ONLINE APPENDIX
Politicians, Bureaucrats, and Development: Evidence from India

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A Additional Discussion on Theoretical Predictions

With identical politicians and bureaucrats, we can make the standard assumption of concave marginal benefit and convex marginal costs from political effort towards monitoring. An additional politician overseeing a bureaucrat will carry both a *direct* effect of an additional principal, as well as an *indirect* effect because of free riding, credit claiming and bureaucratic control problems. The direct effect should increase total monitoring, while the indirect effect should reduce it.

If we assume that bureaucratic effort increases with the *total* monitoring effort of politicians, we can observe two types of outcomes when we compare the performance of Bureaucrat 2 (the multiple principal case) with that of Bureaucrat 1 (the single principal case). The total amount of effort exerted by Politician A *and* Politician B to monitor Bureaucrat 2 will be either *lower* or *higher* than the monitoring effort exerted *just* by Politician A in the case of Bureaucrat 1.

If it is *lower*, the indirect effect is greater than the direct effect. That is, the decrease in marginal benefit (and/or the increase in marginal costs) in the multiple principal case per Politician is large enough to decrease the individual politician's effort enough to result in lower combined effort relative to the single principal case of Bureaucrat 1. If it is *higher*, the direct effect is greater than the indirect effect. That is, total monitoring under multiple principals will be *higher* if the decrease in the marginal benefit (and/or the increase in marginal costs) for each politician is not large enough to make the combined effort equal or lower than in the single principal case.

While the empirical results in this paper suggest that the former case dominates, we can also think of reasons why bureaucratic effort may fall in the multiple principal case *even* when we expect total monitoring effort to be higher. For instance, if higher monitoring by two politicians leads to the bureaucrat receiving conflicting instructions, this could translates into worse development outcomes. Relying on this framework and the theoretical literature discussed above, our key empirical prediction is that development program implementation

will be worse for bureaucrats who report to more than one politician, rather than a single politician. The presence of this second channel of change, should bias any statistically significant empirics results, towards zero.

To summarize, we can have three cases: (1) if the indirect effect > direct effect: total monitoring by politicians goes down and we should see worse NREGS outcomes; (2) if direct effect > indirect effect: this increases total monitoring, but that in itself is not sufficient to improve bureaucratic performance. This is because higher monitoring from more than one principal can carry its own problems, such as receiving conflicting messages from the principals. In this case bureaucratic performance may also worsen. (3) If direct effect > indirect effect where total monitoring of bureaucrats is higher, and their performance is better. If (3) holds, then our empirical results will be biased towards zero.

B Profiles of Two Block Development Officers

Figure A1: Block Development Officers in India (Popova, 2011)

C Dataset Construction

Because we hope this dataset and our procedures will be of use to other researchers we describe this process in detail:

1. Download and combine village-cluster unit state datasets on NREGS from the MGNREGA Public Data Portal.[26]

2. Extract and combine data files from Census shape files using ArcGIS, to form a spatially referenced (longitudes and latitudes) dataset of all villages in the 2001 Indian Census ($N \approx 628,000$).[27]

3. Build a village/village-cluster directory by downloading and combining individual block-level directory files from from the Ministry of Drinking Water and Sanitation.[28]

4. Homogenize district and state names from the Census and NREGS datasets to the Water Ministry directory using a listing of all changes in district names and alternate spellings.[29] This allows us to match Census and NREGS datasets more efficiently by guaranteeing a match at the district and state levels.

5. Fuzzy match census village names to the directory, and then NREGS village-cluster names to the directory. The directory provides a common reference for the two datasets.[30]

[26]The Public Data Portal may be accessed here: `mnregaweb4.nic.in/netnrega/dynamic2/dynamicreport_new4.aspx`.

[27]We obtained Census data from New York University Library's Data Services Geographic Information Systems unit, who licensed the data from InfoMap India.

[28]We access the data from `http://indiawater.gov.in/imisreports/nrdwpmain.aspx` at the National Rural Drinking Water Programme, Ministry of Drinking Water and Sanitation (Ministry of Drinking Water and Sanitation, 2014).

[29]For this, we rely on a compilation of all name changes between 2001 and 2011 available from (Statoids, 2014), at `http://www.statoids.com/yin.html`.

[30]We used Stata's `reclink` command to carry out the fuzzy match. Other commands commonly used to fuzzy match string variables such as `soundex` are not useful in the Indian context because they rely on phonetic merging.

6. Add assembly constituency-candidate level electoral records to the village dataset by locating each village within an assembly constituency using the village's latitude and longitude.[31]

Our resulting dataset, combining NREGS, census, and election data sources, successfully matches approximately 465,000 of India's 628,000 villages (74%).

