Habit Formation in Labor Supply

Luisa Cefalà[1] Supreet Kaur[1] Heather Schofield[2] Yogita Shamdasani[3]

[1]UC Berkeley
[2]Cornell University
[3]National University of Singapore

November 4, 2024

Motivation: Habit Formation

- Potential importance of habits for wide range of behaviors [James 1890, Wood Runger 2018]
- Basic premise: actions are self-reinforcing
  - Undertaking an activity increases desire to undertake it in the future
- Examine possibility of habit formation for a core economic behavior: labor supply

Motivation: Potential implications for labor markets

- Hysteresis in labor markets
  - Transitory shocks to employment have persistent effects [e.g. Blanchard Summers 1986]

Motivation: Potential implications for labor markets

- Hysteresis in labor markets
  - Transitory shocks to employment have persistent effects [e.g. Blanchard Summers 1986]
- Duration dependence ("unemployment scar")
  - Longer unemployment spells lower likelihood of a job [e.g. Sider 1985, Dynarksi Sheffrin 1990]
  - Habit formation offers alternate conception of "skill depreciation"

Motivation: Potential implications for labor markets

- Hysteresis in labor markets
  - Transitory shocks to employment have persistent effects [e.g. Blanchard Summers 1986]
- Duration dependence ("unemployment scar")
  - Longer unemployment spells lower likelihood of a job [e.g. Sider 1985, Dynarksi Sheffrin 1990]
  - Habit formation offers alternate conception of "skill depreciation"
- Added relevance in low-income settings
  - Frequent shocks: unpredictable shift schedules, informal work, seasonality, illness, childcare gaps, network obligations [e.g. Collins et al. 2009, Morduch Schneider 2017, Choper et al. 2022]
  - External constraints make it difficult to regularly supply labor
  - Habit formation $\rightarrow$ may endogenously impact underlying preferences for regular labor supply

Motivation: Potential implications for labor markets

- Hysteresis in labor markets
  - Transitory shocks to employment have persistent effects [e.g. Blanchard Summers 1986]
- Duration dependence ("unemployment scar")
  - Longer unemployment spells lower likelihood of a job [e.g. Sider 1985, Dynarksi Sheffrin 1990]
  - Habit formation offers alternate conception of "skill depreciation"
- Added relevance in low-income settings
  - Frequent shocks: unpredictable shift schedules, informal work, seasonality, illness, childcare gaps, network obligations [e.g. Collins et al. 2009, Morduch Schneider 2017, Choper et al. 2022]
  - External constraints make it difficult to regularly supply labor
  - Habit formation $\rightarrow$ may endogenously impact underlying preferences for regular labor supply
- This paper: Test for habit formation in labor supply + potential mediating role of shocks

Preview

- RCT with 225 casual laborers across 11 urban labor stands in Chennai, India
- Treatment: Incentive for early stand attendance (7 weeks) $\rightarrow$ 23% $\uparrow$ in labor supply

Preview

- RCT with 225 casual laborers across 11 urban labor stands in Chennai, India
- Treatment: Incentive for early stand attendance (7 weeks) $\rightarrow$ 23% $\uparrow$ in labor supply
- Key habit formation test: persistence after incentives removed?
  - 16% increase in stand attendance over following 2 months; 11% increase in employment
  - Increase in preference for less flexible work contracts

Preview

- RCT with 225 casual laborers across 11 urban labor stands in Chennai, India
- Treatment: Incentive for early stand attendance (7 weeks) $\rightarrow$ 23% $\uparrow$ in labor supply
- Key habit formation test: persistence after incentives removed?
  - 16% increase in stand attendance over following 2 months; 11% increase in employment
  - Increase in preference for less flexible work contracts
  - Week with negative shock to stand attendance $\rightarrow$ no more treatment effects in later weeks

Preview

- RCT with 225 casual laborers across 11 urban labor stands in Chennai, India
- Treatment: Incentive for early stand attendance (7 weeks) $\rightarrow$ 23% $\uparrow$ in labor supply
- Key habit formation test: persistence after incentives removed?
  - 16% increase in stand attendance over following 2 months; 11% increase in employment
  - Increase in preference for less flexible work contracts
  - Week with negative shock to stand attendance $\rightarrow$ no more treatment effects in later weeks
- Potential confounds – do not find evidence for:
  - Learning about job finding probability
  - Changes in likelihood of employment (employer learning)
  - Displacement of control workers or GE effects (treat small fraction of labor stand)
  - Habit formation in consumption
  - Fixed adjustment costs (time use)

Preview

- RCT with 225 casual laborers across 11 urban labor stands in Chennai, India
- Treatment: Incentive for early stand attendance (7 weeks) $\rightarrow$ 23% $\uparrow$ in labor supply
- Key habit formation test: persistence after incentives removed?
  - 16% increase in stand attendance over following 2 months; 11% increase in employment
  - Increase in preference for less flexible work contracts
  - Week with negative shock to stand attendance $\rightarrow$ no more treatment effects in later weeks
- Potential confounds – do not find evidence for:
  - Learning about job finding probability
  - Changes in likelihood of employment (employer learning)
  - Displacement of control workers or GE effects (treat small fraction of labor stand)
  - Habit formation in consumption
  - Fixed adjustment costs (time use)
- Employers predict labor supply persistence + prefer treated workers

Literature

(1) Habit formation

- Large history of work in psychology and economics [Becker Murphy 1988, Laibson 2001, Rabin 2011]
- Empirical tests: short-run persistence with decline
  Domains: gym attendance [Charness Gneezy 2009, Acland et al. 2015, Royer et al. 2015]; handwashing [Hussam et al. 2022, Steiny Wellsjo 2022]; water usage [Byrne et al. 2022]; blood donations [Bruhin et al. 2020]; social media usage [Allcott et al. 2022]

→ Build on and complement by examining core econ behavior: labor supply and employment
→ Evidence on mechanisms
→ Evidence for role of shocks in leading to decay of habit stock

