Gender and the Family

Esther Duflo

14.771

Is the household efficient? Take 2–consumption

- Lack of production efficiency is bad news for efficiency.
- On the consumption side, empirical implication of full commitment should be that, conditional on total household demand, the demand for good k should be invariant across states.
- Alternatively: the shocks should affect the consumption of each individual good only to the extent that they affect *total* consumption.
- Intuition: Husband and wife should insure each other completely. So her consumption of favorite item should not drop because she got a bad draw; of course, total consumption will change and hence basket consumed will change due to income effect, but conditioning on total expenditure we should not see an effect of the shares .

Experimental version: Robinson, 2012

- The experiment followed 142 married couples for 8 weeks in Kenya
- Every week, each individual had a 50 percent chance of receiving a 150 Kenyan shilling (KS) (US $ 2.14) income shock, equivalent to roughly 1.5 days' income for men and 1 week's income for women
- Information about the shocks was public knowledge: both spouses were told what their partner received.
- Weekly data on consumption, income and income shocks and labor supply from each member

Predictions and Results

- shocks are, random, transitory, and idiosyncratic : Should not affect bargaining power
- Public: no moral hazard or anything....
- Shocks are spent privately ▸ Table
- And saved privately ▸ Table

Non experimental version: Duflo Udry

- Setting: Cote D'Ivoire
- Women and Men (tend to) grow different crop, on their different farm.
- A special crop is Yam, which is to be used by men for household public goods.
- We can compute proxies for male and female income (and yam income) by aggregating crop income across different crops.

- We first predict $y_{si2} - y_{si1}$, for s in $\{m, f, y\}$ as a function of rainfall and form predicted value of those difference $\hat{\Delta} y_{si} = y_{si2} - y_{si1}$, and we run

$$\Delta(log(c_i)) = \alpha + \beta \hat{\Delta} y_{fi} + \gamma \hat{\Delta} y_{mi} + \delta \hat{\Delta} y_{yi} + \epsilon_i$$

  in a Pareto-efficient model, why would the coefficient β, γ and δ differ?
- What test of Pareto-efficiency does this suggest?
- Consumption of particular goods should change only to the extent that total expenditure changes.
- Two steps:
  1. Run the same regression with total expenditures are the dependent variable

$$\Delta(log(x_i)) = \pi_1 + \pi_2 \hat{\Delta} y_{fi} + \pi_3 \hat{\Delta} y_{mi} + \pi_4 \hat{\Delta} y_{yi} + \epsilon_i$$

  2. calculate the ratios: $\frac{\beta}{\pi_1}$, $\frac{\gamma}{\pi_2}$, $\frac{\delta}{\pi_3}$. They should all be equal.
  3. They are not ▸ Results

Taking stock

- Consumption risk does not appear to be efficiently shared
- Especially idiosyncratic production shocks
- The standard EHM is not doing very well.
- Why not?

"Modern" family and gender economics

- "Modern" family and gender economics goes beyond testing household models and tries to understand the root of different gender preferences and the actual way in which households bargain (or not)
- No replacement model has really emerged, but lots of interesting things.

Information flow in the household

- Perhaps the premise that households member would share information efficiently is not correct.
- Rao, Ridley, Schilbach (2021): Husband and Wife do not share information that they have. Especially, husband do not pay attention to what wife may know.

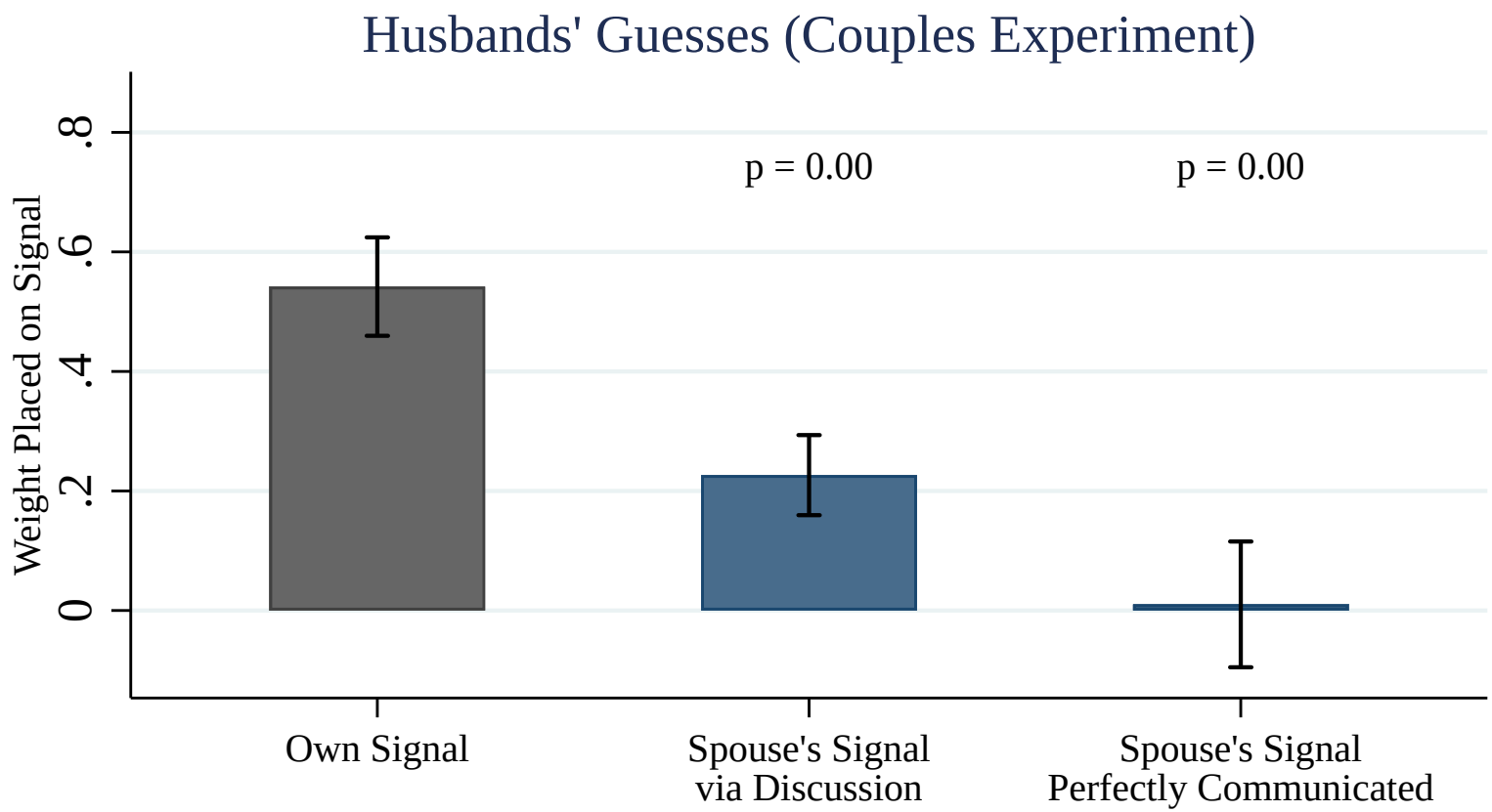
Social learning experiments with 400 couples and 500 strangers in Chennai

1. Do people respond similarly to info uncovered by themselves and by their spouse?
2. Does this vary by gender?
3. Is inefficient learning due to a lack of communication or incorrect weighting of info?
4. Are strangers working in teams similar to spouses?

