

Development Economics

AEA Continuing Education Lectures

Lecture 7 Labor Markets

Supreet Kaur
(UC Berkeley)

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Outline

I) Unemployment – Rural Labor Markets

- Surplus labor, rationing, wage rigidity
- Migration
- Spatial frictions and infrastructure

II) Unemployment – Urban Labor Markets

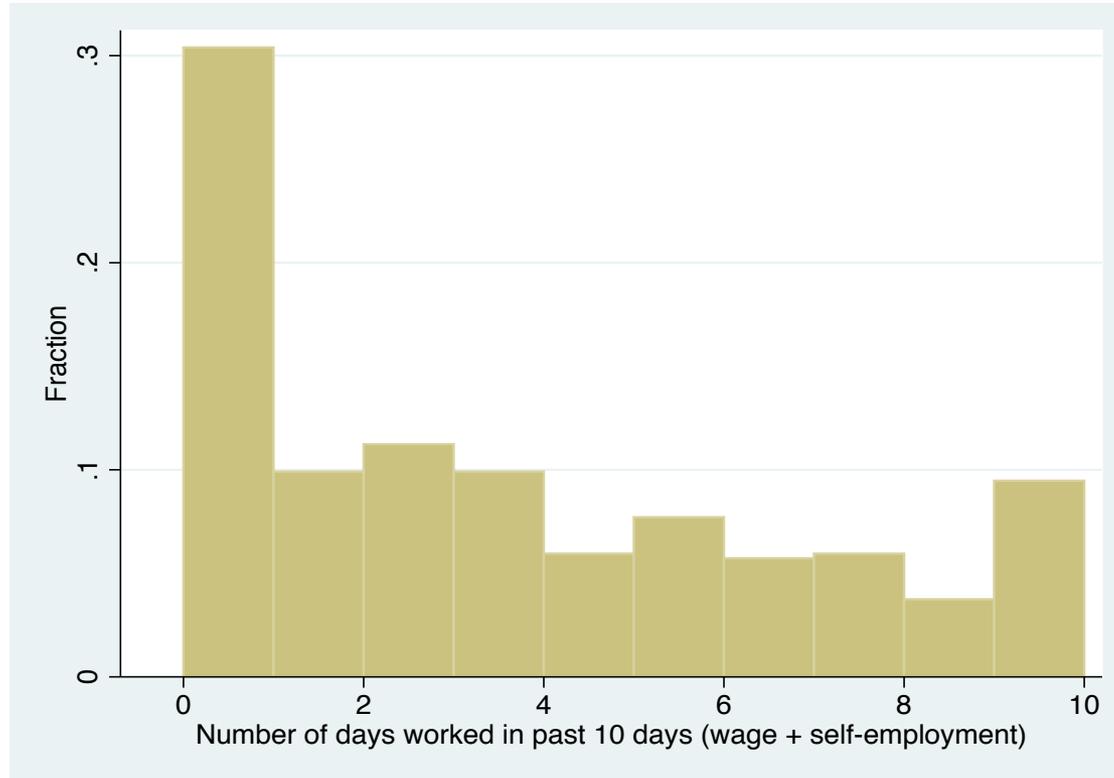
- Active labor market policies

III) Restrictions to labor supply

- Social tax, self control, habit formation

I) Unemployment – Rural Labor Markets

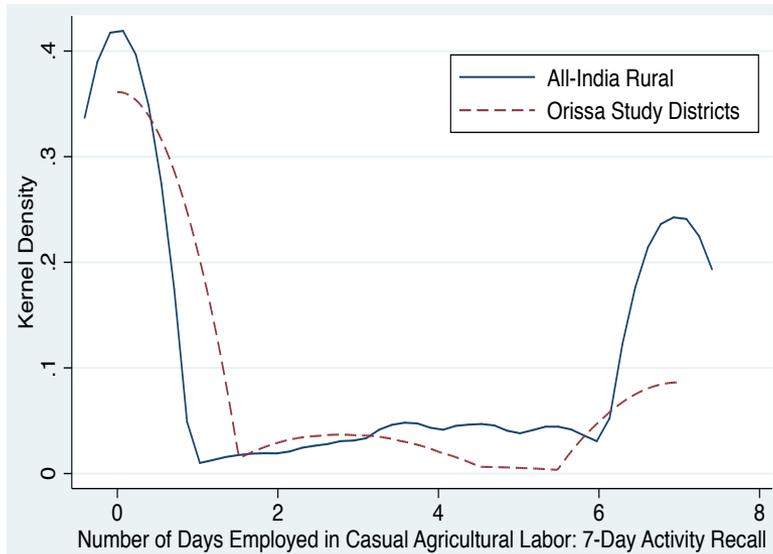
Is There an Unemployment Problem?



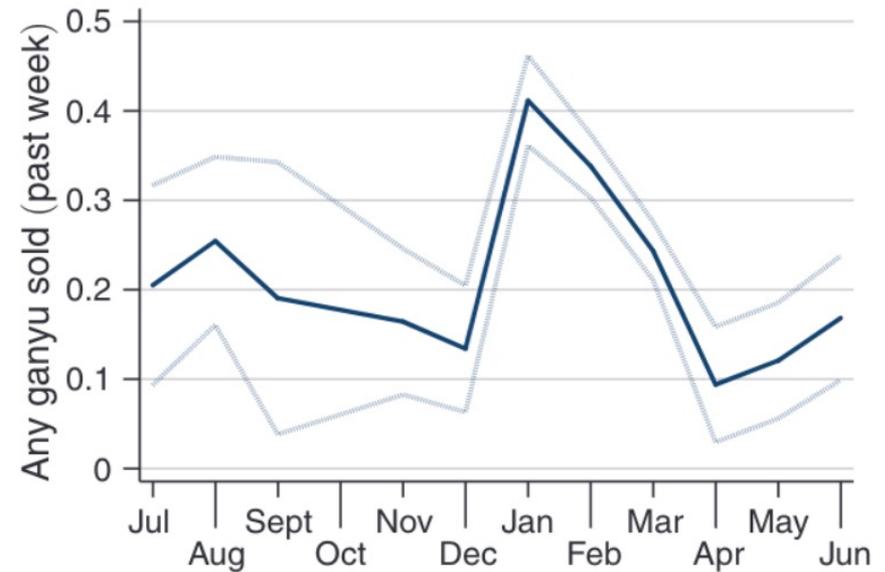
Notes: Breza, Kaur, Shamdasani (2021). N = 484 workers, 18 villages.

- Low employment rates (lean season)
- Wage + self-employment in last 10 days: 3.15 (mean)

Large Fluctuations



Notes: Breza, Kaur, Shamdasani (2021). India National Sample Survey (2011).

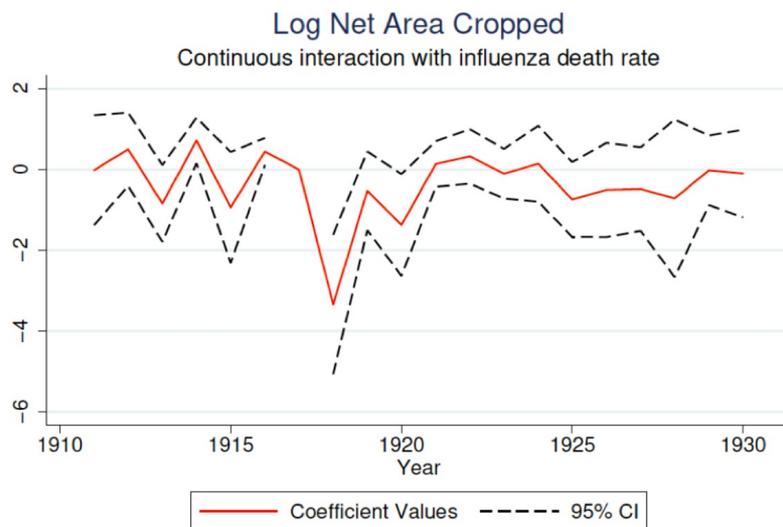


Notes: Fink, Jack, Masiye (2020)

- Massive seasonality

Surplus Labor

- Lewis (1954): In agriculture, $MPL=0$
 - Implication: can remove workers without any impact on output
- Schultz (1964): test using deaths from 1917-18 influenza epidemic
 - Killed 6% of population and 8% of workforce
 - Finds decrease in output
- Donaldson Keniston (2021): revisit with better data (colonial archives)
 - Find no output decrease in following years



Is There an Unemployment Problem?

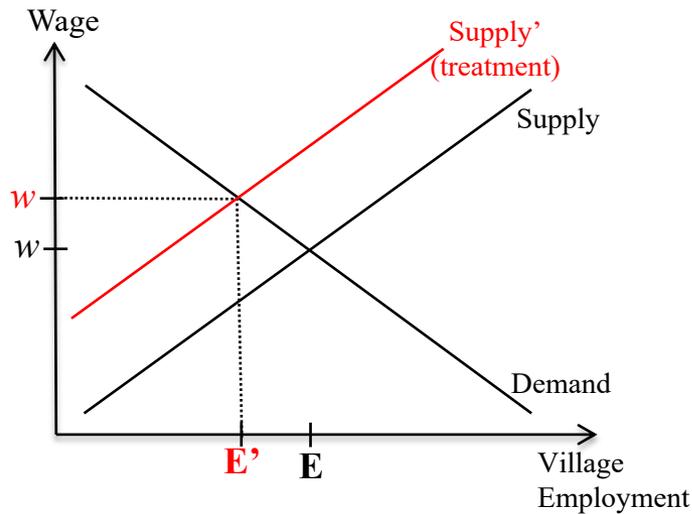
- Policy consensus: unemployment problem
 - Especially in lean seasons
- Justifies host of government policies and programs
 - Workfare
 - Food redistribution
 - Cash transfers
 - Asset transfers
 - Irrigation and crop diversification
 - ...

Is There an Unemployment Problem?

