Public Works Program, Labor Supply, and Monopsony

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Motivation

- Significant market power in the labor markets
  - Elasticity of labor supply to an individual firm (e.g., Manning, 2003; Bachmann et al., 2021; Bassier et al., 2022; Caldwell and Oehlsen, 2022; Datta, 2023), wage markdowns (e.g., Berger et al., 2022; Yeh et al., 2022), and HHI (e.g., Azar et al., 2019)
- Labor reallocation, mobility, wage collusion, automation threat $\rightarrow$ Labor market power
  - Trade (e.g., Felix, 2022; Kondo et al., 2022), infrastructure investments (Brooks et al., 2021; Perez et al., 2022), employer collusion (Delabastita and Rubens, 2023), and robot exposure (Byambasuren, 2024)
- Policy implications
  - Market power may justify the use of minimum wages and other redistributive policies in the name of efficiency!

Motivation

- Public works programs: India's NREGA, South Africa's EPWP, Ethiopia's UPSNP, etc.
- Direct effects of India's public employment program
  - ↑ rural households' earnings by 14% and ↓ poverty by 26% (Muralidharan et al., 2023)
  - ↑ public employment and wages (Imbert and Paap, 2020), driven by female workers (Azam, 2012)
  - ↑ growth rate of real daily agricultural wages by 4.3% per year (Berg et al., 2018)
- Implications of public works programs are substantial due to indirect effects
  - Child labor (Li and Sekhri, 2020), private works (Imbert and Papp, 2015; Zimmermann, 2024), urban labor markets (Imbert and Papp, 2020), and environment (Behrer, 2023)
  - Implications about public work providing a wage floor — enhancing the ability of workers to bargain for higher wages (Basu et al., 2009)
- Indirect effects in the manufacturing sector is understudied (Agarwal et al., 2021)

Research Questions

- Q1. Do public work programs offset employer market power in the private sector?
- Q2. What are the associated mechanisms?

Research Questions

- Q1. Do public work programs offset employer market power in the private sector?
  - Quantify plant-level markdowns (ratio of MRPL to wage)
  - Estimate the causal impact of NREGA on wage markdowns

- Q2. What are the associated mechanisms?

Research Questions

- Q1. Do public work programs offset employer market power in the private sector?

- Q2. What are the associated mechanisms?
  - Provide a monopsony model featuring NREGA
  - Estimate heterogeneous effects guided by the conceptual model

Preview of Findings

- Employers in India enjoy market power (workers earn 0.72 rupees on the marginal rupee, on average)
- Markdown effect is **positive** among manufacturing establishments, particularly those with low labor productivity
- The effect is most salient in urban districts with greater mobility through internal migration
- The evidence suggest a **composition story**—public works program attracts mobile workers, leaving only workers who are immobile and thus with lower labor supply elasticity

Common Conceptual View

- In the existing labor market models (Basu et al., 2009; Muralidharan et al., 2023),
  - Public employment guarantee is synonymous with a contestable labor market
  - Flattening the labor supply curve, and thus improve workers' bargaining power

Conceptual Model

- Firm-specific labor supply setup (Card et al., 2018; Manning, 2021)
- Heterogeneous workers with origins $o = \{u, r\}$ and skills $s = \{H, L\}$
- NREGA in the model

Rural residents:

Firms \ Skills	Skilled	Unskilled
Urban	No direct impact	No direct impact
Rural	No direct impact	**NREGA direct benefits**

Urban residents:

Firms \ Skills	Skilled	Unskilled
Urban	Ineligible	Ineligible
Rural	Ineligible	Ineligible

Conceptual Model

- For large $\mathcal{I}$, the approximate firm-specific labor supply schedule of firm i is

$$\ell_i^{os}(w_i^{os}) \approx \beta^s \left[(w_i^{os} - \bar{w}^{os}) + (a_i^{os} - \bar{a}^{os}) + (\tau_i^{os} - \bar{\tau}^{os}) \right] + \ell^{os} \tag{1}$$

- Average markdown over unskilled workers from urban and rural settlements is

$$\bar{\mu}_i^{os} = (1 - \theta_i^{rL})\mu_i^{uL} + \theta_i^{rL}\mu_i^{rL}, \tag{2}$$

  where $\theta_i^{rL} = L_i^{rL}/(L_i^{uL} + L_i^{rL})$ is the employment share

- Mixture of urban and rural workers in (1) and (2) $\implies$ Composition effect is important
  - NREGA is likely to $\downarrow \theta_i^{rL}$ at urban firms via out-migration
  - Theory would predict that $\mu_i^{rL} < \mu_i^{uL}$ because rural workers are mobile & can migrate
  - But it is empirically ambiguous $\implies$ Empirical question!

Data

- Firm-level data
  - ASI establishment panel (1999-2008)
  - Annual nationally representative survey of all factories
  - Information necessary to estimate markdown using production approach
- NREGA data (Imbert and Papp, 2015)
  - Rollout of the program across districts in three phases ⏩ NREGA phases
- Additional data
  - Weather conditions (rainfall)
  - Minimum wage and its enforcement
  - Migration (our measure of labor mobility)

Estimation Strategy

Empirical specification:

$$Y_{it} = \alpha + \beta \times \text{Post NREGA}_{dt} + \mathbf{X}'_{it}\gamma + \phi_i + \delta_{jst} + \varepsilon_{it}$$

- Y_{it}: Labor market outcomes for firm i at year $t \in [1999, 2008]$
- Post NREGA_{dt}: Treatment indicator for the post-NREGA period
- Main challenge: Policy endogeneity
- Strategy: DID design (Imbert and Paap, 2015; Agarwal et al., 2021; Behrer, 2023) Baseline design
  - Treated group: Phases 1 & 2
  - Control group: Phase 3 (never treated during our study period)

