Scabs:
The Social Suppression of Labor Supply

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Motivation

- Norms as a force for social conformity
  - Equilibrium coordination device
  - Shared understanding of "appropriate" behavior
  - Collective behaviors among large, decentralized group
  - Could occur without formal coordination or institutions

- Aggregate implications for markets
  - Coordination on the same strategy could shift equilibrium

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- This paper: market power via (uncoordinated) cartel
  - Norms against accepting wage cuts
  - Collective labor supply behavior without organization
  - Implicit collusion among workers to maintain wage floors

Motivation

- Sustaining behavior in equilibrium
  - Intrinsic: change in preferences (own preferred behavior)
  - Extrinsic: social punishment for violations

- Generality of social punishment
  - Across contexts (Fehr and Gachter 2000, Henrich et al. 2006)
  - Responsiveness to social disapprobation (Cialdini Goldstein 2004)
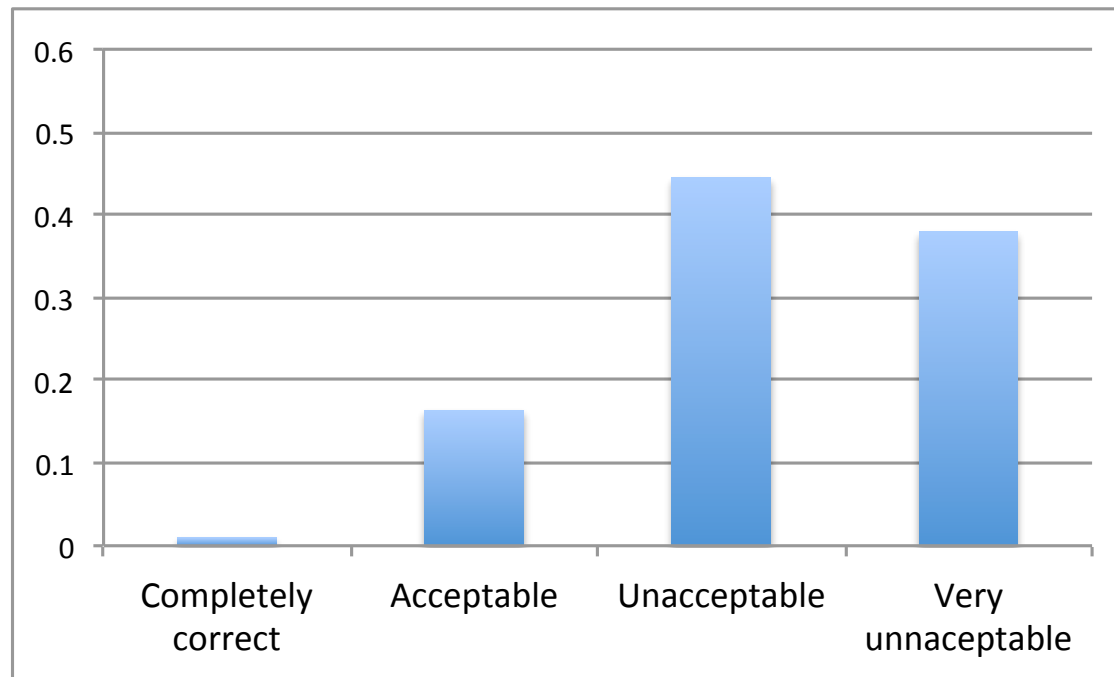
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- Potential applicability: any setting with meaningful social interaction
  - Taxi stands, market vendors, real estate agents, NASDAQ traders,...
  - Special relevance for the labor market (e.g. Solow 1990)
  - Special relevance for poor countries: communal nature of village economy; repeated informal interactions in markets, neighborhoods

Motivation: Norms

Survey: Agricultural workers in Odisha, India

Acceptability of Taking a Wage Cut:

"Suppose it is the lean season. The prevailing wage is Rs. 200. To increase his chance of finding work, a laborer tells farmers that he would be willing to work any day that week at Rs. 180. Is the laborer's behavior acceptable?"
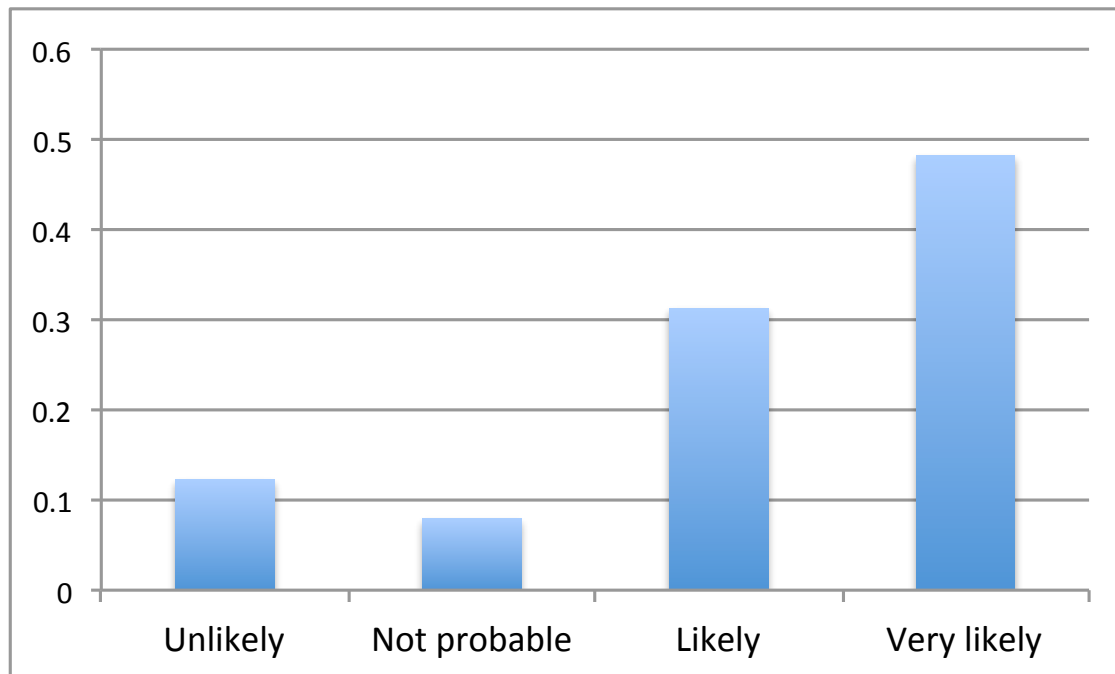
Motivation: Sanctions

Survey: Agricultural workers in Odisha, India

Sanctions for Accepting a Wage Cut:

If a laborer accepts work at a rate below the prevailing wage, how likely is it that the other laborers in the village become angry?

Preview

1) Evidence on labor supply
- Field experiment: 183 employers make job offers to 502 workers
- Below prevailing wage: Robust labor supply, but sharply reduced when observable to other workers
- Prevailing wage: no detectable role for observability (placebo)
- (Inconsistent with employer bargaining, adverse selection...)

2) Evidence on sanctions

3) Potential implications for labor market

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  – Social punishment as enforcement mechanism

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2) Evidence on sanctions
- Costly punishment of unemployed workers who accept wage cut
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3) Potential implications for labor market
- Correlation between social cohesion correlates & wage rigidity
- Caveat: Cannot infer equilibrium in absence of norms
- Our paper: document mechanism with important effect on LS

Literature

- Social norms and conformity
  - Social observability matters: prosocial domains (e.g. DellaVigna et al. 2012, 2016); economic domains (e.g., Mas Moretti 2009, Bandiera et al. 2005, Burnstyn Jensen 2017, Burnstyn et al. 2018)
  - Role of social conformity in high stakes labor supply decision
  - Evidence that decentralized norms generate collective behavior in markets

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- Labor markets in poor countries
  - Early work: heavy focus on labor market "distortions" (Lewis 1954)
  - Features relevant today (Kaur forthcoming; Breza, Kaur, Shamdasani 2018)
  - Lack of support for previous micro-foundations (Rosenzweig 1988)
  - First test of new mechanism: implicit collusion (Osmani 1990)

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- Role of unions in the labor market
  - Unions (e.g. Farber Saks 1980, Farber 1986) & wage rigidity (Dickens et al. 2007)
  - Limited work on informal versions of these forces
  - Observed in absence of formal organization, across time & contexts: Coordinated restriction of output, walk outs, strikes, retaliation for rate busters
  - Considerations historically attached to formal unions may apply more broadly

Outline

- **Context**

- Hypotheses

- Evidence: Labor supply

- Evidence: Sanctions

- Evidence: Wage Rigidity

- Discussion

Context: Casual Daily Labor

- Markets for casual daily labor
    - Employment channel for hundreds of millions in India alone
    - Agriculture: 98% of hired labor is casual (NSS, 2010)

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- Markets for casual daily labor
  - Employment channel for hundreds of millions in India alone
  - Agriculture: 98% of hired labor is casual (NSS, 2010)

- Market features (Rosenzweig 1988, Dreze & Mukherjee 1989)
  - High degree of decentralization and informality
  - Contracts bilaterally arranged between individual employers and workers
  - Usual contract length: 1-3 days
  - No unions, formal institutions

- Downward wage rigidity (Kaur forthcoming)