[31]Election data was downloaded from Election Commission of India (2014), at `http://eci.nic.in/eci_main1/ElectionStatistics.aspx`. We used the Spatial Join command in ArcGIS to carry out this procedure.

D NREGS Variable Key

Note: all NREGS variables measured at the village-cluster (gram panchayat) level.

- Workdays - total days worked under NREGS
  - Coded as: $\log(Workdays + 1)$
- Worked - number of individuals who worked under NREGS
  - Coded as: $\log(Worked + 1)$
- Deposits - sum of disbursements to laborers' bank and post office accounts
  - Coded as: $\log(Bank\_Deposits + Post\_Deposits + 1)$
- Ratio of Workdays to Deposits
  - Coded as: $Ratio = (Workdays \ / \ (Bank\_Deposits + Post\_Deposits + 1))$

E NREGS Implementation

Officially, the NREGS Act stipulates that a Block Programme Officer (BPOs) is responsible for NREGS implementation at the block level. In practice however, Block Development Officers (BDOs) critically affect the quality of NREGS implementation by frequently serving as Block Programme Officers due to insufficient staffing (Siddhartha and Vanaik, 2011; Khera, 2011; Raabe, Sekher, and Schiffer, 2010). Analysts have noted that the additional duties of administering NREGS add to the already considerable demands facing BDOs (Bhatia and Dreze, 2006). Even where BPOs are hired, BDOs remain the most powerful block level administrators. Empirically, field researchers studying worksites have identified the motivation and will of individual BDO as critical to the successful implementation of NREGS (Datar, 2007, 3457).

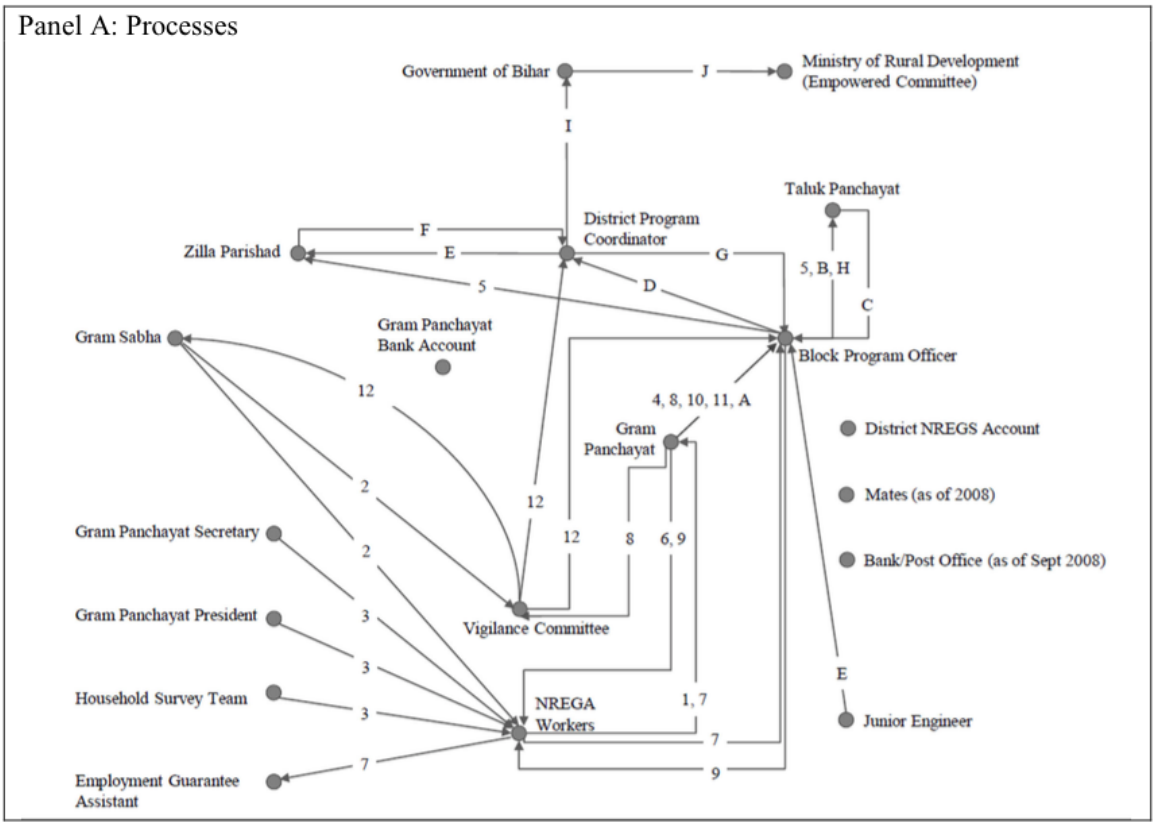
F Equation for Party Coordination and Politician Effort

