Wage theft, Reneging and Liquidity Constraints in Informal labor markets

NBER Summer Institute, 2025

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July 22, 2025

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- **Contract enforcement** is a challenge in informal labor markets.
  - Agreements are oral, and firms and workers perpetually concerned that the other side will renege.

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This has significant implications for economic welfare and labor market efficiency in LMICs.

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How can high unemployment, unmet labor demand, and widespread reneging coexist in the same labor market?

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In answering these questions, the paper seeks to explain the simultaneous existence of unemployment, unmet labor demand, and high reneging rates in informal labor markets.

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- **Matching Experiment:** Firms and workers who accept contracts in the first two experiments are matched and observed in real hiring interactions.

Preview of Findings

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Overview of the Talk

1. **Setting and contract design**
2. **Worker-side experiment**
3. **Firm-side experiment**
4. **Matching experiment**
5. **Conclusion and policy implications**

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  - Income levels are comparable to those in several Sub-Saharan African countries.
  - Construction employs around 57.7 million workers and contributes 8% to India's GDP (Baijal and Awasthi [2023]).

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- Firms and workers often search at labor stands.
- Firms and workers engage through **oral short-term agreements**, typically lasting from a day to a month. We focuses on preferences over short-term contracts.

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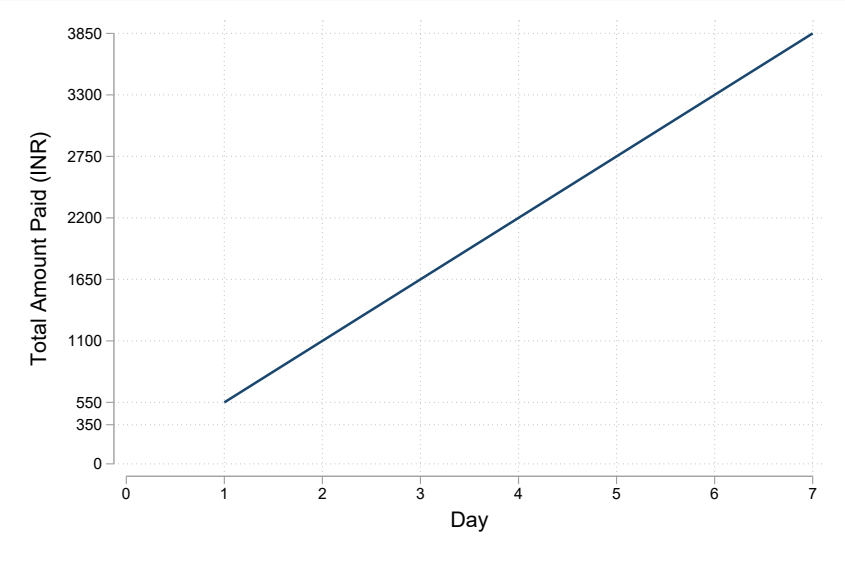
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Survey Data

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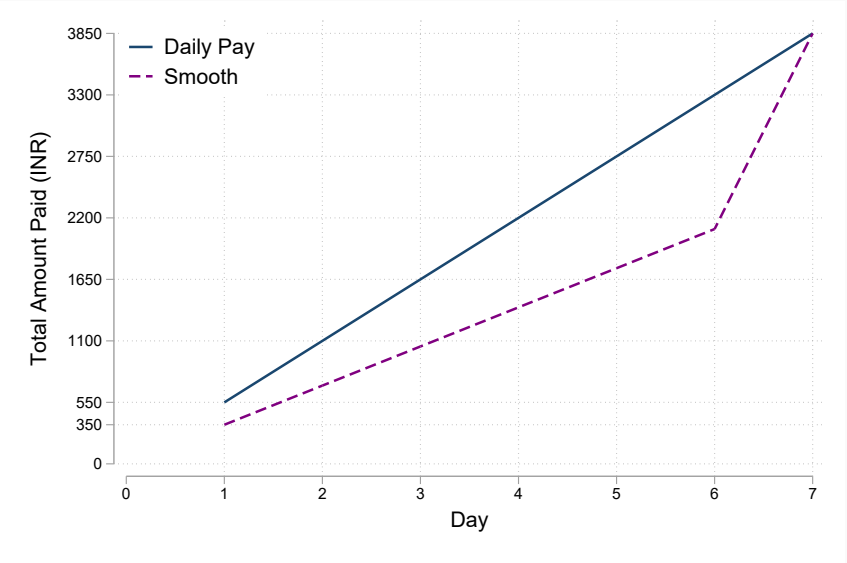
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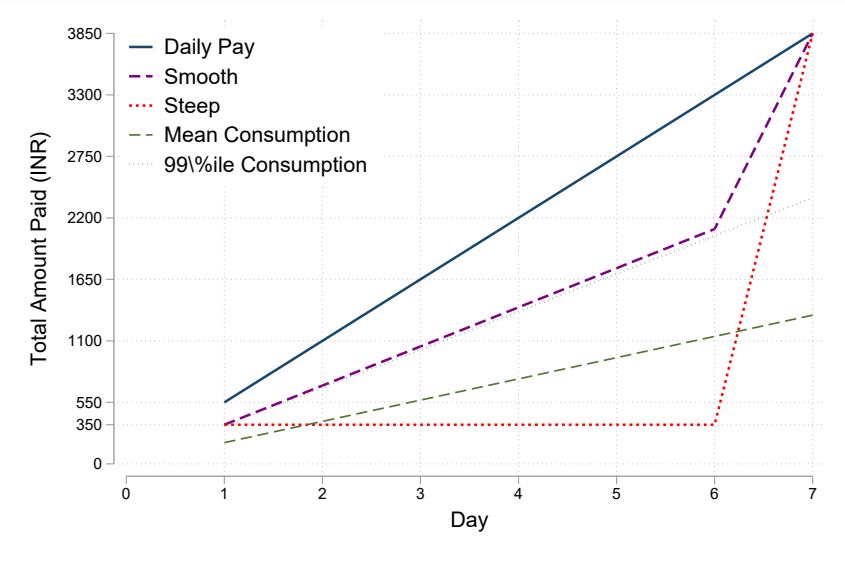
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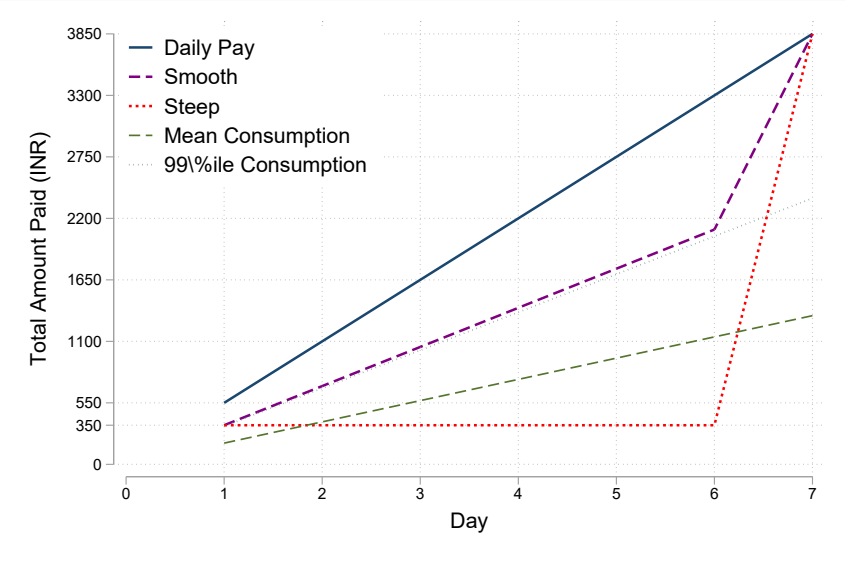
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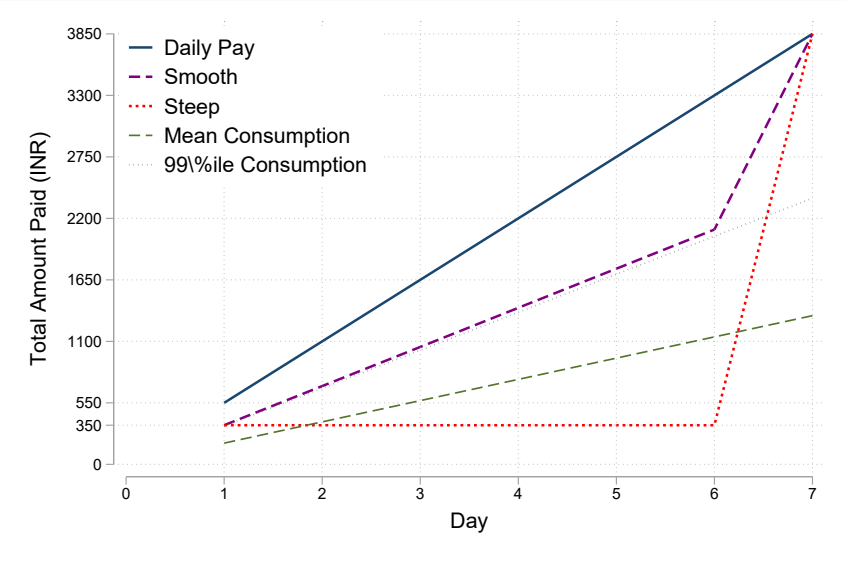