Literature

(2) Labor markets in developing countries

- Move to formal full-time jobs (e.g. factory work) considered core for structural transformation
- Many workers express preference against full-time jobs, high absenteeism [Blattman Dercon 2018, Donald Grosset 2024, Adhvaryu et al. 2024, Cefala et al. 2024]
- Accords with historical views of Industrial Revolution [Pollard 1963, Thompson 1967, Clark 1994]

→ Habituation to regular labor supply potentially changes workers' preferences for inflexible work
→ Features of under-development (external constraints) may inhibit habit formation
→ Additional (not mutually exclusive) reason for barriers to take-up of formal employment

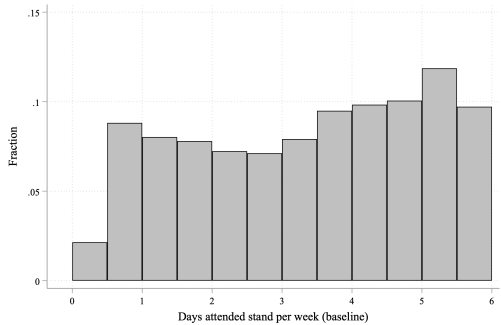
Context: urban spot labor markets

- Public spaces where casual laborers gather to search for employment
- Employers hire for short spells: modal contract is one day (almost always $<$ 1 week)
- Ubiquitous in developing countries: employment for hundreds of millions of workers
- Experiment: Labor stands in Chennai, India

Context: labor supply

- Stated goal: Average worker intends to come to labor stand 5.3 days/week (out of 6 days)
- Actual behavior: Average worker comes to labor stand about 4 days/week (out of 6 days)

Labor supply (days showed up to stand per week)



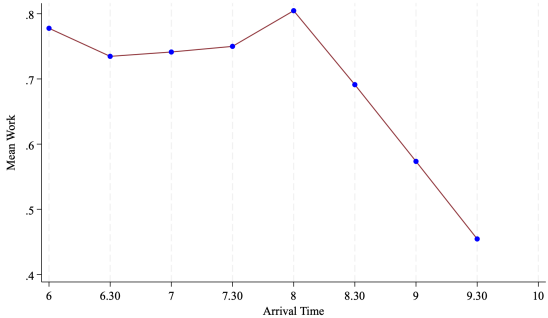
59% come on average $<$ 4 days/week; 78% $<$ 5 days/week

Arrival time and job finding rate

- Measured daily by staff at the stand
- Arriving early (6-8am) at the stand ↑ probability of finding jobs
- Get a job 70-80% of days when attend by 8 am
- At baseline, workers have accurate beliefs about this relationship

▸ Pr(find a job) at baseline

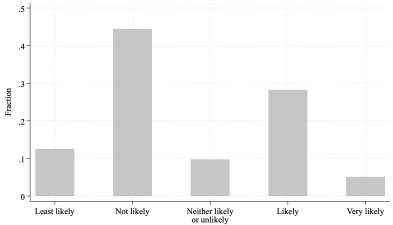
Pr(find a job) by arrival time



Context: Desire for flexibility

Desire to switch to long-term stable work?

If you were offered a long-term job today, how likely are you to take it?

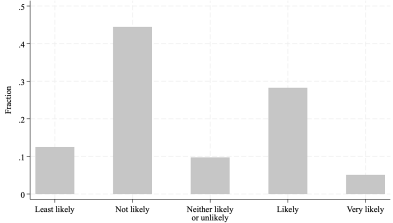


- Only 33% say "likely" or "very likely"
- Matches other settings
  [e.g. Blattman Dercon 2018, Donald Grosset 2024]

Context: Desire for flexibility

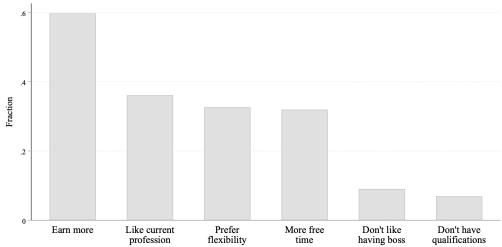
Desire to switch to long-term stable work?

If you were offered a long-term job today, how likely are you to take it?



- Only 33% say "likely" or "very likely"
- Matches other settings
  [e.g. Blattman Dercon 2018, Donald Grosset 2024]

Reasons for not wanting stable job



- 33%: Don't want fixed schedule / prefer flexibility
- 32%: Have more free time with casual work

Sample

- 11 labor stands (local labor markets) rolled out over 1 year
- N=225 workers
- Men aged 18-55
- Select on low baseline attendance: $\leq$ 4 days per week
- Average worker has worked at stand for 10+ years
- 98.7% of workers frequent only one labor stand
- Main activity typically construction work

▸ Commuting method

Measurement: labor supply

- Primary means of active job search: attendance at stand
- Labor stand setting: measurement advantage
- Labor supply = showing up to labor stand
  - Clear revealed preference measure
  - Distinguishes labor supply from voluntary unemployment
  - Directly observable (do not need to rely on self-reports)

Measurement: labor supply

- Primary means of active job search: attendance at stand
- Labor stand setting: measurement advantage
- Labor supply = showing up to labor stand
  - Clear revealed preference measure
  - Distinguishes labor supply from voluntary unemployment
  - Directly observable (do not need to rely on self-reports)

  → Position survey staff at each labor stand, record who shows up each day

  ▸ Staff - recognition quiz results

Experimental design & timeline

- Treatment: Fixed incentive payment ($\sim$ 12% of avg daily earnings) for each day worker arrives by 8 am
- Control: Randomly matched to a treatment participant each week, *unconditionally* receive the same payments to equalize income effects

Experimental design & timeline

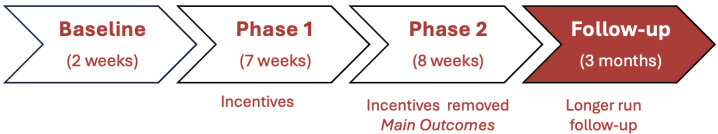
- Treatment: Fixed incentive payment ($\sim$ 12% of avg daily earnings) for each day worker arrives by 8 am
- Control: Randomly matched to a treatment participant each week, *unconditionally* receive the same payments to equalize income effects
- Protocol:
  - Individual-level randomization within stand (stratified by baseline attendance & wages)
  - Directly observe attendance and timing, previous days' labor supply (daily survey)
  - Low fraction (4-10%) treated per stand to avoid GE effects ▸ Stand-level % treated
  - Payments made in cash at the end of each week

Experimental design & timeline

- Track impacts over 2 months
  - Directly observe attendance and timing
  - Surveys to measure employment, beliefs, preferences, time use, etc.