To identify the effect of increasing the marginal cost of a politician's effort, we study exogenous variation in whether the neighboring politician is from a different party. We estimate the following equation:

$$y_{p,b,c,s} = \gamma Different\ Party_{c^N} + f(Victory\ Margin_{c^N}) + Z_s'\phi + \epsilon_{p,b,c,s} \quad (3)$$

$$\forall\ c^N \quad s.t.\ \ Victory\ Margin_{c^N} \in (-h, h)$$

where the coefficient of interest is γ. $Different\ Party_{c^N}$ is an indicator variable for whether the neighboring politician, in constituency c^N belongs to a different party. We drop all instances from the analysis where the candidate ran as an independent. $f(Victory\ Margin_{c^N})$



Panel A: Processes

Implementation process

1. Adult household members apply for registration.
2. Gram sabha verifies and mobilizes applications for registration and elects the members of the Vigilance and Monitoring Committee.
3. A household survey is performed for the identification of households that are willing to register for employment cards.
4. The gram panchayat sends a copy of the registration to the block program officer.
5. The block program officer reports to the taluk and zilla parishad.
6. The gram panchayat issues employment cards to registered households.
7. Adult household members apply for work at the gram panchayat or present themselves to the employment guarantee assistant (EGA). The EGA records the application in the employment register. The employment application via the block program officer is a "fallback" option only.
8. The gram panchayat informs (1) the block program officer about new work applications and (2) the Vigilance and Monitoring Committee about estimates regarding the work, time frame, and quality parameters.
9. The gram panchayat and block program officer assign employment.
10. The gram panchayat informs the block program officer about the employment allotments made.
11. The gram panchayat informs the block program officer about the start of work, and the block program officer issues registered Muster Rolls.
12. Upon completion of the work, the Vigilance and Monitoring Committee prepares the report and submits it to the gram sabha, the block program officer, and the district program coordinator.

Planning process

A. The gram panchayat forwards the development plan and priorities to the block program officer.
B. The block program officer scrutinizes and approves the gram panchayat–specific proposals and sends the consolidated gram panchayat proposals to the taluk panchayat.
C. The taluk panchayat sends the approval of the shelf of gram panchayat proposals.
D. The block program officer forwards the shelf of gram panchayat proposals to the district program coordinator.
E. The district program coordinator consolidates the block plans and prepares the labor budget. The junior engineer assists the block program officer and develops and approves technical estimates. These are sent to the zilla parishad, which approves the block-wise shelf of projects and the labor budget.
F. The zilla parishad informs the district program coordinator about the approval.
G. The district program coordinator reports the approved projects to the block program officer.
H. The block program officer forwards a copy of the block plan to the gram panchayats.
I. The district program coordinator forwards the labor budget to the Government of Bihar.
J. The Government of Bihar forwards the labor budget to the Ministry of Rural Development.

Figure A2: NREGS Implementation (source: Raabe, Sekher, and Schiffer (2010))

is a flexible control function of margin of victory in a neighboring constituency c^N.

G Equation for Treatment Effects by Political Importance

To analyze how politicians respond to differing political importance of engaging different block bureaucrats within their areas we vary the proportion of the population in the politician's constituency (between low, medium and high). We estimate an equation of the following form:

$$\begin{aligned} y_{p,b,c} =& \beta_1 Split * V_{p,b,c}^{low} + \beta_2 Split * V_{p,b,c}^{med} + \beta_3 Split * V_{p,b,c}^{high} + \\ & \beta_4 V_{p,b,c}^{low} + \beta_5 V_{p,b,c}^{med} + \beta_6 V_{p,b,c}^{high} + \\ & BlockArea_{p,b,c} + a_c + X'_{p,b,c} + \epsilon_{p,b,c} \end{aligned} \tag{4}$$

Where $V_{p,b,c}^{K}$ is an indicator variable that refers to a the population in polygon p as a proportion of total population in constituency c such that:

$$K = \begin{cases} low & \text{if proportion } \in [0, 0.33) \\ med & \text{if proportion } \in [.33, 0.66) \\ high & \text{if proportion } \in [0.66, 1] \end{cases}$$

$Split_{p,b,c}$ is an indicator variable for whether the polygon belongs to a split bureaucrat's jurisdiction. $\beta_4 - \beta_6$ give the average outcomes in unsplit polygons. $\beta_1 - \beta_3$ give the difference from these averages in split polygons for the given population proportion.