Identification Assumptions

1. Parallel trend
   - Even-study analysis (Cook and Shah, 2022) ⏩ Employment ⏩ Wage ⏩ Markdown

$$Y_{it} = \alpha + \sum_{\tau \neq -1; \tau = -7}^{\tau = 1} \gamma_{1\tau} \times I_\tau \times \text{P1}_d + \sum_{\tau \neq -1; \tau = -8}^{\tau = 0} \gamma_{2\tau} \times I_\tau \times \text{P2}_d + \mathbf{X}_{it}'\gamma + \phi_i + \delta_{jst} + \varepsilon_{it}$$

2. No anticipation effect (Abbring and Van den Berg, 2003)
   - Placebo test by shifting the treatment period ⏩ Employment ⏩ Wage ⏩ Markdown

3. Stable assignment (SUTVA)
   - Alternative specifications by excluding never-treated districts immediately surrounded by treated districts from the control group ⏩ Maps

Estimated Wage Markdowns

	Median	Mean	IQR_{75-25}	SD	N
	Panel A. Homogeneous workers				
All workers	1.024	1.387	1.135	1.211	92969
	Panel B. Skilled and unskilled workers				
Unskilled workers	1.109	1.529	1.392	1.375	77378
Skilled workers	2.954	5.005	4.569	5.780	77378
	Panel C. Workers at urban and rural firms				
Urban firms in high-mobility districts	1.018	1.354	1.108	1.158	27528
Urban firms in low-mobility districts	1.075	1.441	1.225	1.256	22063
Rural firms in high-mobility districts	1.069	1.465	1.225	1.280	17622
Rural firms in low-mobility districts	0.960	1.328	1.044	1.188	23988

Notes: The distributional statistics are calculated using sampling weights provided in the data.

Definition Expression Estimation approach Production function estimation

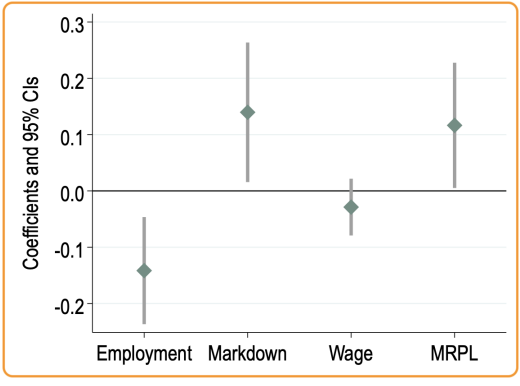
Estimation Results: Heterogeneous Effects by Labor Productivity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
Post-NREGA × Below median	-0.101***	0.094***	-0.018	0.074***
	(0.019)	(0.030)	(0.015)	(0.025)
Below median	0.023	-0.009	-0.018*	-0.002
	(0.014)	(0.018)	(0.010)	(0.017)
Post-NREGA	0.025	-0.031	0.008	-0.033
	(0.022)	(0.026)	(0.018)	(0.024)
Covariates	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓
State-Industry-Year FE	✓	✓	✓	✓
Observations	71921	71921	68151	68151
R^2	0.97	0.88	0.91	0.89

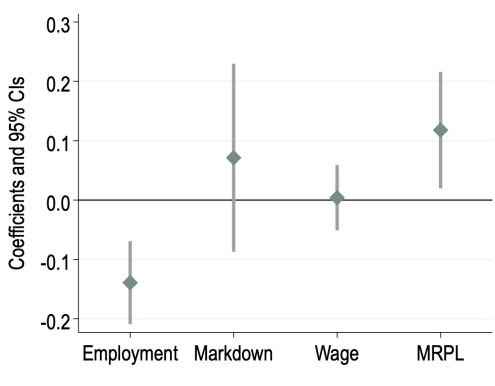
Baseline · Heterogeneous by labor intensity · Unskilled workers · Skilled workers

Heterogeneous Effects by Labor Productivity: Urban Firms

(a) High mobility

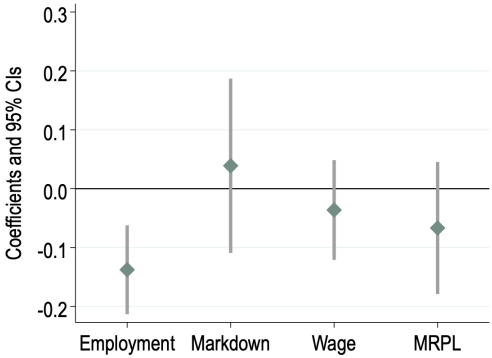


(b) Low mobility

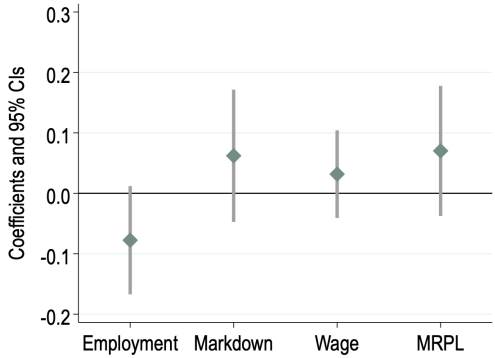


Heterogeneous Effects by Labor Productivity: Rural Firms

(a) High mobility



(b) Low mobility



Robustness Checks

- Heterogeneity by sample splitting ⏩ Results
- Full sample ⏩ Employment ⏩ Wage
- Using mandays as a labor input ⏩ All workers ⏩ Skilled & Unskilled workers ⏩ Regular & Contract workers
- Event-study specifications ⏩ Employment ⏩ Markdown ⏩ Wage ⏩ MRPL
- Dropping control districts surrounded by treated districts ⏩ All workers ⏩ Production ⏩ Non-Production ⏩ Regular ⏩ Contract