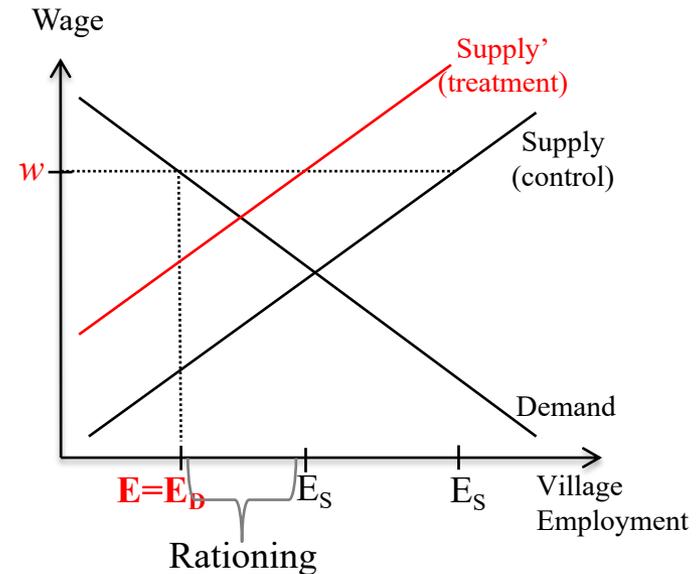
- Not always reflected in data on involuntary unemployment
 - E.g., India's National Sample Survey: <5% among ag workers
- Voluntary unemployment?
 - Wages and employment respond to demand shocks
 - E.g. Jayachandran (2006), Imbert Papp (2015), Fink et al. (2020), Muralidharan et al. (2022)

Breza Kaur Shamdasani (AER 2021)

No Rationing ($E_D \geq E_S$)



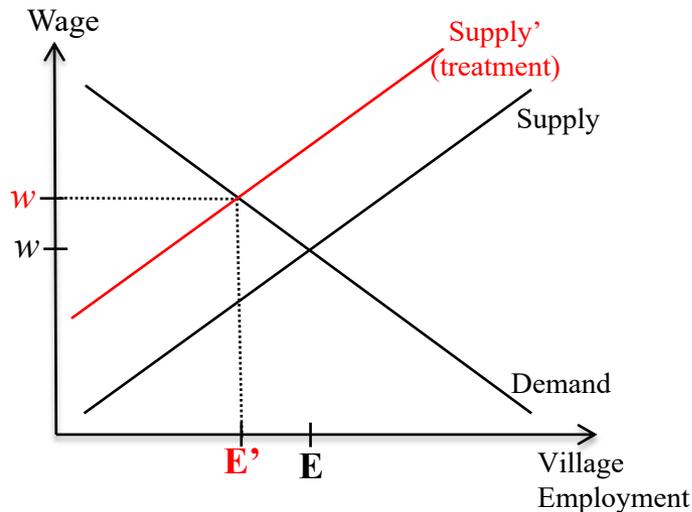
Rationing ($E_D < E_S$)



Breza Kaur Shamdasani (AER 2021)

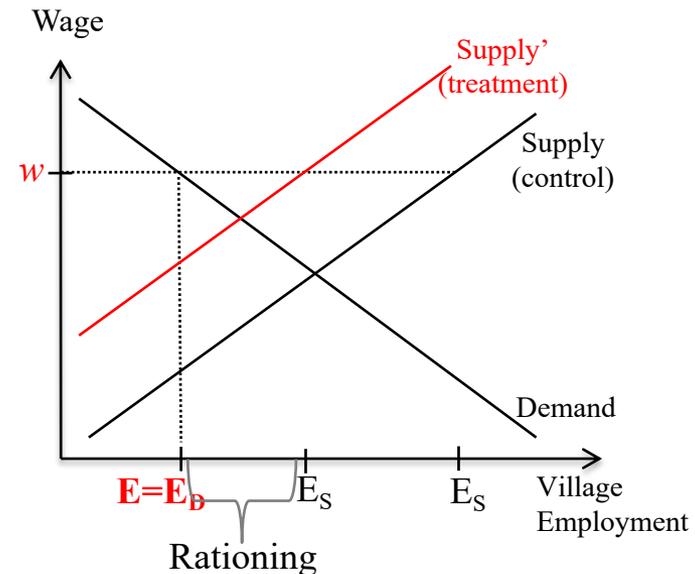
Revealed preference approach

No Rationing ($E_D \geq E_S$)



- 1) Wage goes up
- 2) Aggregate employment goes down

Rationing ($E_D < E_S$)

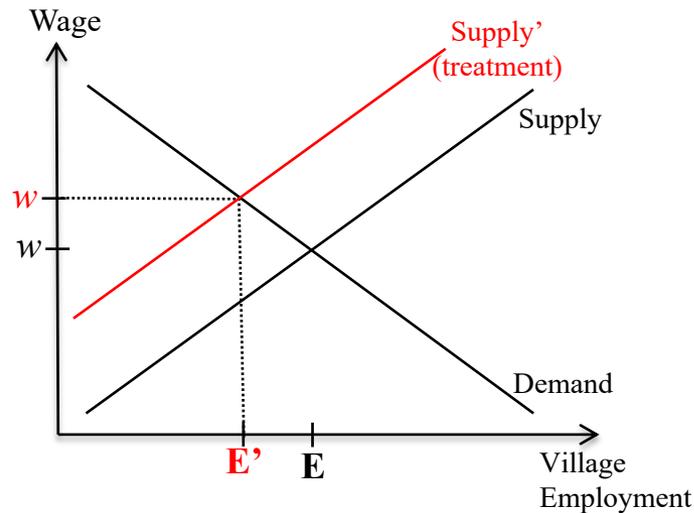


- 1) No change in wage
- 2a) No change in aggregate employment
- 2b) Employment spillovers

Breza Kaur Shamdasani (AER 2021)

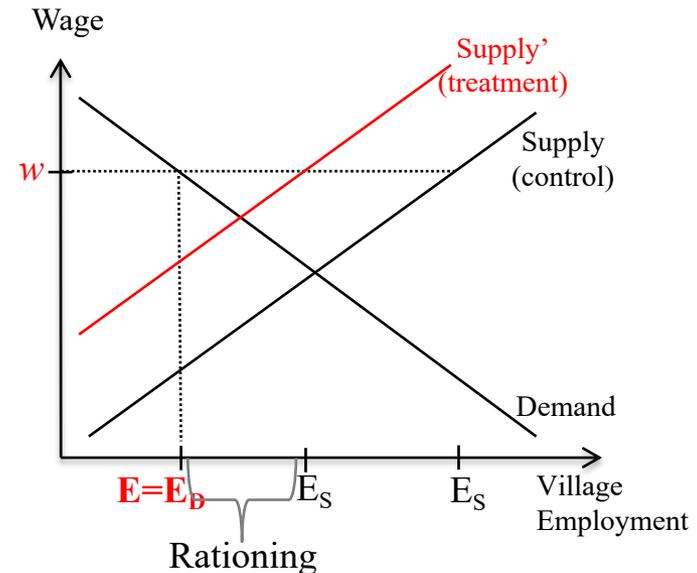
Revealed preference approach

H_0 : No Rationing ($E_D \geq E_S$)



Peak Season

H_1 : Rationing ($E_D < E_S$)



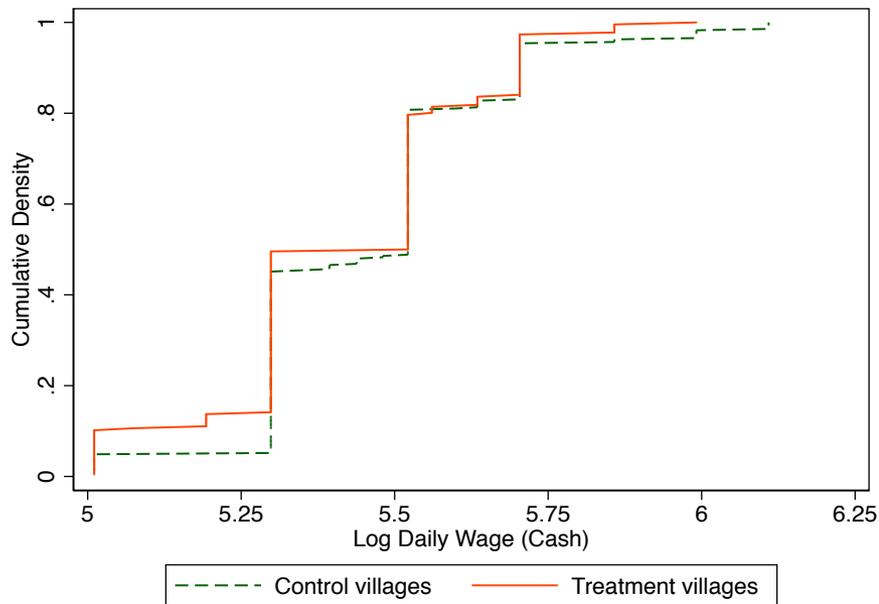
Lean Season

- Examine impact of hiring shock in each season
- Traces out labor market functioning across the year

Breza, Kaur, Shamdasani (AER 2021)

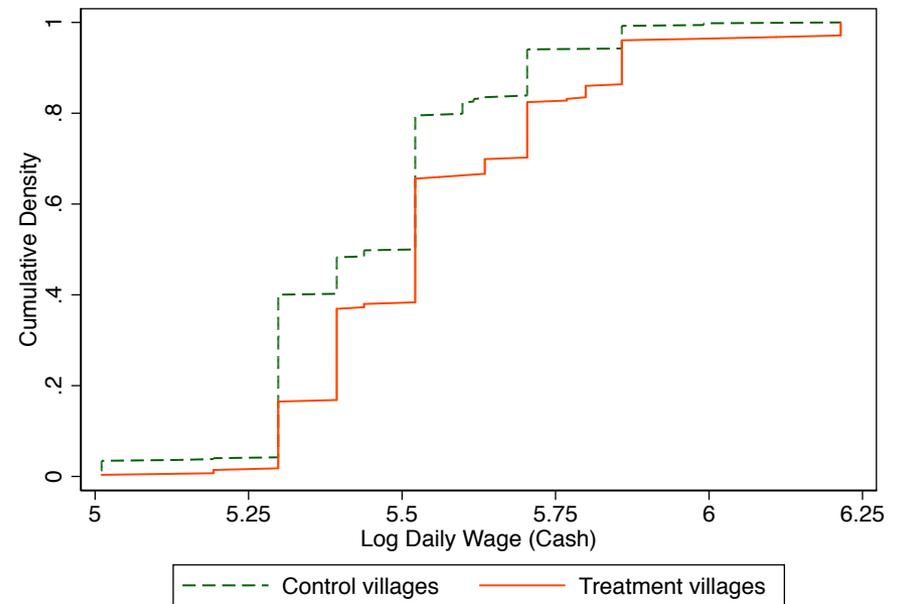
Wage Effects

Lean Season



No discernible change in wage

Peak Season



Wage increase

Breza, Kaur, Shamdasani (AER 2021)

Employment Spillovers

	Dependent Variable	
	Hired employment (1)	Hired employment for wage (2)
Hiring shock	0.067*** (0.020)	0.067*** (0.021)
Hiring shock x Peak	-0.045 (0.033)	-0.042 (0.035)
Control mean	0.196	0.181
N (worker-days)	7953	7953

Notes: OLS regressions. Round (strata) fixed effects. Standard errors clustered by village.