Context: Prevailing Wage

Clear prevailing wage for labor within village

Agricultural Wage, subtracting village mode by operation
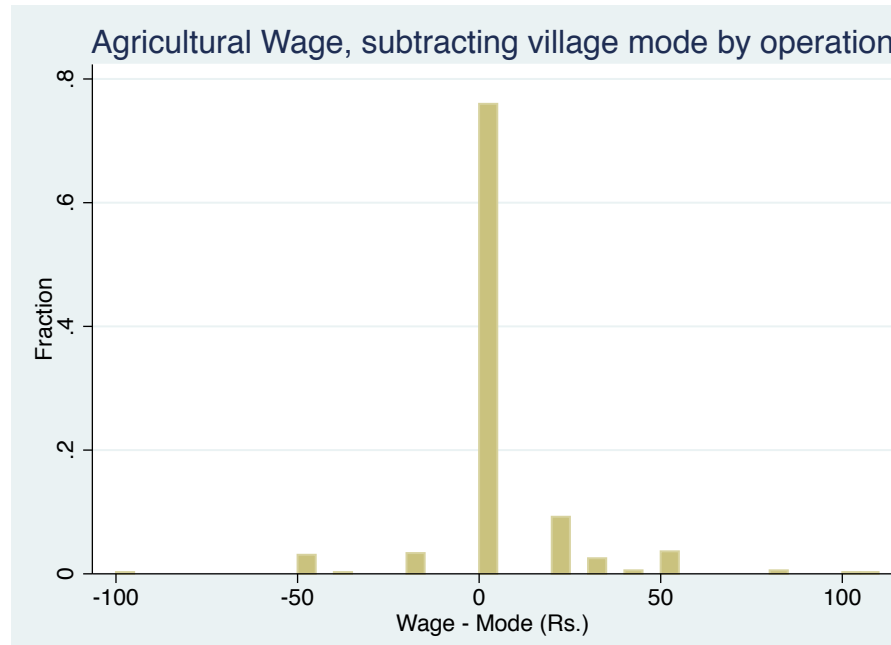
Source: Breza, Kaur, Shamdasani (QJE 2018). 377 worker-days, 26 villages.

- In experiment: "benchmark" wage for job offers

- Market has specific features (and high social capital)
  - Relevant feature: clear decision rule for what constitutes norm violation
  - General to many contexts (e.g. vegetable vendors, US establishments)

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Hypotheses

Denote prevailing wage as w.

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1. True private opportunity cost of working is less than w for some individuals.
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   - Distinguishes intrinsic altruism from external pressure (Benabou Tirole 2006)

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2. Social pressure prevents workers from supplying labor below w.
   - Workers will not accept jobs below w if observable to the community.
   - Distinguishes intrinsic altruism from external pressure (Benabou Tirole 2006)

3. Violations of the norm result in sanctions
   - Supplementary exercise
   - Distinguish sanctions from other reputational concerns (e.g. shame)

Outline

- Context

- Hypotheses

- **Evidence: Labor supply**

- Evidence: Sanctions

- Evidence: Wage Rigidity

- Discussion

Experiment Set-Up

- Experimental sample
  - 183 villages (183 employers)
  - 502 workers

- Employers
  - Lump sum compensation for partnering
  - Blind to treatment status before sign-up

- Job offers: workers randomly selected from labor force
  - Employer approaches worker at home in labor colony and offers job (usual practice)
  - 2 days in advance of the day of work
  - Employer known to workers in the village
  - Day of work: employer supervises, gives food, etc.

Treatment Design

	Wage Level	
Social Observability	w	w-10%
Public		
Employer only		
Private		

Treatment Design

Social Observability	Wage Level	
	w	w-10%
Public		
Employer only		
Private		

- Goal: vary social observability
  – Maintain internal validity, but keep naturalistic

- Natural concern: is other info being conveyed?
  – Do worker beliefs change with implementation changes across cells?

Treatment Design

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Employer only		
Private		

- Goal: vary social observability
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- Natural concern: is other info being conveyed?
  - Do worker beliefs change with implementation changes across cells?

- Use prevailing wage as placebo
  - Our hypothesis: observability only matters under norm violations
  - Can do difference-in-difference estimate to net out any level shifters

Treatment Design

	Wage Level	
	w	*w*-10%
Public		
Employer only		
Private		

(row axis label: Social Observability)

- Implementation: common across all treatments
  - (i) Employer approaches worker at home and offers job (task, date)
  - (ii) Employer hands off to field staff for "survey" – conveys wage level

Treatment Design

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Social Observability (left axis label)

Job offer made on street in front of worker's home

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Social Observability (vertical axis label)

Job offer made on street in front of worker's home

Job offer made inside worker's home

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- Employer vs. Public: other workers can observe
  - Ex-ante concern: test possibly too strong
  - Employer may be in information network

- Ideal conceptual test: only worker knows his wage

Appendix

Treatment Design

	Wage Level	
	w	w-10%
Public		
Employer only		
Private		

Social Observability (vertical axis label)

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Job offer made inside worker's home

Job offer made inside worker's home: employer walks out of earshot for (ii), staff assures confidentiality

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- Private treatment
  - Use of "survey" creates reason for hand-off
  - Public vs. employer: bound on effect of interest (similar pattern)

Treatment Design

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Social Observability	*w*	*w*-10%
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Employer only		
Private		

Job offer made on street in front of worker's home

Job offer made inside worker's home

Job offer made inside worker's home: employer out of earshot for wage

- Randomization at labor market (village) level
  - Small footprint: 2-3 jobs per village

- Primary outcome: Labor supply

Job take-up

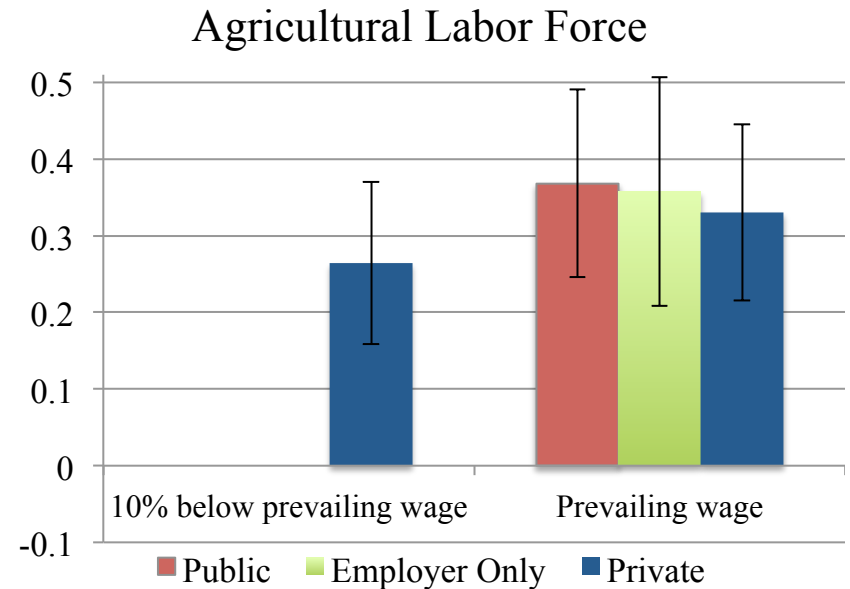### All Workers

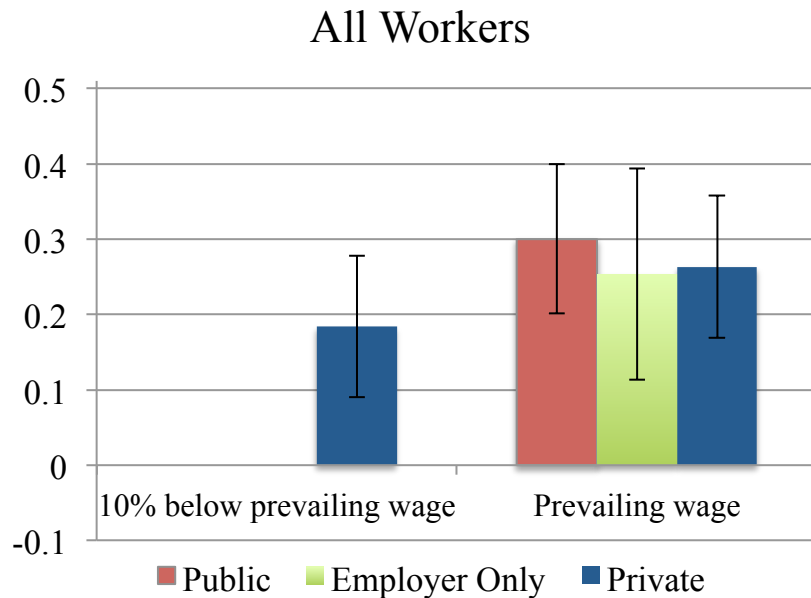### Agricultural Labor Force
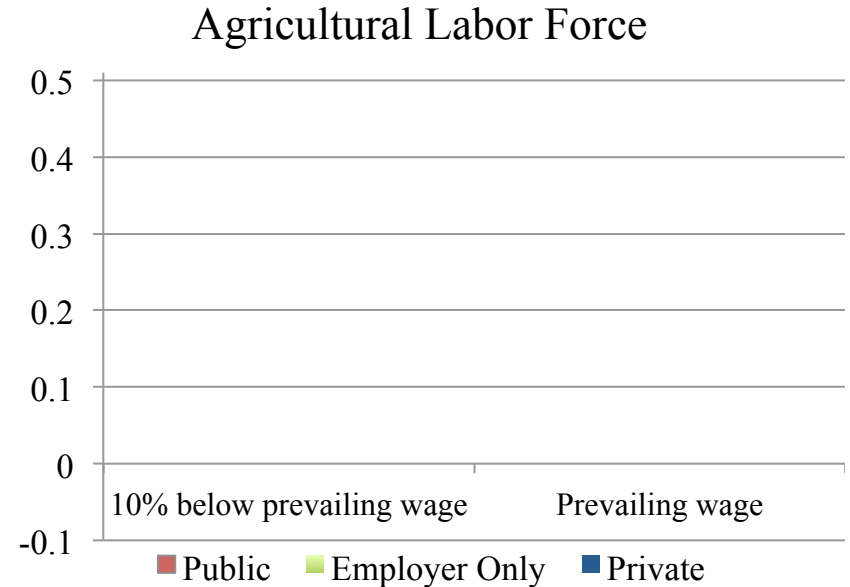
- All workers
  - May do agricultural labor, non-agricultural labor, sharecropping, etc.