H Equations for Treatment Effects by Indian National Congress Winners

To identify the effect of an INC politician, we estimate the following equation:

$$y_{p,b,c,s} = \gamma INC\ Winner_c + f(Victory\ Margin_c) + Z_s^{'}\phi + \epsilon_{p,b,c,s} \quad (5)$$

$$\forall\ c\ \ s.t.\ \ Victory\ Margin_c \in (-h, h)$$

where the coefficient of interest is γ. $INC\ Winner_c$ equals 1 if the winner belongs to INC, and zero if the INC politician was the runner up, in constituency c. $f(Victory\ Margin_c)$ is a flexible control function of margin of victory in a neighboring constituency c.

To identify how the effect of split blocks varies by politician's party, we estimate the following equation:

$$y_{g,b,c} = a_c + \gamma_1 SPLIT_b + \gamma_2 SPLIT_b \times INC\ Win_c + f(X_v, Y_v) + B_{b^S,b^{US},c} + g(VM_c) + Z_{v,g,b,c}^{'}\phi + \epsilon_{v,g,b,c} \quad (6)$$

$$\forall\ v\ \ s.t.\ \ X_v, Y_v \in (-h, h)$$

$$\forall\ c\ \ s.t.\ \ Victory\ Margin_c \in (-k, k)$$

where the coefficient of interest is γ_2. $INC\ Win_c$ equals 1 if the winner belongs to INC, and zero if the INC politician was the runner up, in constituency c. $f(X_v, Y_v)$ is a flexible control function in the distance of a village to the border. $g(VM_c)$ is a flexible control function of margin of victory in a neighboring constituency c. We retain constituency fixed effects a_c, boundary fixed effects $B_{b^S,b^{US},c}$, as well as census and other covariates $Z_{v,g,b,c}$.

I Summary Statistics

Table A1: Summary Statistics at Village-level

Variable	Mean	Std. Dev.	Min.	Max.	N
# Constituencies					3,441
# Blocks					5,460
# Split Blocks (Treatment)					2,076
# Unsplit Blocks (Control)					3,384
# Boundaries (for RD)					16,292
# Village Clusters (GP)					155,291
# Villages					465,214
NREGS Variables					
Workdays	12819.19	22279.99	0	535032.94	465214
ln(Workdays)	8.14	2.44	0	13.19	465214
Worked	489.3	836.41	0	13627.99	465214
ln(Worked)	5.15	1.79	0	9.52	465214
Deposits in Rupees	1326709.53	2450230.87	0	78656224	437140
ln(Deposits)	11.84	4.43	0	18.18	437140
Ratio of Workdays to Deposits	1.56	22.27	0	7179.45	388057
Census Variables					
Population Index	0	1	-0.27	508.89	465209
Minority Index	0	1	-0.44	336.29	465209
Vulnerable Index	0	1	-87.61	14.89	460124
Education Index	0	1	-1.16	35.25	465207
Medical Facilities Index	0	1	-0.70	71.69	465207
Water Index	0	1	-1.87	2.73	465207
Communications Index	0	1	-2.43	104.97	465207
Bank Index	0	1	-3.03	69.37	465207
Road Index	0	1	-1.84	1.24	426369
Urbanization Index	0	1	-2.81	222.57	426369
Irrigation Index	0	1	-0.35	602.67	464863
Agricultural Worker Index	0	1	-0.83	36.24	465205
Marginal Worker Index	0	1	-1.45	4.16	459960
Non-Agricultural Worked Index	0	1	-0.17	403.21	465205
GIS Variables					
Village Longitude	80.91	5.11	68.52	97.07	465214
Village Latitude	23.47	4.62	8.1	34.91	465214
Constituency Changed	0.71	0.46	0	1	424690
Dist. to State Capital (in Km)	210.04	136.74	0.6	858.51	465214
Dist. to AC Centroid (in Km)	13.54	8.60	0.03	179.44	465214