- Lean season: 34% increase in employment among workers who remain in village

Breza, Kaur, Shamdasani (AER 2021)

- Among HHs with any own enterprise/business at baseline:
 - Lean season: 20 days (median)
 - Peak season: 5 days (median); 45% shut down completely
- Potentially consistent with disguised unemployment
 - Ration on labor market binds \rightarrow HH's increase self-employment \rightarrow shadow wage in self-employment $< w$
 - Key prediction of separation failures (e.g. Benjamin 1992)
- Prediction: subset of HHs will prefer w to self-employment

Breza, Kaur, Shamdasani (AER 2021)

Self-Employment Effects

	Dependent Variable		
	Hired employment (1)	Hired employment for wage (2)	Self-employment (3)
Hiring shock	0.067*** (0.020)	0.067*** (0.021)	-0.036** (0.017)
Hiring shock x Peak	-0.045 (0.033)	-0.042 (0.035)	-0.001 (0.029)
Control mean	0.196	0.181	0.131
N (worker-days)	7953	7953	7953

Notes: OLS regressions. Round (strata) fixed effects. Standard errors clustered by village.

- 27% decline in rate of self-employment
- Some evidence that this is concentrated among less profitable / capitalized businesses

Breza, Kaur, Shamdasani (AER 2021)

Involuntary Unemployment Survey Questions

	Dependent Variable				
	Hired employment (1)	Hired employment for wage (2)	Self-employment (3)	Involuntary unemployment (4)	Preferred wage employment (5)
Hiring shock	0.067*** (0.020)	0.067*** (0.021)	-0.036** (0.017)	-0.020 (0.032)	-0.055* (0.029)
Hiring shock x Peak	-0.045 (0.033)	-0.042 (0.035)	-0.001 (0.029)	-0.002 (0.043)	-0.044 (0.049)
Control mean	0.196	0.181	0.131	0.476	0.642
N (worker-days)	7953	7953	7953	7953	7953

Notes: OLS regressions. Round (strata) fixed effects. Standard errors clustered by village.

- 4% decline in reported involuntary unemployment (Col. 4)
 - Matches typical survey definitions (e.g. NSS)
 - Underestimates rationing: only possible if no self-employment
- Alternate question – closer to revealed preference response (Col. 5)

Implications for Labor Market Analysis

- “Under-utilized” labor
- Labor market fundamentally different in its functioning in different parts of the year
- Periods of rationing: workers are not on their labor supply curve, wage doesn’t play an allocative role
 - Will mess up our standard approach for labor market analysis
 - GE impacts from NREGS
 - GE impacts from migration
 - Wage differentials between sectors (agri/non-agri) or places (urban/rural)
 - Capital drops on entrepreneurs – heterogeneity by disguised unemp
- Must be direct input into analysis for correct results/interpretation

Implications for Policy Interventions

- Broad range of policy interventions:
 - Transfers in lean season (workfare, food, cash)
 - Boost return to labor effort (assets, irrigation, self-employment training...)
- Various goals, e.g.:
 1. Fill gap when there is structural unemployment
 2. Raising incomes
 3. Reducing volatility (more stable income)
 - Often justified in terms of redistribution in light of (1)

Implications for Policy Interventions

- Broad range of policy interventions:
 - Transfers in lean season (workfare, food, cash)
 - Boost return to labor effort (assets, irrigation, self-employment training...)
- Various goals, e.g.:
 1. Fill gap when there is structural unemployment
 2. Raising incomes
 3. Reducing volatility (more stable income)
 - Often justified in terms of redistribution in light of (1)
- If see wages going up and goal was (1)
 - Check implementation (in light of seasonality)
 - Not necessarily a victory: have changed whole market
 - Not just a transfer from land-owners to workers
 - Potential for lower employment for all workers in peak season (important share of annual earnings)

Effects of Wage Rigidity / Rationing

1. Less labor used in production
2. More employment volatility
3. Misallocation of labor (see next lecture)

Example: Employment Effects (Kaur 2019)

Wage Adjustment: Intuition

$$\ln w_{idt} = \alpha_0 + \alpha_1 Pos_{dt} + \alpha_2 Neg_{dt} + \delta_d + \rho_t + \varepsilon_{idt}$$

Effect of Rainfall Shocks on Wages

Dependent Variable: Log Nominal Daily Agricultural Wage

	Source:			Source:		
	World Bank Data (1956-1987)			National Sample Survey Data (1982-2009)		
	All observations	All observations	Non-positive shock this year	All observations	All observations	Non-positive shock this year
	(1)	(2)	(3)	(4)	(5)	(6)
Positive shock this year	0.021 (0.009)**			0.059 (0.018)***		
Negative shock this year	-0.004 (0.010)			0.007 (0.023)		
Positive shock last year		0.017 (0.009)**	0.026 (0.010)***		0.030 (0.021)	0.050 (0.023)**
Negative shock last year		0.007 (0.009)	-0.001 (0.011)		0.005 (0.022)	0.019 (0.023)
Observations: district-years	7,680	7,680	5,948	--	--	--
Observations: individual-years	--	--	--	59,243	59,243	50,158

Example: Employment Effects (Kaur 2019)

Dependent Variable:
Total worker-days in agriculture (in past 7 days)

		(1)	(2)
Panel A: Simple specification			
Positive shock last year		-0.117 (0.051)**	-0.153 (0.051)***
Panel B: Full specification			
Last year's shock	This year's shock		
Any	Positive	0.145 (0.063)**	0.100 (0.068)
None or Negative	Negative	-0.094 (0.055)*	-0.096 (0.055)*
Positive	Negative	-0.254 (0.084)***	-0.289 (0.086)***
Positive	None	-0.099 (0.066)	-0.130 (0.065)**
Previous shock history?		No	Yes

F-test p-value:
0.002***

Employment losses:

- 9% of mean; Approximately same magnitude effect as a drought

Example: Employment Effects (Kaur 2019)

Dependent Variable:
Total worker-days in agriculture (in past 7 days)

	(1)	(2)
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Positive shock last year	-0.117 (0.051)**	-0.153 (0.051)***
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Panel B: Full specification

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Positive	None	-0.099 (0.066)	-0.130 (0.065)**
Previous shock history?	No		Yes

Boom

Bust

Increased employment volatility

Migration

- Large sectoral gaps between agri vs non-agri, rural vs urban
- Employment rate differences especially high during lean seasons
- Role of migration
 - Smoothing tool
 - Productivity enhancing if reduces misallocation across sectors/places
- Bryan et al. (2014): Do people migrate too little?
 - \$8.50 incentive to outmigrate during lean (monga) season in Bangladesh
 - 22% of HHs send a seasonal migrant to city
 - Large consumption increases in village (sending family)
 - 8–10 pp increase in probability of re-migration 3 years after incentive removed
- Why don't people out-migrate more? Is this a puzzle?
 - Utility costs
 - Risk
 - Credit constraints
 - Consistent with some of first 2: large complementarity across people in follow-up

Spatial Frictions and Infrastructure

- Local labor market: village
 - Why so geographically isolated?
 - Transport costs are extremely high
 - Means of transportation (walking, bicycle)
 - 1 billion people live in rural areas without good road access
- Asher Novosad (AER 2020)
 - Impacts of India's \$40 billion rural roads construction project
 - Workers move out of agriculture
 - No major changes in agri outcomes, income, assets
 - Small expansion in village firm employment
 - Better connectivity not sufficient to expand economic opportunity?