Conclusion

- We provide the first evidence on the indirect effect of NREGA on labor market power in manufacturing

- Spillover effect of NREGA on markdown is positive and particularly strong for manufacturing firms with low labor productivity
  - Markdown effect is concentrated in districts with greater labor mobility in urban areas

- Public works program crowds out employment in manufacturing firms $\rightarrow$ Labor composition changes
  - Composition effect $\rightarrow$ Employer power at crowded out firms $\uparrow$ due to high employer power over immobile workers with low labor supply elasticity

The surprising NREGA markdown consequences highlights the importance of the migrant workforce in manufacturing

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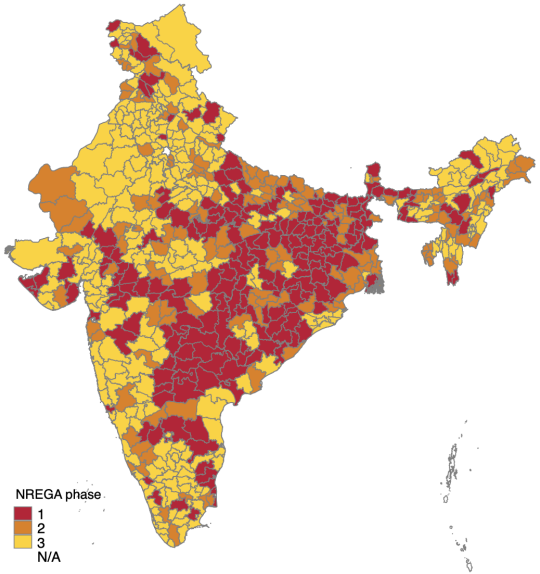
Appendix

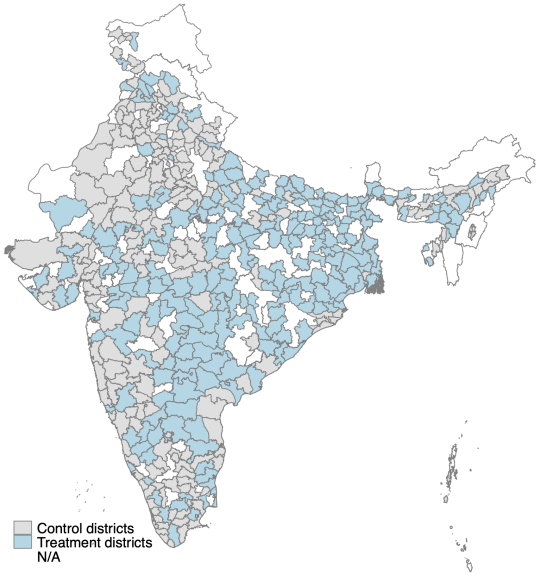
NREGA Phases

Back



Baseline Treatment and Control Groups

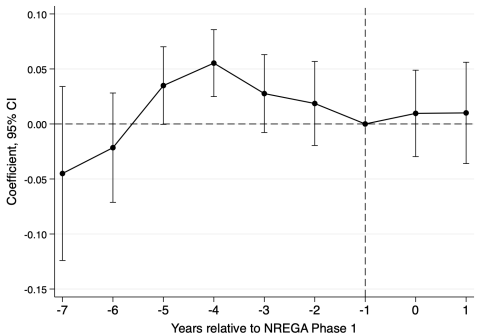
Back



Parallel Pre-Trend in Employment

Back

(a) Phase 1



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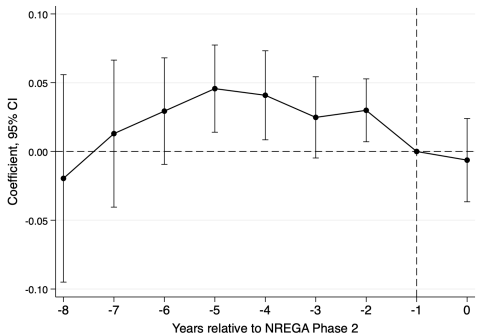

Parallel Pre-Trend in Wage

Back

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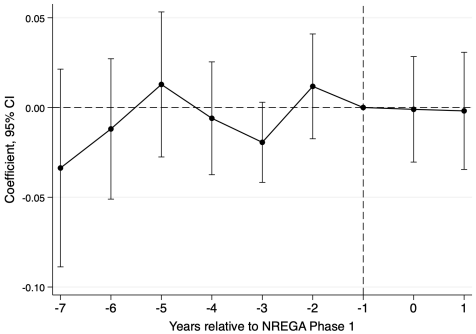
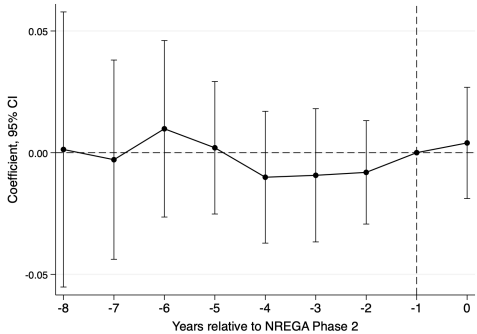


(b) Phase 2



Parallel Pre-Trend in Markdown

Back

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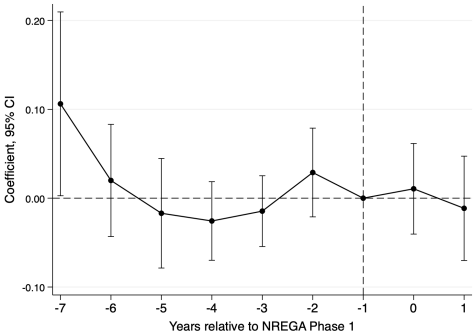