Table A2: Summary Statistics at Polygon-level

Variable	Mean	Std. Dev.	Min.	Max.	N
# Blocks					5460
# Constituencies					3441
# Polygons					8660
# Split Blocks (Treatment)					2,076
# Unsplit Blocks (Control)					3,384
NREGS Variables					
Workdays	13693.03	24405.14	0	370704.44	8660
ln(Workdays)	8.21	2.23	0	12.82	8660
Worked	458.17	726.06	0	8459.03	8660
ln(Worked)	5.18	1.64	0	9.04	8660
Census Variables					
Population Index	0.28	2.88	-0.27	169.68	8657
Minority Index	0.24	3.69	-0.44	305.01	8657
Vulnerable Index	-0.01	0.97	-62.1	11.84	8629
Education Index	0.32	1.13	-1.16	14.32	8660
Medical Facilities Index	0.26	1.24	-0.70	21.81	8660
Water Index	0.18	1	-1.87	2.73	8660
Communications Index	0.26	1.39	-2.43	22.68	8660
Bank Index	0.12	1.04	-3.03	16.82	8660
Road Index	0.13	0.91	-1.84	1.24	8169
Urbanization Index	-0.12	1.14	-2.81	73.72	8169
Irrigation Index	0.08	0.54	-0.14	27.45	8616
Agricultural Worker Index	0.33	1.03	-0.83	14.19	8654
Marginal Worker Index	-0.1	0.53	-1.29	3.33	8629
Non-Agricultural Worked Index	0.26	2.43	-0.17	134.37	8654
Other Variables					
Proportion of AC Pop.	0.35	0.25	0	1	8084
Proportion of Block Pop.	0.62	0.39	0	1	8508

Table A3: Summary Statistics for Transfers in Kerala

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Columns (2)-(4) in Table 10					
Number of Blocks					162
Split Block	0.73	0.45	0	1	232
Transfer of Existing BDO	0.78	0.42	0	1	289
Promotion	0.18	0.38	0	1	289
New Hire	0.05	0.22	0	1	289
Columns (5)-(6) in Table 10					
Number of Persons					65
Want to be Transferred to Split Block	0.72	0.45	0	1	117
Transfer to Split Block	0.67	0.48	0	1	63
Retirement within 2 years	0.09	0.29	0	1	195

J Balance Tables

Table A4: Balance Table: Effect of Split

Variable	Difference	p-value	# Blocks	# Villages
Panel A: OLS specification				
Population Index	0.009	0.003	5457	465209
Minority Index	0.004	0.383	5457	465209
Vulnerable Pop Index	-0.001	0.846	5439	460124
Education Index	0.003	0.556	5460	465207
Medical Facilities Index	-0.008	0.102	5460	465207
Water Index	-0.001	0.859	5460	465207
Communications Index	0.003	0.518	5460	465207
Banking Index	0.000	0.960	5460	465207
Road Index	0.001	0.782	5148	426369
Urbanization Index	-0.002	0.852	5148	426369
Irrigation Index	0.011	0.336	5445	464863
Agricultural Worker Index	0.001	0.860	5454	465205
Marginal Worker Index	-0.005	0.576	5439	459960
Non-Agricultural Worker Index	0.011	0.002	5454	465205
Panel B: Geographic RD specification (25 Km Bandwidth)				
Population Index	-0.000	0.934	5162	244857
Minority Index	-0.006	0.335	5162	244857
Vulnerable Pop Index	-0.001	0.937	5159	242111
Education Index	-0.000	0.988	5163	244852
Medical Facilities Index	-0.015	0.108	5163	244852
Water Index	-0.003	0.759	5163	244852
Communications Index	-0.004	0.497	5163	244852
Banking Index	-0.000	0.973	5163	244852
Road Index	0.006	0.183	4851	228862
Urbanization Index	0.004	0.657	4851	228862
Irrigation Index	0.071	1.00	5148	244547
Agricultural Worker Index	-0.001	0.895	5161	244856
Marginal Worker Index	0.013	0.278	5159	242025
Non-Agricultural Worker Index	0.003	0.549	5161	244856

Notes: This table presents balance between treated and untreated units using the OLS specification in Panel A, and the geographic RD specification in Panel B. In Panel A, the 'Difference' column represents the treatment effect of Split on each Index in rows. This regression includes area of block as a control, as well as constituency fixed effects. Standard errors are clustered at the block level. Panel B reports the treatment effects from a similar regression but also includes boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

Table A5: Balance Table: Effect of Split, Polygon Dataset

Variable	Coefficient	p-value	# Blocks	# Polygons
Population Index	0.041	0.056	5457	8657
Minority Index	0.027	0.065	5457	8657
Vulnerable Pop Index	0.004	0.691	5439	8629
Education Index	-0.004	0.822	5460	8660
Medical Facilities Index	-0.009	0.641	5460	8660
Water Index	-0.010	0.294	5460	8660
Communications Index	-0.030	0.190	5460	8660
Banking Index	-0.026	0.143	5460	8660
Road Index	-0.006	0.448	5148	8169
Urbanization Index	-0.013	0.229	5148	8169
Irrigation Index	0.000	1.000	5445	8616
Agricultural Worker Index	-0.014	0.468	5454	8654
Marginal Worker Index	-0.011	0.430	5439	8629
Non-Agricultural Worker Index	0.032	0.087	5454	8654

Notes: This table presents balance between treated and untreated units using the OLS specification on a dataset collapsed at the polygon level, where each index is the mean of that index from the village level dataset. The 'Difference' column represents the treatment effect of Split on each Index in rows. This regression includes area of block as a control, as well as constituency fixed effects. Standard errors are clustered at the block level.