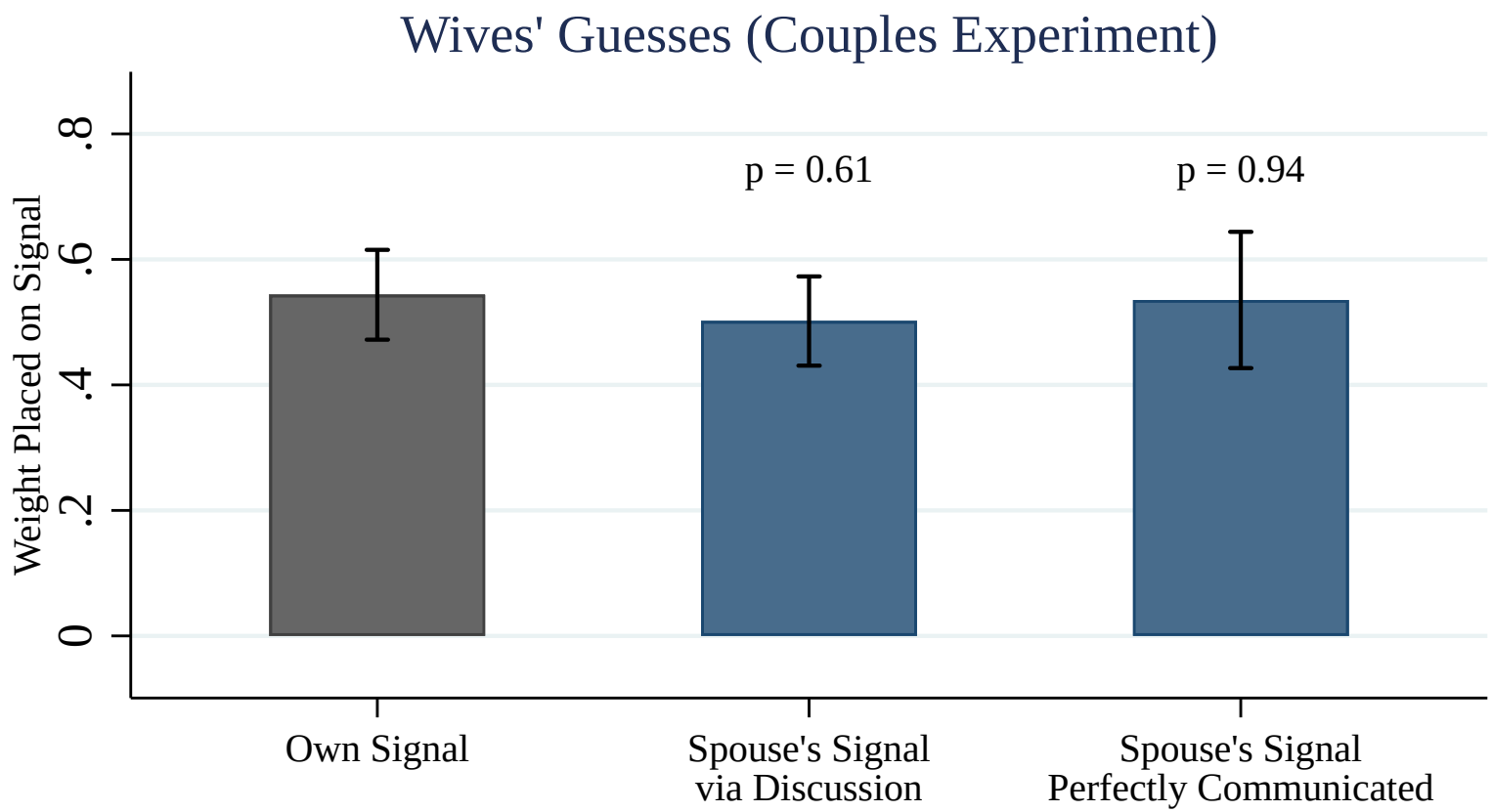
Simple, incentivized task: draw signals and guess share of red balls in an urn

- Experimental variations
  (1) Draw all signals privately yourself
  (2) Some signals drawn by your spouse — can learn via discussion
  (3) Some signals drawn by your spouse — directly inform you of spouse's signals
- Key outcome of interest: weight put on signals depending on who uncovered them
- Clear prediction for information-pooling: treat own and spouse's info equally

Husbands heavily discount wife's info (even if perfectly communicated)



Wives treat own and husband's info the same



What happens with strangers?

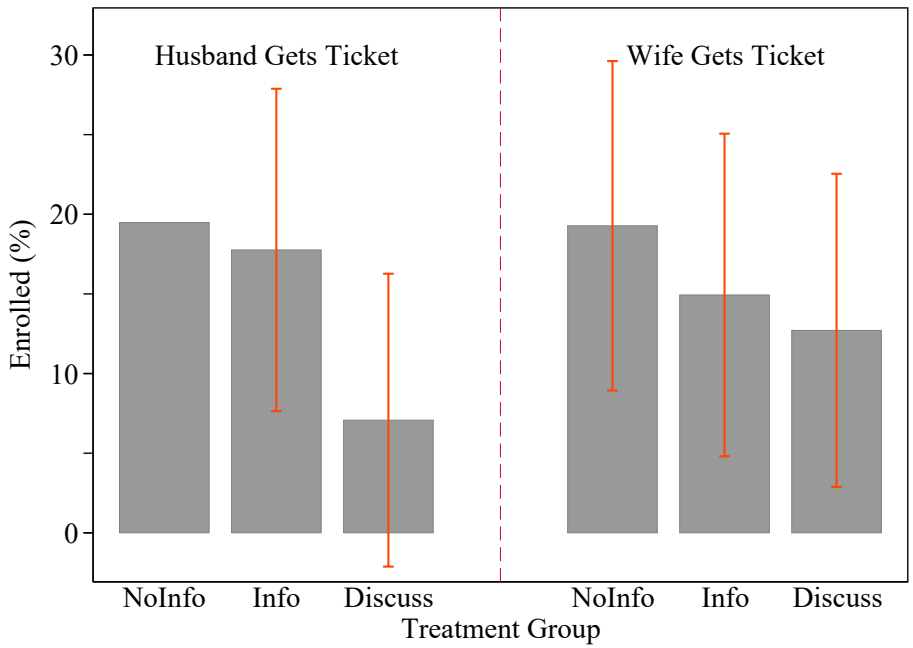
- People discount stranger information
- This time both men and women do!

Manipulation of information

Ashraf Field and Lee

- Women are proposed a voucher to jump the queue to get an injectable contraceptive.
- Tow treatments: individual or couple.
- The individual one is much more likely to lead to contraceptive use than a couple intervention ▸ Ashraf et al, 2014
- Not necessarily a generalizable results. Lowe and McKelway (2018): Men do not need to manipulate information in India, when information on a job opportunity is given to them in private it makes no difference when it is given to them with knowledge of their spouse. Forcing people to negociate together recudes take up of the job opportunity [two unexpected results!]

Lowe and McKelway (2018)



