The Poor Tax: Redistributive Pressure and Labor Supply

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Research Question

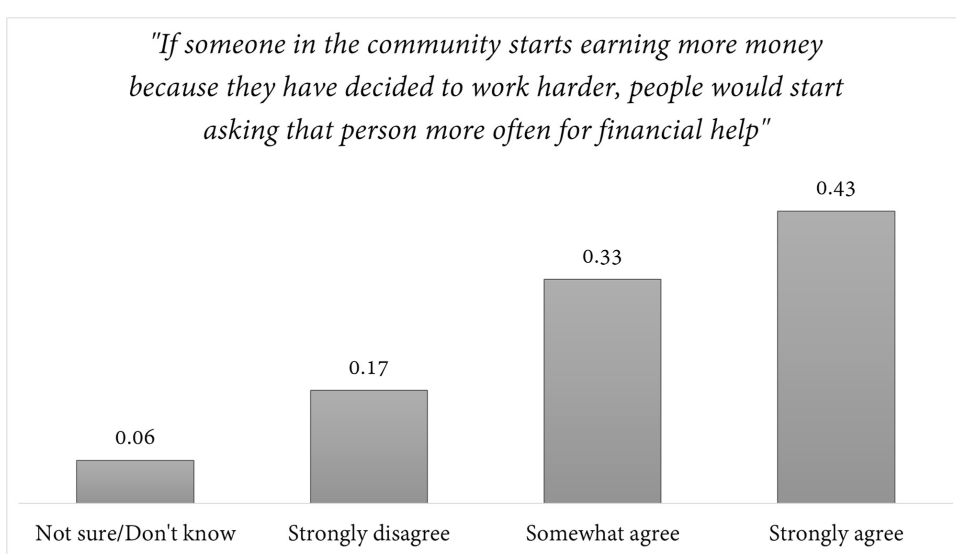
Do redistributive arrangements distort labor supply decisions?

Motivation

In developing countries, informal financial transfers within social and kin networks are ubiquitous and frequent [4, 11]. Such transfers have traditionally been understood as reflecting informal communal risk sharing, improving welfare by substituting for missing insurance markets [7, 6, 12, 17, 14, 21, 19].

This project asks whether these potential welfare benefits come at an important efficiency cost. We conceptualize redistributive arrangements as a tax on earnings. By exerting costly effort, an agent can increase her income (mechanically also increasing her relative income in the network). Because some portion of this income increase gets redistributed to others, she only retains a fraction of the benefits from her effort. This marginal tax on earnings could dampen the incentive to exert effort and accumulate wealth.

Figure 1: Motivating Evidence.



N = 423 factory workers, Côte d'Ivoire

Data collected by the authors in 2 cashew-processing plants in Côte d'Ivoire.

A long literature in development presents descriptive evidence that individuals perceive high levels of redistributive pressure [18]. More recent work documents that individuals will pay to hide income from their network in laboratory experiments [16, 13, 20, 5]. Such desire to hide income from one's kin has been used to rationalize consumption and savings behavior [3, 8, 9, 10], as well as effort, labor supply, and entrepreneurship [15, 1, 2] – largely in observational data.

We build on and advance this literature by providing direct causal evidence that redistributive pressure distorts field behavior. We focus on an important, natural, high-stakes field setting: labor supply among full-time workers in the formal sector.

Context

Formal cashew-processing factories in central Côte d'Ivoire

- N=473 full-time female workers across two plants
- 87% work only at the factory
- Individual production (manual peeling)
- Piece-rate wages for amount of nuts peeled
- Wages paid every fortnight in cash

Prevalent redistributive pressure

- Transfer requests occur for various reasons
- 29% of earnings redistributed, on average
- Workers express desire to avoid many (but not all) requests
- Refusal is perceived as costly

Field experiment – Core intervention

Control group:

- Workers' earnings paid entirely in cash on paydays, as usual

Private treatment group:

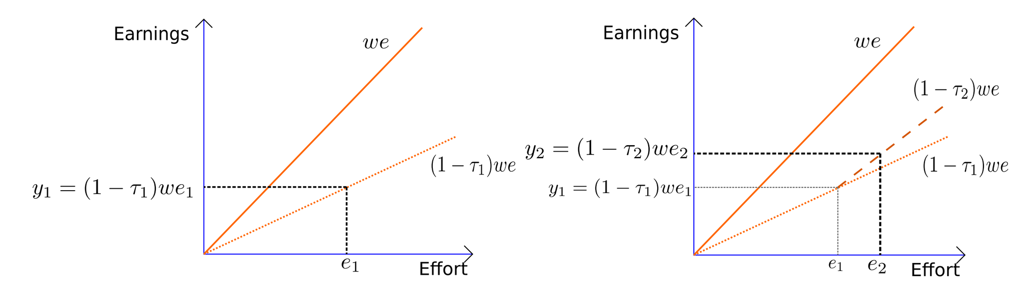
- Workers are offered a private illiquid savings account
- Deposits cannot be accessed during the blocked period
- Worker can save, while credibly denying requests for transfer
- Threshold system
  - Workers choose a threshold ($\geq$ baseline earnings)
  - On paydays, earnings up to the threshold are paid out in cash, as usual
  - Earnings above the threshold are privately and directly deposited into the account

$\Longrightarrow$ Redistributive pressure on earnings *increases* are dampened

$\Longrightarrow$ Pure substitution effect; no income effect (Slutsky)

$\Longrightarrow$ Same amount of cash on hand for consumption and redistribution

Figure 3: Private illiquid savings account with threshold system



(a) Baseline (b) Intervention

Panel (a): Redistributive pressure acting as a social tax on earnings
Panel (b): Dampening the social tax on earnings increases.