Table A6: Balance Table: INC and non-INC legislators

Variable	Coefficient	p-value	# Blocks	# Villages
Population Index	0.006	0.870	360	11408
Minority Index	0.091	0.497	360	11408
Vulnerable Pop Index	-0.084	0.527	360	11283
Education Index	-0.087	0.292	360	11408
Medical Facilities Index	-0.096	0.153	360	11408
Water Index	0.017	0.897	360	11408
Communications Index	0.351	0.495	360	11408
Banking Index	0.695	0.401	360	11408
Road Index	0.029	0.741	344	10695
Urbanization Index	0.173	0.584	344	10695
Irrigation Index	0.052	0.073	358	11396
Agricultural Worker Index	0.078	0.476	360	11408
Marginal Worker Index	-0.001	0.994	360	11280
Non-Agricultural Worker Index	0.012	0.745	360	11408

Notes: This table presents balance between INC and non-INC legislator constituencies using the close elections RD specification with a bandwidth of 1 percent. The analysis limits villages within 25 Kms of the border. This regression includes state fixed effects. Standard errors are clustered at the constituency level.

Table A7: Balance Table: Different Party Analysis for 1% Bandwidth

Variable	Coefficient	p-value	# Blocks	# Polygons
Population Index	0.338	0.282	139	147
Minority Index	0.190	0.395	139	147
Vulnerable Pop Index	-0.027	0.707	139	147
Education Index	-0.006	0.935	139	147
Medical Facilities Index	-0.039	0.710	139	147
Water Index	-0.137	0.189	139	147
Communications Index	-0.182	0.019	139	147
Banking Index	-0.368	0.014	139	147
Road Index	0.046	0.749	133	141
Urbanization Index	-0.199	0.029	133	141
Irrigation Index	-0.009	0.892	139	147
Agricultural Worker Index	0.001	0.996	139	147
Marginal Worker Index	-0.038	0.791	139	147
Non-Agricultural Worker Index	-0.125	0.649	139	147

Notes: This table presents balance between treated and untreated units using the close elections RD specification on a dataset of blocks that are split two ways. This dataset is collapsed at the polygon level, where each index is the mean of that index from the village level dataset. The 'Difference' column represents the treatment effect of Split on each Index in rows. This regression includes state fixed effects. Standard errors are clustered at the block level.

Table A8: Balance Table: Fuzzy Matched Blocks

Variable	Coefficient	p-value	# Unmatched	# Matched
Population Index	-0.316	0.025	386	5457
Minority Index	-0.252	0.006	387	5458
Vulnerable Pop Index	0.520	0.000	372	5456
Agricultural Worker Index	0.513	0.000	387	5458
Marginal Worker Index	0.279	0.000	381	5436
Non-Agricultural Worker Index	-0.396	0.004	387	5458

Notes: This table presents balance between blocks we are able to match in our dataset with those that remin unmatched. Balance variables are indices made from census covariates at the block level. The 'Difference' column represents the treatment effect of Matched on each Index in rows.

K Analysis of Treatment Variation in Constituencies

Most of our analysis includes constituency fixed effects. In this section we analyze which constituencies contain variation in our treatment variable, Split. Figure A3 presents constituencies that have some variation on split, and are included in our analysis. We note our results are not driven by a particular region of India. Table A9 shows that we have good balance across these two areas using census indices.