Female Labor supply and empowerment

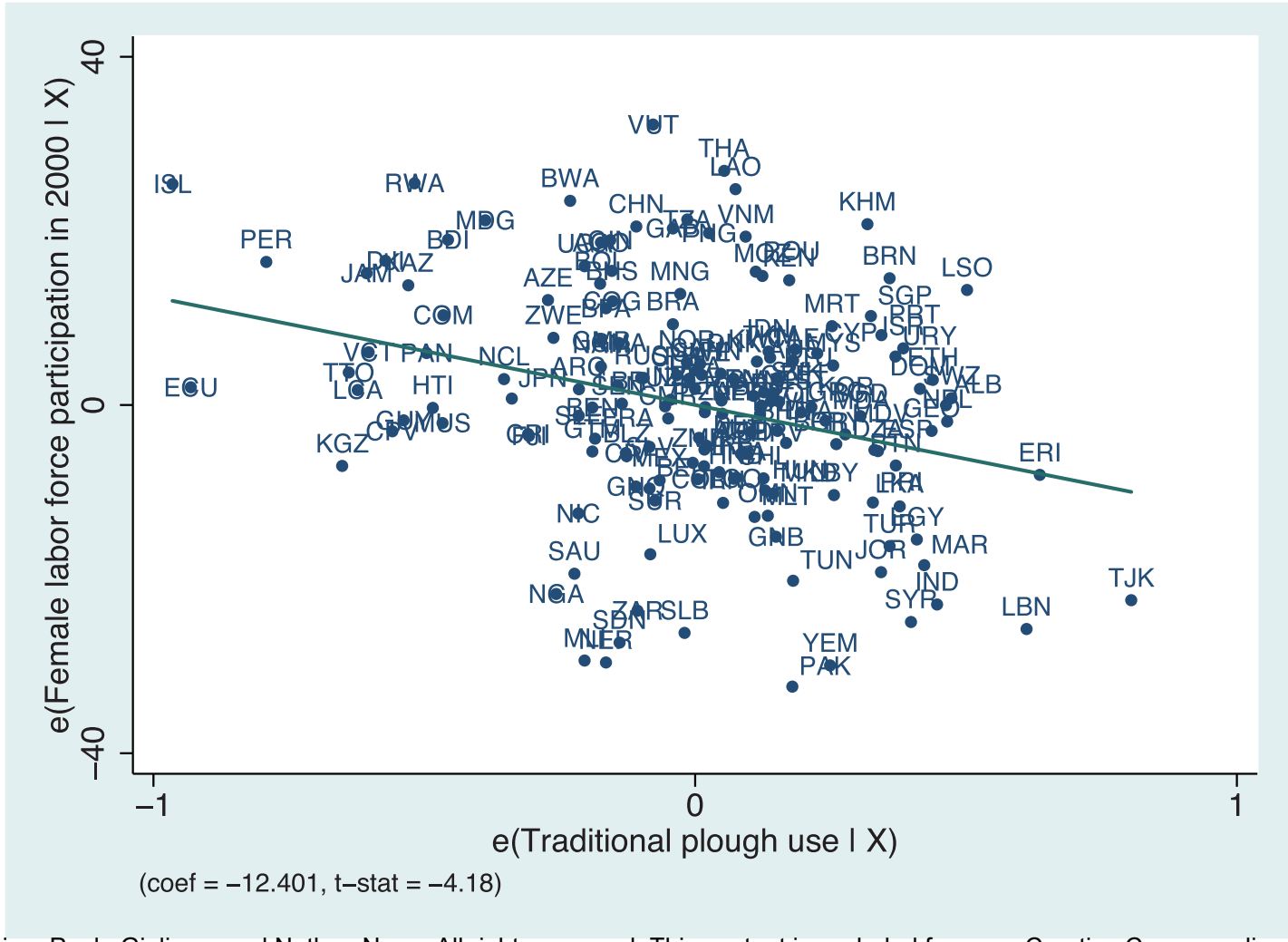
- In most developed country settings, female labor supply is considered as a marker for low bargaining power (leisure=private good)
- But in many developing country settings (perhaps particularly in South Asia) it seems women want to work and their husband do not want them to work (Fletcher, Pande, Moore 2019)
- "Acting wife" : in a very different context (women attending MBA at top B school) , unmarried women were willing to take costly steps to not demonstrate professional ambition in front of men (Bursztyn, Fujiwara, Pallais, 2017)
- This is consistent with limited commitment EHM: women want to work to increase their bargaining power, and men don't want that, either to protect their own bargaining power, or because they have direct disutility to see their woman work
- There could also be a social norm against female working.

Culture and Social norms

Alesina, Guiliano and Nunn

- Esther Boserup's hypothesis: in regions where the plow was dominant, males were more involved in the working of the field, and women less valued
- Hypothesis: this persisted over time.
- They use FAO data base on crop suitability to build an index of where the plow was more likely to be used.
- And correlated with today's social norms.

(a) Traditional plough use and current FLFP



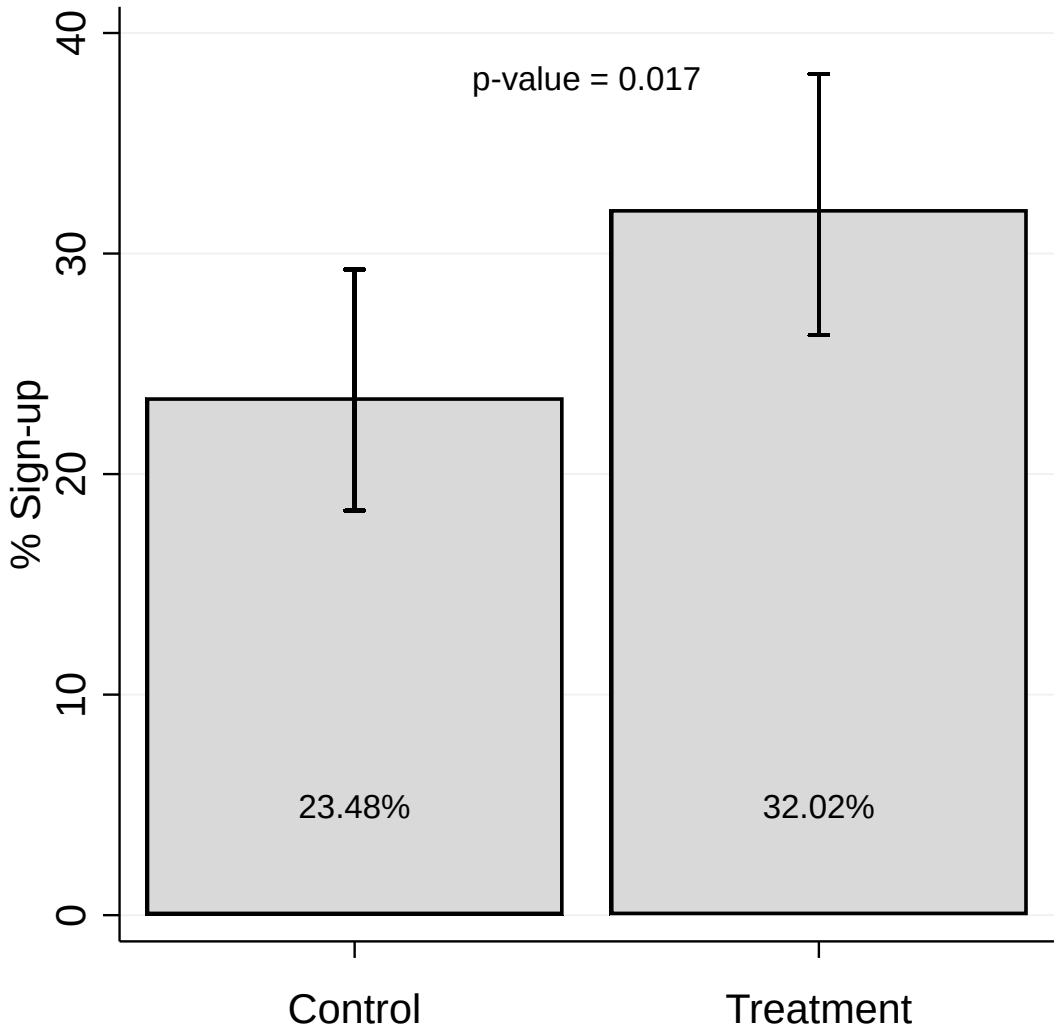
Miss-perception of social norms

Burztein, Gonzalez and Yanagizawa-Drott

- Experiment with 500 young men in Saudi Arabia
- 87% agree with the statement "In my opinion, women should be allowed to work outside of the home"
- But when asked how many other men have this opinion, three quarter under estimate the true number
- The experiment gives half of them the right number.
- Then they got the choice between \$5 Amazon certificate and opportunity to sign their wife for a platform on job.
- And follow up calls for longer term outcomes.