Constraints under each contract



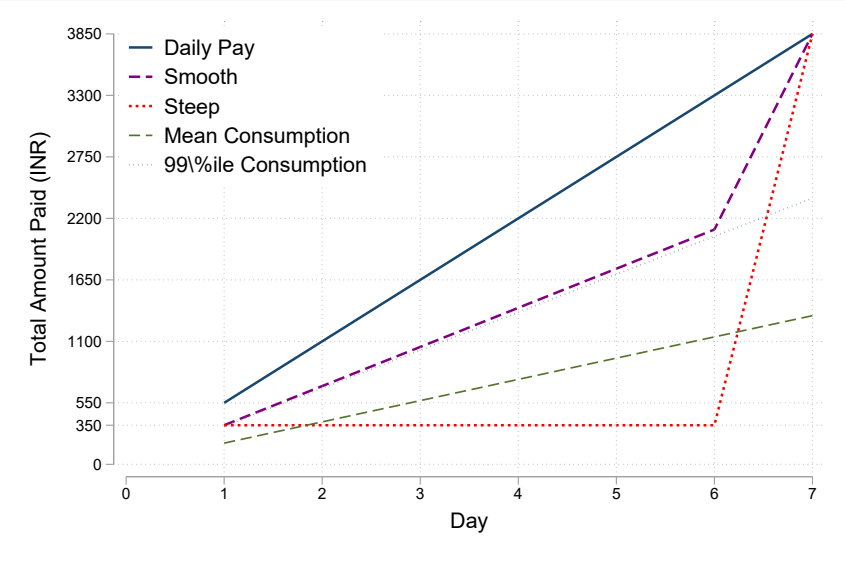
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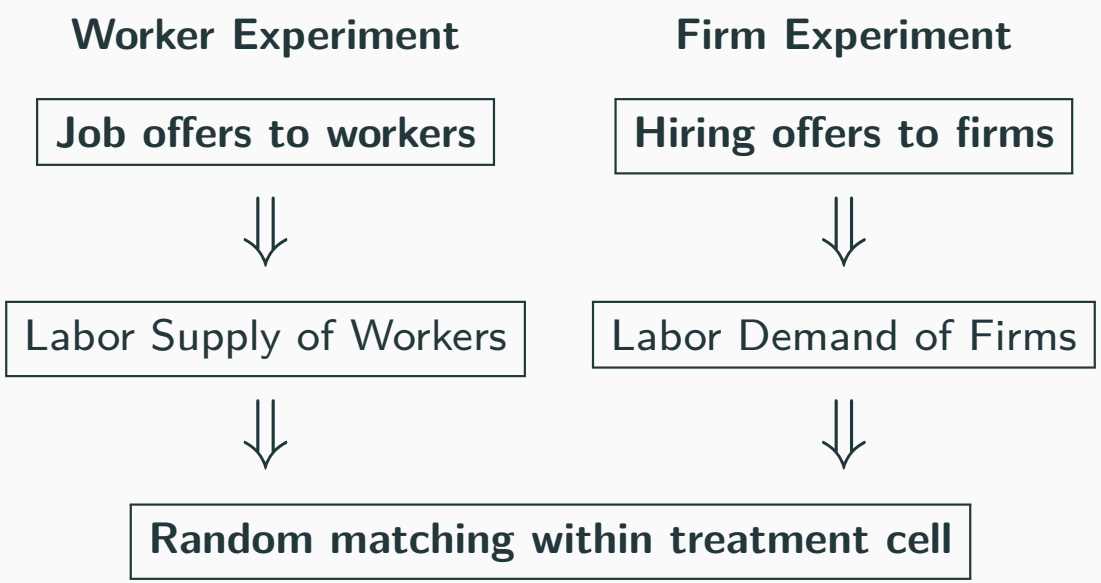
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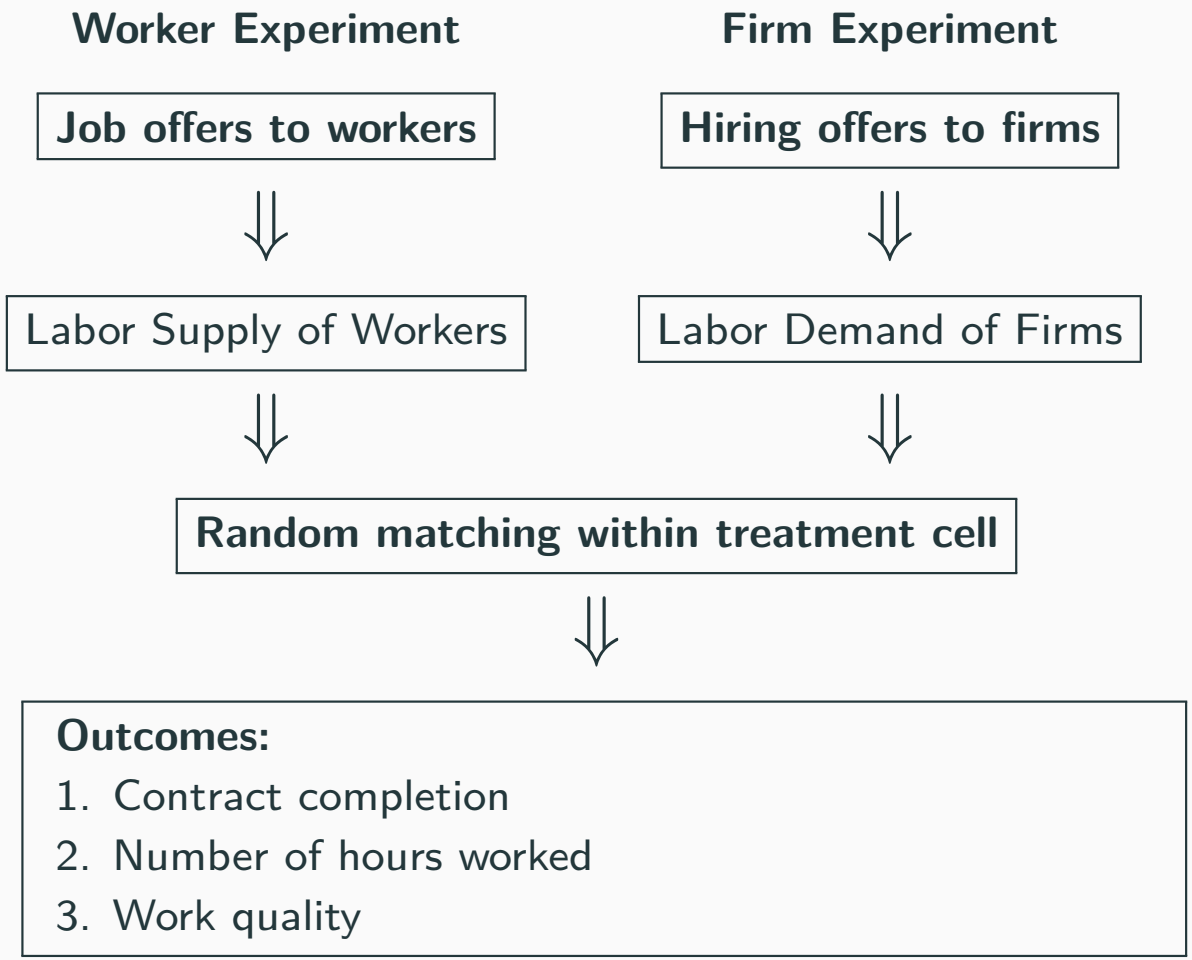
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3. **Length of Contract:** Contracts of **3 days** and **7 days** are offered.