Public treatment group:

- Workers are offered a public illiquid savings account
- Same exact functionalities as private accounts
- Only difference: if savings are achieved, existence revealed to worker's social and kin network
- Publicity feature couched as belonging to an advertising campaign of our partner bank
- Publicity lowers value of savings accounts as tool to shield earnings increases from redistributive pressure

Identification strategy

Intervention Phase 1:

- Examine effects of private illiquid savings accounts on labor supply
- Build trust towards financial product and field partners (bank, IPA)

Intervention Phase 2:

- Demonstrate that *redistributive pressure is necessary* for Phase 1 effects
- Under other potential mechanisms (self-control), publicity should have no effect

Potential confounds:

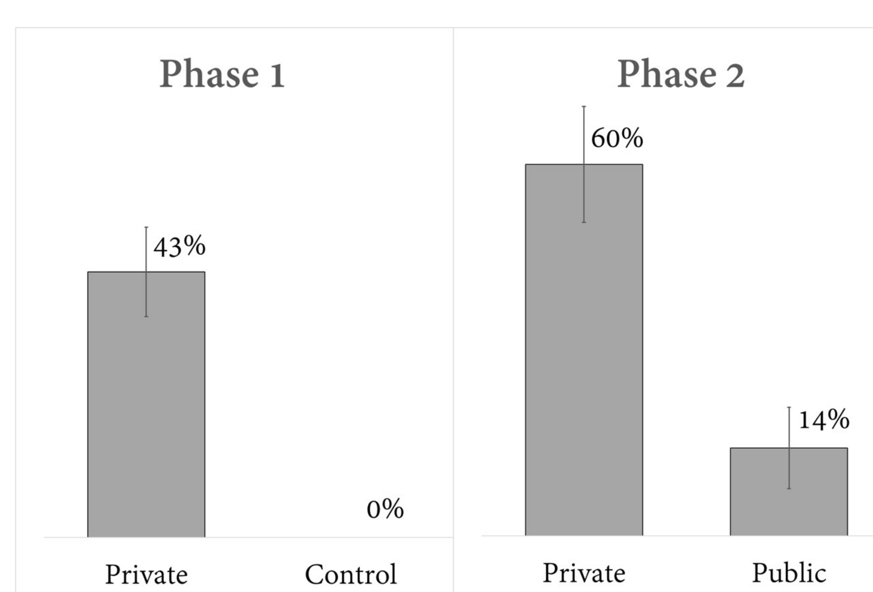
- Any potential confound should rationalize both Phase 1 and Phase 2 results
- Redistributive pressure seems the most plausible explanation
- We directly rule out alternative explanations for public vs. private differences (ex: privacy concerns; WTA exercise)
- We also directly test for self-control in consumption (opt-out test)

Table 1: Randomization design

Phase 1 (N = 365) *Jun 2017 - Mar 2019*	Phase 2 (N = 317) *Apr 2019 - Jul 2019*
Private treatment (50%)	**Private treatment** (50%)
	Public treatment (50%)
Control (50%)	**Private treatment** (50%)
	Public treatment (50%)
Non-eligible	**Private treatment** (50%)
	Public treatment (50%)

Results

Figure 5: Take-up of savings account



Take-up means and 95% confidence intervals

Phase 1: N = 408 worker-wave; 353 factory workers
Phase 2: N = 317 factory workers
Standard errors clustered at the worker level

Table 2: Main treatment effects

Dep. var: Daily earnings	Phase 1		Phase 2	
	(1)	(2)	(3)	(4)
Private (vs. control)	176.407**	200.145**		
	(82.246)	(86.795)		
Private (vs. public)			164.497**	178.503**
			(81.557)	(82.512)
Worker FE	Yes	Yes	Yes	Yes
Paycycle FE	Yes	Yes	Yes	Yes
Strata x paycycle FE	No	Yes	No	Yes
Control group mean	1587	1587	1570	1570
N: worker-day	99215	99215	38222	38222
N: worker	353	353	317	317

Notes: DiD specification, with 15 days of baseline earnings. All regressions include worker and paycycle fixed-effects. Regressions (2) and (4) also include strata x paycyle fixed-effects. In Phase 1, strata are treatment waves by factory. In Phase 2, strata are treatment assignment in Phase 1 separately by wave in each factory. Standard errors clustered at the worker level. *, **, *** indicate significance at the 10, 5 or 1% level.

Key results

- Workers demand private and illiquid savings account
  - Allows savings without cash on hand
  - Enables refusal of transfer requests without cost
- Accounts strongly raise individual labor supply
  - ITT effect: 11% (daily earnings, Phase 1)
  - **ATE: 26%** (daily earnings, Phase 1)
  - Consistent with kin taxation as impediment to labor supply
- But only when others do not know of their existence
  - Similar treatment effects in Phase 1 (private treatment vs. control) and Phase 2 (private treatment vs. public treatment)
  - Cannot be explained by privacy concerns
  - Especially consistent with mechanism of redistributive pressure

Additional results

- Labor supply changes alongside both margins
  - 50-70% of treatment effects from increased attendance
  - 30-50% of treatment effects from increased productivity while attending
- Baseline social tax rate: 21% (conservative estimate)

Discussion

Blocked Savings as Policy Tool

- Potentially potent tool regardless of mechanism
- Some lessons
  - Trust in institutions is a major issue for take-up
  - Take-up climbed each time accounts were offered
  - Virtually everyone who took up account once did so again when offered a 2nd or 3rd time
  - Successful continued implementation in one of two plants (without us)
- Implications for risk sharing unclear
  - General implementation not necessarily Pareto-improving
  - Exacerbate ex-post reneging?

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