▸ End of Phase 1 - comprehension ▸ Attrition ▸ Balance in labor supply data

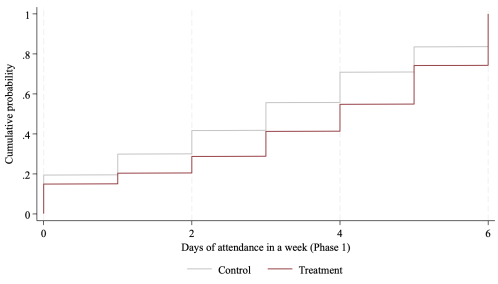
Experimental design & timeline



- Directly observe attendance 1-2 times/week
- No surveys (i.e. no employment data)

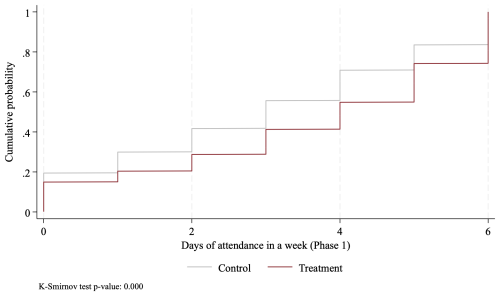
First stage: Phase 1 (incentives)

Attendance at stand (anytime)

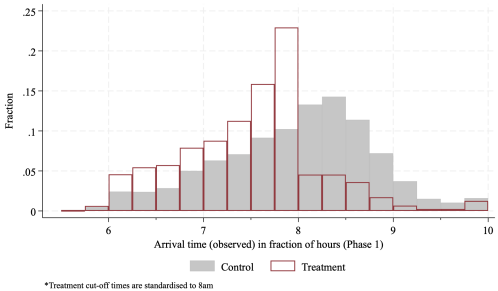


First stage: Phase 1 (incentives)

Attendance at stand (anytime)

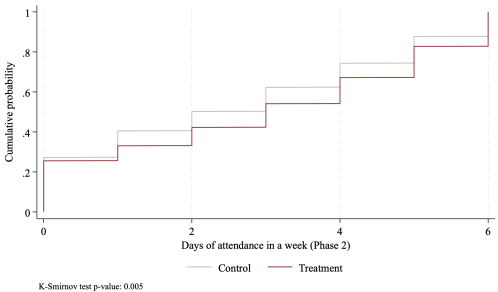


Arrival time



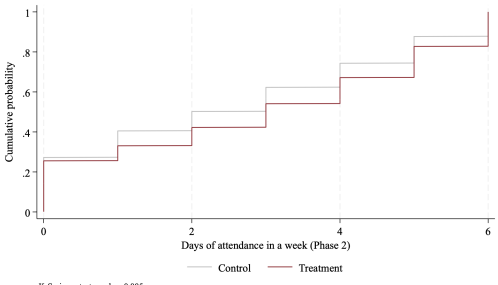
Persistence after incentives are removed (Phase 2)

Attendance at stand (anytime)



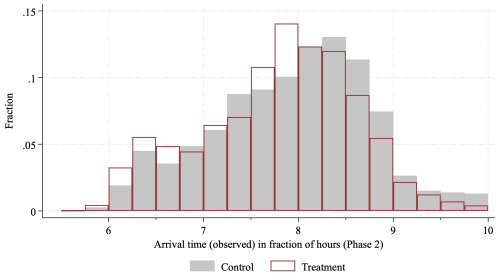
Persistence after incentives are removed (Phase 2)

Attendance at stand (anytime)



K-Smirnov test p-value: 0.005

Arrival time



*Treatment cut-off times are standardised to 8am

Labor supply effects

	Phase 1		Phase 2		
	Attend by 8am	Attend	Attend by 8am	Attend	Worked (Total)
	(1)	(2)	(3)	(4)	(5)
Treatment	1.712	0.696	0.450	0.405	
	(0.184)	(0.181)	(0.181)	(0.196)	
	[0.000]	[0.000]	[0.014]	[0.040]	
Control mean	1.395	2.990	1.265	2.577	
N: worker-weeks	1572	1572	1800	1800	

Dependent variable: Number of days attended or worked per week.
Controls for strata, stand, week-in-phase, and calendar week fixed effects. SEs clustered at worker level.

- Phase 1:
  - Doubles rate of attending by 8 am
  - 23% treatment effect on overall attendance

Labor supply effects

	Phase 1		Phase 2		
	Attend by 8am (1)	Attend (2)	Attend by 8am (3)	Attend (4)	Worked (Total) (5)
Treatment	1.712	0.696	0.450	0.405	
	(0.184)	(0.181)	(0.181)	(0.196)	
	[0.000]	[0.000]	[0.014]	[0.040]	
Control mean	1.395	2.990	1.265	2.577	
N: worker-weeks	1572	1572	1800	1800	

Dependent variable: Number of days attended or worked per week.
Controls for strata, stand, week-in-phase, and calendar week fixed effects. SEs clustered at worker level.

- Phase 2 (persistence 2 months after incentives removed):
  - 36% impact on attending by 8 am
  - 16% treatment effect on overall attendance

Labor supply effects

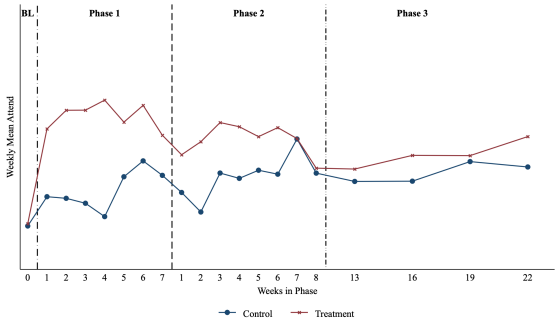
	Phase 1		Phase 2		
	Attend by 8am	Attend	Attend by 8am	Attend	Worked (Total)
	(1)	(2)	(3)	(4)	(5)
Treatment	1.712	0.696	0.450	0.405	0.325
	(0.184)	(0.181)	(0.181)	(0.196)	(0.150)
	[0.000]	[0.000]	[0.014]	[0.040]	[0.031]
Control mean	1.395	2.990	1.265	2.577	3.041
N: worker-weeks	1572	1572	1800	1800	1357

Dependent variable: Number of days attended or worked per week.
Controls for strata, stand, week-in-phase, and calendar week fixed effects. SEs clustered at worker level.