Rural Unemployment: Takeaways

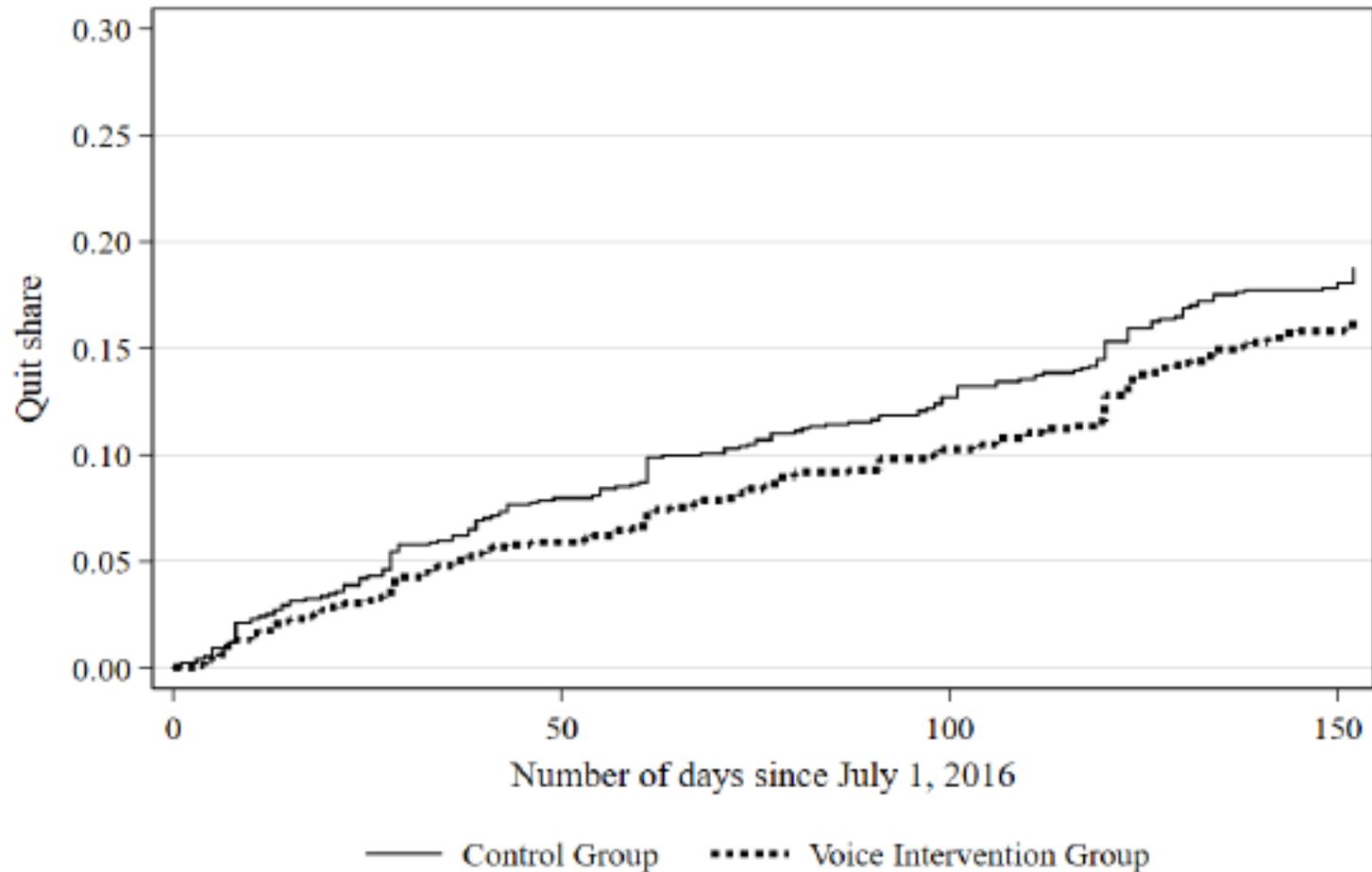
- Rural unemployment
 - Large magnitudes
 - Often measured poorly in surveys
 - Disguised unemployment (i.e. self-employment) important coping mechanism
 - Makes a lot of typical labor market analysis uninterpretable
 - Tied inherently to seasonality
- Implications of rationing
 - Welfare impacts
 - Wage distortions: further distort employment, increase volatility
 - Misallocation (separation failures)
- Policy interventions
 - If only targeting unemployment, should not see GE wage effects
 - Presence of such effects mean additional implications for labor market

II) Unemployment – Urban Labor Markets

Coexistence of 2 stylized facts

1. High reported unemployment
 - Especially among youth
2. Massive turnover
 - Possibly reflecting low demand for jobs

High Labor Turnover



- Source: Adhvaryu et al. (2019)
- Massive quit rates for formal factory job (= mandated minimum wage)

Coexistence of 2 stylized facts

1. High reported unemployment
 - Especially among youth

2. Massive turnover
 - Possibly reflecting low demand for jobs

- Outstanding puzzle: how to reconcile these?
 - Many interventions focus on (1)
 - Might be reason why so many programs ineffective
 - Taking into account both together (and understanding underlying failure) crucial for effective policy design

Policy Focus: Active Labor Market Programs

- See McKenzie (2017) for excellent review
- 3 major types of programs
 - Vocational training
 - Wage subsidies (for job seekers or firms)
 - Search or matching assistance (information about vacancies, job fairs, skill certification)

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Vocational Training (McKenzie 2017)

Table 1: Summary of Vocational Training Program Impacts

Country	Study	Population	Sample Size	Attrition	Time Frame	Employment	Impacts on:				Cost
							Formal Employment	Earnings	Formal Earnings	Monthly income	
Turkey	Hirshleifer et al. (2016)	Unemployed	5,902	6%	1 year	2.0	2.0	5.8	8.6	US\$11.5	US\$1700
		Unemployed		0%	2.5 years	n.r.	-0.1	n.r.	-0.8	-US\$3	
Argentina	Alzúa et al. (2016)	Low-income Youth	407	0%	18 months	n.r.	8.0	n.r.	64.9	US\$83	US\$1722
		Low-income Youth		0%	33 months	n.r.	4.3	n.r.	23.1	US\$45	
Colombia	Attanasio et al. (2011)	Low-income Youth	4,350	18.5%	14 months	4.5	6.4	11.6	27.1	US\$12.8	US\$750
	Attanasio et al. (2015)	Low-income Youth		0%	up to 10 years	n.r.	4.2	n.r.	13.6	US\$17.7	
Dominican Republic	Card et al. (2011)	Low-income Youth	1,556	38%	12 months	0.7	2.2	10.8	n.r.	US\$10	US\$330
	Ibarrarán et al. (2014)	Low-income Youth		20%	18 to 24 months	-1.3	1.8	6.5	n.r.	US\$8.5	
	Ibarrarán et al. (2015)	Low-income Youth		34%	6 years	-1.4	2.6	-1.9	n.r.	-US\$2.3	
	Acevedo et al. (2017)	Low-income Youth		17.6%	3 years	0.7	n.r.	n.r. (a)	n.r.	n.r.	
India	Maitra and Mani (2012)	Low income Women	658	25%	18 months	8.1	n.r.	95.7	n.r.	US\$2.4	US\$13
Kenya	Honorati (2015)	Low-income Youth	2,100	23%	14 months	5.6	n.r.	29.7	n.r.	US\$47.5	US\$1150
Malawi	Cho et al. (2013)	Low-income Youth	1,900	46%	4 months	n.r.	n.r.	-19.6	n.r.	-US\$5	n.r.
Peru	Diaz and Rosas (2016)	Low-income Youth	4,509	35%	36 months	1.6	3.8	13.4	n.r.	n.r.	US\$420
			7,151	0%	36 months	n.r.	4.5	n.r.	n.r.		

Notable Exception - Alfonsi et al. (2020)

Vocational Training:

- 6 months long, sector-specific in 8 sectors
- Partner BRAC paid full VT cost: \$470 per trainee
- Formal training with certification
- Compliance: 68% of workers started training

Firm Training

- Firms were given \$50 for 6 months
- \$12 to be kept by the firm, \$38 paid to the worker
- Informal training, may be firm-specific, no certification
- Only 24% of FT workers actually hired by the firms they are matched to

Alfonsi et al. (2020)

IV Regressions (First stage - treatment on “take-up”)

2SLS regression coefficients, bootstrapped standard errors in parentheses

Bootstrap p-values in braces: unadjusted p-values (left) and Romano and Wolf [2016] adjusted p-values (right)

Dependent variable:	Any paid work in the last month	Number of months worked in the last year	Hours worked in the last week	Total earnings in the last month [USD]	Labor market index	Worked in sector of training/matching in the last month
	(1)	(2)	(3)	(4)	(5)	(6)
Firm Trained	.246*** (.085) {.004 ; .023}	2.31** (.917) {.013 ; .029}	4.13 (7.56) {.662 ; .662}	11.9 (8.08) {.145 ; .241}	.473** (.176) {.010 ; .010}	.245*** (.062) {.001 ; .001}
Vocationally Trained	.135*** (.028) {.001 ; .001}	1.38*** (.302) {.001 ; .001}	7.12** (2.61) {.013 ; .026}	10.3*** (2.65) {.001 ; .001}	.272*** (.059) {.001 ; .001}	.190*** (.019) {.001 ; .001}
Mean Outcome in Control Group	.438	4.52	28.2	24.7	.003	.067
Control for Baseline Value	Yes	No	Yes	Yes	Yes	Yes
P-values on tests of equality:						
Firm Trained = Vocationally Trained	[.141]	[.255]	[.661]	[.830]	[.202]	[.343]
N. of observations	3,256	3,256	2,057	3,115	3,256	3,256

Alfonsi et al. (2020)

ITT and IV Regressions

IPW regression coefficients, standard errors clustered by sector-branch in parenthesis, Lee Bounds in brackets

	Short Run (first follow-up)				Long Run (second to fourth follow-ups)			
	Number of Employees	Number of Post-intervention Hires	Number of Post-intervention Fires	Log (Average Monthly Profits)	Number of Employees	Number of Post-intervention Hires	Number of Post-intervention Fires	Log (Average Monthly Profits)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: ITT Estimates								
Firm Trained	.350*	.370***	-.118	.011	-.116	-.054	-.093	.113**
	(.205)	(.137)	(.160)	(.114)	(.154)	(.077)	(.150)	(.050)
	[.553 ; 1.16]	[.430 ; .668]	[-.272 ; .111]	[-.089 ; .204]	[-.133 ; .237]	[-.087 ; .176]	[-.007 ; .435]	[-.069 ; .188]
PANEL B: ATE Estimates								
Firm Trained	1.343*	1.417***	-.453	.036	-.358	-.127	-.182	.313*
	(.770)	(.441)	(.623)	(.375)	(.431)	(.229)	(.451)	(.169)
Mean outcome in Control firms	2.41	.647	.647	209	2.29	.889	.889	183
Number of observations	569	569	569	444	1,611	1,606	1,611	1,178