Miss-perception of social norms

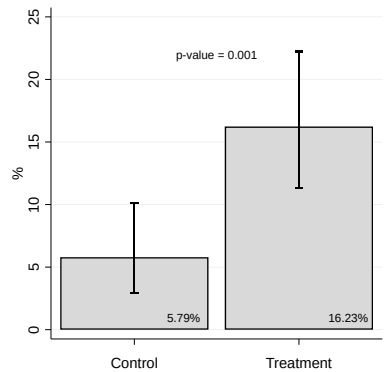
Figure 4: Job-Matching Service Sign-up
(*Main Experiment*)



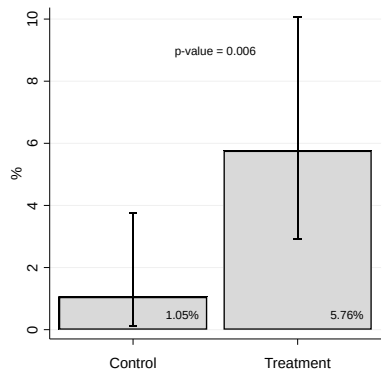
Miss-perception of social norms

Figure 5: Long-term Labor Supply Outcomes
(*Follow-up*)

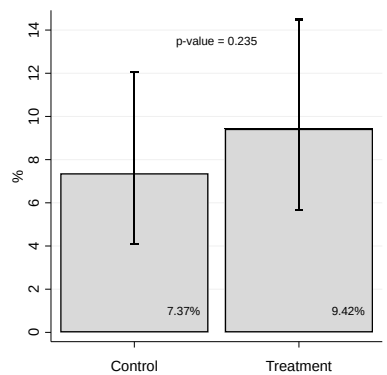
(a) Applied for Job



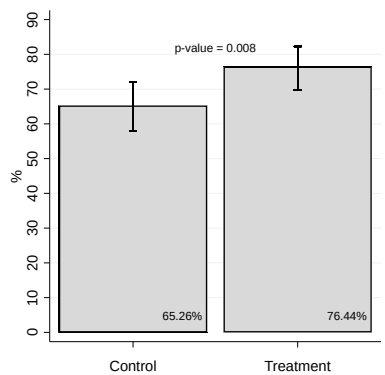
(b) Interviewed for Job



(c) Employed

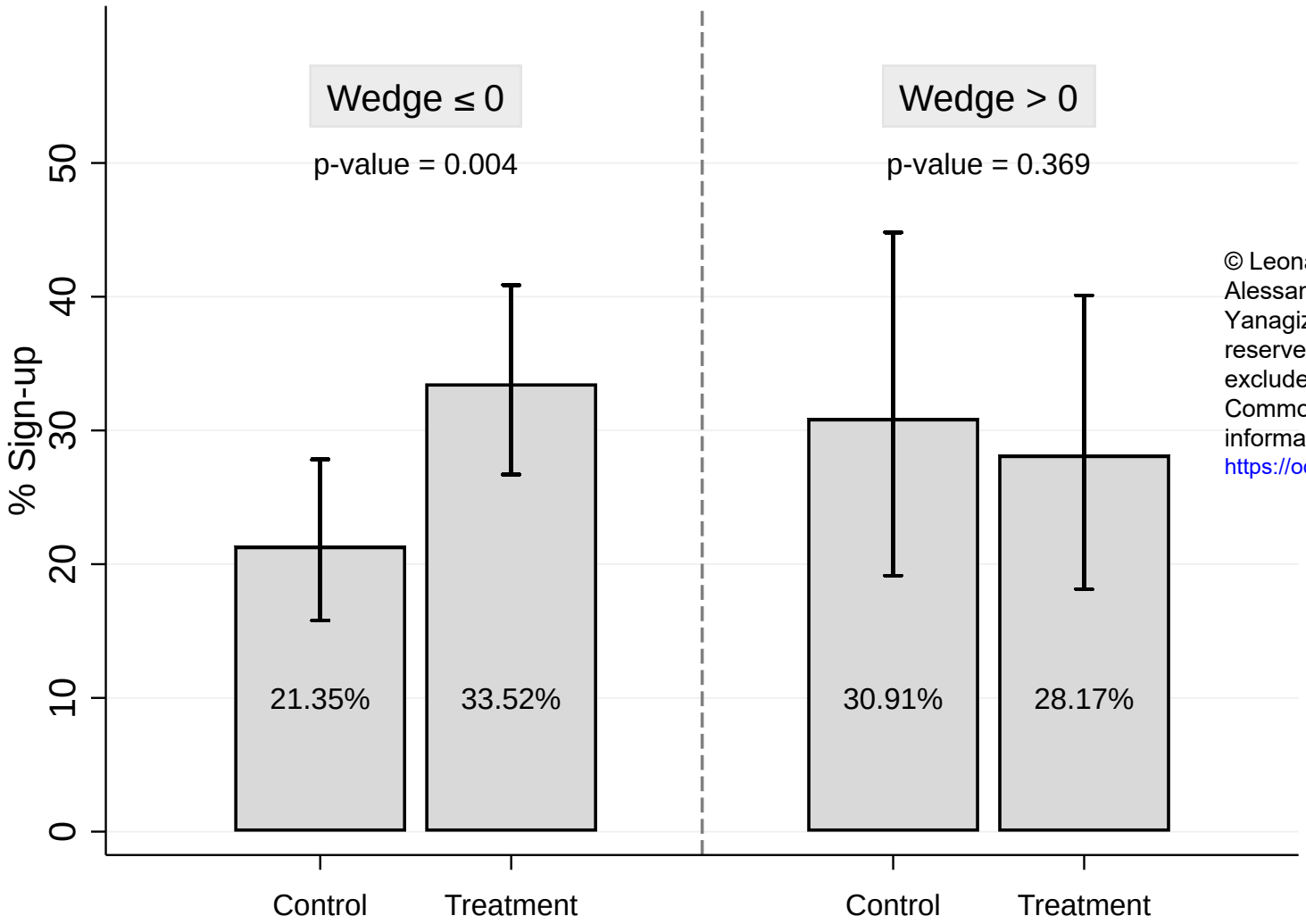


(d) Driving Lessons



Miss-perception of social norms

Figure 6: Job-Matching Service Sign-up–Heterogeneity by Wedge (*Main Experiment*)



Can Norms be changed by teaching?

Dhar, Jain, Jayachandran "Reshaping adolescents' gender attitude"

- This mis-perception suggests that perhaps norms are not a fatality
- A litterature shows that relatively superficial interventions change norms such as whether females can make good leaders (Beaman et al, 2013), fertility (La Ferrara, soap opera in Brazil).
- Work in collaboration with a local NGO in North India (Breakthrough) to try to affect adolescent view of women and girls
- 45 minutes classroom discussions on various topic related to gender once every 3 weeks for 2 school years
- RCT in 314 schools in Haryana (a state in India with very bad gender culture), 14,000 students
- Find 0.25 SD improvement on self-reported gender norms at end of intervention, and some effects on behavior (especially among boys).

Teaching social norms

Table 2: Average effects of the gender attitude-change intervention

	Gender Attitudes Index (1)	Aspirations Index (2)	Girls' Behavior Index (3)	Boys' Behavior Index (4)	Behavior Index (5)
Treated	0.250***	0.052***	0.199***	0.461***	0.323***
	[0.019]	[0.019]	[0.031]	[0.031]	[0.022]
Basic controls	Yes	Yes	Yes	Yes	Yes
Extended controls	No	No	No	No	No
Observations	13988	13988	7787	6201	13988

Getting women to participate in the labor force

- Given the disagreement between men and women on labor supply one could:
  1. Change husband's opinions
  2. Change wife's ability to advocate for themselves

McKelway, 2021 "Women's employment in India: Intra-household and intra personal constraints

- Job market paper: experiment she conducted on her own on a shoestring...well worth reading!!
- Cross randomized two interventions with large carpet manufacturer in India who was interested in recruiting more women.
- Setting: Uttar Pradesh, poor area with backwards gender norms and very low FLP
  - Psychosocial intervention (Generalized Self Efficacy, Bandura 1977)-training over several weeks
  - Promotion of the job to the husband and in laws (6 minutes video)

GSE training affect GSE, not promo

Table 3: Effects on Women's GSE

	(1)	(2)	(3)	(4)
	% GSE Questions Agreed With			
	at 5 Weeks	at 6 Weeks	at 5 Months	at 13 Months
Panel A: Unsaturated Specification				
γ_1: GSE Treat	4.959	3.230	3.123	3.890
	(2.013)	(1.796)	(1.681)	(1.964)
	[0.015]	[0.074]	[0.065]	[0.049]
γ_2: Promo Treat	1.548	0.121	0.337	0.032
	(2.135)	(1.938)	(1.794)	(2.211)
	[0.469]	[0.950]	[0.851]	[0.988]
P-Value for Test that:				
$\gamma_1 = \gamma_2$	0.254	0.228	0.240	0.197
Strata FE	Yes	Yes	Yes	Yes
PDS Lasso X	Yes	Yes	Yes	Yes
Panel B: Saturated Specification				
β_1: GSE Treat & Promo Control	2.662	5.607	3.616	3.286
	(3.022)	(2.758)	(2.505)	(2.741)
	[0.379]	[0.043]	[0.150]	[0.232]
β_2: GSE Control & Promo Treat	-1.130	2.344	0.625	-1.182
	(2.977)	(2.590)	(2.513)	(2.981)
	[0.705]	[0.366]	[0.804]	[0.692]
β_3: GSE Treat & Promo Treat	6.638	3.231	3.330	3.271
	(2.825)	(2.684)	(2.597)	(2.865)
	[0.019]	[0.229]	[0.201]	[0.255]
P-Value for Test that:				
$\beta_1 = \beta_2$	0.196	0.197	0.208	0.127
$\beta_1 = \beta_3$	0.152	0.364	0.906	0.996
$\beta_2 = \beta_3$	0.004	0.716	0.276	0.131
Strata FE	Yes	Yes	Yes	Yes
PDS Lasso X	Yes	Yes	Yes	Yes
GSE Control & Promo Control Mean	72.166	75.093	78.081	73.793
N Women	868	855	795	674