Final sample has 1360 workers. Sample Size Balance

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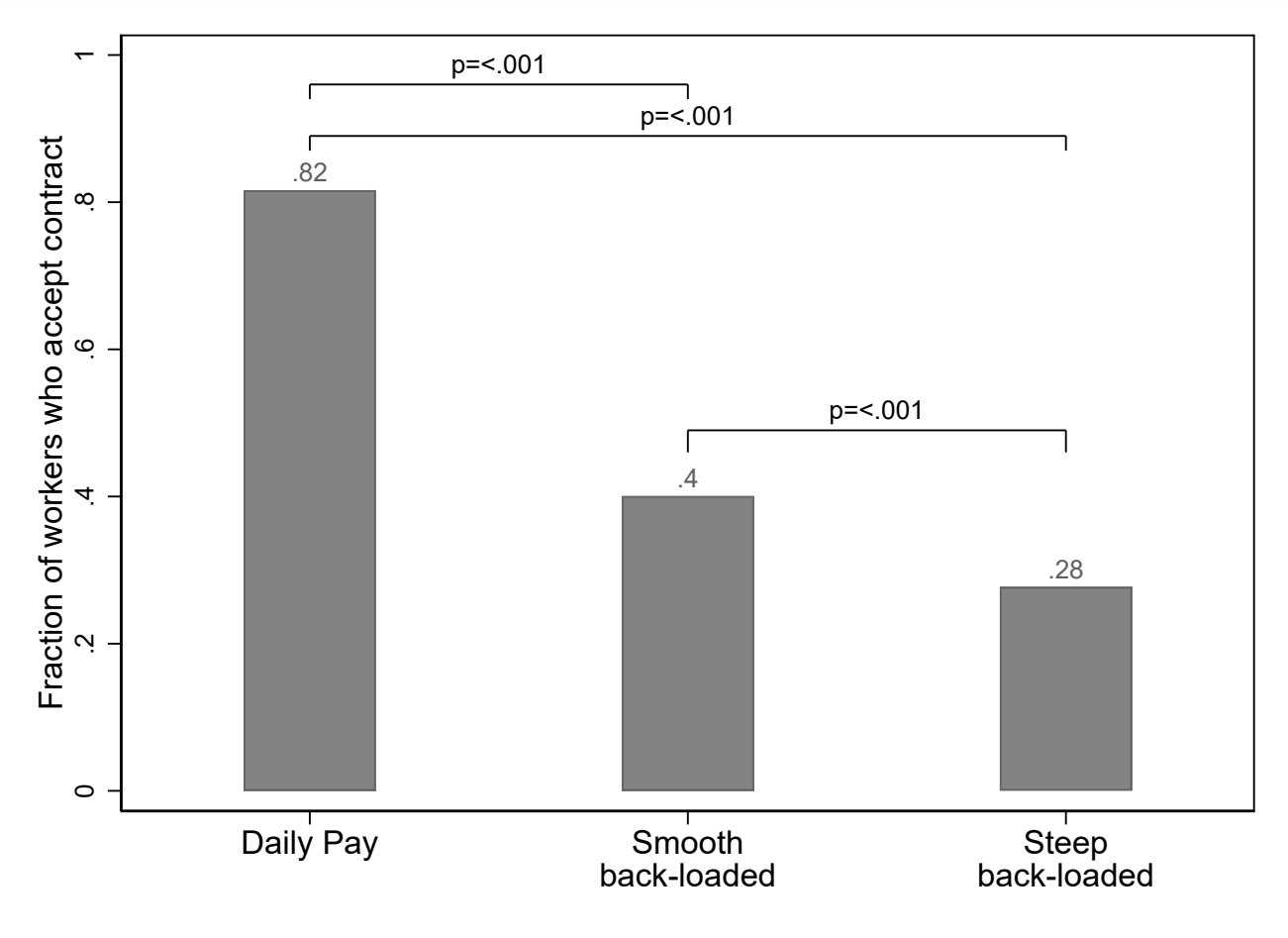
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- Workers could accept or reject the job offer.
  - If accepted, 25% random draw decided whether they get the job.
  - The offer would materialize that day or sometime within two weeks.