- Agricultural labor force
  - Primary or secondary occupation is agricultural labor
  - 81% of sample

Job take-up

All Workers — Agricultural Labor Force
(Public, Employer Only, Private; 10% below prevailing wage, Prevailing wage)
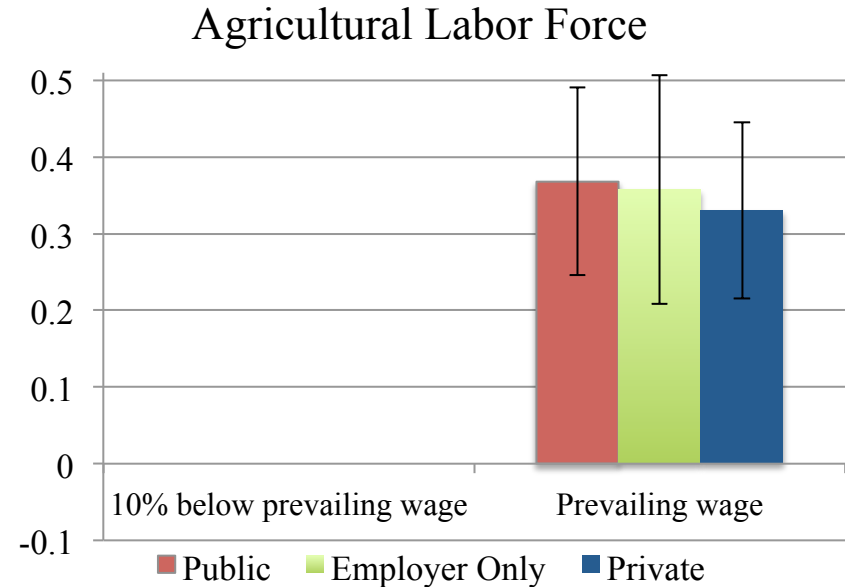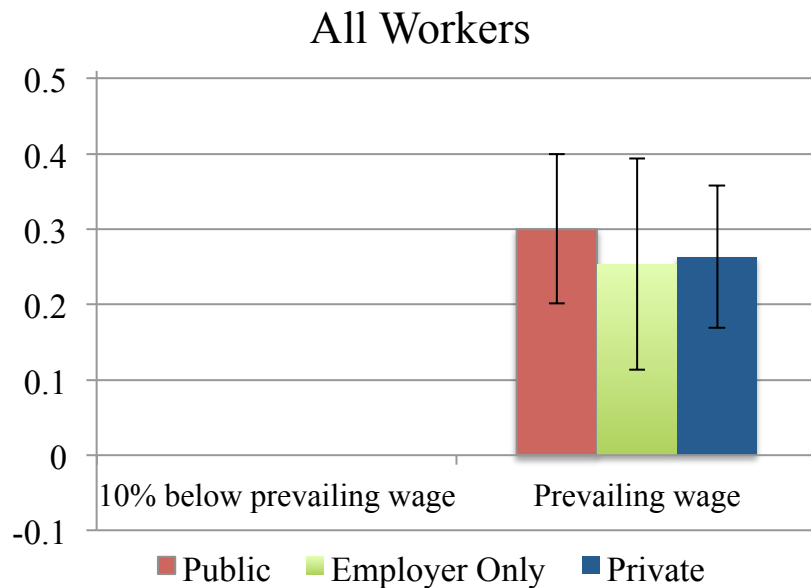
- At w: 26% average take-up (all workers)
  - No discernible difference by observability (but large CIs) (pval = 0.816)
  - At baseline: workers report mean invol unemployment rate of 42%
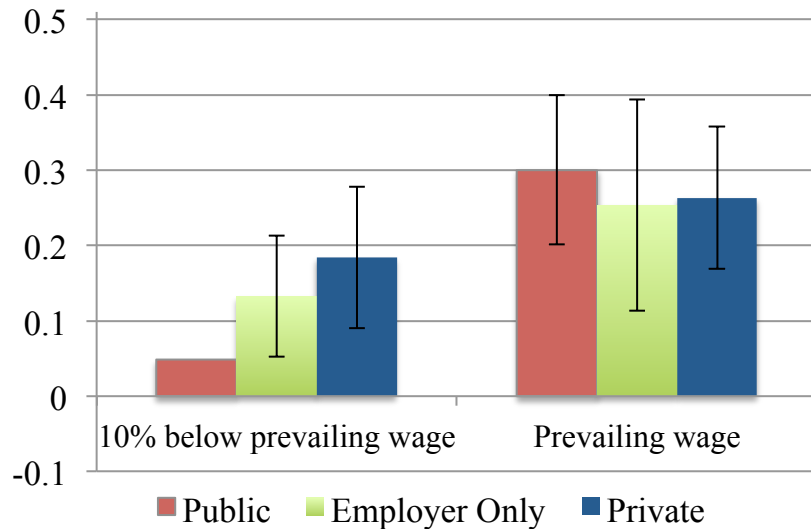 - Suggests reasonable level of take-up

H1: Labor supply below *w*

- Wage cut – private:
  – 18% take-up (all workers)
  – Positive "elasticity"
  – Indicates robust levels of labor supply below prevailing wage

H2: Supply declines if observable

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All Workers

Agricultural Labor Force
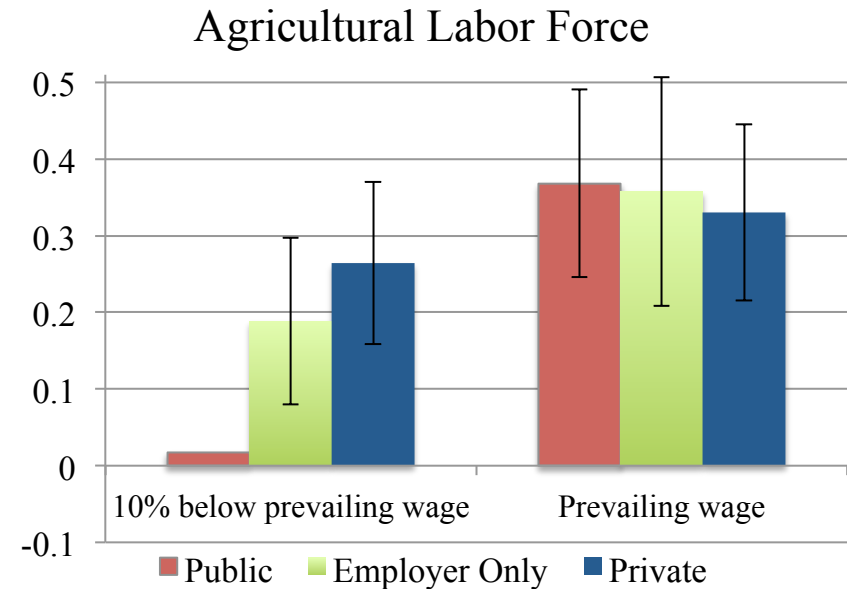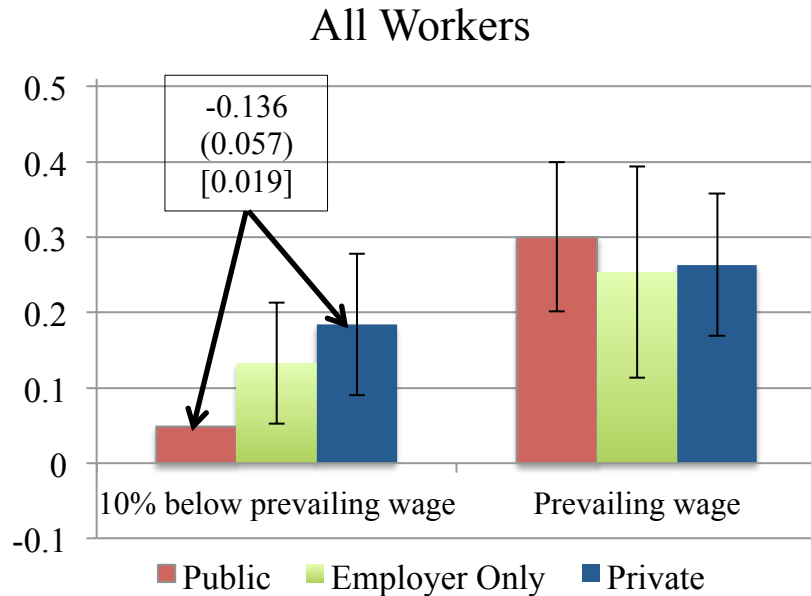
- Wage cut – public:
  - Labor supply declines on average by 13.6 pp (78%)