GSE and promo alone affect work off farm, but not combined

Table 4: Effects on Women's Employment

	(1)	(2)	(3)	(4)	(5)
	Participation in Firm's Program		Working off Own Farm (=1)		
	Signed Up (=1)	Attended in First 2 Months (=1)	at 6 Weeks	at 5 Months	at 13 Months
Panel A: Unsaturated Specification					
γ_1: GSE Treat	-0.008	-0.003	0.001	0.022	-0.006
	(0.025)	(0.018)	(0.020)	(0.024)	(0.029)
	[0.739]	[0.866]	[0.963]	[0.365]	[0.847]
γ_2: Promo Treat	0.038	0.016	-0.002	0.018	-0.008
	(0.028)	(0.020)	(0.022)	(0.027)	(0.032)
	[0.177]	[0.416]	[0.916]	[0.505]	[0.799]
P-Value for Test that:					
$\gamma_1 = \gamma_2$	0.240	0.496	0.919	0.921	0.952
Strata FE	Yes	Yes	Yes	Yes	Yes
PDS Lasso X	Yes	Yes	Yes	Yes	Yes
Panel B: Saturated Specification					
β_1: GSE Treat & Promo Control	0.048	0.035	0.061	0.087	0.005
	(0.035)	(0.024)	(0.029)	(0.033)	(0.043)
	[0.169]	[0.152]	[0.039]	[0.009]	[0.905]
β_2: GSE Control & Promo Treat	0.096	0.055	0.061	0.076	-0.007
	(0.038)	(0.025)	(0.028)	(0.034)	(0.041)
	[0.012]	[0.032]	[0.030]	[0.027]	[0.863]
β_3: GSE Treat & Promo Treat	0.029	0.013	-0.003	0.038	-0.012
	(0.036)	(0.025)	(0.027)	(0.036)	(0.043)
	[0.412]	[0.605]	[0.912]	[0.301]	[0.779]
P-Value for Test that:					
$\beta_1 = \beta_2$	0.218	0.479	0.984	0.772	0.764
$\beta_1 = \beta_3$	0.593	0.410	0.032	0.188	0.678
$\beta_2 = \beta_3$	0.087	0.132	0.026	0.321	0.905
Strata FE	Yes	Yes	Yes	Yes	Yes
PDS Lasso X	Yes	Yes	Yes	Yes	Yes
GSE Control & Promo Control Mean	0.221	0.085	0.131	0.187	0.190
N Women	1022	1022	854	794	674

Notes: This table presents effects on women's employment. The outcome in column (1) is an indicator for signing up for the firm's program, and the outcome in column (2) is an indicator for ever attending the program in the first two months of training. The outcomes in columns (3)-(5) are indicators for having done any work for income off one's household's farm in the preceding two weeks. They come from women's six-week, five-month, and 13-month surveys. See Appendix Section G.3 for additional information on the outcomes in this table. Standard errors (in parentheses) are clustered by household and by meeting group in Panel A, and clustered by household and by meeting group × promotion treatment in Panel B. P-values are in brackets.

Does labor supply indeed increase bargaining power?

Field, Moore, Pande, Rigol, Schaner, 2019 "on her account.."

- Experiment in Madhya Pradesh
- Government gave women access to bank account to randomly selected GP
- In one treatment they linked NREGA (workfare) payment to it
- Can therefore look at the effect of an account, and the effect of having wages linked to an account
- In the short run this increased labor supply in the program but also outside the program (including in cash payment work)
- Effects are stronger among women who had never worked for NREGA at baseline (and whose husband generally were less likely to support women working): they interpret this as increase in bargaining power

Table 3: Impact of Treatments on Women's Labour Supply

	Aggregate Labor Supply Index		MGNREGS Labor Supply Sub-Index		Private Labor Supply Sub-Index	
	Short-Run	Long-Run	Short-Run	Long-Run	Short-Run	Long-Run
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Full sample						
θ: Direct Deposit and Training	0.165***	0.045	0.186***	0.021	0.166***	0.048
	(0.042)	(0.048)	(0.071)	(0.080)	(0.050)	(0.062)
Accts Only Mean	0.000	-0.000	-0.000	0.000	0.000	-0.000
N	2504	2464	2504	2464	2504	2464
Panel B: Constrained Women						
θ: Direct Deposit and Training	0.213***	0.193***	0.263**	0.069	0.226***	0.279***
	(0.051)	(0.060)	(0.111)	(0.073)	(0.059)	(0.097)
Accts Only Mean	-0.122	-0.186	-0.049	-0.102	-0.163	-0.275
N	922	903	922	903	922	903
Panel C: Unconstrained Women						
θ: Direct Deposit and Training	0.150***	-0.036	0.168**	-0.008	0.153**	-0.094
	(0.052)	(0.057)	(0.071)	(0.102)	(0.071)	(0.059)
Accts Only Mean	0.061	0.108	0.033	0.067	0.080	0.156
N	1519	1501	1519	1501	1519	1501
P-value: Panel B θ = Panel C θ	0.276	0.001***	0.343	0.398	0.352	0.000***

Notes: Robust standard errors clustered at the GP level in parentheses. All regressions include strata and district fixed effects. Additional covariates are selected using double post lasso. The set of potential controls includes individual and GP-level characteristics and their square. See Online Data Appendix for the complete list of potential controls. * p≤ 0.10, ** p≤ 0.05, *** p≤ 0.10. The labor supply index is an average of the MGNREGS, private, and general labor sub-indices. All sub-index components are standardized with respect to the Accounts Only group. The MGNREGS

Table 4: Impact of Treatments on Empowerment

	Aggregate Empowerment Index		Purchase Index		Mobility in Past Year		Self-Reported Decision Making	
	Short-Run (1)	Long-Run (2)	Short-Run (3)	Long-Run (4)	Short-Run (5)	Long-Run (6)	Short-Run (7)	Long-Run (8)
Panel A: Full sample								
θ: Direct Deposit and Training	0.041	0.032	0.096*	0.039	0.037	0.053	-0.021	0.019
	(0.032)	(0.034)	(0.053)	(0.063)	(0.036)	(0.035)	(0.053)	(0.045)
Accts Only Mean	0.000	0.002	0.000	0.000	-0.000	0.000	0.000	-0.000
N	2504	2453	2504	2453	2504	2464	2504	2464
Panel B: Constrained Women								
θ: Direct Deposit and Training	0.100***	0.144***	0.239***	0.238***	0.023	0.115**	0.041	0.062
	(0.037)	(0.049)	(0.067)	(0.080)	(0.052)	(0.056)	(0.064)	(0.078)
Accts Only Mean	-0.028	-0.111	-0.089	-0.218	0.054	-0.042	-0.050	-0.084
N	922	897	922	897	922	903	922	903
Panel C: Unconstrained Women								
θ: Direct Deposit and Training	0.026	-0.022	0.042	-0.059	0.060	-0.001	-0.030	-0.005
	(0.041)	(0.036)	(0.065)	(0.069)	(0.044)	(0.040)	(0.071)	(0.056)
Accts Only Mean	0.010	0.055	0.037	0.102	-0.031	0.027	0.025	0.035
N	1519	1496	1519	1496	1519	1501	1519	1501
P-value: Panel B θ = Panel C θ	0.145	0.002***	0.029**	0.002***	0.538	0.061*	0.430	0.487