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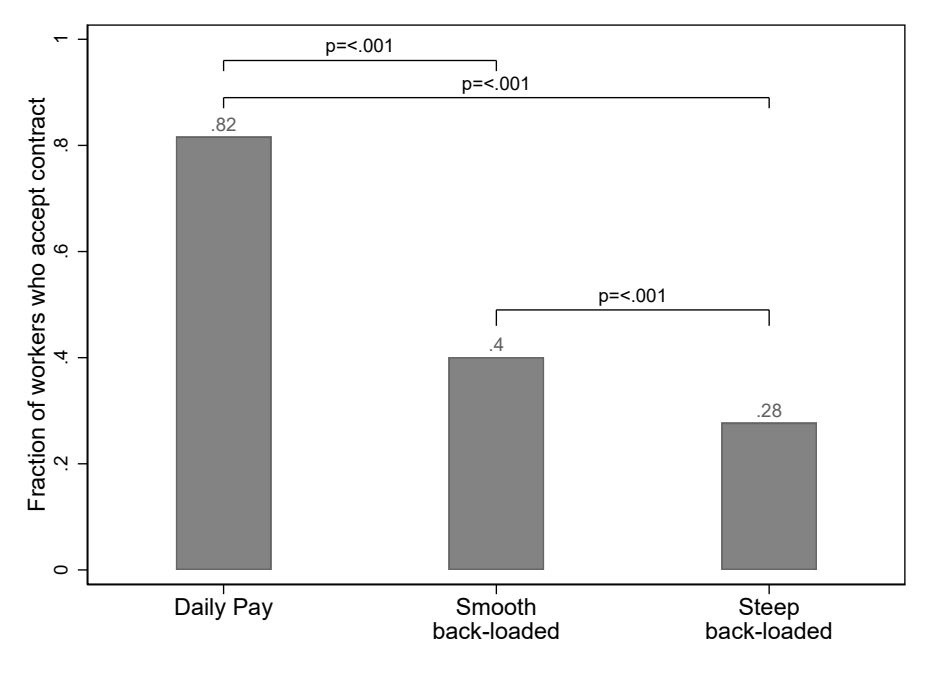
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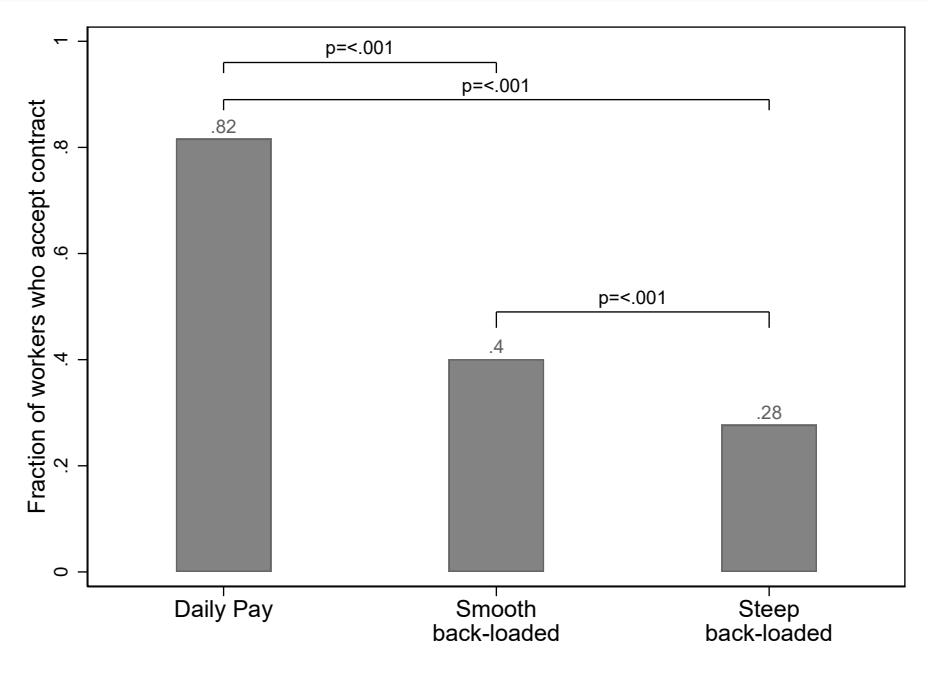


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- On average, workers were employed for 63% of the preceding four days.

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   $E[\text{accept}|\textbf{Smooth Insured}] - E[\text{accept}|\textbf{Steep Insured}]$
   - 12 p.p. for all contracts.
   - Effect present only for long (7 day) contracts.
3. $E[\text{accept}|\textbf{Daily Pay}] - E[\text{accept}|\textbf{Smooth Insured}] \implies$ **Demand for flexibility**
   - 27 p.p. for all contracts.

Demand for flexibility to renege

Why is demand for flexibility so high?

Survey responses from workers suggest:

- **Fear of excess work extraction and mistreatment under back-loaded contracts:** 51%
- **Opportunity costs or family emergencies:** 18%

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We will present incentive-compatible evidence for these mechanisms from the matching experiment.

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- **Three base contracts:**
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Each contract was offered for both **3-day** and **7-day** durations.

Firm Recruitment Strategy

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Step 2: Final sample selection

From this pool, we select firms that **planned to hire within four weeks** of our survey.

Experiment Implementation

Two enumerators visited either the firm's office or a construction site where the firm's head was present.

- Firms were offered multiple contracts and asked if they would hire a worker under each.
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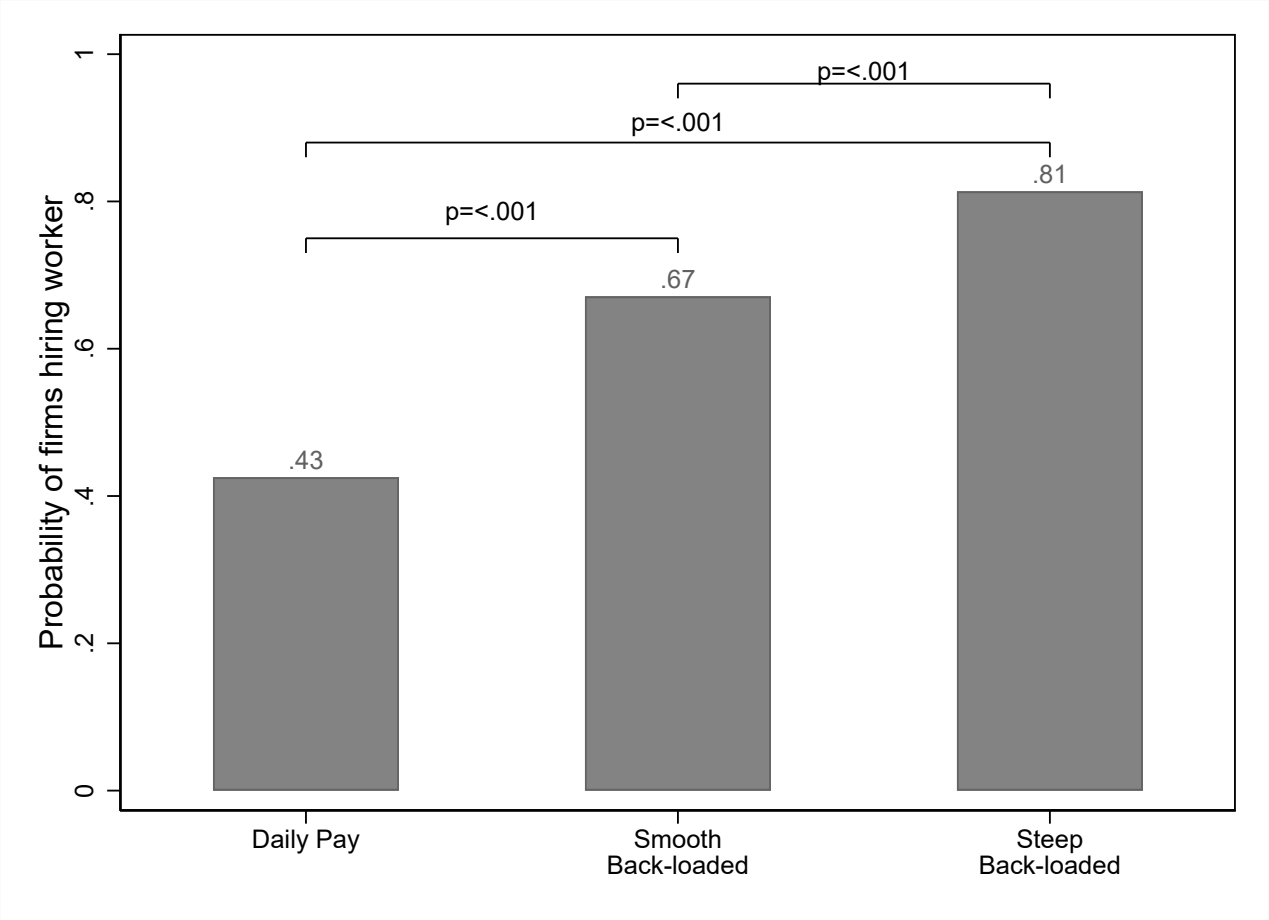
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Firms were informed of this procedure in advance. The design is **incentive-compatible** (Oh [2023]).