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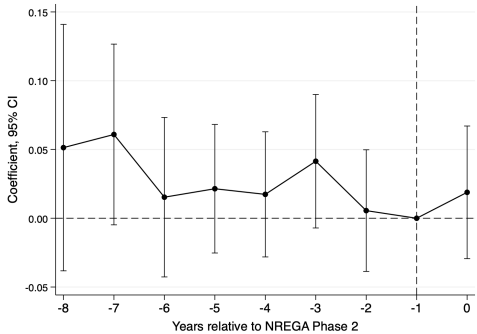
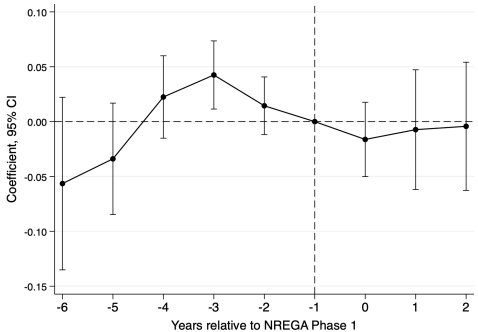


No Anticipation Effect in Employment

Back

(a) Phase 1



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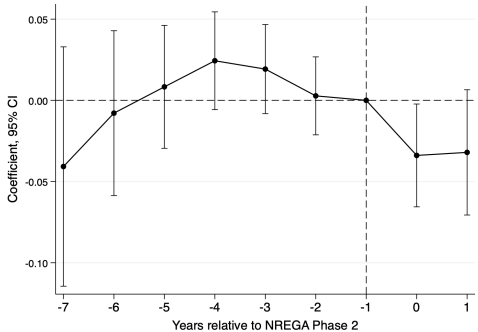

Two-year lag

No Anticipation Effect in Wage

Back

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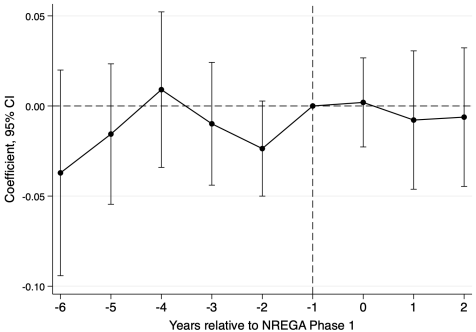

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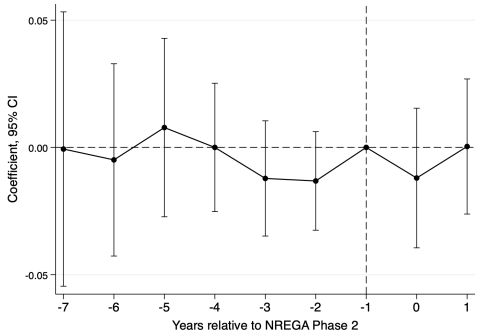

Two-year lag

No Anticipation Effect in Markdown

Back

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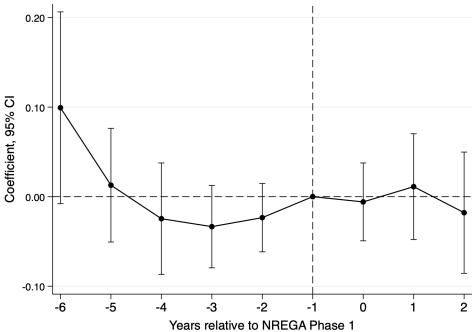

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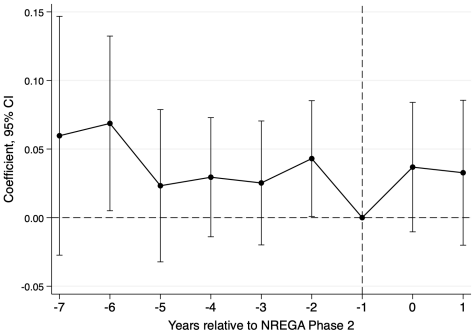

Two-year lag

No Anticipation Effect in Employment (Two-Year Lag)

Back

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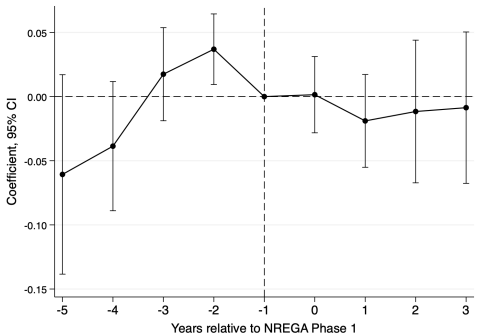

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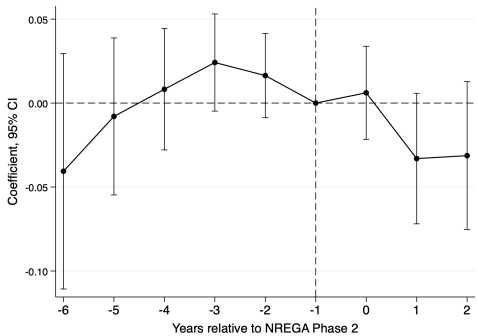

No Anticipation Effect in Wage (Two-Year Lag)