Long run effect

- In the longer run norms themselves got affected. Actual norms

Table 5: Impact of Treatments on Actual Norms

	Female Reports				Male Reports			
	Actual Norms Index (1)	Personal Preferences (2)	Acceptance: Working Women (3)	Acceptance: Husbands (4)	Actual Norms Index (5)	Personal Preferences (6)	Acceptance: Working Women (7)	Acceptance: Husbands (8)
Panel A: Full sample								
θ: Direct Deposit and Training	0.110***	0.098**	0.091	0.087	-0.011	-0.059	0.015	-0.024
	(0.040)	(0.044)	(0.061)	(0.060)	(0.043)	(0.070)	(0.051)	(0.057)
Accts Only Mean	-0.000	0.000	0.000	-0.000	0.077	0.180	0.001	0.049
N	2464	2464	2464	2464	2293	2293	2293	2293
Panel B: Constrained Women								
θ: Direct Deposit and Training	0.215***	0.160**	0.243***	0.210***	-0.036	0.012	-0.020	-0.099
	(0.051)	(0.069)	(0.073)	(0.077)	(0.082)	(0.109)	(0.083)	(0.103)
Accts Only Mean	-0.095	-0.068	-0.099	-0.117	0.066	0.091	0.045	0.062
N	903	903	903	903	837	837	837	837
Panel C: Unconstrained Women								
θ: Direct Deposit and Training	0.050	0.059	0.007	0.019	-0.001	-0.083	0.040	-0.007
	(0.054)	(0.059)	(0.079)	(0.073)	(0.043)	(0.079)	(0.063)	(0.057)
Accts Only Mean	0.048	0.043	0.048	0.054	0.080	0.218	-0.024	0.046
N	1501	1501	1501	1501	1403	1403	1403	1403
P-value: Panel B θ = Panel C θ	0.024**	0.269	0.017**	0.040**	0.688	0.427	0.564	0.409

Notes: Robust standard errors clustered at the GP level in parentheses. All regressions include strata and district fixed effects. Additional covariates are selected using double post lasso. The set of potential controls includes individual and GP-level characteristics and their square. See Online Data Appendix for the complete list of potential controls. * p≤ 0.10, ** p≤ 0.05, *** p≤ 0.10. These questions were only asked in the long run survey. The actual norms index is the average of the personal preference, acceptance of working women, and acceptance of husbands sub-indices (columns 2-4). All sub-index components are standardized with respect to the Accounts Only group. The personal preferences index includes if the respondent believes that women can work, if prefers to have a daughter-in-law who wants to work for pay, and if prefers to have a son-in-law who allows daughter to work for pay. The acceptance indices are derived from a series of vignette questions featuring a housewife and working woman. The acceptance of working women sub-index includes if the respondent believes the working woman is the better wife, if believes the working woman is the better mother, and if believes the working woman is the better caretaker. The acceptance of husbands index includes if the respondent believes the working woman's husband is a better provider and if believes the working woman's husband is a better husband. See Online Data Appendix for further details on variable construction.

Long run effect

- In the longer run norms themselves got affected. Perceived norms.

Table 6: Impact of Treatments on Perceived Norms

	Female Reports			Male Reports		
	Perceived Norms Index (1)	Perceived Norms: Acceptance Working Women (2)	Perceived Norms: Acceptance Husbands (3)	Perceived Norms Index (4)	Perceived Norms: Acceptance Working Women (5)	Perceived Norms: Acceptance Husbands (6)
Panel A: Full sample						
θ: Direct Deposit and Training	0.062	0.079**	0.050	0.087**	0.062	0.113**
	(0.039)	(0.040)	(0.046)	(0.044)	(0.053)	(0.052)
Accts Only Mean	-0.000	-0.000	0.000	-0.236	-0.138	-0.334
N	2464	2464	2464	2292	2292	2292
Panel B: Constrained Women						
θ: Direct Deposit and Training	0.116*	0.096	0.152*	0.102	0.030	0.174**
	(0.069)	(0.071)	(0.080)	(0.078)	(0.095)	(0.084)
Accts Only Mean	-0.079	-0.064	-0.094	-0.310	-0.188	-0.432
N	903	903	903	836	836	836
Panel C: Unconstrained Women						
θ: Direct Deposit and Training	0.007	0.052	-0.037	0.115**	0.090	0.121**
	(0.043)	(0.048)	(0.051)	(0.046)	(0.063)	(0.052)
Accts Only Mean	0.047	0.041	0.053	-0.200	-0.117	-0.284
N	1501	1501	1501	1403	1403	1403
P-value: Panel B θ = Panel C θ	0.168	0.606	0.041**	0.882	0.597	0.520

Notes: Robust standard errors clustered at the GP level in parentheses. All regressions include strata and district fixed effects. Additional covariates are selected using double post lasso. The set of potential controls includes individual and GP-level characteristics and their square. See Online Data Appendix for the complete list of potential controls. * p≤ 0.10, ** p≤ 0.05, *** p≤ 0.10. These questions were only asked in the long run survey. The perceived norms index is the average of the perceived acceptance of working women and the perceived acceptance of working women's husbands

Less sanguine results from McKelway, 2020

- She follow decision making in households where husband where given promotion
- In the short run, women spend more time working but just as much time on chore
- At 4 months, they think they have more decision making power, but their family does not...
- Women quickly dropped out of the job (often because it was incompatible with her other responsibilities).
- In The Fletcher et al paper, many woman who are currently not working would consider a part time job.

McKelway, impact of labor supply on family deciion

Table 3: Effects on Women's Involvement in Household Decision-Making

	(1)	(2)
	Woman Makes Decisions Index	
	Woman's Report	Family's Report
Promo Treat	0.246	0.018
	(0.094)	(0.095)
	[0.009]	[0.849]
Strata FE	Yes	Yes
PDS Lasso X	Yes	Yes
Control Mean	0.000	0.000
N Women	390	379

Notes: The outcomes are from the four-month endline surveys. Respondents were asked who in their households usually makes decisions about nine different things. I define indicators that take the value of one if the woman was said to make the decision alone or together with others, and zero otherwise. I aggregate the indicators into summary indices. The outcome in column (1) is the index of women's reports, and the outcome in column (2) is the index of family members' reports. Standard errors are clustered by household

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Udry (1996)

TABLE 3

OLS Fixed-Effect Estimates of the Determinants of Plot Yield and Ln(Plot Output) (× 1,000 FCFA)

Dependent Variable: Value of Plot Output/Hectare

	Household-Year-Crop Effects: All Crops (1)		Household-Year Effects				Household-Crop-Year Effects			
			Millet Only (2)		White Sorghum (3)		Vegetables (4)		All Crops: CES* (5)	
Mean of dependent variable	89		31		41		134		1.67	
Gender: (1 = female)	−27.70	(−4.61)	−10.36	(−2.53)	−19.38	(−4.43)	−34.27	(−2.21)	−.20	(−3.56)
Plot size:										
1st decile	133.99	(3.50)	−28.35	(−2.67)	−17.90	(−1.92)	237.10	(4.66)		
2d decile	69.10	(4.38)	8.64	(.82)	52.30	(3.16)	63.97	(2.38)		
3d decile	63.45	(5.52)	16.95	(1.81)	47.68	(4.77)	35.87	(1.52)		
4th decile	34.08	(2.88)	9.79	(1.12)	26.73	(3.12)	4.21	(.18)		
6th decile	−2.04	(−.29)	−.99	(−.11)	−6.38	(−1.16)	−6.65	(−.26)		
7th decile	−13.44	(−1.78)	−13.01	(−1.73)	−11.31	(−1.69)	−33.54	(−.90)		
8th decile	−17.23	(−2.59)	−12.97	(−1.34)	−28.58	(−4.82)	31.04	(.73)		
9th decile	−26.68	(−3.81)	−21.50	(−2.65)	−28.65	(−4.98)				
10th decile	−31.52	(−4.49)	−20.56	(−2.55)	−37.70	(−6.03)				
Ln(area)									.78	(29.52)
Toposequence:										
Uppermost	−41.35	(−2.18)	2.50	(.24)	−14.60	(−1.73)	−131.34	(−1.82)	−.46	(−2.71)
Top of slope	−26.35	(−1.27)	9.53	(.96)	−11.27	(−1.47)	−121.05	(−1.85)	−.29	(−1.92)
Mid-slope	−24.38	(−1.19)	5.39	(.64)	−8.62	(−1.15)	−119.68	(−1.88)	−.28	(−1.97)
Near bottom	−21.70	(−.90)	4.48	(.40)	−5.36	(−.71)	−93.96	(−1.30)	−.18	(−1.27)