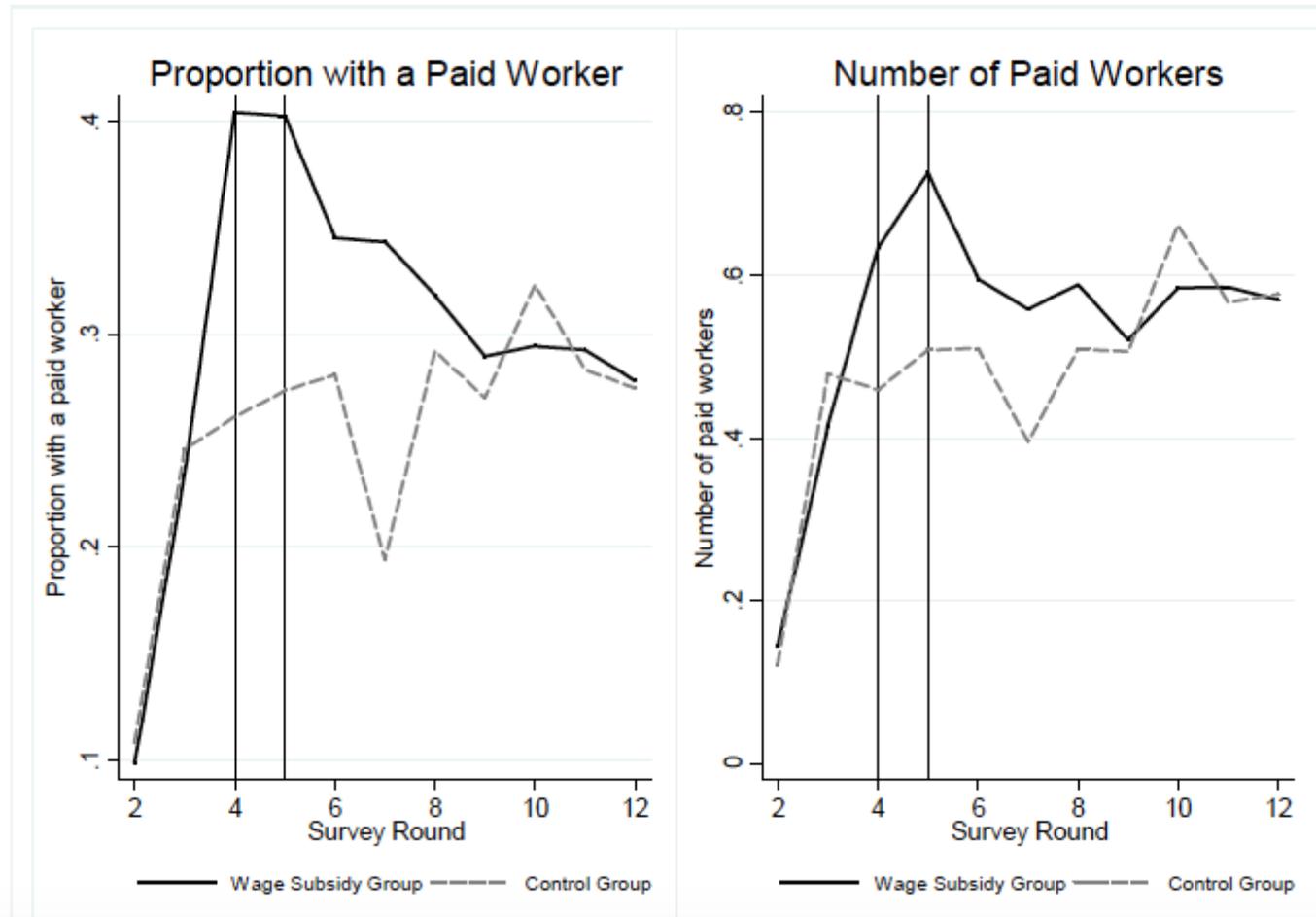
- Recall low match rates in other treatments.
- Only show results for Firm-trained vs. control.
- Program increases short-run firm size, improves long-run profits

Policy Focus: Active Labor Market Programs

- See McKenzie (2017) for excellent review
- 3 major types of programs
 - Vocational training
 - **Wage subsidies (for job seekers or firms)**
 - Search or matching assistance (information about vacancies, job fairs, skill certification)

de Mel et al. – Labor Drops (2018)

Figure 2: Impact on Employment



- Subsidize firms to hire a paid employee for 12 months
- No LT impact on employment, profits, earnings

Wage Subsidies (McKenzie 2017)

Table 3: Summary of Wage Subsidy Impacts

Country	Study	Population	Sample Size	Attrition	Time Frame	In Effect	Proportion using	Impact on		
							Subsidy	Employment	Earnings	
Argentina	Galasso et al. (2004)	Welfare recipients	548	22.5	18 months	Yes	0.011	1.7	n.r.	
								[a]		
Jordan	Groh et al. (2016a)	Female community college graduates	1349	8	6 months	Yes	0.503	38.4	228.3	
									[33.3, 43.5]	[197, 260]
				4	14 months	No		2.8	15.9	
								[-3.4, 9.1]	[-14,46]	
				8	27 months	No		1.4	14.0	
								[-3.2, 9.8]	[-17,45]	
South Africa	Levinsohn et al. (2014)	Youth	3064	23.0	12 months	No	0.02	7.4	14	
									[2.9, 11.9]	[-9,37]
				39.2	24 months	No		9.5	-19	
								[3.6,15.4]	[-72,34]	

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- 3 major types of programs
 - Vocational training
 - Wage subsidies (for job seekers or firms)
 - **Search or matching assistance (information about vacancies, job fairs, skill certification)**

Abebe et al. (2021)

- Context: job seekers in Ethiopia
- RCT with treatments to understand different kinds of hiring frictions
- Treatment 1: transport subsidy for job search (need to come to job boards in center of the city to look for opportunities)
- Treatment 2: workshop to learn how to signal skills
 - CV, application letter, interview skills
 - Take tests and then can certify skills: IQ, language, math etc.

Transport subsidy should increase search intensity while workshop should improve search efficacy

Abebe et al. (2021)

Outcome	2015				2018			
	Control mean (1)	Transport (2)	Workshop (3)	Equality (pval) (4)	Control mean (5)	Transport (6)	Workshop (7)	Equality (pval) (8)
Work	0.537	0.037 (0.029) [0.366]	0.021 (0.031) [1.000]	0.57	0.657	-0.058* (0.035) [0.411]	0.029 (0.032) [0.958]	0.00
Hours worked	25.558	0.183 (1.543) [0.837]	-0.214 (1.533) [1.000]	0.79	26.497	-2.499* (1.486) [0.411]	0.218 (1.426) [1.000]	0.04
Wage earnings	739.230	65.879 (63.864) [0.437]	3.363 (65.667) [1.000]	0.30	1,216.811	30.916 (102.352) [0.753]	299.469** (121.383) [0.096]	0.02
Permanent job	0.120	0.033* (0.018) [0.215]	0.069*** (0.019) [0.004]	0.09	0.248	-0.034 (0.025) [0.411]	-0.010 (0.028) [1.000]	0.30
Formal job	0.172	0.054*** (0.019) [0.032]	0.053*** (0.020) [0.021]	0.95	0.259	-0.005 (0.030) [0.753]	-0.007 (0.030) [1.000]	0.96
Job satisfaction	0.231	-0.001 (0.027) [0.837]	0.022 (0.027) [1.000]	0.45	0.538	-0.025 (0.037) [0.593]	0.066* (0.036) [0.219]	0.01

Skill certification

- How much is about certification of skills
 - Especially non-cognitive skills?
- Notable examples:
 - Bassi (2021)
 - Carranza et al. (2023)

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- 3 types of programs
 - Vocational training
 - Wage subsidies (for job seekers or firms)
 - Search or matching assistance (information about vacancies, job fairs, skill certification)
- Summary
 - Largely ineffective
 - Some notable exceptions
 - E.g. training (Maitra and Mani 2012, Alfonsi et al.)
 - Some match with findings in US on ALMPs (Card 2017)
 - Big concern: just displacing some workers with others?

Possible Interpretations?

1. Programs have been ineffectively implemented?
 - Odd that no effects on treated (displace control) – something more problematic about implementation?)
 - Telltale signs in some studies
 - Speaks to quality control challenge in implementations (vocational training program vs. program X; wage subsidy vs. subsidy for Y)

2. Unemployment is voluntary?
 - There is no friction to be fixed

3. Frictions exist, but aren't being targeted by usual approach?
 - Understanding the friction may provide better policy guidance
 - Core research needed to then understand friction

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Blattman & Dercon (2018)

TABLE 3—TAKE-UP OF TREATMENTS AND TURNOVER

Dependent variable	Proportion who take up by treatment assignment				Take-up differences (OLS)			
	Job		Entrepreneur		Job—Control		Entrepreneur—Control	
	Coeff. (1)	SE (2)	Coeff. (3)	SE (4)	Coeff. (5)	SE (6)	Coeff. (7)	SE (8)
<i>Employment in a study firm:</i>								
Was directly informed of a job offer [†]	0.99	0.00	0.04	947	0.964	[0.020]	−0.027	[0.017]
Worked at least a day [†]	0.89	0.07	0.14	947	0.753	[0.039]	−0.081	[0.041]
Worked at least a month [†]	0.69	0.07	0.13	947	0.569	[0.044]	−0.071	[0.032]
Was working in study firm at endline	0.21	0.01	0.03	1,841	0.172	[0.017]	−0.016	[0.012]
<i>Employment in formal or industrial sectors:</i>								
Worked at least a month in formal sector	0.91	0.53	0.69	1,628	0.225	[0.032]	−0.158	[0.041]
Worked at least a month in any industrial firm	0.83	0.26	0.43	835	0.408	[0.057]	−0.153	[0.020]
Number of months worked in any industrial firm	5.98	1.43	3.16	835	2.943	[0.387]	−1.496	[0.267]
Was working in any industrial firm at endline	0.32	0.09	0.20	1,587	0.107	[0.023]	−0.118	[0.016]
<i>Entrepreneur and training intervention:</i>								
Offered grant and training [†]	0.00	0.97	0.00	947			0.970	[0.019]
Received grant and training [†]	0.00	0.94	0.00	947			0.938	[0.029]

- Factory job: large sign-up; high quits (1/3 in month 1, 77% in year 1)
- Similarly: Groh et al. (2015): 83% refuse job offer or quit shortly

Example: The Calculus of Entry Level Work

- Government job fairs (India)
- High level of recruitment of youth (post-secondary school)
- Typical starting salary range: Rs. 4,000-7,000/month
- Casual daily wage: Rs. 400/day
- Can work 10-15 days/month and make equivalent money
- Formal work may not be remunerative given casual work, self-employment

“Voluntary” Unemployment?

- Workers want jobs
- But not the jobs they can be hired for
- One interpretation: reservation wage above MPL
→ Voluntary unemployment
- No room to intervene under this story with labor market policies
- Either increase jobs (?) or MPL (human capital)
- Come back to this when discussing labor supply - below

Possible Interpretations?