- Phase 2 (persistence 2 months after incentives removed):
  - 36% impact on attending by 8 am
  - 16% treatment effect on attendance
  - 11% increase in total employment rate

Persistence in labor supply effects

Attend (any time)



Almost full convergence by latter part of 5 month follow-up period

Deterioration of effects over time?

	(1) Attend	(2) Attend
Treatment	0.744	0.564
	(0.286)	(0.226)
	[0.010]	[0.013]
Treatment x Week number in phase 2	-0.0788	
	(0.040)	
	[0.052]	
Treatment x Second month of phase 2		-0.348
		(0.181)
		[0.055]
Phase	2	2
Week in phase FE	Yes	Yes
Calendar Week FE	Yes	Yes
N: worker-weeks	1800	1800

Controls for stand and strata fixed effects. SEs clustered at the worker level.

- Some evidence for decay within Phase 2

Do shocks erode habit stock?

- Workers frequently face disruptions to labor supply
  - Festivals, weddings, illness, family commitments, etc
  - Self-reported shocks may be endogenous

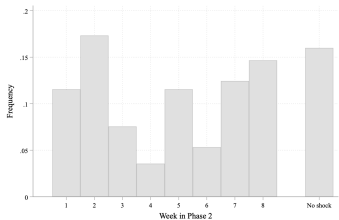
Do shocks erode habit stock?

- Workers frequently face disruptions to labor supply
  - Festivals, weddings, illness, family commitments, etc
  - Self-reported shocks may be endogenous
- Data-driven proxy for labor supply disruption
  - Residualized attendance of *other* workers (leave one out mean)

Do shocks erode habit stock?

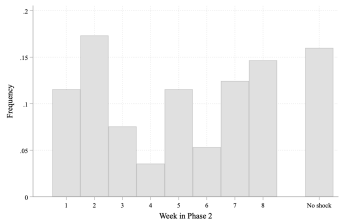
- Workers frequently face disruptions to labor supply
  - Festivals, weddings, illness, family commitments, etc
  - Self-reported shocks may be endogenous

- Data-driven proxy for labor supply disruption
  - Residualized attendance of *other* workers (leave one out mean)
  - Shock = week with others' stand attendance $<$ 25th pctile (robust to alternate cut-offs)



Do shocks erode habit stock?

- Workers frequently face disruptions to labor supply
  - Festivals, weddings, illness, family commitments, etc
  - Self-reported shocks may be endogenous
- Data-driven proxy for labor supply disruption
  - Residualized attendance of *other* workers (leave one out mean)
  - Shock = week with others' stand attendance $<$ 25th pctile (robust to alternate cut-offs)



- What happens to effects *after* a shock temporarily pulls workers out of labor market?

Shocks erode habit stock

	(1)
Treat	0.736
	(0.242)
	[0.003]
Treat x Post shock	-0.791
	(0.348)
	[0.024]
Post shock	
Treat x 1 week post shock	
Treat x 2+ weeks post shock	
Treat x Week number	
Calendar week FE	Yes
N: worker-weeks	1800

- Treatment effects disappear after shock temporarily disrupts stand attendance

Shocks erode habit stock

	(1)	(2)
Treat	0.736	0.737
	(0.242)	(0.263)
	[0.003]	[0.005]
Treat x Post shock	-0.791	-0.806
	(0.348)	(0.435)
	[0.024]	[0.065]
Post shock		
Treat x 1 week post shock		
Treat x 2+ weeks post shock		
Treat x Week number		-0.00157
		(0.057)
		[0.978]
Calendar week FE	Yes	Yes
N: worker-weeks	1800	1800

- No discernible decline in effects over time outside of shocks

Shocks erode habit stock

	(1)	(2)	(3)
Treat	0.736	0.737	0.712
	(0.242)	(0.263)	(0.246)
	[0.003]	[0.005]	[0.004]
Treat x Post shock	-0.791	-0.806	-0.808
	(0.348)	(0.435)	(0.359)
	[0.024]	[0.065]	[0.025]
Post shock			-0.113
			(0.256)
			[0.660]
Treat x 1 week post shock			
Treat x 2+ weeks post shock			
Treat x Week number		-0.00157	
		(0.057)	
		[0.978]	
Calendar week FE	Yes	Yes	No
N: worker-weeks	1800	1800	1800

- No sustained impact on control group (remain at status quo)

Shocks erode habit stock

	(1)	(2)	(3)	(4)	(5)
Treat	0.736	0.737	0.712	0.737	0.753
	(0.242)	(0.263)	(0.246)	(0.242)	(0.262)
	[0.003]	[0.005]	[0.004]	[0.003]	[0.005]
Treat x Post shock	-0.791	-0.806	-0.808		
	(0.348)	(0.435)	(0.359)		
	[0.024]	[0.065]	[0.025]		
Post shock			-0.113		
			(0.256)		
			[0.660]		
Treat x 1 week post shock				-0.694	-0.708
				(0.360)	(0.394)
				[0.055]	[0.074]
Treat x 2+ weeks post shock				-0.820	-0.833
				(0.379)	(0.483)
				[0.032]	[0.086]
Treat x Week number		-0.00157			0.00949
		(0.057)			(0.061)
		[0.978]			[0.876]
Calendar week FE	Yes	Yes	No	Yes	Yes
N: worker-weeks	1800	1800	1800	1800	1800

- Workers immediately jump back to old equilibrium in week after shock (not gradual decline)