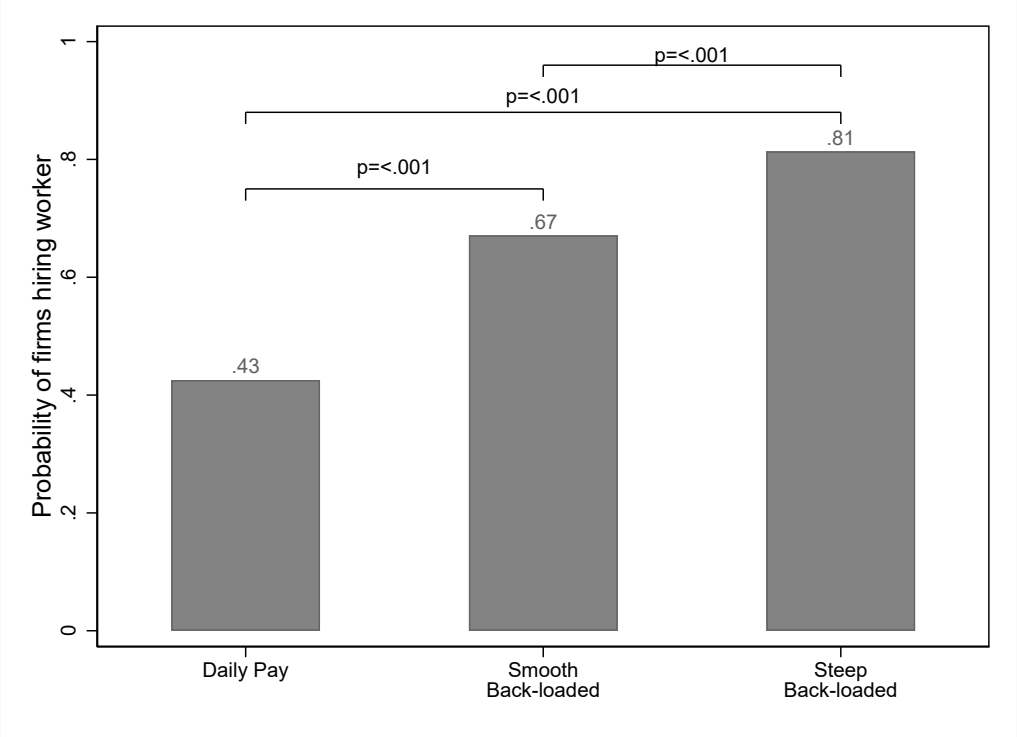
Result 1: Firm Preferences for Different Contracts

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Notes: N= 349. Controls include owner's education, number of active sites, firm size, and fixed effects for question order, prior masonry experience, and contract length. Standard errors clustered at the firm level.

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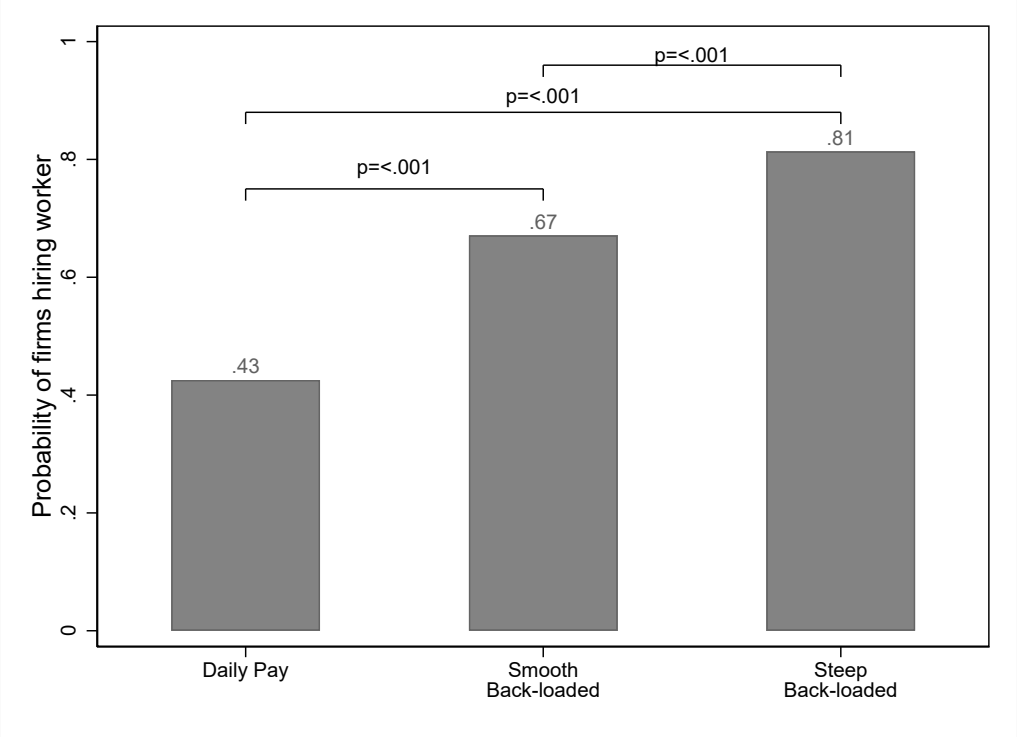


Interpretation:

Difference between **Daily Pay** and **Smooth**

Risk of reneging

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Interpretation:

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Difference between **Smooth** and **Steep**

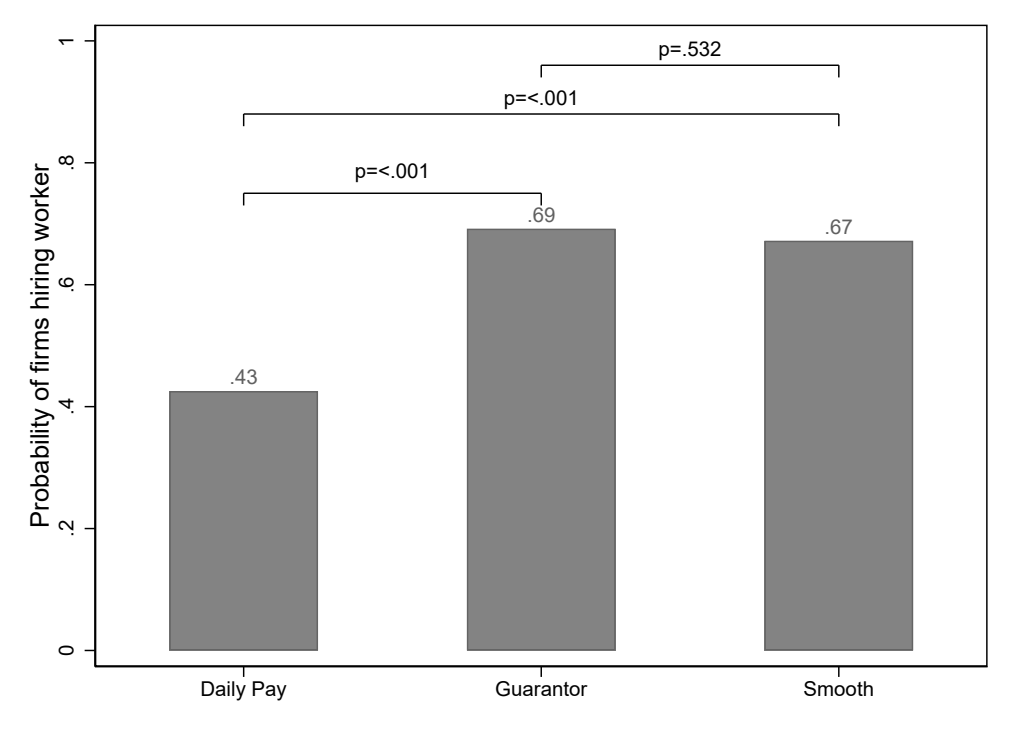
Liquidity constraint

Result 2: Guarantor Contracts

Guarantor contract: Firms receive **INR 200 compensation** ($\sim$ 40% of daily wage) if a worker reneges.