Udry (1996)

TABLE 6

LEAST-SQUARES TOBIT FIXED-EFFECT ESTIMATES OF THE DETERMINANTS OF PLOT INPUT INTENSITIES

	HOUSEHOLD-YEAR-CROP EFFECTS									
	Male Labor per Hectare (1)		Female Labor per Hectare (2)		Child Labor per Hectare (3)		Nonhousehold Labor per Hectare (4)		Manure (1,000 kg per Hectare) (5)	
Gender (1 = female)	−668.47	(−9.60)	70.23	(1.53)	−195.46	(−2.34)	−428.41	(−1.70)	−16.33	(−2.54)
Plot size:										
1st decile	1,209.72	(2.53)	1,462.21	(5.71)	740.80	(1.17)	193.35	(.43)	24.79	(2.42)
2d decile	417.18	(3.25)	1,131.01	(5.82)	143.12	(1.11)	487.39	(1.28)	7.99	(.96)
3d decile	245.94	(2.74)	799.12	(6.72)	133.16	(1.53)	689.39	(1.27)	2.58	(.48)
4th decile	96.53	(1.71)	407.87	(5.02)	72.51	(.68)	378.18	(1.07)	−6.18	(−1.12)
6th decile	−.55	(−.01)	−69.25	(−1.36)	−72.15	(−.98)	57.48	(.80)	−2.14	(−.33)
7th decile	−153.12	(−2.97)	−306.51	(−5.96)	−59.53	(−.60)	65.51	(.64)	−11.08	(−1.54)
8th decile	−375.53	(−6.23)	−386.78	(−6.61)	−184.61	(−1.61)	−43.81	(−.30)	−11.01	(−1.61)
9th decile	−413.36	(−6.79)	−373.57	(−5.16)	−269.99	(−1.83)	−255.15	(−.87)	−11.64	(−1.80)
10th decile	−490.11	(−7.72)	−418.06	(−6.08)	−219.27	(−1.86)	−220.64	(−1.07)	−16.41	(−2.45)
Toposequence:										
Uppermost	41.62	(.35)	−1.92	(−.02)	−55.52	(−.51)	20.20	(.12)	−9.22	(−.62)
Top of slope	29.36	(.30)	91.02	(1.07)	35.15	(.38)	144.02	(.85)	.26	(.02)
Mid-slope	36.08	(.38)	.57	(.01)	.10	(.00)	−15.45	(−.11)	1.14	(.11)
Near bottom	16.42	(.18)	75.94	(.86)	−98.03	(−1.05)	23.27	(.17)	2.88	(.27)
Soil Types:										
3	103.49	(.60)	−31.68	(−.23)	235.74	(.86)	175.29	(.50)	−11.80	(−1.18)
7	−65.79	(−.85)	−30.39	(−.28)	21.88	(.44)	66.04	(.47)	−.07	(−.01)
11	−28.77	(−.09)	−52.06	(−.34)	−778.86	(−4.36)	262.71	(.70)	−.70	(−.08)
12	1,051.98	(.82)	367.34	(1.63)	62.36	(.44)	368.47	(1.13)	16.32	(1.48)
13	274.48	(1.33)	−38.50	(−.29)			−187.07	(−.89)		
21	196.37	(.95)	−43.41	(−.49)	−42.87	(−.35)	37.73	(.27)	2.86	(.18)
31	83.16	(1.59)	68.24	(.92)	205.90	(2.29)	115.56	(1.00)	6.43	(1.29)
32	24.77	(.50)	−10.36	(−.15)	173.14	(1.07)	−51.08	(−.44)	.73	(.12)
33	250.40	(2.57)	163.76	(1.36)	206.68	(.78)	−113.92	(−.37)	17.28	(1.61)
35	179.46	(1.50)	303.86	(1.90)	248.38	(2.60)	195.14	(.58)	−12.75	(−.94)
37	82.49	(.70)	50.84	(.30)	114.53	(1.19)	31.14	(.20)	8.34	(1.44)
45	78.13	(1.34)	−8.33	(−.10)	79.85	(1.02)	41.90	(.25)	8.00	(1.83)
46	−187.14	(−1.84)	141.73	(.76)	42.70	(.09)	223.23	(1.27)	−15.45	(−.79)
51	95.73	(1.83)	−27.01	(−.33)	2.93	(.05)	126.70	(1.05)	.80	(.17)
Location:										
Compound	35.35	(.78)	37.16	(.90)	−18.82	(−.31)	−162.88	(−1.38)	.99	(.24)
Village	19.69	(.70)	12.18	(.45)	42.92	(.93)	25.80	(.30)	5.86	(1.60)
Mean of dependent variable	427.39		466.18		85.55		84.88		1.70	
when >0	506.62		517.17		202.88		213.11		7.78	

NOTE.—This is the least-squares implementation of Honoré's (1992) fixed-effect Tobit estimator. *t*-ratios are in parentheses.

Table 2: First stage summary statistics

	Dependent variables		
	Male cash crop	Current Yam income	Female Income
	(1)	(2)	(3)
F statistics (p value)			
All rainfall variables	1.99	3.50	2.53
are significant	(0.014)	(0.000)	(0.000)
Current year rainfall variables	1.18	3.38	2.43
significant	(0.315)	(0.000)	(0.005)
Past year rainfall variables	2.79	4.64	2.64
significant	(0.005)	(0.000)	(0.001)
Rainfall variables significantly different from:			
Male cash crop	NA		
	2.10		
Yam income	(0.010)	NA	
Female income	2.10	2.38	NA
	(0.009)	(0.002)	

Table 4: Restricted overidentification tests

	Dependent variable: Change in log (item consumption)											
	Total expenditure	Food consumption	Adult goods	Clothing	Prestige goods	Education	Staples	Meat	Vegetables	Processed foods	Purchased foods	Food consumed at home
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PANEL A												
OLS coefficients:												
Predicted change in male non-yam	0.126	0.062	0.870	-0.164	0.683	-0.101	0.113	0.002	0.345	0.004	-0.029	0.098
income	(0.049)	(0.054)	(0.425)	(0.334)	(0.209)	(0.128)	(0.072)	(0.126)	(0.210)	(0.139)	(0.078)	(0.119)
Predicted change in yam	0.207	0.227	-0.473	0.296	-0.272	0.320	0.345	0.135	0.023	0.122	0.087	0.444
income	(0.037)	(0.041)	(0.320)	(0.252)	(0.158)	(0.108)	(0.054)	(0.096)	(0.159)	(0.105)	(0.059)	(0.090)
Predicted change in female	0.309	0.235	1.537	0.535	0.993	-0.098	0.193	0.492	0.995	0.474	0.412	0.313
income	(0.056)	(0.061)	(0.490)	(0.382)	(0.239)	(0.159)	(0.082)	(0.144)	(0.239)	(0.159)	(0.089)	(0.136)
F tests (p value) :		0.934	5.064	0.514	7.595	2.260	5.870	1.824	3.277	1.397	4.777	1.912
Overidentification		(0.393)	(0.007)	(0.598)	(0.001)	(0.106)	(0.003)	(0.162)	(0.038)	(0.248)	(0.009)	(0.148)
Restriction test												
PANEL B: LAGGED RAINFALL												
OLS coefficients:												
Predicted change in lagged male	0.073	0.039	0.350	0.044	0.047	0.091	0.038	0.150	0.039	0.115	0.155	-0.007
non-yam income	(0.020)	(0.022)	(0.169)	(0.133)	(0.082)	(0.056)	(0.029)	(0.050)	(0.083)	(0.055)	(0.031)	(0.047)
Predicted change in lagged yam	-0.003	0.004	0.008	-0.125	-0.076	-0.031	-0.021	0.015	0.011	0.027	0.024	-0.018
income	(0.009)	(0.009)	(0.073)	(0.059)	(0.036)	(0.029)	(0.013)	(0.022)	(0.036)	(0.024)	(0.013)	(0.021)
Predicted change in lagged female	-0.001	0.018	-0.024	-0.251	-0.289	0.093	0.044	0.023	-0.054	-0.010	0.062	-0.035
income	(0.026)	(0.028)	(0.220)	(0.173)	(0.107)	(0.079)	(0.038)	(0.064)	(0.107)	(0.071)	(0.040)	(0.061)
F tests (p value) :		0.105	0.128	0.254	0.043	0.016	0.049	0.052	0.024	0.058	0.054	0.057
Overidentification		(0.900)	(0.880)	(0.776)	(0.958)	(0.984)	(0.952)	(0.949)	(0.976)	(0.943)	(0.948)	(0.945)