Potential confounds

- (Perceived) changes in job finding probability
  - (i) Learning about stand
  - (ii) Labor demand
- Displacement of control workers or GE effects
- Habit formation in consumption

Potential confounds

- **(Perceived) changes in job finding probability**
  - (i) **Learning about stand**: Workers increase beliefs about job finding probability
  - (ii) **Labor demand**
- Displacement of control workers or GE effects
- Habit formation in consumption

Potential confounds

- **(Perceived) changes in job finding probability**
  - (i) **Learning about stand**: Workers increase beliefs about job finding probability
  - (ii) **Labor demand**: Employers learn who are good workers $\rightarrow$ higher return to attendance
- Displacement of control workers or GE effects
- Habit formation in consumption

Potential confounds

- **(Perceived) changes in job finding probability**
  - (i) **Learning about stand**: Workers increase beliefs about job finding probability
  - (ii) **Labor demand**: Employers learn who are good workers → higher return to attendance
  - → Both of these imply that treated workers should perceive higher job finding probability

- Displacement of control workers or GE effects

- Habit formation in consumption

Perceived job finding probability

- Test: Is there an increase in expected job finding rate?
  - "How many days of work would you find, if you come to the stand everyday at 8am?"
  - Workers have accurate beliefs at baseline (10+ years of experience)

Perceived job finding probability

- Test: Is there an increase in expected job finding rate?
  - "How many days of work would you find, if you come to the stand everyday at 8am?"
  - Workers have accurate beliefs at baseline (10+ years of experience)
  - Treatment effect is essentially zero (0.8%)

	(1) Days	(2) Days
Treatment	0.0379	-0.0816
	(0.219)	(0.223)
	[0.863]	[0.715]
Survey date FE	No	Yes
Control mean	4.558	4.558
N: worker-survey	115	115

Perceived job finding probability

- Test: Is there an increase in expected job finding rate?
  - "How many days of work would you find, if you come to the stand everyday at 8am?"
  - Workers have accurate beliefs at baseline (10+ years of experience)
  - Treatment effect is essentially zero (0.8%)

	(1) Days	(2) Days
Treatment	0.0379	-0.0816
	(0.219)	(0.223)
	[0.863]	[0.715]
Survey date FE	No	Yes
Control mean	4.558	4.558
N: worker-survey	115	115

- Test: No discernible effect on average wage (p-val 0.980)
- Cannot explain why effects would disappear immediately after 1 week disruption

Potential confounds

- (Perceived) changes in job finding probability
  - (i) Learning about stand: Workers increase beliefs about job finding probability etc.
  - (ii) Labor demand: Employers learn who are good workers, increasing returns to attendance

- **Displacement of control workers or GE effects**:
  - Treat 4-10% of stand (no heterogeneity by fraction treated)
  - No impact on perceived job finding rate
  - No differential exit of control workers from stand
  - Inconsistent with shocks results

- Habit formation in consumption

Potential confounds

- (Perceived) changes in job finding probability
  - (i) Learning about stand: Workers increase beliefs about job finding probability etc.
  - (ii) Labor demand: Employers learn who are good types, increasing returns to attendance
- Displacement of control workers or GE effects
- **Habit formation in consumption**:
  - Exploit random variation in *payments* in Control group
  - Those with higher Phase 1 payments do not have higher Phase 2 attendance

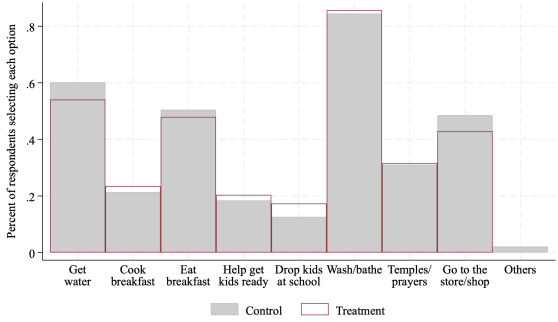
What is changing under the hood?

Ancillary tests in Phase 2 - After incentives removed

(Note: not done in earliest stands)

Morning time use

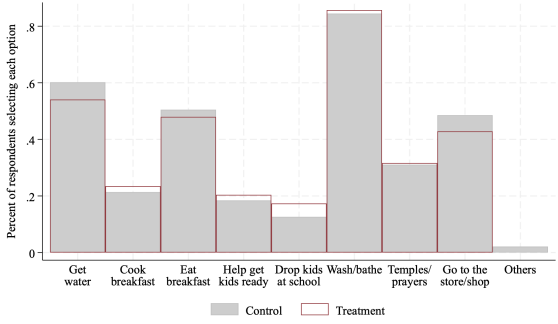
- Are people rearranging activities at home (fixed cost of organizational change)?



- No discernible evidence of shifting activities to others in household ▸ Regression table

Morning time use

- Are people rearranging activities at home (fixed cost of organizational change)?



  - No discernible evidence of shifting activities to others in household ▸ Regression table

- "I need to rearrange my morning activities on the days that I have to go to the stand."
  - 5-point scale: strongly disagree (1) to strongly agree (5)
  - Null effect (coeff 0.034 pval=0.84; control mean 2.65)

Automaticity: Change in psychological default

- "Going to the stand is something I do without thinking."
  - 5-point scale: strongly disagree (1) to strongly agree (5)
  - Some variation in timing of when workers were asked during Phase 2

Automaticity: Change in psychological default

- "Going to the stand is something I do without thinking."
  - 5-point scale: strongly disagree (1) to strongly agree (5)
  - Some variation in timing of when workers were asked during Phase 2

	(1)	(2)
Treatment	0.308	0.467
	(0.151)	(0.181)
	[0.043]	[0.011]
Treatment x Post shock		-0.655
		(0.355)
		[0.067]
Control mean	3.865	3.865
N: worker	175	175

- Treated workers more likely to agree in Phase 2
- No evidence for effect if stand had a shock before worker was surveyed in Phase 2

Change in preference for flexibility?

- Does increased automaticity lead to lower preference for flexibility?
- Are treated workers more willing to accept inflexible work contracts?

Change in preference for flexibility?