Back

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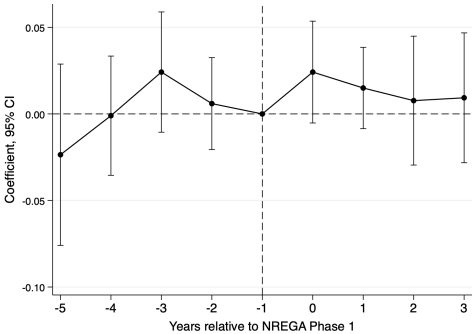
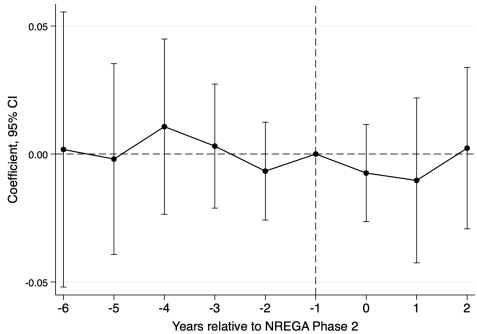


(b) Phase 2



No Anticipation Effect in Markdown (Two-Year Lag)

Back

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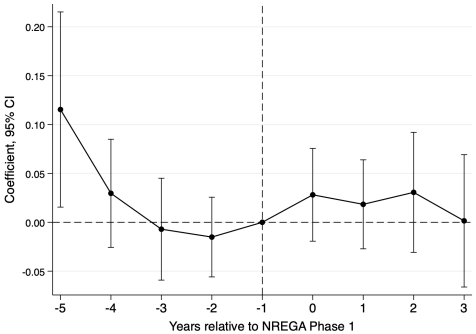

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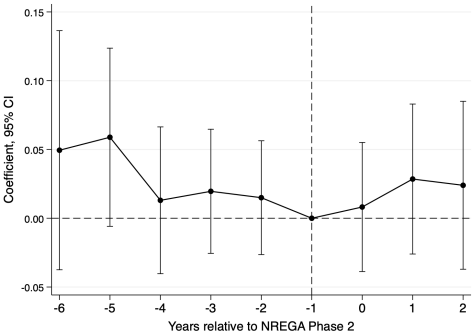
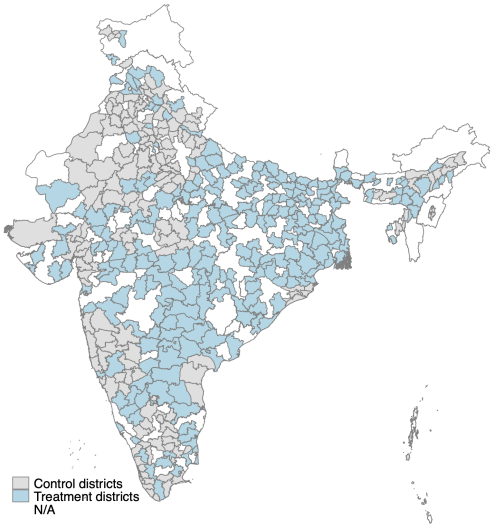


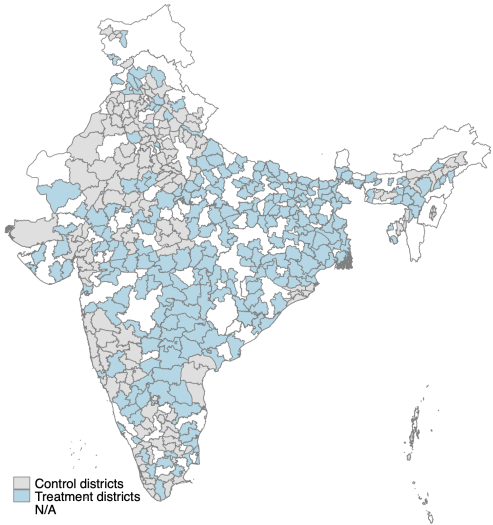
Alternative Control Groups

Back

(a) First alternative



(b) Second alternative



Measuring Labor Market Power: Definition

- The wage markdown, ν, is defined as a wedge between marginal revenue product of labor (MRPL) and wage:

$$\nu = \frac{R_l(l)}{w(l)} = \varepsilon_S^{-1} + 1,$$

  where $R_l(l) = \frac{\partial R(l)}{\partial l}$ is the MRPL, $w(l)$ is the wage, and $\varepsilon_S = \frac{\partial l}{\partial w(l)} \frac{w(l)}{l}$ is the elasticity of labor supply.

- In perfectly competitive labor markets: $\nu = 1$

- Employer has market power: $\nu > 1$

Back

Measuring Labor Market Power: Markdown Estimation

- Markdown is defined by (Yeh et al., 2022)

$$\nu_{jt} = \frac{\theta_{jt}^{L}}{\alpha_{jt}^{L}} \mu_{jt}^{-1}$$

  - θ_{jt}^{L}: output elasticity of labor
  - α_{jt}^{L}: share of labor expenditure in revenue
  - μ_{jt}: price markup

$$\mu_{jt} = \frac{\theta_{jt}^{M}}{\alpha_{jt}^{M}}$$

  - $\rightarrow$ θ_{jt}^{M}: output elasticity of any flexible input M_{jt} (e.g., materials, energy, etc.)
  - $\rightarrow$ α_{jt}^{M}: share of expenditure on input M_{jt} in revenue

Back

Measuring Labor Market Power: Markdown Estimation

- Estimate plant-level markdowns ν_{jt} using "production" approach following Yeh et al. (2022)
  - Estimate plant-level markup μ_{jt} in the spirit of De Loecker and Warzynski (2012)
  - Estimate production function using "proxy variable" method (Olley and Pakes, 1996; Levinsohn and Petrin, 2003; Ackerberg et al., 2015)
  - Compute output elasticities, under translog production function, as

$$\theta_{jt}^{L} = \hat{\beta}_l + \hat{\beta}_{kl} k_{jt} + \hat{\beta}_{lm} m_{jt} + 2\hat{\beta}_{ll} l_{jt}$$
$$\theta_{jt}^{M} = \hat{\beta}_m + \hat{\beta}_{km} k_{jt} + \hat{\beta}_{lm} l_{jt} + 2\hat{\beta}_{mm} m_{jt}$$