TABLE 4
REGRESSIONS: TREATMENT EFFECTS
Dependent Variable = Dummy for Parent Prefers R$120 CCT to R$125 CT

	OLS (1)	OLS (2)	OLS (3)	Probit[a] (4)
Text message treatment dummy	−.6136	−.5819	−.4744	−.4634
	(.087)***	(.091)***	(.097)***	(.072)***
Don't tell treatment dummy	−.6433	−.6119	−.5208	−.5409
	(.070)***	(.080)***	(.060)***	(.123)***
Individual and household covariates	No	Yes	Yes	Yes
Surveyor and school dummies	No	No	Yes	Yes
Observations	156	156	156	151

NOTE.—Mean of dependent variable in the baseline group = .82. The sample was restricted to households that answered the entire survey, and thus two observations were lost. Controls in cols. 2–4 include log of household income, employed parent dummy,

TABLE 3
How Much Do Parents Know?

Respondent	Parent	Child	Difference
Did the child miss any day of school this year? (% answering "yes")	75.60	85.58	−9.98***
How many days did the child miss this year?	4.8	5.16	−.36
Did the child miss any day of school in the last 2 months? (% answering "yes")	50.96	56.04	−5.08
How many days did the child miss in the last 2 months?	1.36	1.97	−.60*
Did the child miss any day this year because the child was sick? (% answering "yes")	43.81	32.70	11.12***
Did the child miss any day because the child did not want to go? (% answering "yes")	9.05	15.87	−6.82***

Note.—*T*-tests of equality in means from paired observations (parent and child).
* Significant at the 10 percent level.
*** Significant at the 1 percent level.

TABLE 3—EXPERIMENTAL SHOCKS AND EXPENDITURES

	Expenditures						
	Total (1)	Private (2)	Shared food (3)	Medical (4)	Children (5)	Other shared (6)	Transport (7)
Panel A. Men							
Shillings received in experimental shock by respondent	0.190	0.169	−0.025	0.048	−0.012	−0.096	0.102
	(0.194)	(0.064)***	(0.089)	(0.041)	(0.032)	(0.102)	(0.068)
Shillings received in experimental shock by spouse	−0.163	−0.027	−0.016	0.057	−0.019	−0.086	−0.069
	(0.192)	(0.069)	(0.087)	(0.045)	(0.030)	(0.111)	(0.060)
Observations	898	898	898	898	898	898	898
Number of households	142	142	142	142	142	142	142
p-value for *F*-test of equality	0.21	0.05**	0.93	0.84	0.88	0.95	0.09*
Mean of dependent variable (Ksh)[a]	889.32	135.66	413.77	56.95	24.09	144.77	114.55
SD of dependent variable (Ksh)	557.30	122.24	298.74	143.25	84.40	250.88	106.76
Proportion of weeks dependent variable = 0	0.00	0.12	0.03	0.52	0.86	0.12	0.18
Panel B. Women							
Shillings received in experimental shock by respondent	0.180	−0.020	0.056	0.079	0.032	0.041	−0.007
	(0.148)	(0.042)	(0.067)	(0.041)*	(0.026)	(0.059)	(0.047)
Shillings received in experimental shock by spouse	−0.058	−0.026	−0.051	0.015	−0.025	0.050	−0.021
	(0.123)	(0.039)	(0.064)	(0.034)	(0.024)	(0.041)	(0.039)
Observations	898	898	898	898	898	898	898
Number of households	142	142	142	142	142	142	142
p-value for *F*-test of equality	0.14	0.91	0.23	0.07*	0.1*	0.88	0.77
Mean of dependent variable (Ksh)	428.51	47.28	227.98	28.43	18.25	68.51	38.07
SD of dependent variable (Ksh)	482.65	123.77	262.65	94.87	65.80	119.21	101.60
Proportion of weeks dependent variable = 0	0.03	0.61	0.08	0.64	0.84	0.28	0.72

	Net transfers to:		Labor supply		Savings[b]	
	Spouse (1)	Outside household (2)	Hours (3)	Labor income (4)	Bank/ ROSCA savings (5)	Total savings (6)
Panel A. Men						
Shillings received in experimental shock by respondent	0.077	0.090	0.018	0.139	0.020	0.782
	(0.065)	(0.202)	(0.017)	(0.366)	(0.159)	(0.393)**
Shillings received in experimental shock by spouse	−0.163	−0.133	−0.036	−0.145	−0.244	0.314
	(0.060)***	(0.157)	(0.035)	(0.312)	(0.154)	(0.319)
Observations	898	898	898	898	898	898
Number of households	142	142	142	142	142	142
p-value for *F*-test of equality	0.01***	0.31	0.27	0.48	0.35	0.31
Mean of dependent variable (Ksh)[a]	76.78	2.81	52.18	698.56	127.20	−270.34
SD of dep. var. (Ksh)	159.89	436.18	24.14	852.24	222.35	885.11
Proportion of weeks dependent variable = 0	0.62	0.21	0.08	0.07	0.50	0.00
Panel B. Women						
Shillings received in experimental shock by respondent	0.163	0.050	−0.031	−0.020	0.082	0.586
	(0.060)***	(0.190)	(0.020)	(0.185)	(0.088)	(0.239)**
Shillings received in experimental shock by spouse	−0.077	−0.010	0.009	0.031	−0.154	0.175
	(0.065)	(0.160)	(0.011)	(0.195)	(0.099)	(0.234)

Table 3—Effect of Private Information Treatment on Households in Which Both Husband and Wife Do Not Want a Child in Next Two Years

	All women		Responders		Nonresponder	
	Voucher redeemed (1)	Received injectable (2)	Voucher redeemed (3)	Received injectable (4)	Voucher redeemed (5)	Received injectable (6)
Panel A. Without controls						
Assigned to Couple treatment	−0.103** (0.049)	−0.065 (0.040)	−0.259*** (0.095)	−0.213*** (0.077)	−0.041 (0.059)	−0.014 (0.048)
Panel B. With controls						
Assigned to Couple treatment	−0.097* (0.051)	−0.061 (0.041)	−0.274** (0.120)	−0.253*** (0.094)	−0.051 (0.063)	−0.020 (0.049)
Observations	419	419	106	106	290	290
Mean of outcome variable among individual treatment	0.531	0.244	0.650	0.300	0.483	0.214

TABLE 9—EFFECTS OF TREATMENT ON SIBLINGS USING MONITORED AND ADMINISTRATIVE PARTICIPATION, HOUSEHOLDS WITH TWO REGISTERED CHILDREN

	Untreated children		Female control		Male control	
	Attendance	Enrollment	Attendance	Enrollment	Attendance	Enrollment
	(1)	(2)	(3)	(4)	(5)	(6)
Sibling is treated? (yes or no)	−0.030*	−0.073***	−0.053**	−0.104*	−0.029	−0.054
	(0.015)	(0.027)	(0.021)	(0.054)	(0.031)	(0.040)
Child is treated? (yes or no)						
Demographic controls	√	√	√	√	√	√
School fixed effects	√	√	√	√	√	√
Observations	690	637	352	323	338	314
R^2	0.28	0.16	0.33	0.23	0.38	0.26
Sample description	Untreated children in households with two registered children		Untreated girls in households with two treated children		Untreated boys in households with two treated children	

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