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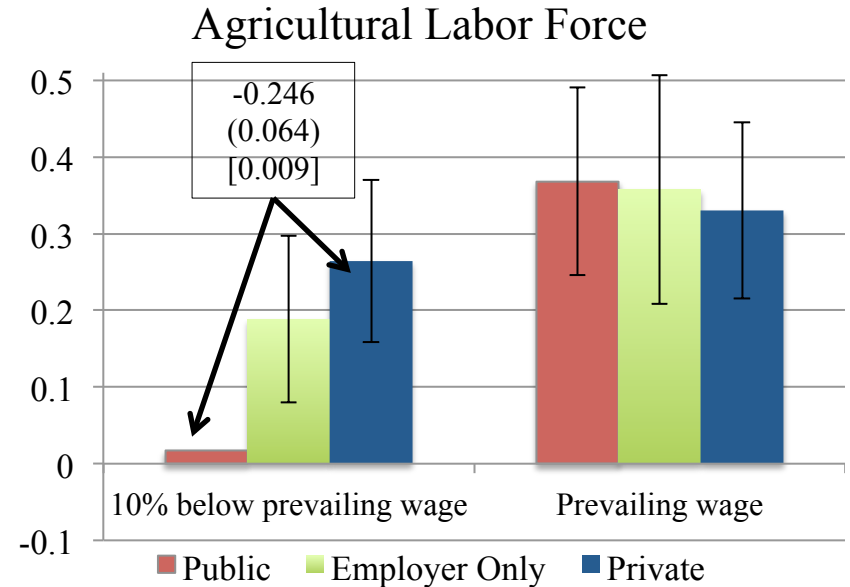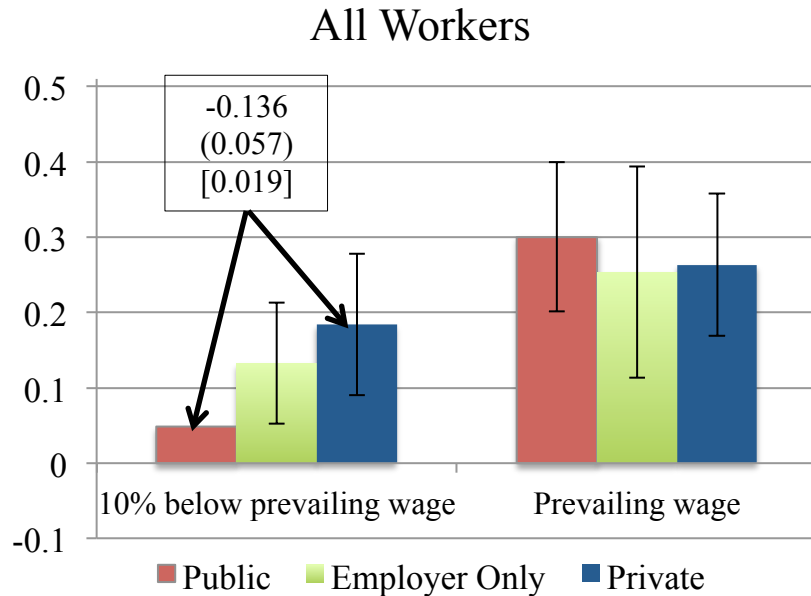
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  - Agri labor force: 1.8% take-up in public

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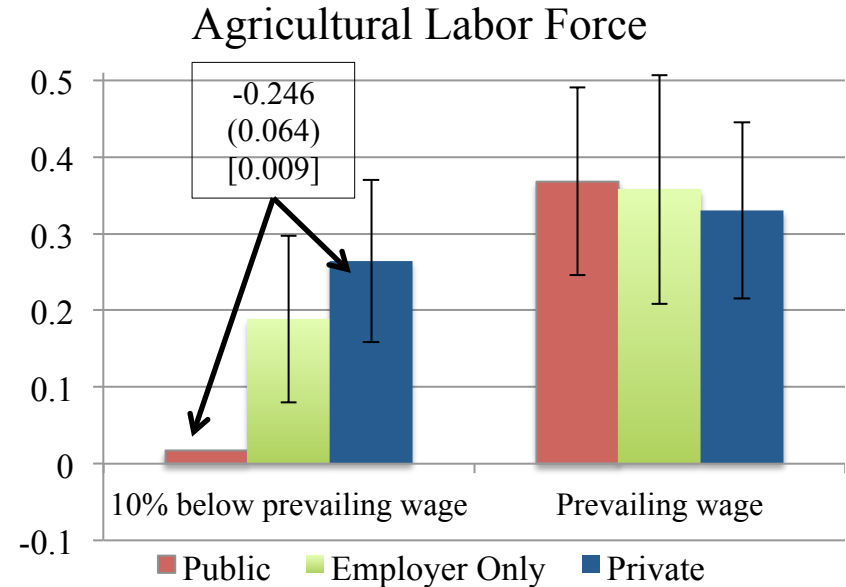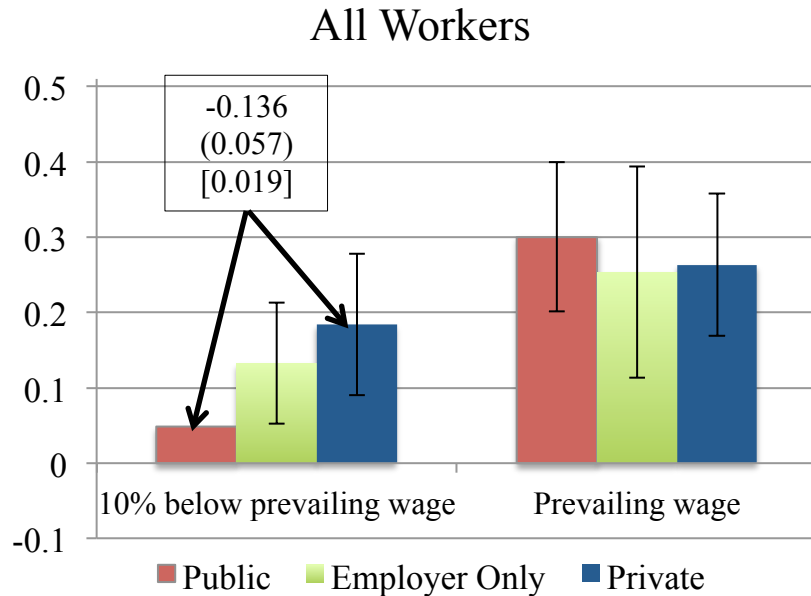
- Wage cut – public:
  - Labor supply declines on average by 13.6 pp (78%)
  - Agri labor force: 1.8% take-up in public
- Effect is not driven by employer presence
- Diff-in-diff p-values: all workers – 0.0481; ag workers – 0.0086

Magnitudes: How much are workers giving up?

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|	Sample: Experiment work day		Sample: Week excluding experiment work day		Sample: Full week	
	(1) Any wage work	(2) Wage earnings	(3) Any wage work	(4) Wage earnings	(5) Any wage work	(6) Wage earnings
Wage cut: Public	-0.161	-32.42	-0.0376	-6.794	-0.0646	-11.82
	(0.0510)	(11.13)	(0.0278)	(7.019)	(0.0249)	(6.942)
	[0.00190]	[0.00405]	[0.177]	[0.334]	[0.0102]	[0.0903]
Prevailing wage (pooled)	0.0937	27.97	0.0170	3.747	0.0230	6.690
	(0.0515)	(13.07)	(0.0247)	(6.167)	(0.0252)	(6.399)
	[0.0706]	[0.0338]	[0.491]	[0.544]	[0.363]	[0.297]
Observations	428	428	1,303	1,303	1,731	1,731
Task and Year x Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Depvar Mean (Omitted)	0.222	45.49	0.0781	17.96	0.110	24.09

Notes: OLS regressions. Dependent variables from endline recall surveys. Standard errors clustered by village.

- Omitted category = Wage cut: Private pooled (private + employer)
- Little evidence for inter-temporal substitution of labor in future days
- Workers give up estimated 26-49% of weekly agricultural wage earnings to avoid being seen as breaking the social norm