- Production function estimation
  - General form of production function (in log terms):

$$\begin{aligned} y_{jt} &= f(\mathbf{x}_{jt}; \beta) + \omega_{jt} + \varepsilon_{jt} \\ &= f(\mathbf{v}_{jt}, \mathbf{k}_{jt}; \beta) + \omega_{jt} + \varepsilon_{jt} \end{aligned}$$

    where fully flexible inputs $\mathbf{v}_{jt} = m_{jt}$ and non-fully flexible inputs $\mathbf{k}_{jt} = (k_{jt}, l_{jt})'$.
  - Proxy unobserved productivity ω_{jt} with $\omega_{jt} = g_t(m_{jt}; \mathbf{k}_{jt}, \mathbf{c}_{jt})$ Back

Production Function Estimation

- Three-step process to estimate β vector:
  - **Step 1:** Non-parametric estimation of y_{jt} on $\mathbf{x}_{jt}$

$$\mathbf{x}_{jt} = (k_{jt}, l_{jt}, m_{jt}, k_{jt}l_{jt}, k_{jt}m_{jt}, l_{jt}m_{jt}, k_{jt}^2, l_{jt}^2, m_{jt}^2)'$$

  - **Step 2:** Obtain innovations ξ_{jt} to productivity ω_{jt} using $\omega_{jt} = s_t(\omega_{jt-1}) + \xi_{jt}$
  - **Step 3:** Identify parameters β using GMM-IV with instruments $\mathbf{z}_{jt}$: one-period lagged values of every polynomial term in $f(\mathbf{x}_{jt}; \beta)$ including l_{jt} and m_{jt} but capital at the current period k_{jt}

⏮ Back

Estimation Results: Average Effects

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
Post-NREGA	-0.022	0.011	0.000	-0.001
	(0.020)	(0.021)	(0.014)	(0.020)
Covariates	✓	✓	✓	✓
Firm FE	✓	✓	✓	✓
State-Industry-Year FE	✓	✓	✓	✓
Observations	72394	72394	68584	68584
R^2	0.97	0.88	0.91	0.89

Notes: Covariates include firm age, age-squared, and rainfall. Industry FEs include dummies for two-digit NIC industry classification.

Back

Estimation Results: Heterogeneous Effects by Labor Intensity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
Post-NREGA × Above median	-0.087***	0.088***	-0.016	0.066**
	(0.018)	(0.032)	(0.015)	(0.026)
Above median	0.023	-0.010	0.004	0.011
	(0.017)	(0.030)	(0.012)	(0.022)
Post-NREGA	0.016	-0.026	0.006	-0.027
	(0.022)	(0.025)	(0.017)	(0.024)
Observations	71921	71921	68151	68151
R^2	0.97	0.88	0.91	0.89

Back

Hetero. Effects on Unskilled Workers by Labor Productivity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel A. Below median			
Post-NREGA	-0.083***	0.099***	0.011	0.077**
	(0.026)	(0.028)	(0.017)	(0.030)
Observations	28244	28244	28241	28241
R^2	0.97	0.82	0.93	0.89
	Panel B. Above median			
Post-NREGA	0.014	-0.015	-0.011	-0.034
	(0.027)	(0.050)	(0.020)	(0.036)
Observations	30086	30086	30084	30084
R^2	0.96	0.84	0.91	0.84

Back

Hetero. Effects on Skilled Workers by Labor Productivity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel A. Below median			
Post-NREGA	-0.027	0.129	0.001	0.043
	(0.026)	(0.235)	(0.032)	(0.037)
Observations	28244	28244	28228	28228
R^2	0.93	0.86	0.86	0.89
	Panel B. Above median			
Post-NREGA	0.003	-0.220	-0.011	-0.046
	(0.027)	(0.250)	(0.028)	(0.031)
Observations	30086	30086	30080	30080
R^2	0.93	0.81	0.81	0.85

Back

Sub-sampling Method: Hetero. Effects by Labor Productivity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel A. Below median			
Post-NREGA	-0.059**	0.046*	0.021	0.047*
	(0.024)	(0.024)	(0.014)	(0.025)
Observations	33837	33837	30992	30992
R^2	0.97	0.83	0.92	0.89
	Panel A. Above median			
Post-NREGA	0.018	-0.027	-0.010	-0.034
	(0.025)	(0.030)	(0.021)	(0.032)
Observations	36144	36144	35210	35210
R^2	0.96	0.89	0.90	0.86

Back

Full Sample: Hetero. Effects on Employment by Labor Productivity

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: Employment				
Post-NREGA × Below median	-0.146***	-0.146***	-0.135***	-0.130***	-0.134***
	(0.018)	(0.018)	(0.017)	(0.016)	(0.016)
Below median	0.018	0.020	0.016	0.018	0.019
	(0.013)	(0.013)	(0.012)	(0.012)	(0.012)
Post-NREGA	0.017	0.018	0.027	0.035*	0.029*
	(0.023)	(0.023)	(0.021)	(0.019)	(0.018)
Observations	225808	221566	221566	221566	221215
R^2	0.95	0.95	0.95	0.95	0.95
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓			
Additional covariates		✓	✓	✓	✓
Industry-Year FE			✓	✓	
State-Year FE				✓	
State-Industry-Year FE					✓