- Does increased automaticity lead to lower preference for flexibility?
- Are treated workers more willing to accept inflexible work contracts?
- Suggestive test: Offer 6-day contract job with wage penalty for missed days

	Contract job
	(1)
Treatment	0.174
	(0.081)
	[0.035]
Treatment x Post shock	
Control mean	0.148
N: worker-question	109

Change in preference for flexibility?

- Does increased automaticity lead to lower preference for flexibility?
- Are treated workers more willing to accept inflexible work contracts?
- Offer workers incentive compatible contract choices
  - (i) Rs. 80 for any 2 (flexible) days vs. Rs. 90 for 2 pre-set (inflexible) days next week
  - (ii) Rs. 70 for sure vs. Rs. 90 for 2 pre-set (inflexible) days next week

	Contract job	Fixed choice	Fixed choice
	(1)	(2)	(3)
Treatment	0.174	0.119	0.152
	(0.081)	(0.068)	(0.081)
	[0.035]	[0.082]	[0.063]
Treatment x Post shock			-0.123
			(0.158)
			[0.439]
Control mean	0.148	0.523	0.523
N: worker-question	109	278	278

Do employers perceive the presence of habit formation?

Suggestive evidence: Labor market consequences

- Employers anticipate absenteeism
- Absenteeism is costly
  - Search costs
  - WTP to avoid
- Employers have accurate beliefs regarding habit formation
- Employers are willing to pay for workers with habit stock
- Potential implications for labor market structure

Suggestive evidence: Labor market consequences

- **Employers anticipate absenteeism**

- Absenteeism is costly
  - Search costs
  - WTP to avoid

- Employers have accurate beliefs regarding habit formation

- Employers are willing to pay for workers with habit stock

- Potential implications for labor market structure

Employers anticipate absenteeism

- Survey 167 recruiters who frequent labor stands
  - Typical recruiter: visits stand 5 days/week, hires for multiple roles and employers
  - 40% of workers from the stand are hired for a single day. Other common contract duration (22%) is one week.

Employers anticipate absenteeism

- Survey 167 recruiters who frequent labor stands
  - Typical recruiter: visits stand 5 days/week, hires for multiple roles and employers
  - 40% of workers from the stand are hired for a single day. Other common contract duration (22%) is one week.

- Expected fraction of days missed by worker hired on a 10 day contract ‣ Figure
  - Mean: 27.5% of days
  - Median: 20.0% of days

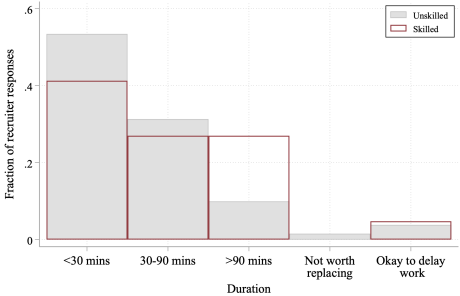
- Additional hiring to buffer absences ‣ Figure
  - Mean: 37.1% more workers
  - Median: 30.0% more workers

Suggestive evidence: Labor market consequences

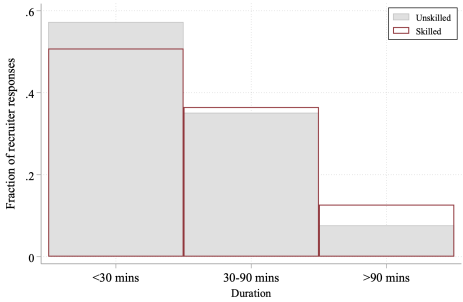
- Employers anticipate absenteeism
- **Absenteeism is costly**
  - **Search costs**
  - **WTP to avoid**
- Employers have accurate beliefs regarding habit formation
- Employers have accurate beliefs regarding habit formation
- Potential implications for labor market structure

Absenteeism is costly: Search costs

"How much time does it typically take to find a worker to replace someone who was supposed to come to work but didn't?"



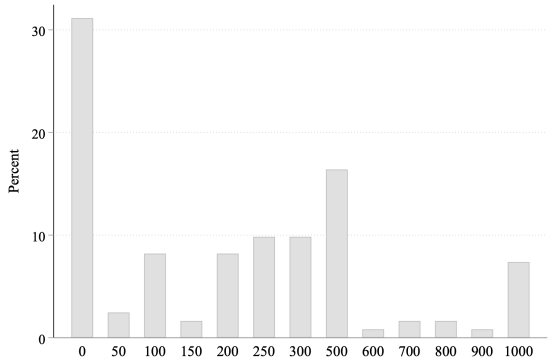
"How much time do you typically spend helping a new worker understand what needs to be done and how to do it?"



Absenteeism is costly: WTP for more reliable labor

"Imagine there is a job that takes a worker 6 days to complete. If you hire someone who definitely shows up on all 6 days what is the max amount you would be willing to pay as bonus (Rs)?"

(Note: modal wage is Rs. 800/day)



- $\sim$ 30% of employers are willing to pay $>$10% wage premium for regularity

Suggestive evidence: Labor market consequences

- Employers anticipate absenteeism
- Absenteeism is costly
  - Search costs
  - WTP to avoid
- **Employers have accurate beliefs regarding habit formation**
- Employers are willing to pay for workers with habit stock
- Potential implications for labor market structure

Do employers expect labor supply to be habit forming?

- Incentivized survey with a second set of employers (N = 115)
  1. Explain design of our intervention
  2. Provide magnitude of impacts on attendance during Phase 1
  3. Provide counts of control participants (out of 100) attending 2 weeks, 2 months, and 4 months after the end of Phase 1
  4. Elicit beliefs about the counts of treated participants attending at those time points
- Top 3 most accurate employers provided with a large monetary prize

Do employers expect labor supply to be habit forming?

- Incentivized survey with a second set of employers (N = 115)
  1. Explain design of our intervention
  2. Provide magnitude of impacts on attendance during Phase 1
  3. Provide counts of control participants (out of 100) attending 2 weeks, 2 months, and 4 months after the end of Phase 1
  4. Elicit beliefs about the counts of treated participants attending at those time points
- Top 3 most accurate employers provided with a large monetary prize
- Employers anticipate habit formation and decay:

Time Point	Control Attendance (actual)	Treatment Attendance (actual)
2 Weeks	46	55
2 Months	45	50
4 Months	30	33

Do employers expect labor supply to be habit forming?