Heterogeneity: Involuntary Unemployment

Panel A - All Workers
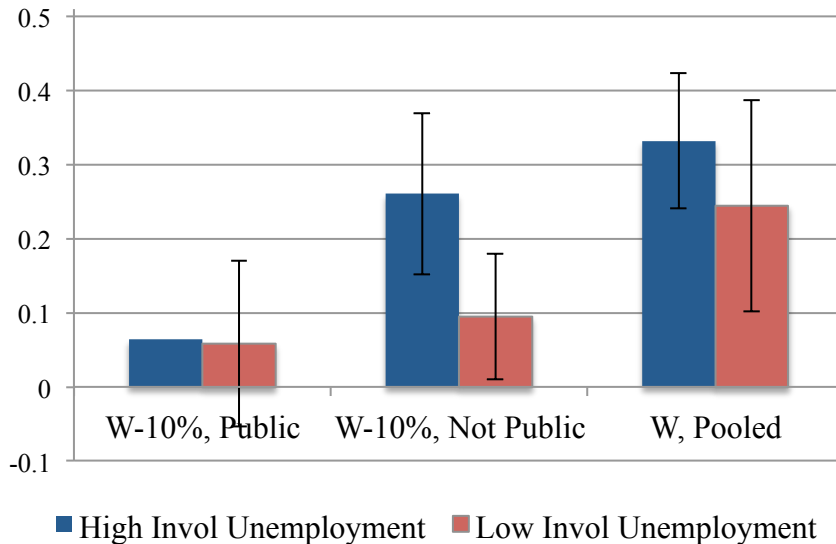
Panel B - Agricultural Labor Force
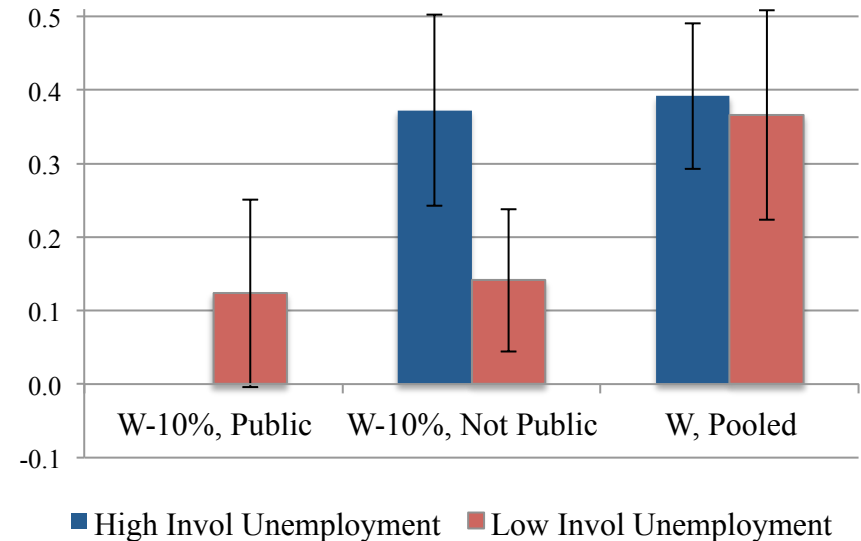
- Involuntary unemployment
  - % of days you would have preferred work at prevailing wage but were unable to find it
  - Binary: above vs. below median village in sample
  - Computed using "hold-out" (untreated) sample of respondents
- Similar results for individual unemployment, employment levels

Additional Results

- Mechanism: information spread ([Link](#))
  - Public vs. private difference concentrated in villages with more diffusive information flow

- Experience with employer ([Link](#))
  - Treatment effects present regardless of employer characteristics
  - Whether worker has worked for employer in past
  - Whether employer hires relatively more workers in the village
  - Further evidence against employer bargaining as mechanism

- Real wage changes along other margins
  - No discernible change in length of workday, amenities offered, etc
  - No discernible change in employer assessment of worker effort
  - Can restrict to fully private treatments

Outline

- Context

- Hypotheses

- Evidence: Labor supply

- **Evidence: Sanctions**
  - Survey evidence on sanctions
  - Costly punishment game results

- Evidence: Wage Rigidity

- Discussion

Mechanism

- Interpreting mechanism for public treatments
  - Must interact differentially with wage cuts

- 2 potential mechanisms
  - Social sanctions for violating community norm
  - Other reputational concerns – for example, shame (accepting low wage offer signals desperation).

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  - Must interact differentially with wage cuts

- 2 potential mechanisms
  - Social sanctions for violating community norm
  - Other reputational concerns – for example, shame (accepting low wage offer signals desperation).

- Provide positive evidence for sanctions

  (1) Survey evidence
    - Holdout sample of workers – did not participate in experiment

  (2) Costly punishment game
    - Survey evidence could be cheap talk

Sanctions: Survey Evidence

Suppose a laborer accepts work at a rate lower than the prevailing wage. What will be the reaction of other workers?
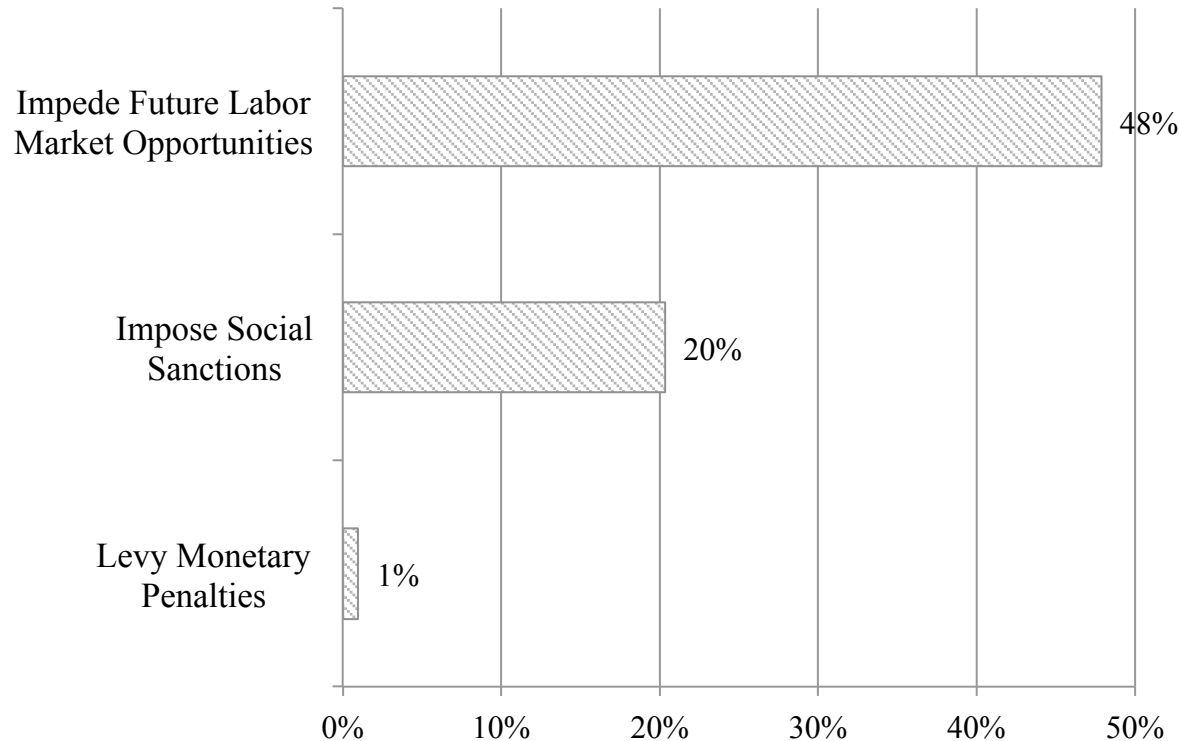
Costly Punishment Game

- Game set-up
  - Workers who have never been offered jobs
  - Worker is anonymously paired with another worker who is not present (partner)
  - Worker and partner each have endowment of Rs. 100
  - Worker can deduct money from partner's endowment at cost to own endowment (5:1 ratio)

- 2x2 design:
  - Partner's location: own village or distant village
  - Partner's decision: accept at w or accept at w-10%

- Implementation
  - Additional rounds on other scenarios (to obfuscate reason)
  - Die roll determines which round is implemented