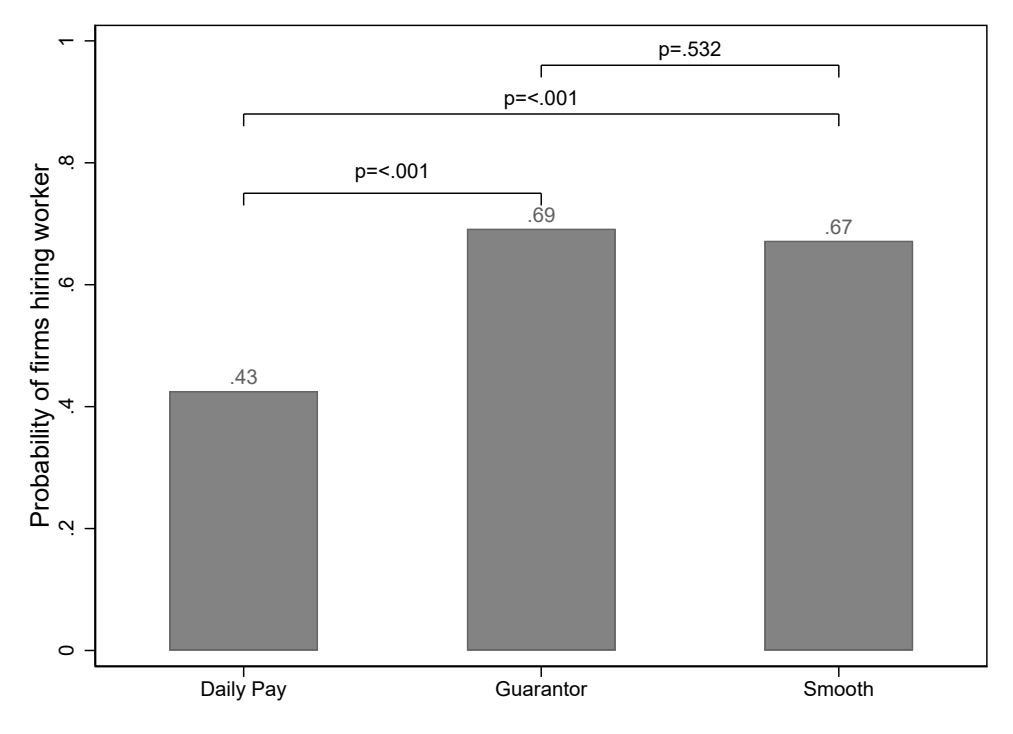
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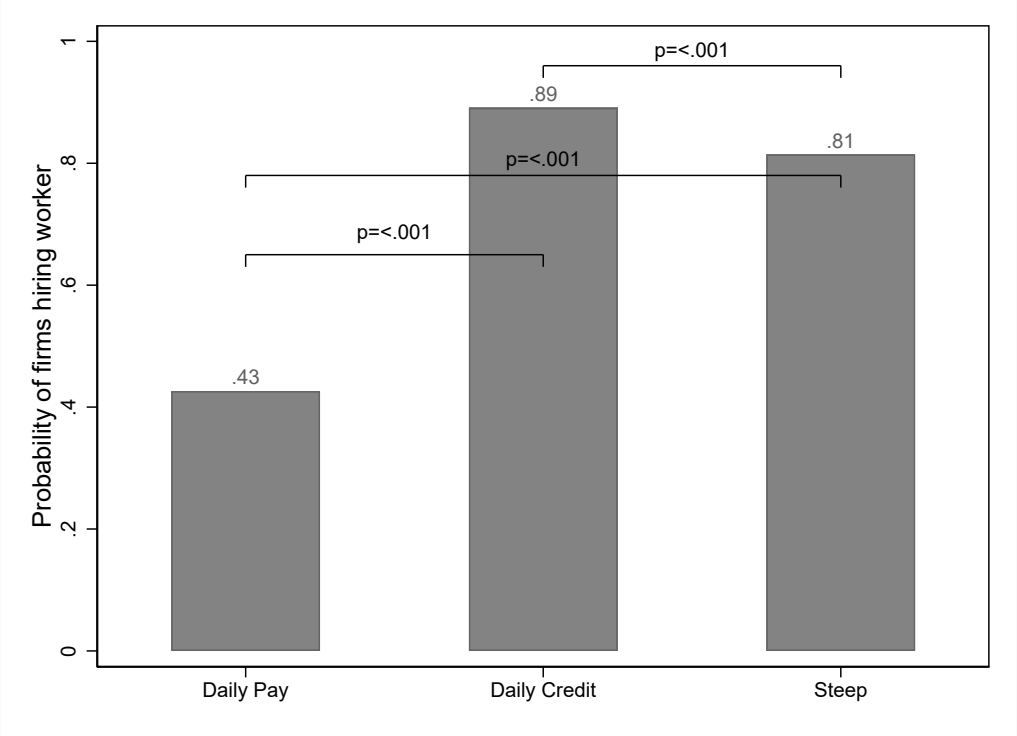
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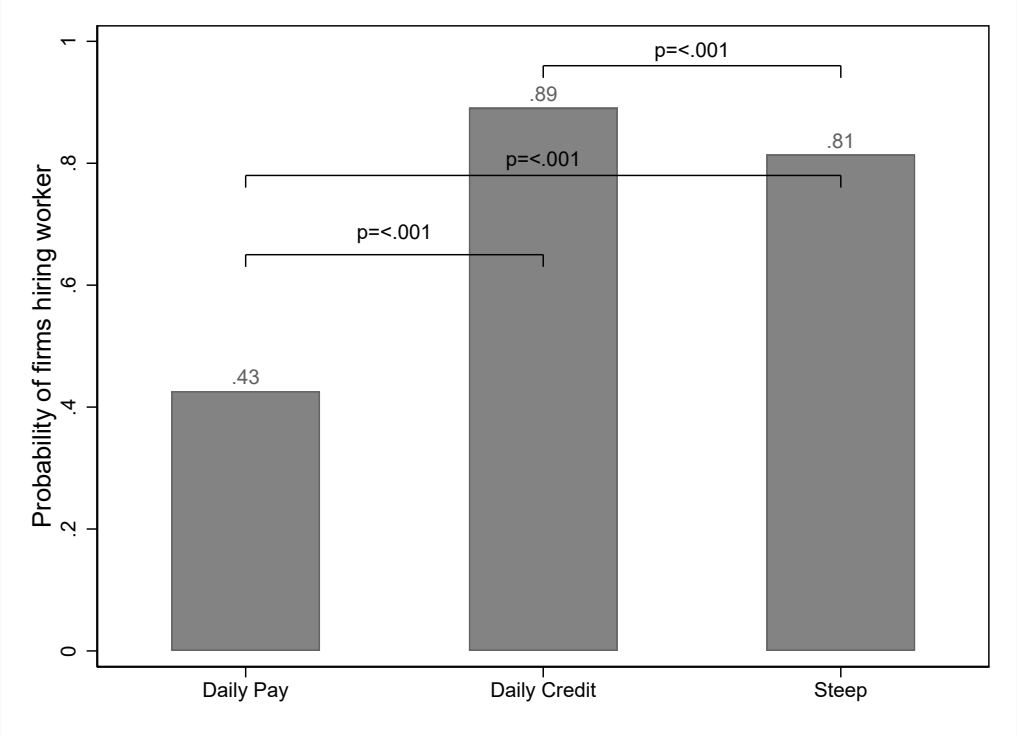
Key takeaway: Firms' preference for **Smooth** and **Guarantor** contracts is **statistically similar**.