- Incentivized survey with a second set of employers (N = 115)
  1. Explain design of our intervention
  2. Provide magnitude of impacts on attendance during Phase 1
  3. Provide counts of control participants (out of 100) attending 2 weeks, 2 months, and 4 months after the end of Phase 1
  4. Elicit beliefs about the counts of treated participants attending at those time points
- Top 3 most accurate employers provided with a large monetary prize
- Employers anticipate habit formation and decay:

Time Point	Control Attendance (actual)	Treatment Attendance (actual)	Employer Prediction (median)	Employer Prediction (% effect)
2 Weeks	46	55	55	19.6%
2 Months	45	50	50	11.1%
4 Months	30	33	45	50.0%

Suggestive evidence: Labor market consequences

- Employers anticipate absenteeism
- Absenteeism is costly
  - Search costs
  - WTP to avoid
- Employers have accurate beliefs regarding habit formation
- **Employers are willing to pay for workers with habit stock**
- Potential implications for labor market structure

WTP for workers with habit stock

- Survey with a third set of employers (N= 69)
  1. Explain design and results of our "training" intervention
  2. Offer chance to enter lottery for a voucher to help with hiring 1 worker via a wage subsidy
  3. Vary size of subsidy depending on whether worker is trained vs. untrained
  4. Voucher can only be used once — to redeem, the selected worker has to be at the stand by 8:30

WTP for workers with habit stock

- Survey with a third set of employers (N= 69)
  1. Explain design and results of our "training" intervention
  2. Offer chance to enter lottery for a voucher to help with hiring 1 worker via a wage subsidy
  3. Vary size of subsidy depending on whether worker is trained vs. untrained
  4. Voucher can only be used once — to redeem, the selected worker has to be at the stand by 8:30

- High willingness to pay for a trained worker: 80% of employers are willing to pay 11-22% of the daily wage bill for a chance at hiring a worker with habit stock.

Suggestive evidence: Labor market consequences

- Employers anticipate absenteeism
- Absenteeism is costly
  - Search costs
  - WTP to avoid
- Employers have accurate beliefs regarding habit formation
- Employers are willing to pay for workers with habit stock
- **Potential implications for labor market structure**

Potential implications for labor market structure

"If such regular workers existed, would this change anything else about how you offer work?"

→ Suggestive evidence of long run costs in addition to short run costs to irregularity

Conclusion

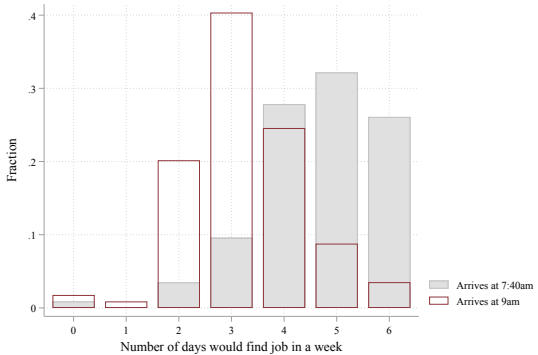
- Our experiment: temporary incentives create persistent 16% increase in labor supply
  → Hysteresis in labor supply driven by state-dependence
- This increase is consequential: translates to 11% higher employment rate
- Suggestive evidence for change in psychological default (increased automaticity) + increased willingness to take up less flexible work contracts
- Shocks knock workers off new equilibrium, revert back to old equilibrium
  → Environment of poverty can endogenously change preference for regular labor supply
- Employers anticipate habit formation and decay ("skill depreciation" from unemployment)

→ Potential relevance for prevalence of spot contracting, structural transformation barriers

Appendix

Baseline beliefs: Job-finding probability

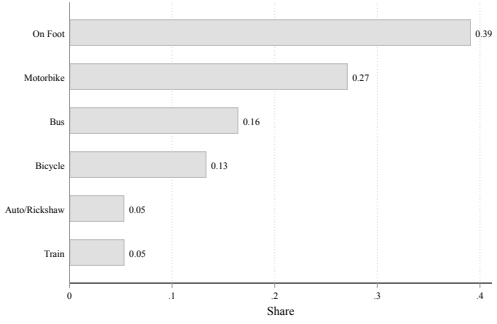
2 workers come to the stand everyday for a week to look for work. One comes at 7:40am, and the other comes at 9am. Based on your experience at the stand, how many days of work will each of them get?

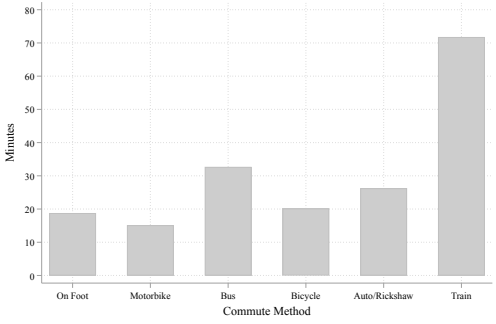


- 7:40am arrival → finds job 77% of the time, on average
- 9am arrival → finds job 54% of the time, on average