Rate of Punishment (Binary)
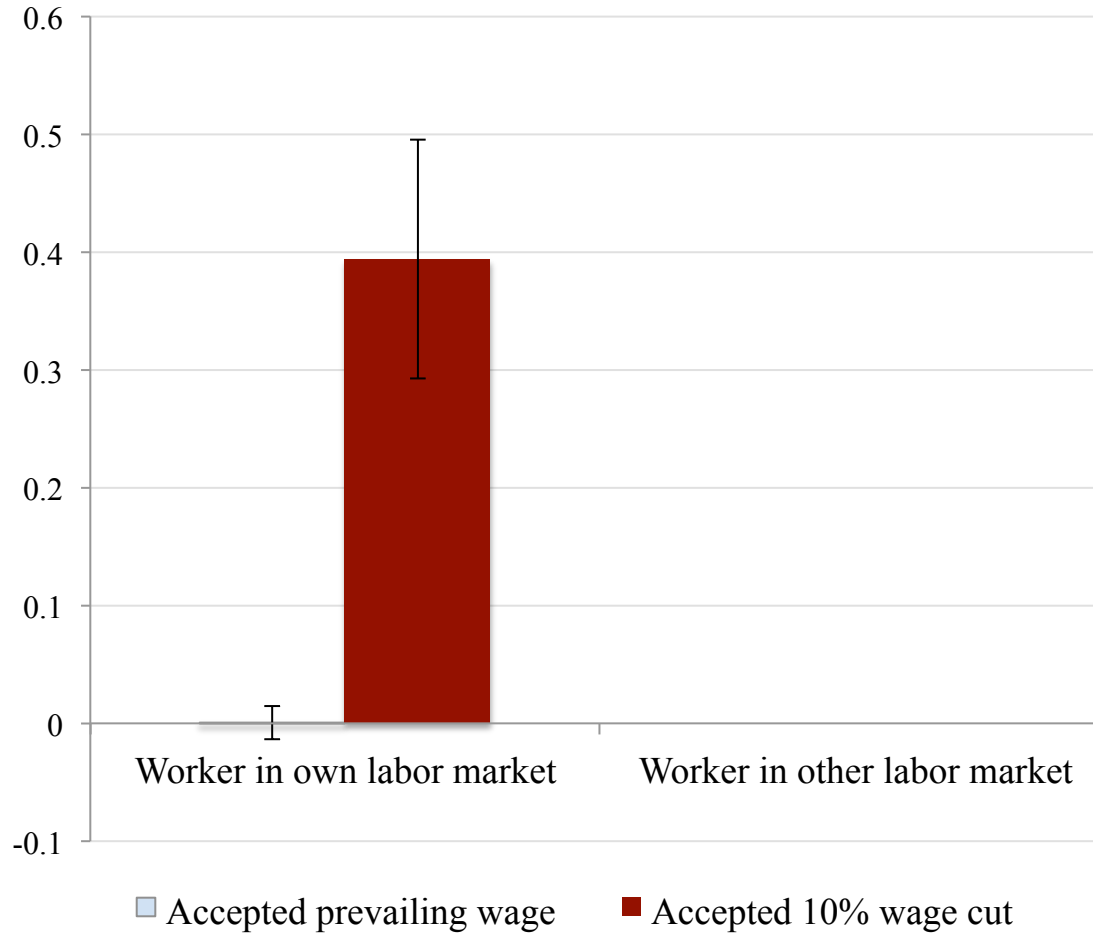
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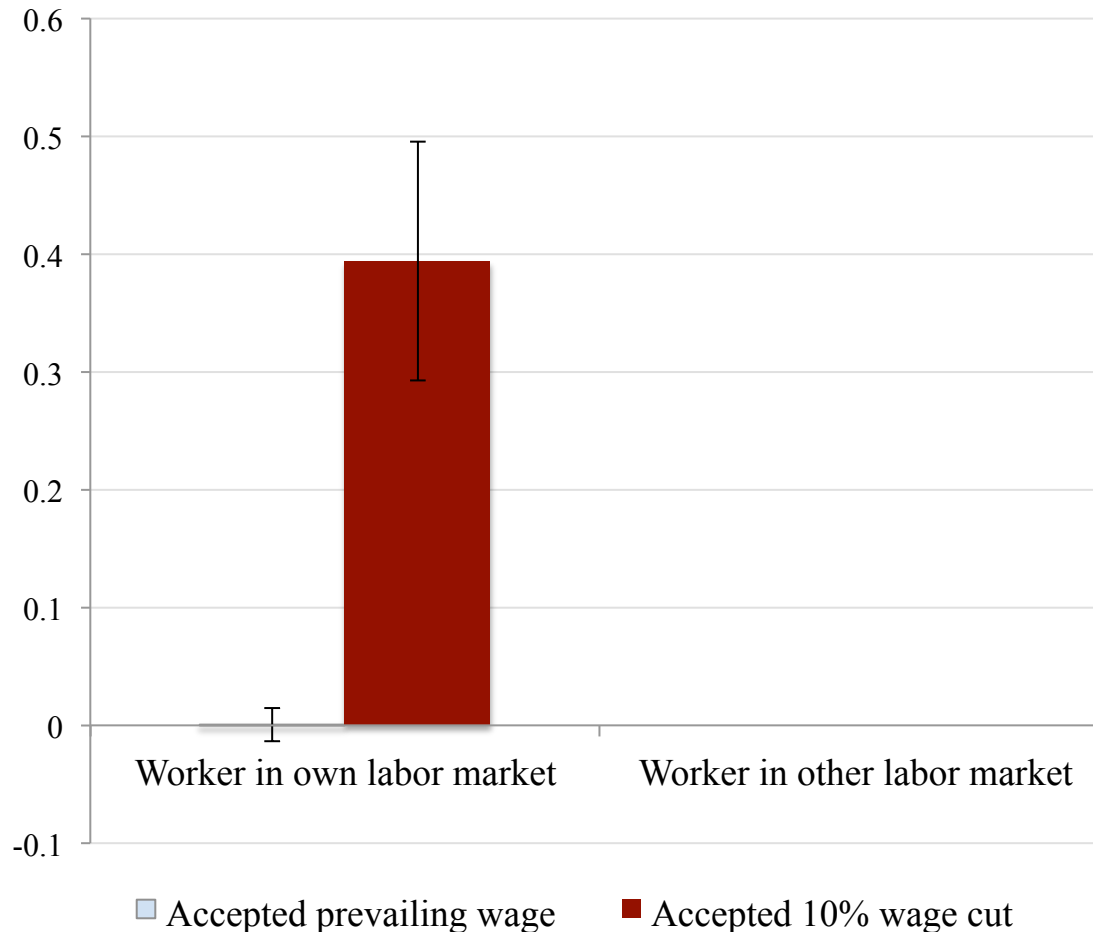
- Extreme test: Distant labor market
  - No scope for partner's actions to affect own outcomes
  - Punishment here requires internalization into preferences

Rate of Punishment (Binary)
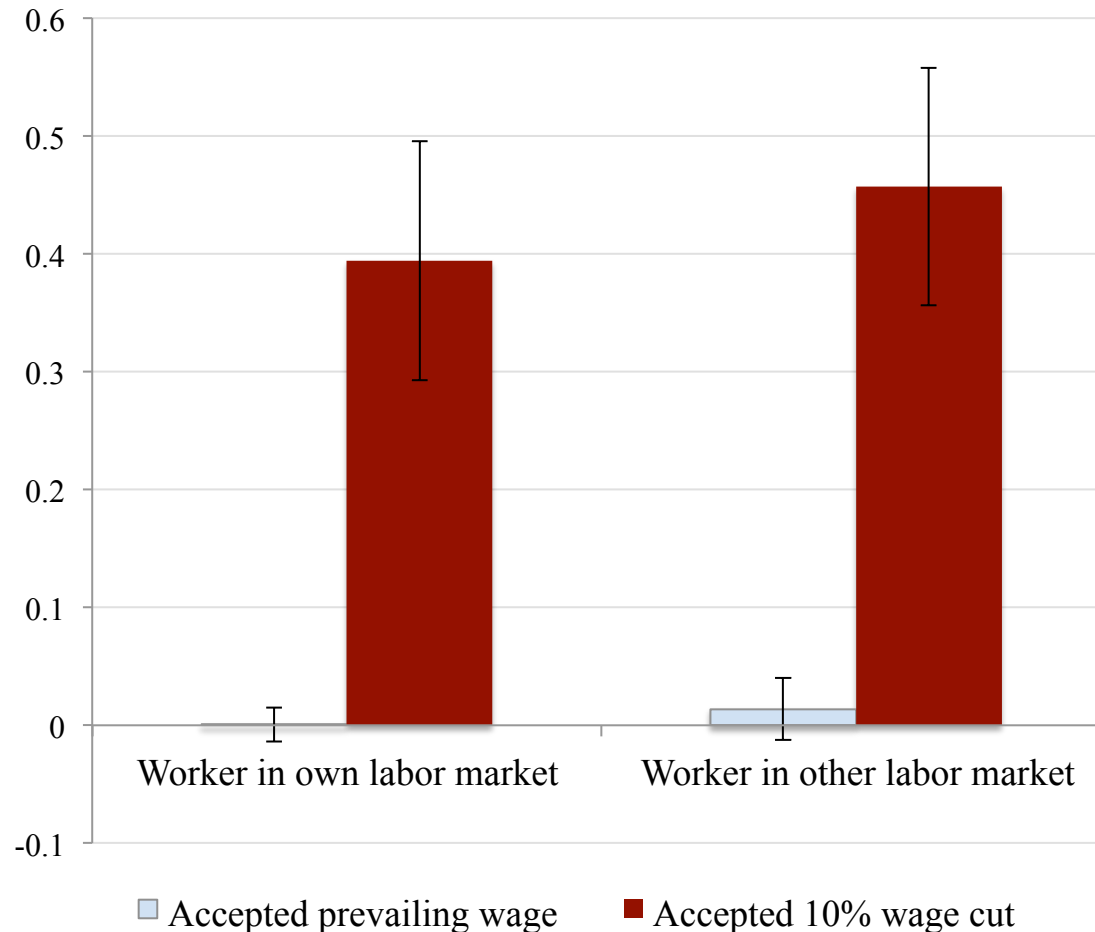
- Consistent with expression of social preferences
- 3rd party punishment of those who violate norms of "appropriate" behavior
- Suggests internalization of norms in moral terms
- Potentially ubiquitous in human behavior (e.g. Henrich et al. 2006, MacLeod 2007)

Collective Action: Survey Evidence

- Do groups of laborers gather together to discuss what the wage should be?
  - 42% say always or usually
  - Always (19%), Usually (23%), Sometimes (35%), Rarely (14%), Never (10%)

- Is there a meeting in the labor colony that all or most laborers attend to discuss the wage?
  - Always (3%), Usually (2%), Sometimes (2%), Rarely (4%), <u>Never (89%)</u>

- Is there a meeting in the village where the laborers and landowners meet together to bargain over the wage for the season?
  - Always (1%), usually (0.5%), sometimes (0.5%), Rarely (1%), <u>Never (97%)</u>

- Suggests lack of explicit or organized collective action
  - Supports view that norms help enable coordination

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- Evidence: Labor supply

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- **Evidence: Wage Rigidity**

- Discussion

Worker Beliefs

- Survey question about worker beliefs
  - 196 laborers, 34 villages, 6 districts
  - Odisha (experiment setting) and Madhya Pradesh
  - Taken from Kaur (2018) survey

Worker Beliefs

Suppose a laborer was willing to accept work at a rate lower than the prevailing wage.