Result 3: Effect of Credit Contracts

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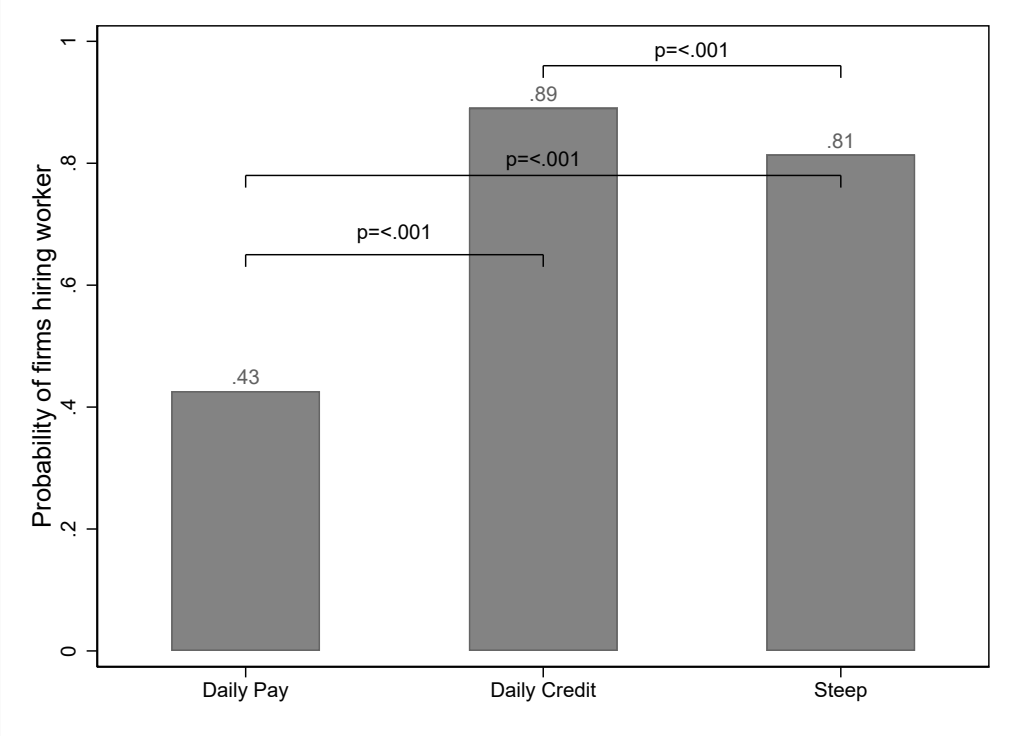


Result 3: Effect of Credit Contracts



What drives the strong preference for credit contracts?

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What drives the strong preference for credit contracts?

- Steep back-loaded contracts do not alleviate liquidity constraints for all firms.
- Transaction costs (daily payment logistics) are significant.

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Adjustments due to sample size concerns:

- Workers assigned to **Smooth** contracts were upgraded to **Daily Pay**.
- Firms assigned to **Smooth** contracts were upgraded to **Steep**.

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Reasons

These findings explain the high demand for flexibility to break contracts.

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- Integrating construction work into **urban employment guarantee schemes** could improve contract enforcement and worker security.

Thank You!

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Worker - Randomization Balance

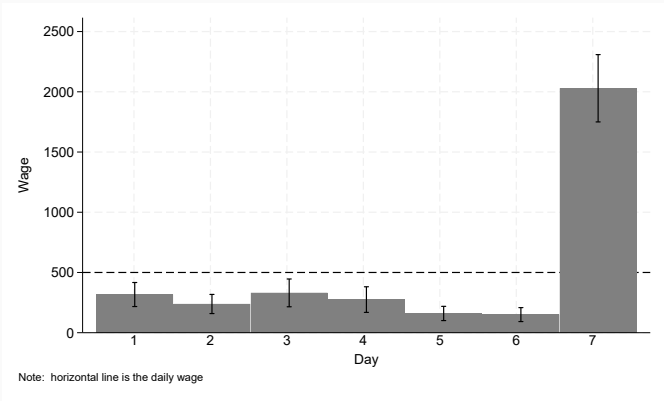
Back

	Pairwise differences p-values									
	U D - U SM	U D - U ST	U SM - U ST	I SM - I ST	I SM - UD	I ST - U D	I ST- U SM	I SM - U SM	I SM - U ST	I ST- U ST
Age	0.59	0.48	0.84	0.88	0.84	0.73	0.82	0.71	0.58	0.68
Years of education	0.37	0.55	0.82	0.27	0.14	0.63	0.65	0.50	0.41	0.86
Local worker	0.79	0.44	0.58	0.18	1	0.22	0.29	0.77	0.41	0.68
Backward caste	0.89	0.32	0.23	0.76	0.99	0.78	0.65	0.88	0.29	0.44
Scheduled caste/tribe	0.90	0.29	0.21	0.81	0.69	0.54	0.42	0.58	0.46	0.61
Not paid atleast once (in last month)	0.38	0.55	0.79	0.65	0.86	0.81	0.48	0.26	0.41	0.68
Daily consumption cost	0.74	0.62	0.40	0.80	0.35	0.48	0.70	0.52	0.16	0.23
Total days present	0.82	0.30	0.38	0.53	0.16	0.41	0.52	0.21	0.82	0.75
Total earnings (INR)	0.51	0.76	0.74	0.65	0.84	0.83	0.35	0.62	0.90	0.59
Loan due	0.89	0.67	0.55	0.37	0.79	0.57	0.64	0.66	0.85	0.31
Searching for work	0.38	0.52	0.84	0.33	0.77	0.23	0.03	0.20	0.32	0.06
Time of Survey	0.78	0.53	0.37	0.35	0.74	0.57	0.38	0.96	0.33	0.91
Time to market (hrs)	0.24	0.40	0.78	0.25	0.42	0.05	0.43	0.70	0.93	0.31

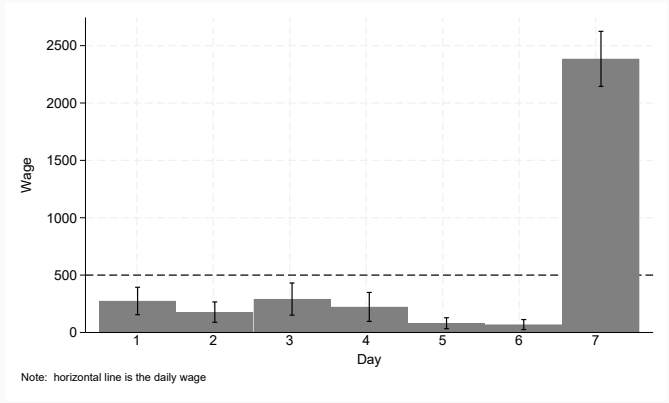
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Age	0.21	0.44	0.95	0.31	0.44
Years of education	0.21	0.48	0.59	0.85	0.26
Local worker	0.27	0.52	0.09	0.50	0.16
Backward caste	0.50	0.71	0.22	0.50	0.42
Scheduled caste/tribe	0.98	0.65	0.61	0.88	0.87
Not paid atleast once (in last month)	0.75	0.12	0.19	0.52	0.43
Daily consumption cost	0.95	0.52	0.74	0.39	0.48
Total days present	0.20	0.40	0.76	0.88	0.97
Total earnings (INR)	0.31	0.98	0.57	0.61	0.29