Back

Full Sample: Hetero. Effects on Wage by Labor Productivity

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: Wage				
Post-NREGA × Below median	-0.011	-0.011	-0.010	-0.007	-0.003
	(0.012)	(0.012)	(0.012)	(0.011)	(0.011)
Below median	-0.003	-0.002	-0.003	-0.001	-0.000
	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)
Post-NREGA	-0.001	-0.001	0.003	-0.004	-0.002
	(0.015)	(0.015)	(0.013)	(0.013)	(0.012)
Observations	196160	192520	192520	192520	192203
R^2	0.87	0.87	0.87	0.87	0.87
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓			
Additional covariates		✓	✓	✓	✓
Industry-Year FE			✓	✓	
State-Year FE				✓	
State-Industry-Year FE					✓

Back

Total Mandays: Hetero. Effects by Labor Productivity

	(1) Employment	(2) Markdown	(3) MRPL
	Panel A. Below median		
Post-NREGA	-0.068***	0.087***	0.070***
	(0.023)	(0.026)	(0.023)
Observations	35492	35492	32632
R^2	0.97	0.85	0.90
	Panel B. Above median		
Post-NREGA	0.020	0.006	-0.012
	(0.026)	(0.036)	(0.024)
Observations	37519	37519	36496
R^2	0.96	0.87	0.85

Back

Total Mandays: Hetero. Effects by Labor Productivity (Skilled and Unskilled Workers)

Back

	Unskilled workers			Skilled workers		
	(1) Employment	(2) Markdown	(3) MRPL	(4) Employment	(5) Markdown	(6) MRPL
	Panel A. Below median					
Post-NREGA	-0.091***	0.081***	0.073***	-0.043	0.086	0.061**
	(0.025)	(0.027)	(0.027)	(0.029)	(0.221)	(0.028)
Observations	28806	28806	28803	28806	28806	28792
R^2	0.97	0.83	0.89	0.93	0.87	0.91
	Panel B. Above median					
Post-NREGA	0.009	-0.049	-0.036	0.017	-0.100	-0.039
	(0.028)	(0.050)	(0.038)	(0.029)	(0.199)	(0.026)
Observations	30289	30289	30277	30289	30289	30272
R^2	0.96	0.84	0.84	0.93	0.81	0.86

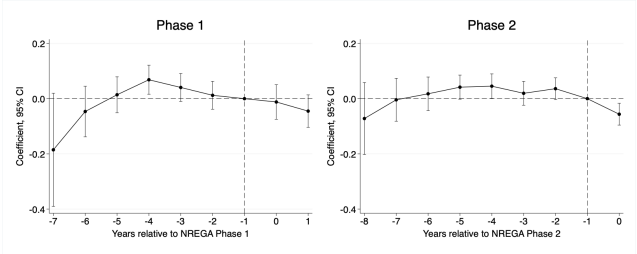
Total Mandays: Hetero. Effects by Labor Productivity (Regular and Contract Workers)

Back

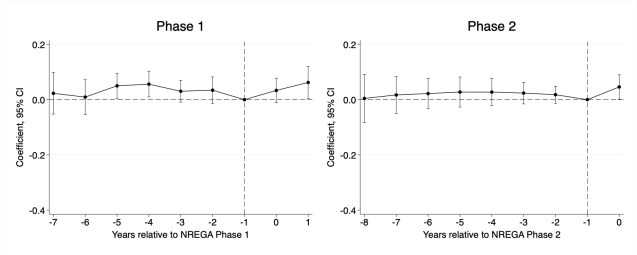
	Regular workers			Contract workers		
	(1) Employment	(2) Markdown	(3) MRPL	(4) Employment	(5) Markdown	(6) MRPL
	Panel A. Below median					
Post-NREGA	-0.119**	0.218***	0.130**	-0.094	0.214	0.079
	(0.051)	(0.075)	(0.056)	(0.068)	(0.154)	(0.065)
Observations	8006	8006	5961	8006	8006	8006
R^2	0.98	0.83	0.90	0.91	0.87	0.93
	Panel B. Above median					
Post-NREGA	-0.016	0.045	0.039	0.078	0.031	-0.007
	(0.029)	(0.077)	(0.041)	(0.058)	(0.207)	(0.057)
Observations	9144	9144	8806	9144	9144	9127
R^2	0.97	0.88	0.85	0.87	0.80	0.86

Event Study: Hetero. Effect on Employment by Labor Productivity

(a) Firms with low labor productivity ⏩ Back



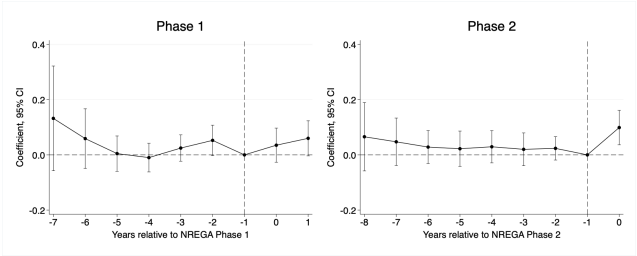
(b) Firms with high labor productivity



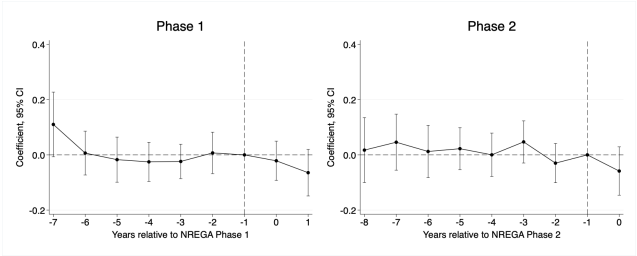
Event Study: Hetero. Effect on Markdown by Labor Productivity