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Examples

- Sectoral mis-matches
 - Campos et al. (2016) Ugandan women who cross-over to male industries earn 3x more than women in female industries
- Spatial mis-matches
 - Learning about job opportunities in a different location
 - (Jensen, 2012)
 - Subsidizing job search in different parts of the city (Franklin, 2015; Abebe et al. 2016)
 - Large effects of programs to stimulate migration

What Justifies Policy Intervention?

- Mechanism that lowers total employment in economy
 - More expensive to hire workers (demand side)
 - More costly to find job (supply side)
- If simply getting some people work (instead of others who would have gotten that job) then hard to justify intervening in labor market
 - Might be what a lot of existing ALMPs do
- 3 classes of possibilities
 1. Low human capital (workers are unqualified)
 2. Regulatory obstacles (e.g. firing costs)
 3. Labor market frictions
 - Focus on #3

The 3 Canonical Frictions

1) Moral hazard

2) Adverse selection (screening challenges)

3) Match-quality

Moral Hazard

- Output depends on efficiency units of effort: $f(eL)$
- Moral hazard: worker can choose $e \leq 1$
- Reduces hiring: Expected MPL low \rightarrow less profitable to hire
- What is the relevant form of moral hazard?
 - Typical focus is on shirking on effort
 - In poor countries: will worker steal from me?
- Consistent with temporary effects of hiring subsidies

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- Quintessential solutions (contract theory):
 - Worker posts a bond (may be illegal, but not always - apprenticeships)
 - Improved monitoring technologies

The 3 Canonical Frictions

1) Moral hazard

2) Adverse selection (screening challenges)

3) Match-quality

Adverse Selection

- Suppose 2 types: θ_H (probability λ) and θ_L (probability $1-\lambda$)
- If hire from population, expected MPL = $\lambda\theta_H + (1-\lambda)\theta_L$
- Reduces hiring: Expected MPL low \rightarrow less profitable to hire
- What is the relevant form of adverse selection?
 - Typical focus is on worker “ability” (e.g. skills)
 - In poor countries: will worker show up on time / not quit?
- Could be potentially consistent with:
 - Small effects of wage subsidies (requires λ low)
 - Small effects of information on worker “quality” (mis-measure θ)
- Want more practical approach grounded in what firms want
 - Survey firms - what dimensions are actually important
 - Create screening tools for those specific traits (e.g. likelihood of staying at job rather than Raven’s Matrices score)

3 Types of Canonical Frictions

1) Moral hazard

2) Adverse selection (screening challenges)

3) Match-quality

Match quality

- Firm-worker specific match quality
- Can result from:
 - Skills (Can I do the specific thing that's important for firm j?)
 - Preferences (Do I like the specific amenities of job k?)
- What aspects of match quality are relevant?
 - Typical focus on firm-specific skills or ability
 - In poor countries: will worker like the job enough to stay
- Consistent with:
 - High demand for jobs + high turnover after experiencing them
 - Long tenures for some workers
 - (E.g. Cote D'Ivoire factories, Carranza et al. ongoing)
- Want more practical approach
 - Worker learning about job characteristics
 - Worker preferences about what jobs they like

III) Restrictions to Labor Supply

Overview

Increasing productivity

Strategies

- Increase human capital (education)
- Give workers complementary inputs
 - Ultra poor programs (e.g. Bandiera et al.)
 - Give workers cash drops (e.g. Blattman Dercon, Banerjee et al.)

Overview

Is labor supply “too low”?

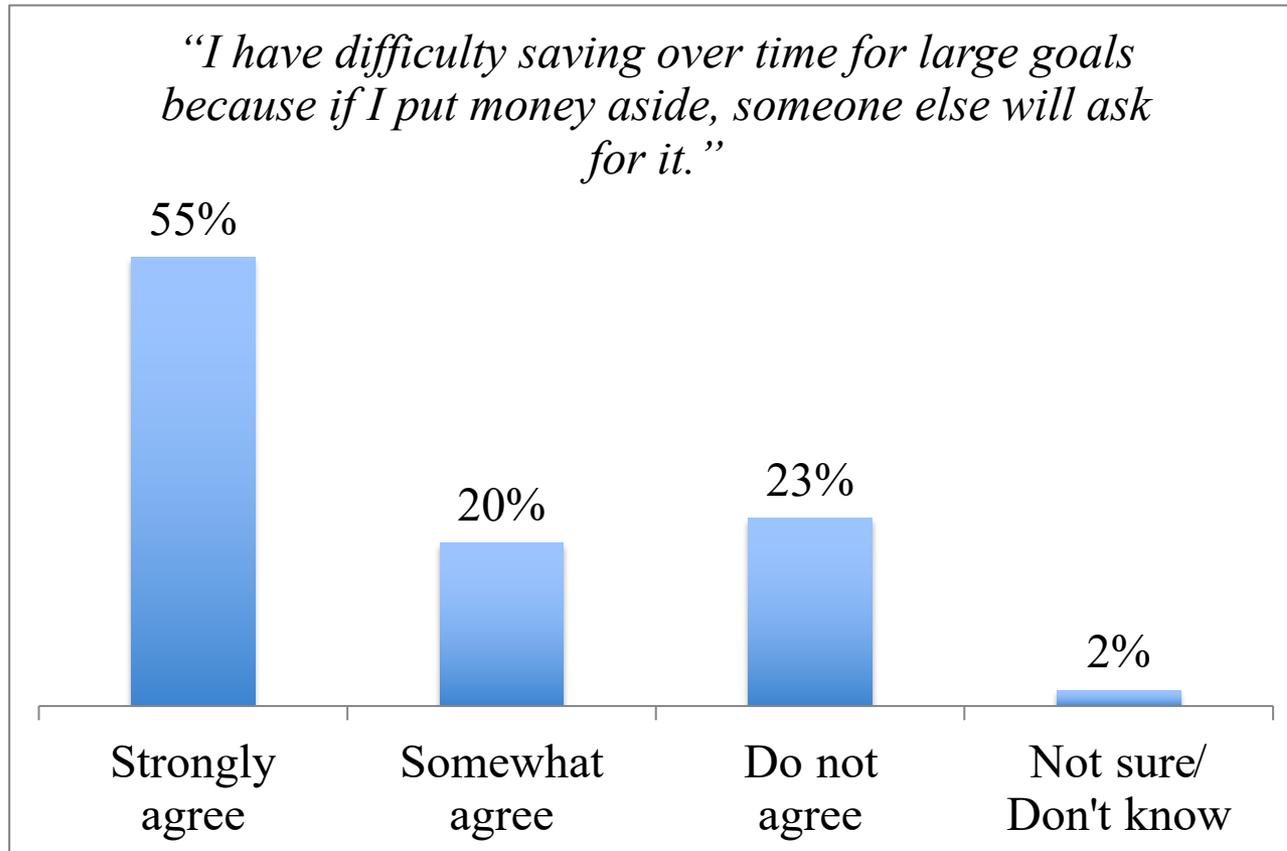
Some possible channels

- Social constraints
- Psychological constraints

- Examples:
 - Social tax
 - Self-control
 - Cognitive load
 - Mental health
 - Habit formation

Social Taxation: Carranza, Donald, Grosset, Kaur

Sharing Norms

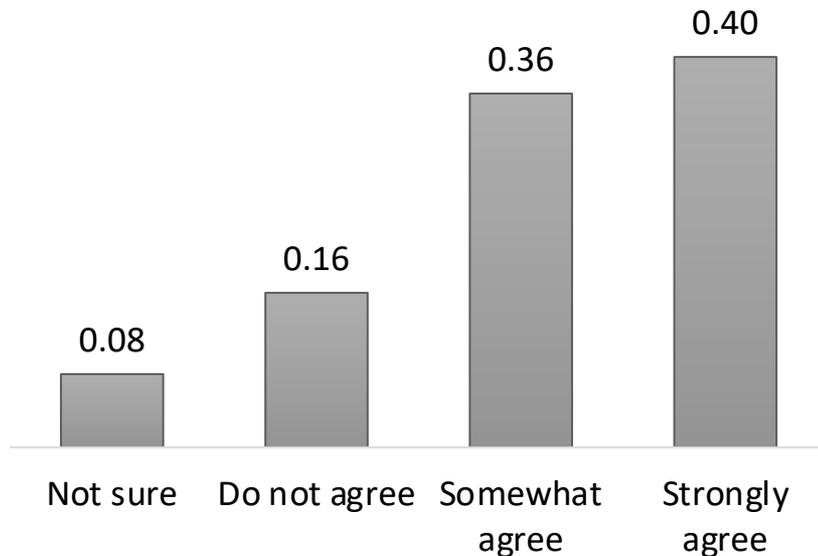


N=211 factory workers (Cote D'Ivoire)

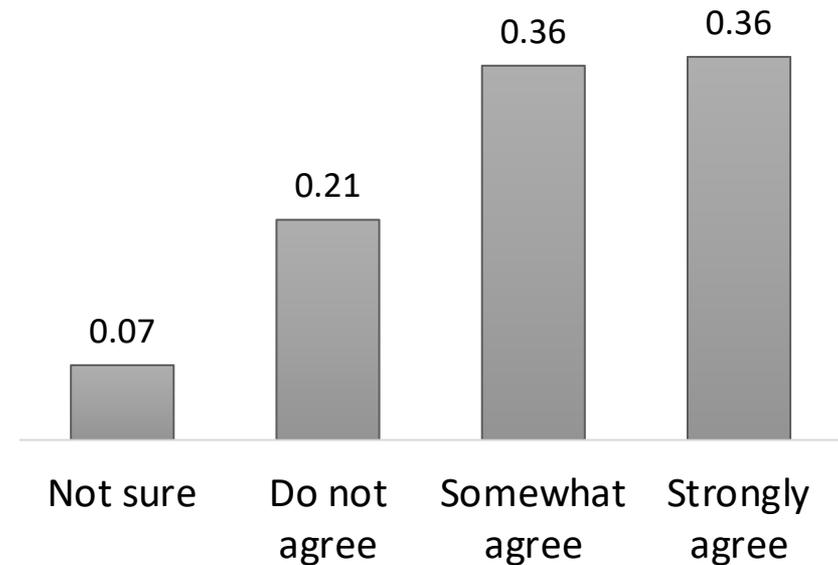
Social Taxation: Carranza, Donald, Grosset, Kaur

Implication: Tax on Earnings/Effort

If someone in community starts earning more because they work harder, people would start asking that person more often for financial help.