Payment structure of contracts offered by firms

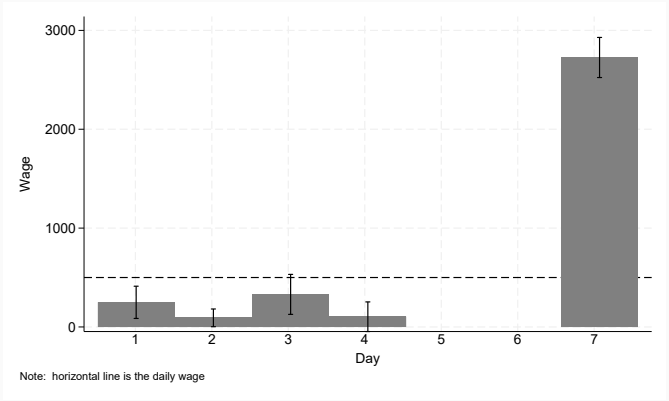
14% firms pay all wages on last day; 18% firms pay the full wage daily. Back



(a) All Firms

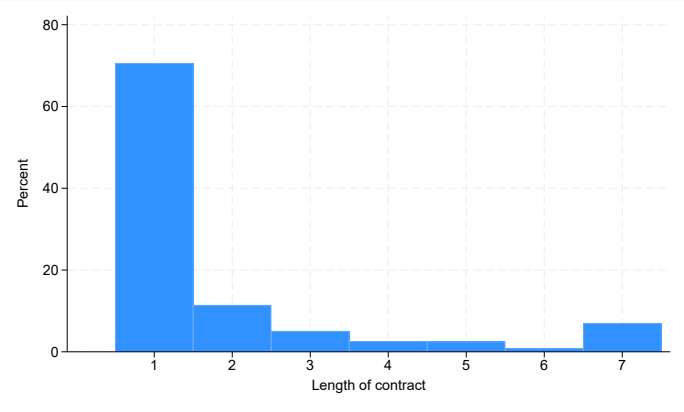


(b) Excluding firms which pay 500 INR daily

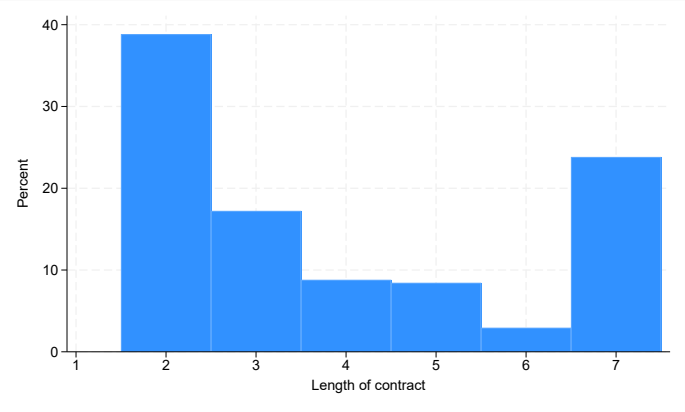


(c) Firms which pay on less than 3 days

Figure 2: Length of contracts of workers at the labor stand



(a) All contracts



(b) All except 1 day contracts

Note: The figure shows the length of contracts accepted by workers. These contracts were offered by firms at the labor stand. The figure is based on data (collected in August-September 2023) from a 10 day panel of all workers at three labor stands. We pool all contracts of 7 or greater days into a 7 day contract.

Empirical Specification

$$Y_i = \alpha + \beta_1 * \textit{Daily Pay} + \beta_2 * \textit{Smooth} + \beta_3 * \textit{insurance} + \beta_4 * \textit{Daily Pay} \times \textit{insurance} + \beta_5 * \textit{Smooth} \times \textit{insurance} + X_i + \mu_i + \epsilon_i$$

X_i indicate controls — worker age, education, and half hour of survey time— and μ_i includes fixed effects for the labor stand and length of the contract.

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Empirical specification

$$Y_{jk} = \alpha + \Sigma_1^4 \beta_j T_{jk} + X_k + \mu_k + \epsilon_k$$

T_{jk} is an indicator for firm k and treatment j.

μ_k : length of contract, order of the question

X_k : education, number of sites the firm is operating and size of the firm.

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Table 1: Reasons for Non-fulfillment of contracts

	(1) Contract not fulfilled	
	b	pct
Don't know	1	0.60
other reason	8	4.76
Stayed at home	14	8.33
Did not want to go	15	8.93
alloted a lot of work	25	14.88
Got work at other place	16	9.52
Fired from work by the Contractor	3	1.79
Site is far away	11	6.55
Family emergency/Unwell	19	11.31
Labor could not be contacted	18	10.71
Contractor was making the labor do illegal work	2	1.19
Contractor asked to come early to work	1	0.60
Contractor asked to stay late for work	17	10.12
The labor ran away in between the work	8	4.76
Contractor didn't pay	2	1.19
Contractor didn't have work	8	4.76
Total	168	100.00

The table shows the break down of reasons for which workers who started working did not fulfill the contract.

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Table 2: Outcomes for workers under steep vs daily contracts with p-values adjusted for multiple testing

	Contract completed	Contract completed (excluding firm rejections)	Hr worked	Work extracted (Hr)	Worker Rating
Steep contract	0.235***	0.264***	0.214**	0.142**	-0.576
	(0.087)	(0.090)	(0.094)	(0.066)	(0.356)
Observations	260	233	258	260	250
Control group mean	0.34	0.26	8.21	0.09	6.97
Fixed Effect	Yes	Yes	Yes	Yes	Yes
p-val Bonferroni-Holm	.033		.076	.076	.111

The dependent variable is measured by surveying workers and firms which were matched with each other. We use fixed effects for whether the contract was insured, length of contract, daily wage offered and control for the time it takes the worker to get to the labor stand. Adjusted p-values use the Bonferroni-Holm correction method (Holm [1979]). Standard errors are clustered at the firm level. * p $<$ 0.10, ** p $<$0.05, *** p$<$0.01.

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Sample Size

Figure 4: Sample size

Cell	Days			Days	
	3	7		3	7
No insurance, No backloading	9%	6%	Insurance, No backloading	6%	4%
No insurance, smooth backloading	12%	8%	Insurance, smooth backloading	12%	8%
No insurance, steep backloading	9%	6%	Insurance, steep backloading	12%	8%

Notes: The total sample size is 1378. Out of these the first 300 workers were offered just one job for 3 day contracts. The remaining workers were offered two jobs.

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Summary statistics of Matching

Panel A: Workers	
	Number of workers
Number of workers eligible for a job offer	1,378
No of workers offered a 3 day job	1,360
No of workers offered a 7 day job	1060
No of workers who accepted any job	874
No of workers chosen randomly for jobs	280
No of workers contacted for jobs	382
No of workers allotted who were allotted a job	276
No of workers who completed at least one day of work	259

Panel B: Firms	
	Number of Firms
Number of Firms surveyed	349
Firms which agree to hire on at least one contract	335
Firms contacted for hiring	335
Number of firms which hired at least one worker	75

Panel C: Summary of contracts for matched workers		
	Steep	Daily Pay
Total workers matched	56	203
Total workers on insurance contracts	24	83

Panel D: Summary of contracts for matched firms		
	Steep	Daily Pay
Credit contracts	0	80
Guarantor contracts	0	39
Daily Pay contracts	56	78