lag deviation (days)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	−22	−22	−6.1	−3.5	−5.8	−10	−2.5	−4.7
	(9.2)	(8.7)	(5.2)	(5.4)	(3.5)	(3.5)	(0.99)	(1.6)
BL GP mean		0.079		0.23		0.013		0.042
		(0.041)		(0.07)		(0.08)		(0.053)
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Week FE	No	No	No	No	Yes	Yes	Yes	Yes
Adjusted R^2	0.06	0.08	0.07	0.11	0.17	0.33	0.08	0.17
Control mean	112	112	77	77	34	34	12	12
Observations	10,191	10,120	3,789	3,574	14,213	7,201	14,213	7,201
Level	Indiv.	Indiv.	Indiv.	Indiv.	Indiv.-week	Indiv.-week	Indiv.-week	Indiv.-week
Survey	NREGS	NREGS	SSP	SSP	NREGS	NREGS	NREGS	NREGS

Results: reduced leakage for NREGS

TABLE 3—OFFICIAL AND SURVEY REPORTS OF PROGRAM BENEFITS

	Official		Survey		Leakage	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. NREGS						
Treatment	11	9.6	35	35	−24	−25
	(12)	(12)	(16)	(16)	(13)	(13)
BL GP mean		0.13		0.11		0.096
		(0.027)		(0.037)		(0.038)
District fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.03	0.05	0.05	0.06	0.04	0.04
Control mean	127	127	146	146	−20	−20
Observations	5,143	5,107	5,143	5,107	5,143	5,107
Panel B. SSP						
Treatment	4.3	5.1	12	12	−7.5	−7
	(5.3)	(5.4)	(5.9)	(6.1)	(3.9)	(3.9)
BL GP mean		0.16		0.0074		−0.022
		(0.092)		(0.022)		(0.026)
District fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.00	0.01	0.01	0.01	0.01	0.01
Control mean	251	251	236	236	15	15
Observations	3,330	3,135	3,330	3,135	3,330	3,135

Discussion and conclusion

- Interesting paper.
- Smart use of randomization for once, not just a one-off experiment and then left people in the village.
- They are careful in looking at the margins of improvement: reduction in quasi-ghosts (over reporting), not in ghosts, since government still allowed use of old system.
- They are careful in trying to look at outcomes in terms of access and distributional impacts.
- Conclusion: very cost-effective using their computation of time lost.
- Was that the most measure though?