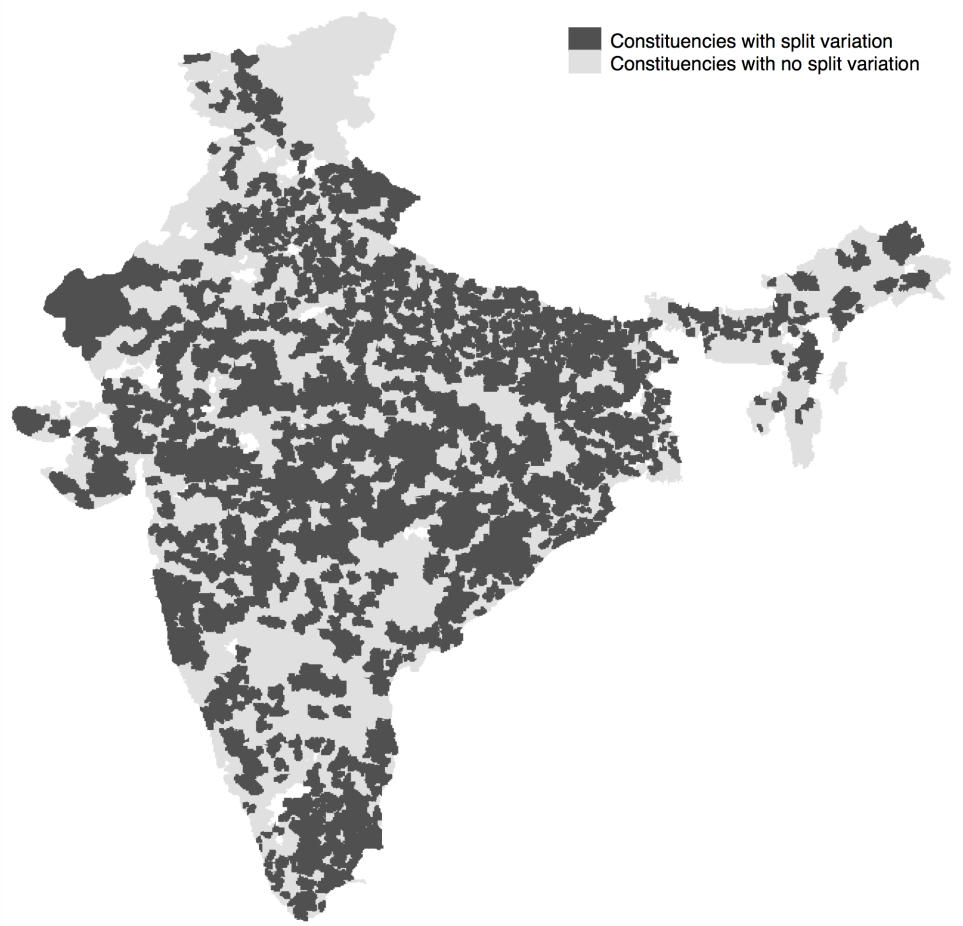


Figure A3: Constituencies in Regressions

Table A9: Balance Table: Constituencies with Treatment Variation

Variable	Difference	p-value	# No Variation	# Variation
Population Index	0.544	0.149	578	2863
Minority Index	0.584	0.179	578	2863
Vulnerability Index	-0.038	0.215	574	2860
Education Index	0.001	0.929	578	2863
Medical Facilties Index	0.001	0.910	578	2863
Water Index	-0.002	0.754	578	2863
Communications Index	0.004	0.713	578	2863
Bank Index	-0.007	0.533	578	2863
Road Index	-0.007	0.499	540	2680
Urbanization Index	-0.013	0.135	540	2680
Irrigation Index	-0.007	0.417	575	2832
Agricultural Worker Index	0.055	0.023	578	2863
Marginal Worker Index	-0.052	0.000	574	2860
Non-Agricultural Worker Index	0.335	0.146	578	2863

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The unit of observation is the village. The outcome for column (1) is a binary measure of weather a village belongs to a split block. The outcome for Column (1) is an indicator variable for whether a block is split. Outcomes for columns (2)-(5) are in natural logarithms and vary at the village cluster (gram panchayat) level. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects and a control for area of block. Additional census controls for OLS models in columns (1), (3) and (5) include Population and Non-Agricultural Worker indices. Geographic RD models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