If someone in community takes a factory job (e.g. OLAM) or other formal employment, people would ask them more often for financial help.



Cote D'Ivoire (n=239)

Social Taxation: Implications

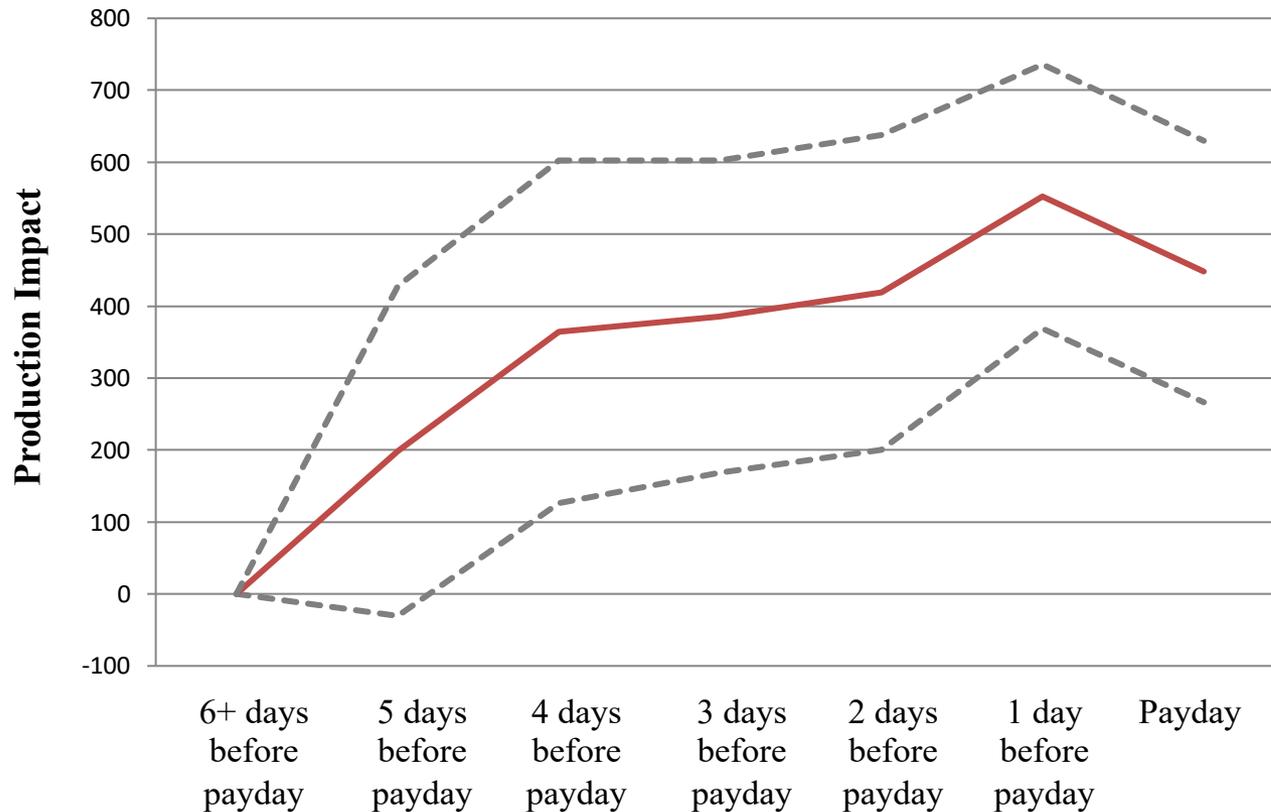
- Potentially large efficiency cost of informal insurance
- Possibility for multiple equilibria (Hoff and Sen 2005)
 - If you're working, the return to my working could be higher (ambiguous)
 - Potential for poverty traps – low productivity equilibria

Self-Control: Motivation

- Instances of “low” labor supply
- Example: Weeding
 - High return activity
 - Yet some farmers do not weed
 - Losses due to uncontrolled weed growth: >25%
- Consistent finding: Poor less likely to weed
- Agriculture: cost borne today, benefits at harvest
 - Potential relevance of self-control for any intertemporal decision problem

Self-control problems: Kaur, Kremer, Mullainathan (2015)

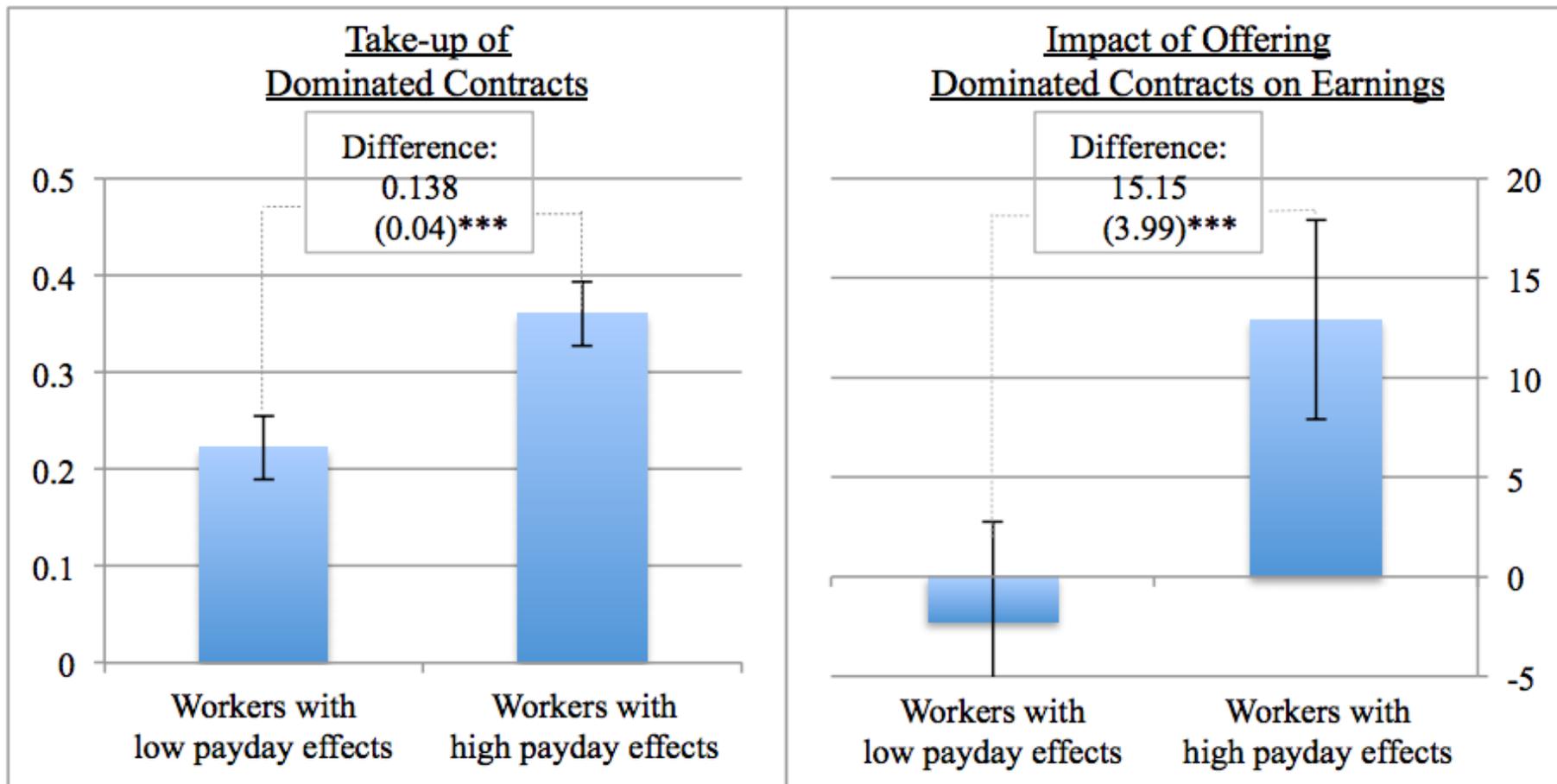
Test 1: Paycycle Effects



- Before payday: larger distance between costly effort (today) and benefit (future)
- Magnitude: equivalent to 25% piece rate increase (or 1 year of education)

Self-control problems: Kaur, Kremer, Mullainathan (2015)