Back

(a) Firms with low labor productivity



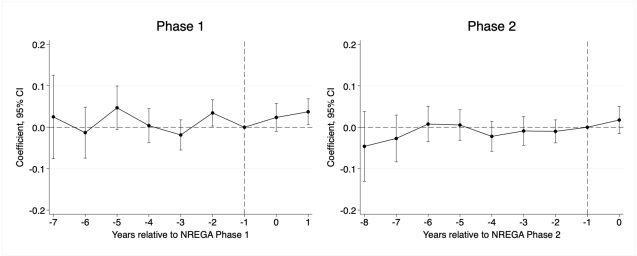
(b) Firms with high labor productivity



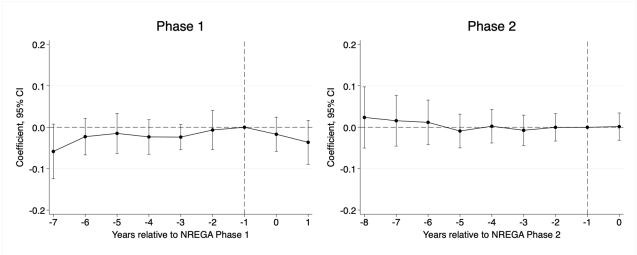
Event Study: Hetero. Effect on Wage by Labor Productivity

Back

(a) Firms with low labor productivity



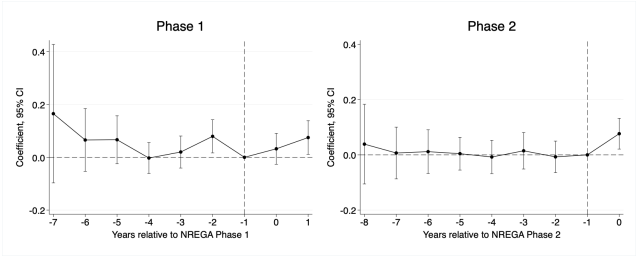
(b) Firms with high labor productivity



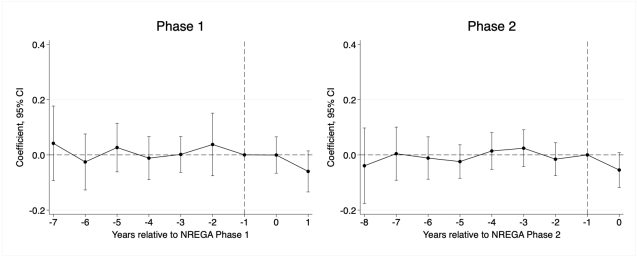
Event Study: Hetero. Effect on MRPL by Labor Productivity

Back

(a) Firms with low labor productivity



(b) Firms with high labor productivity



Alternative Control Group 1: Hetero. Effects by Labor Productivity

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
Post-NREGA × Below median	-0.114***	0.110***	-0.019	0.082***
	(0.021)	(0.030)	(0.016)	(0.026)
Below median	0.032**	-0.018	-0.014	-0.010
	(0.016)	(0.019)	(0.010)	(0.017)
Post-NREGA	0.014	-0.017	0.005	-0.036
	(0.023)	(0.025)	(0.018)	(0.025)
Observations	59763	59763	59763	59763
R^2	0.97	0.88	0.92	0.89

Back

Alternative Control Group 1: Hetero. Effects by Labor Productivity (Unskilled Workers)

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel A. Unskilled workers			
Post-NREGA × Below median	-0.107***	0.105***	-0.035**	0.061**
	(0.018)	(0.038)	(0.014)	(0.030)
Below median	0.027	0.009	-0.024**	0.015
	(0.019)	(0.032)	(0.011)	(0.024)
Post-NREGA	0.006	0.001	0.012	-0.003
	(0.024)	(0.039)	(0.018)	(0.029)
Observations	52523	52523	52523	52523
R^2	0.96	0.84	0.93	0.89

Back

Alternative Control Group 1: Hetero. Effects by Labor Productivity (Skilled Workers)

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel B. Skilled workers			
Post-NREGA × Below median	-0.071***	0.261	-0.083***	-0.059**
	(0.025)	(0.202)	(0.028)	(0.030)
Below median	-0.001	-0.077	0.024	0.022
	(0.022)	(0.159)	(0.022)	(0.024)
Post-NREGA	0.014	-0.120	0.039	0.046*
	(0.021)	(0.196)	(0.026)	(0.026)
Observations	52523	52523	52523	52523
R^2	0.94	0.83	0.84	0.89

Back

Alternative Control Group 1: Hetero. Effects by Labor Productivity (Regular Workers)

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel A. Regular workers			
Post-NREGA × Below median	-0.093**	0.146*	-0.025	-0.017
	(0.040)	(0.084)	(0.036)	(0.067)
Below median	0.018	0.013	-0.036	-0.042
	(0.029)	(0.079)	(0.031)	(0.065)
Post-NREGA	-0.012	0.014	0.036	0.098**
	(0.027)	(0.082)	(0.030)	(0.046)
Observations	13453	13453	13453	13453
R^2	0.97	0.87	0.91	0.89

Back

Alternative Control Group 1: Hetero. Effects by Labor Productivity (Contract Workers)

	(1) Employment	(2) Markdown	(3) Wage	(4) MRPL
	Panel B. Contract workers			
Post-NREGA × Below median	-0.082	0.185	-0.043	0.014
	(0.064)	(0.303)	(0.031)	(0.070)
Below median	-0.007	-0.254	-0.010	-0.023
	(0.061)	(0.258)	(0.031)	(0.063)
Post-NREGA	0.013	0.039	0.018	0.035
	(0.061)	(0.296)	(0.030)	(0.052)
Observations	13453	13453	13453	13453
R^2	0.89	0.80	0.77	0.91

Back