1) Would he be more likely to obtain work from farmers?
   Yes (61%),   Maybe (20%),   No (19%)

2) What would be the reaction from other laborers?
   Wouldn't care (10%),   Would get angry (84%),
   Wouldn't find out because wages paid in private (6%)

3) Would other farmers also try to pay lower wages for future work?
   Yes (47%),   Maybe (27%),   No (26%)

Correlation with Wage Rigidity

- Hypothesis: labor supply effects arise from social pressure

- Implication: lower social cohesion will lead to less wage rigidity
  - More scope for norm enforcement in settings with more social capital (Jackson et al. 2012, Breza and Chandrasekhar forthcoming)
  - Harder to levy sanctions
  - Information flows less well through network
  - Weaker group identity

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- India: Caste is strong proxy for in-group and social cohesion
  – E.g., Munshi Rosenzweig (2006, 2016), Mazzocco Saini (2012)
  – Construct Caste Herfindahl among agricultural laborers

Correlation with Wage Rigidity

- National Sample Survey data (1983-2009, 600+ districts)

- Wage rigidity test from Kaur (AER forthcoming)
  - Rainfall shocks: exogenously shift labor demand
  - Positive shock this year: wages go up
  - The following year: wages do not adjust back down

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- Are these effects more likely under higher social cohesion?
  – Suggestive analysis only
  – Caste heterogeneity may be correlated with other factors
  – Caste heterogeneity may be endogenously determined

Correlation with Wage Rigidity

	(1)	(2)	(3)
Panel A - Dependent variable: Log Agricultural Wage			
Positive shock last year	0.0532		
	(0.022)		
Positive shock this year	0.0633		
	(0.018)		
Observations (worker-days)	59243		

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826
		(0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242
		(0.042)
Observations (worker-days)	59243	59243

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826 (0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242 (0.042)
Observations (worker-days)	59243	59243

High cohesion: rigidity

Correlation with Wage Rigidity

		Proxy for Low Worker Cohesion	
		Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)	
Panel A - Dependent variable: Log Agricultural Wage			
Positive shock last year	0.0532	0.102	← High cohesion: rigidity
	(0.022)	(0.042)	
Positive shock last year x Low worker cohesion		-0.0826 (0.050)	← Low cohesion: no rigidity (no ratcheting effect)
Positive shock this year	0.0633	0.0800	
	(0.018)	(0.038)	
Positive shock this year x Low worker cohesion		-0.0242 (0.042)	
Observations (worker-days)	59243	59243	

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826
		(0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242
		(0.042)
Observations (worker-days)	59243	59243

High cohesion: rigidity

Low cohesion: no rigidity (no ratcheting effect)

Placebo: No differential effect for current positive shocks. (Does not seem to be about agri production function)

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826 (0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242 (0.042)
Observations (worker-days)	59243	59243
Panel B - Dependent variable: Agricultural Employment		
Positive shock last year	-0.135	
	(0.055)	
Positive shock last year x Low worker cohesion		
Positive shock this year	0.157	
	(0.062)	
Positive shock this year x Low worker cohesion		
Observations (workers)	632324	

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826 (0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242 (0.042)
Observations (worker-days)	59243	59243
Panel B - Dependent variable: Agricultural Employment		
Positive shock last year	-0.135	-0.234
	(0.055)	(0.078)
Positive shock last year x Low worker cohesion		0.189 (0.088)
Positive shock this year	0.157	0.133
	(0.062)	(0.083)
Positive shock this year x Low worker cohesion		0.0394 (0.114)
Observations (workers)	632324	623861

Correlation with Wage Rigidity

	Proxy for Low Worker Cohesion	
	Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826
		(0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242
		(0.042)
Observations (worker-days)	59243	59243
Panel B - Dependent variable: Agricultural Employment		
Positive shock last year	-0.135	-0.234
	(0.055)	(0.078)
Positive shock last year x Low worker cohesion		0.189
		(0.088)
Positive shock this year	0.157	0.133
	(0.062)	(0.083)
Positive shock this year x Low worker cohesion		0.0394
		(0.114)
Observations (workers)	632324	623861

High cohesion: employment bust

Correlation with Wage Rigidity

		Proxy for Low Worker Cohesion	
		Wage Labor: Caste Herfindahl (Below Median)	
	(1)	(2)	
Panel A - Dependent variable: Log Agricultural Wage			
Positive shock last year	0.0532	0.102	
	(0.022)	(0.042)	
Positive shock last year x Low worker cohesion		-0.0826 (0.050)	
Positive shock this year	0.0633	0.0800	
	(0.018)	(0.038)	
Positive shock this year x Low worker cohesion		-0.0242 (0.042)	
Observations (worker-days)	59243	59243	
Panel B - Dependent variable: Agricultural Employment			
Positive shock last year	-0.135	-0.234	← High cohesion: employment bust
	(0.055)	(0.078)	
Positive shock last year x Low worker cohesion		0.189	← Low cohesion: no employment effect of lagged shocks
		(0.088)	
Positive shock this year	0.157	0.133	
	(0.062)	(0.083)	
Positive shock this year x Low worker cohesion		0.0394	
		(0.114)	
Observations (workers)	632324	623861	

Correlation with Wage Rigidity

		Proxy for Low Worker Cohesion
		Wage Labor: Caste Herfindahl (Below Median)
	(1)	(2)
Panel A - Dependent variable: Log Agricultural Wage		
Positive shock last year	0.0532	0.102
	(0.022)	(0.042)
Positive shock last year x Low worker cohesion		-0.0826 (0.050)
Positive shock this year	0.0633	0.0800
	(0.018)	(0.038)
Positive shock this year x Low worker cohesion		-0.0242 (0.042)
Observations (worker-days)	59243	59243

		Panel B - Dependent variable: Agricultural Employment	
Positive shock last year	-0.135	-0.234	← High cohesion: employment bust
	(0.055)	(0.078)	
Positive shock last year x Low worker cohesion		0.189 (0.088)	← Low cohesion: no employment effect of lagged shocks
Positive shock this year	0.157	0.133	
	(0.062)	(0.083)	
Positive shock this year x Low worker cohesion		0.0394 (0.114)	← Placebo: No differential effect for current positive shocks.
Observations (workers)	632324	623861	

Correlation with Wage Rigidity

		Proxy for Low Worker Cohesion	
		Wage Labor: Caste Herfindahl (Below Median)	Agri Labor Force: Caste Herfindahl (Below Median)
	(1)	(2)	(3)
Panel A - Dependent variable: Log Agricultural Wage			
Positive shock last year	0.0532	0.102	0.0971
	(0.022)	(0.042)	(0.033)
Positive shock last year x Low worker cohesion		-0.0826 (0.050)	-0.0899 (0.038)
Positive shock this year	0.0633	0.0800	0.0751
	(0.018)	(0.038)	(0.039)
Positive shock this year x Low worker cohesion		-0.0242 (0.042)	-0.0181 (0.043)
Observations (worker-days)	59243	59243	59243
Panel B - Dependent variable: Agricultural Employment			
Positive shock last year	-0.135	-0.234	-0.172
	(0.055)	(0.078)	(0.080)
Positive shock last year x Low worker cohesion		0.189 (0.088)	0.0716 (0.107)
Positive shock this year	0.157	0.133	0.131
	(0.062)	(0.083)	(0.091)
Positive shock this year x Low worker cohesion		0.0394 (0.114)	0.0469 (0.123)
Observations (workers)	632324	623861	631909

Outline

- Context

- Experiment Design

- Results: Labor Supply

- Results: Sanctions

- Results: Wage Rigidity

- **Discussion**

Are Workers Better Off?

- Do workers benefit from the wage floor?

- Back-of-the-envelope exercise:
  – Follow Lee and Saez (2012), simple Econ 101 framework
  – Demand and supply locally linear around W

- Assumptions
  – Assumes no monopsony power among employers
  – Ignores GE effects on non-agri labor market

Are Workers Better Off?