Test 2: Dominated (Commitment) Contracts



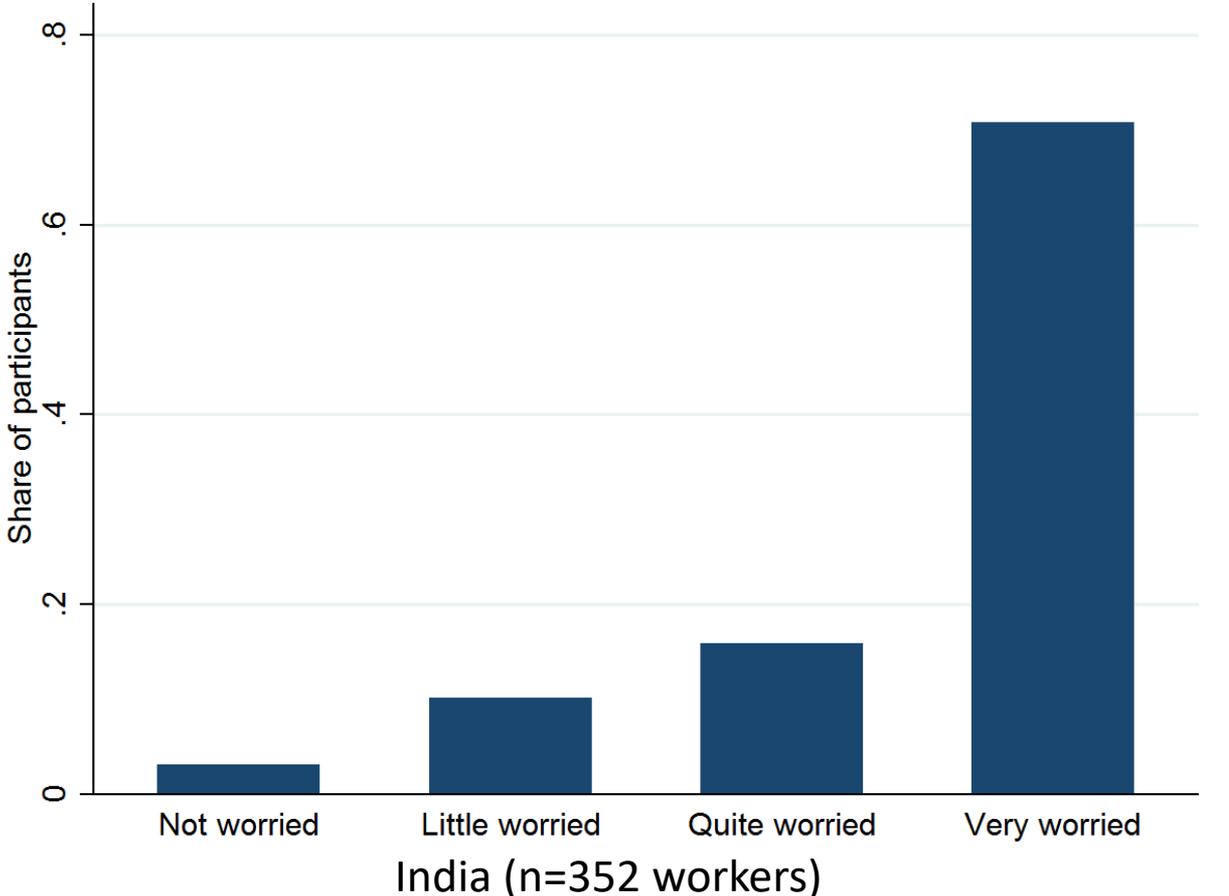
Magnitude: 18% piece rate increase)

Self-Control: Discussion

- Structure of production in poor countries will especially exacerbate this problem.
- Long lags between effort and output
 - E.g. agriculture
 - Contrast with firms: work now, paid within 2 weeks
- No organizational arrangements to enable discipline
 - Most poor are self-employed (farmers, small businesses)
 - No boss to solve effort allocation problem
- See Kaur, Kremer, Mullainathan P&P (2010) for discussion

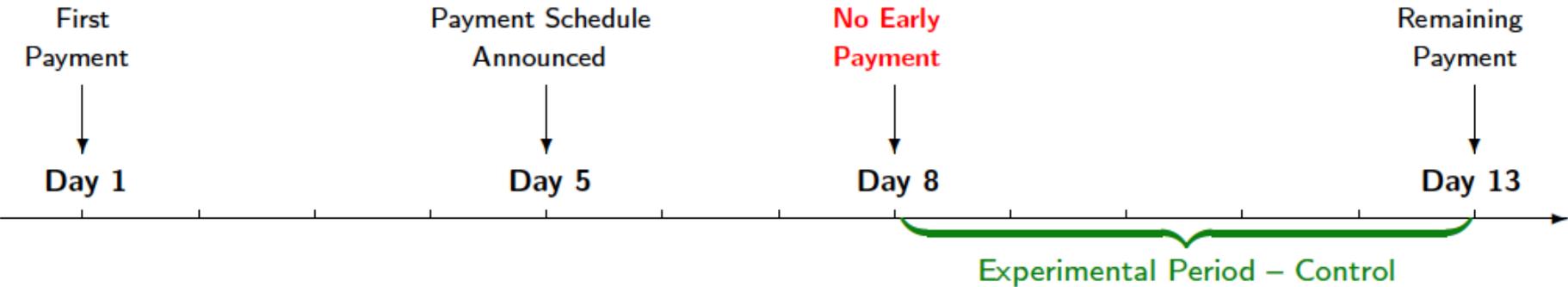
Cognitive Effects of Financial Constraints: Kaur, Oh, Mullainathan, Schilbach (2019)

How worried are you about your finances?

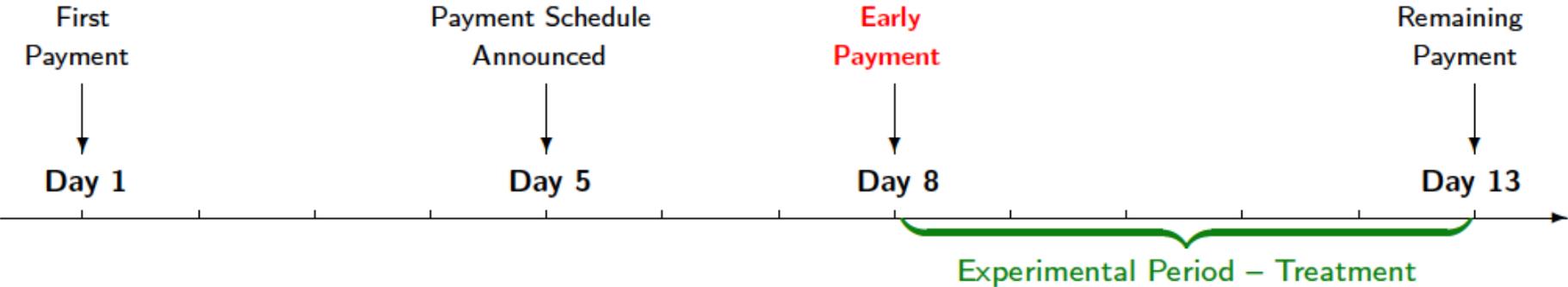


Cognitive Effects of Financial Constraints: Kaur, Oh, Mullainathan, Schilbach (2019)

CONTROL GROUP



EARLY-PAY GROUP



Cognitive Effects of Financial Constraints: Kaur, Oh, Mullainathan, Schilbach (2019)

Treatment Effects on Productivity & Attentional Errors

	Dependent variable			
	Log hourly output (1)	Log hourly output (2)	Attention (normalized index) (3)	Attention (normalized index) (4)
Cash x Post	0.0535** (0.020)	0.129*** (0.034)	-0.110** (0.040)	-0.211** (0.073)
Cash x Post x Wealth		-0.125** (0.040)		0.278* (0.146)
N: worker-hours	22523	22470	15265	15227

Notes: Round*workhour, calendar hour, and experience day fixed effects.
Standard errors clustered by worker.

Cognitive Effects: Discussion

- Potential implications
 - Productivity lower when money is most needed
 - Self-reinforcing cycle
- Decreasing volatility and promoting cognitive ease of money management could deliver benefits beyond consumption smoothing

Cefala et al. - Habit Formation

- Is regular labor supply a general skill that can be acquired?
 - Intermittent school (25-30% absenteeism) → little chance to develop skill
 - Frequent shocks to ability to work and work hours → skill disruption
 - Accords with historical evidence from Industrial Revolution
(Pollard 1963, Bowles and Gintis 1976, Clark 1994)

Our hypothesis: → **Labor supply may be habit forming.** Persistent regular labor supply can be kick-started through temporary financial incentives.

Cefala et al. - Habit Formation

- RCT with 225 casual laborers at labor stands in Chennai, India
- Treated workers provided with incentives to arrive by 8am each morning over 7 weeks
- Results:
 - 23% increase in labor supply during incentives phase
 - 16% increase sustained for additional 2 months, suggestive evidence of further persistence
 - Shift in preferences for regular work
 - Exposure to shocks causes more rapid depreciation of habit stock
- Mechanisms - evidence for increased automaticity and stronger worker identity

Cefala et al. - Habit Formation

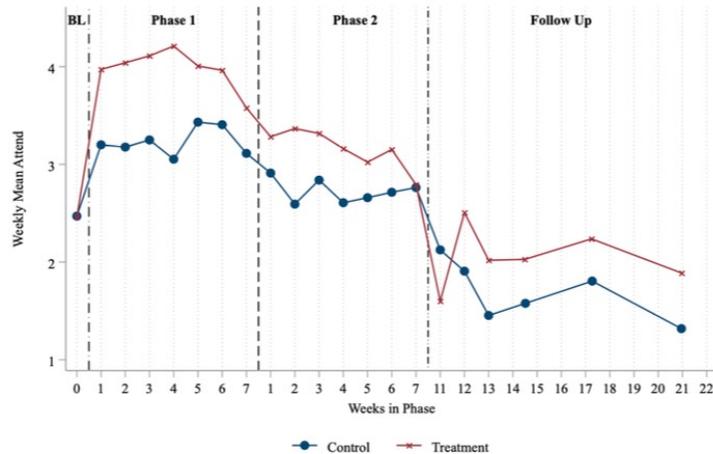


- Attendance monitoring 1-2 times/week, no surveys

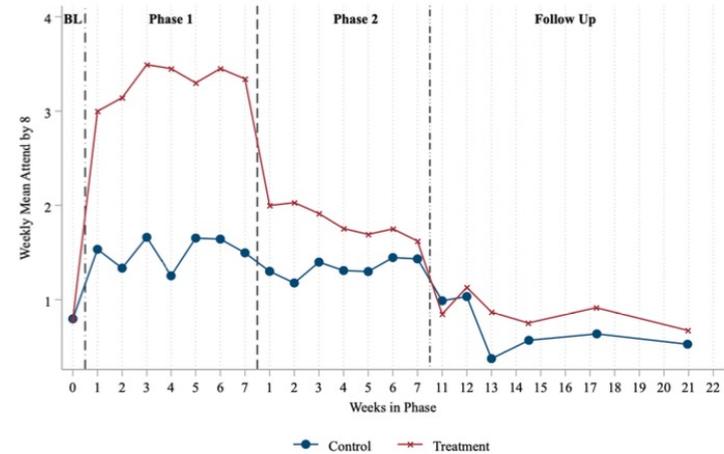
Cefala et al. - Habit Formation

Persistence in labor supply effects

Attend (any time)



Attend by 8 am



Similar effect on labor supply in follow up period (+15%), though less well-powered