Back

Commuting Patterns

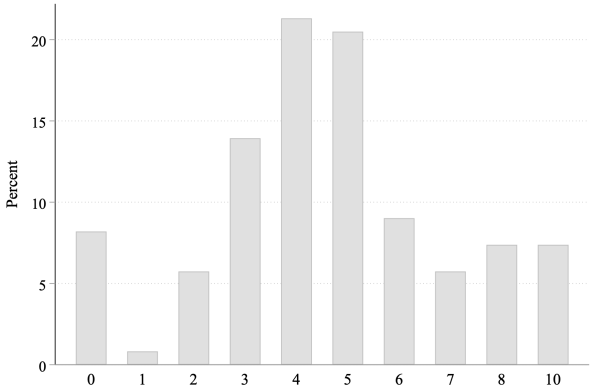




Back

Setting: Labor stands

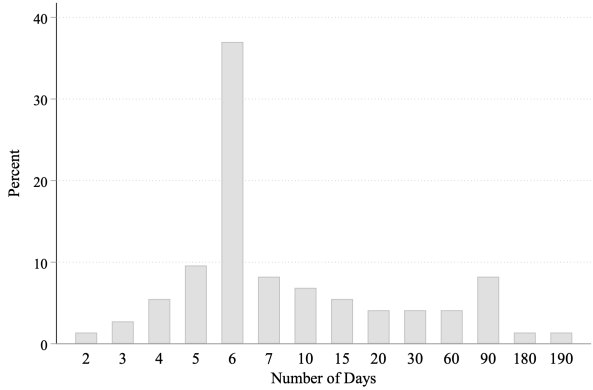
- "Imagine you were hiring ten people at the stand. Of these ten people, how many would typically work for you for more than one day at a time?" (N = 167)



Back

Setting: Labor stands

- "For those workers you hired at the labor stand, and worked for more than 1 day, what is the average number of days they will work?"



Back

Fraction of workers treated in each stand (upper bound)

Stand	Workers Approached	Enrolled in Treatment	Share
1	214	16	0.075
2	128	11	0.086
3	150	7	0.047
4	144	9	0.062
5	143	7	0.049
6	156	8	0.051
7	120	6	0.050
8	177	17	0.096
9	266	19	0.071
10	113	9	0.080
11	111	4	0.036
Total	1,722	113	0.066

Back

Demographic characteristics

	(1) Control Mean	(2) Treatment Mean	(3) Regression P-value
Age	42.4	42.6	0.597
	(9.5)	(9.3)	
No schooling	0.2	0.2	0.950
	(0.4)	(0.4)	
Has spouse/children	0.9	0.9	0.751
	(0.4)	(0.3)	
Years at stand	10.2	10.4	0.732
	(8.2)	(8.0)	
Years in current profession	16.3	15.9	0.765
	(10.5)	(9.6)	
Days attended stand	4.2	4.2	0.929
	(1.6)	(1.6)	
Days worked	4.9	4.9	0.965
	(2.2)	(2.4)	
Average daily wage (in rupees)	843.8	840.4	0.389
	(122.3)	(133.7)	
Total earnings (in rupees)	4162.1	4157.1	0.791
	(1986.4)	(2159.6)	
Observations	112	113	

Back

Attrition

	Formal Dropouts	Informal Dropout (P2)
Treatment	0.0183	0.0164
	(0.022)	(0.036)
	[0.407]	[0.651]
Control mean	0.0179	0.0804
N	225	225

Regressions include stand & strata FE. Robust standard errors.

- Formal dropouts: told field team that they wished to stop participating
- Informal dropouts: not having any survey data from them for the last 3 weeks of the phase

Back

Work data well-balanced

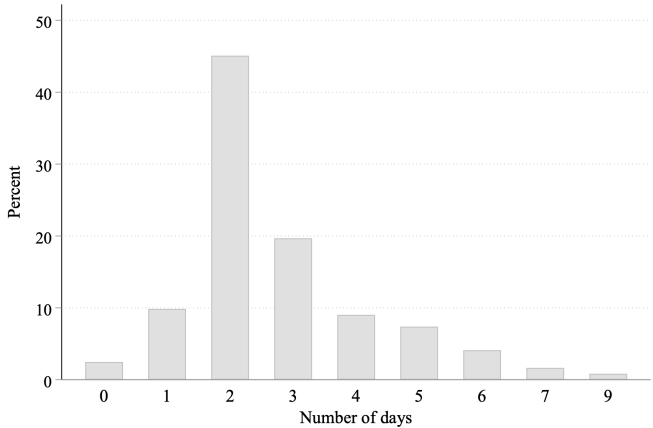
	Missing Work Data
Treatment	0.000541
	(0.025)
	[0.983]
Control mean	0.133
N	23170

Regressions include stand, strata, phase, week-in-phase, and calendar week fixed effects. Standard errors are clustered at the worker level.

Back

Employers anticipate absenteeism

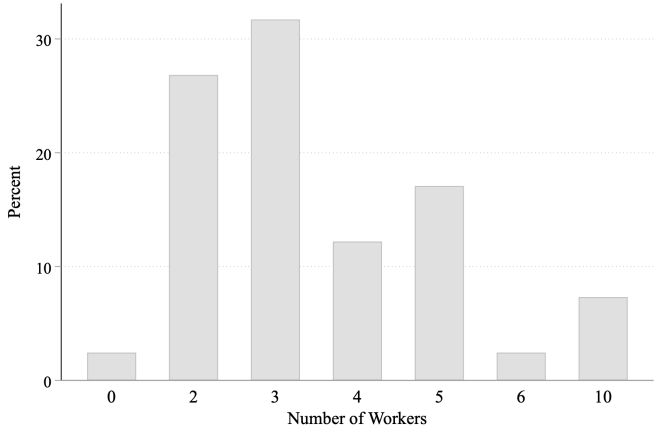
"Suppose you hired one worker for a 10 day contract (so that the worker said he would come on all days when he took the job). Out of these 10 workdays, on how many days do you think the worker would be absent from work?" Back



Employers anticipate absenteeism

"For every 10 workers you need, how many extra would you hire as a buffer against absences?"

Back



Announcement of Phase 2: comprehension of end of incentives

- Each respondent was asked 3 comprehension questions at the time of announcement
  - How much longer will you be paid on Saturday evenings (for coming to the stand before 8am)?
  - After this Saturday, when will you be paid for completing daily surveys?
  - Will you be receiving additional payments? Why?
- Overall comprehension: 95.8%
- No significant difference in comprehension by treatment status (regression coeff 0.02, p-value 0.508)

Back

Quiz with staff: how well do they recognize stand workers?

	Correct	
	(1)	(2)
Treatment	-0.0137	-0.0152
	(0.013)	(0.012)
	[0.296]	[0.211]
Stand FE	Yes	Yes
Phase FE	Yes	Yes
Staff FE	No	Yes
Control mean	0.907	0.907
N: staff-question	2046	2046

Back