Competitive Equilibrium

Wage Floor
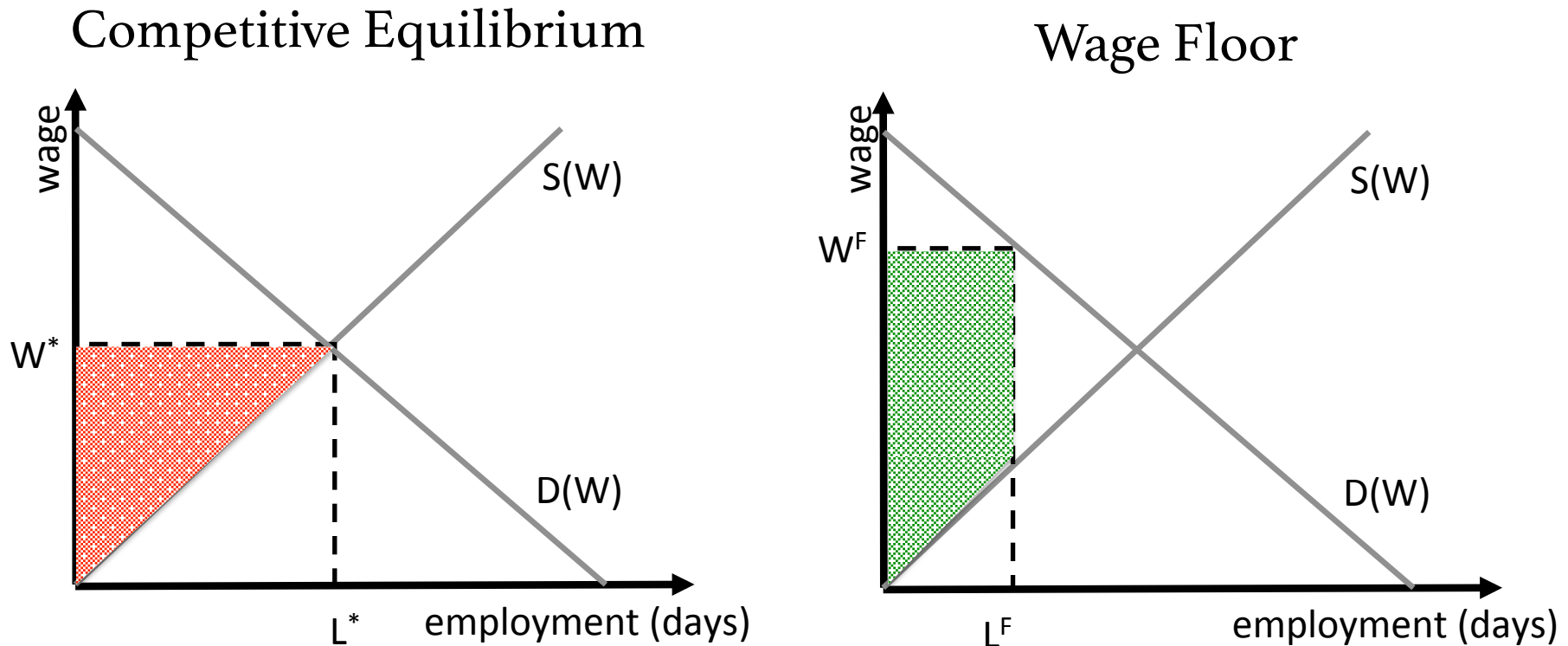
- Supply Curve: W vs. W-10% (private) treatments from experiment
- Demand Curve: Elasticity from Kaur (2018)

- Counterfactual equilibrium (L^*, W^*)
  - W^* is 4% lower than observed wage
  - L^* is 7% higher than observed labor

Discussion: Social Capital and Market Power

- This paper:
  - Strong norm against undercutting the village wage
  - Enforced by social punishment / social capital
  - Can have aggregate market implications

- More broadly, social capital → market power?

Discussion: Social Capital and Market Power

- This paper:
  - Strong norm against undercutting the village wage
  - Enforced by social punishment / social capital
  - Can have aggregate market implications

- More broadly, social capital → market power?
  - Market vendors (Bergquist 2018)
  - Import intermediaries (Atkin Donaldson 2015)
  - Fragility of market power in urban setting (Houde et al 2017)

- Especially relevant for developing country settings
  - Poor enforcement of regulations, limited reach of formal institutions
  - Important role of social network (info spread, risk sharing…)

Potential Generality of Mechanism

- Violations for "unethical" behavior –against group interests

- Parallel in other settings (e.g. US firms)
  - Norms at establishment level
  - See co-workers everyday at work - large scope for social disapprobation
  - Utility: Eating lunch, taking breaks
  - Success at work: Helping with work tasks, teamwork

Potential Generality of Mechanism

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  - See co-workers everyday at work - large scope for social disapprobation
  - Utility: Eating lunch, taking breaks
  - Success at work: Helping with work tasks, teamwork

- Implications:
  - Worker who works "too hard" – productivity compression
  - Worker who proposes to take wage cut to save own job in recession
  - Prevents state of Hobbesian competition (outcompeting, undercutting, etc)
  - Solow, *The Labor Market as a Social Institution*

- Potential relevance for any setting with repeat interactions
  - "Cartel" behavior: NASDAQ traders, real estate agents, agri traders, shopkeepers

Potential Generality of Mechanism

Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?

WILLIAM G. CHRISTIE and PAUL H. SCHULTZ*

ABSTRACT

The NASDAQ multiple dealer market is designed to produce narrow bid-ask spreads through the competition for order flow among individual dealers. However, we find that odd-eighth quotes are virtually nonexistent for 70 of 100 actively traded NASDAQ securities, including Apple Computer and Lotus Development. The lack of odd-eighth quotes cannot be explained by the negotiation hypothesis of Harris (1991), trading activity, or other variables thought to impact spreads. This result implies that the inside spread for a large number of NASDAQ stocks is at least $0.25 and raises the question of whether NASDAQ dealers implicitly collude to maintain wide spreads.

Appendix Slides

Treatments – Sample Sizes

Treatment Weights

	Wage Level	
	w	*w*-10%
Private	0.16	0.2
Public	0.16	0.2
Employer only	0.08	0.2

Observability (row label)

Sample Sizes - Number of Villages

	Wage Level	
	w	*w*-10%
Private	29	37
Public	29	40
Employer only	14	34

Observability (row label)

Treatment Implementation

Hiring protocols - all treatments

1. Employer tells worker he wants to hire for task X on his land
2. Employer then indicates to field staff: "This person is here with me from a research institute. He would like to ask you some questions."
3. Field staff relays *wage level* to worker & verifies comprehension
4. Worker tells employer if he wants the job

Observability treatment variation

- *Public*: Offer made outside participant's home (usually onlookers)

- *Employer only*: Offer made inside participant's home
  - Employer remains present

- *Fully private*: Offer made inside participant's home
  - After (2), employer wanders away with staff out of earshot, while second staff conveys (3)

Heterogeneity: Information Spread

<u>Mechanism</u>:

- Workers do not want to be seen by others as violating norm
- Average number of onlookers in Public: 5
- Does public treatment have larger effect in more diffusive villages?

<u>Endline survey</u> (workers never approached for jobs):

- Do laborers get to know the wages rates at which other laborers accept agricultural work?
  - Definitely, Likely, Maybe, Unlikely, Definitely not

- If a laborer accepted a job below the prevailing wage, would other laborers find out about this?
  - Definitely, Likely, Maybe, Unlikely, Definitely not

Heterogeneity: Information Spread

<u>Dependent variable: Take-up of Job Offer</u>

	(1)
Wage cut: Public	-0.200
	(0.0675)
Wage cut: Public x Low info spread	0.170
	(0.0932)
Prevailing wage (pooled)	0.0794
	(0.0717)
Prevailing wage (pooled) x Low info spread	0.0521
	(0.0913)
Low info spread	-0.0732
	(0.0667)
Observations	499
Task and Year x Month FE	Yes
Depvar Mean (Omitted)	0.204

Notes: OLS regressions. Standard errors clustered by village.

- Omitted category = Wage cut: Private pooled (private + employer)
- Low info spread = Below median information spread village

Heterogeneity: Information Spread

	Dependent variable: Take-up of Job Offer
	(1)
Wage cut: Public	-0.200
	(0.0675)
Wage cut: Public x Low info spread	0.170
	(0.0932)
Prevailing wage (pooled)	0.0794
	(0.0717)
Prevailing wage (pooled) x Low info spread	0.0521
	(0.0913)
Low info spread	-0.0732
	(0.0667)
Observations	499
Task and Year x Month FE	Yes
Depvar Mean (Omitted)	0.204

Notes: OLS regressions. Standard errors clustered by village.

High info spread: Take-up of wage cuts is 20 pp lower in public than private

- Omitted category = Wage cut: Private pooled (private + employer)
- Low info spread = Below median information spread village

Heterogeneity: Information Spread

Dependent variable: Take-up of Job Offer	
	(1)
Wage cut: Public	-0.200
	(0.0675)
Wage cut: Public x Low info spread	0.170
	(0.0932)
Prevailing wage (pooled)	0.0794
	(0.0717)
Prevailing wage (pooled) x Low info spread	0.0521
	(0.0913)
Low info spread	-0.0732
	(0.0667)
Observations	499
Task and Year x Month FE	Yes
Depvar Mean (Omitted)	0.204

Notes: OLS regressions. Standard errors clustered by village.

Low info spread: Can't reject that there is no difference in take-up of wage cuts in public vs. private

- Omitted category = Wage cut: Private pooled (private + employer)
- Low info spread = Below median information spread village
- Limited evidence for effects on other treatments
- Interpretation: could be correlated with other features
  - E.g. ability to sanction

Heterogeneity:
Experience working for employer in past

Dependent variable: Take-up of Job Offer	Individual Worker Level
	(1)
Wage cut: Public	-0.239
	(0.0778)
Wage cut: Public x Prior work for employer	-0.0184
	(0.118)
Wage cut: Employer	-0.103
	(0.0953)
Wage cut: Employer x Prior work for employer	0.00161
	(0.143)
Has worked for the employer before	0.0193
	(0.108)
Observations	350
Sample	Ag. Laborers
Test: Public + Interaction = 0	0.0105
Test: Empl. + Interaction = 0	0.395
Test: Public + Interaction = Empl. + Interaction	0.0725
Depvar Mean (Wage cut: Private)	0.188

Notes: OLS regressions. Standard errors clustered by village.

- Omitted category = Wage cut: Private
- Treatment effects present regardless of whether you've worked for employer

Punishment reasons

Punishment at W-10%

Reason given for decision

(Bars: Wrong to work below prevailing wage ≈ 0.75; Worked less than prevailing wage ≈ 0.25)

No Punishment at W-10%

Reason given for decision

(Bars: Got job and worked ≈ 0.51; Personal choice ≈ 0.19; Wrong but I won't deduct ≈ 0.11; Empathy (needs money) ≈ 0.11; Don't want to lose my money ≈ 0.07)