L Geographic RD Balance by Bandwidth

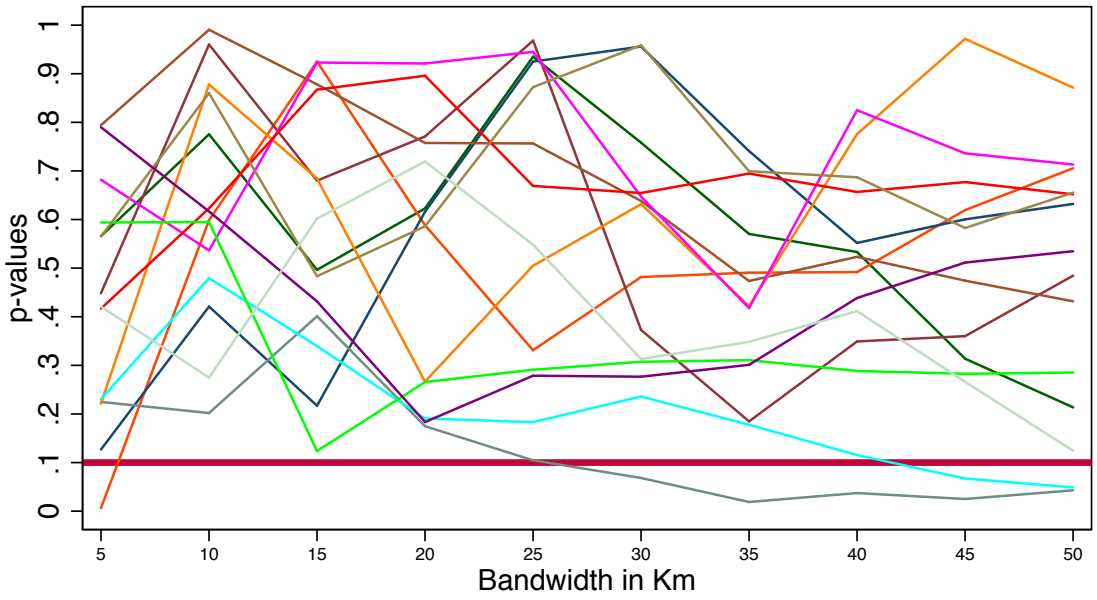


Figure A4: Geographic RD Balance by Bandwidth

Notes: This figure shows balance of census indices around the cut-off for varying bandwidths. Each line represents one of 14 indices created from then Indian Census of 2001.

M Robustness of Main Results - Data at Polygon Level

Table A10: Main Results

	Workdays (1)	# Worked (2)
Split	-0.122***	-0.101***
	(0.028)	(0.020)
Mean Dependent Variable	8.213	5.181
# Blocks	5454	5454
# Constituencies	3441	3441
# Polygons	8654	8654

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. Outcomes are natural logarithms of workdays. All variables are collapsed to the polygon level (which contain villages and village-clusters) and the unit of observation is the polygon. Standard errors are clustered at the block level. All models include constituency fixed effects, a control for area of block, as well as population, minority and non-agricultural worker indices.

In Table A13 we utilize linear, quadratic, cubic and quartic control functions (varying from our main specifications which follows those adopted by Dell (2010) and Michalopoulos and Papaioannou (2011).) We also restrict our sample of villages by limiting distance between the village and the border dividing split and unsplit blocks (to up to 5 kilometer bandwidths). Figure A5 shows robustness of our across several bandwidths. Throughout these alternate specifications, our results remain robust, both substantively, and statistically.

Table A11: Robustness of Main Results - Split Across 6 Constituencies or less

	Workdays (1)	Workdays (2)	# Worked (3)	# Worked (4)
Split	-0.120***	-0.095***	-0.096***	-0.077***
	(0.022)	(0.025)	(0.016)	(0.017)
Mean Dependent Variable	8.180	8.183	5.186	5.175
# Blocks	5413	5125	5413	5125
# Cons.	3308	3097	3308	3097
# Villages	419997	242966	419997	242966
Census Controls	YES	YES	YES	YES
Constituency FE	YES	YES	YES	YES
Boundary FE	-	YES	-	YES
Bandwidth	-	25km	-	25km
Model	OLS	Geo RD	OLS	Geo. RD

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. All outcomes are in natural logarithms and vary at the village cluster (gram panchayat) level. The unit of observation is the village. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects and a control for area of block. Census controls for columns (1) and (3) include Population and Non-Agricultural worker indices at the village-level, from the Indian 2001 census. Geographic RD models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

Table A12: Robustness of Main Results - Outcomes in Levels

	Workdays (1)	Workdays (2)	# Worked (3)	# Worked (4)
Split	-170.402	-836.650**	-5.124	-27.284**
	(236.446)	(364.156)	(8.204)	(11.569)
Mean Dep Var.	12819.274	13052.593	489.309	508.830
# Blocks	5454	5163	5454	5163
# Cons.	3441	3139	3441	3139
# Villages	465205	244858	465205	244858
Census Controls	YES	YES	YES	YES
Constituency FE	YES	YES	YES	YES
Boundary FE	-	YES	-	YES
Bandwidth	-	25km	-	25km
Model	OLS	Geo RD	OLS	Geo. RD

Notes: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. All outcomes vary at the village cluster (gram panchayat) level. The unit of observation is the village. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects and a control for area of block. Census controls for columns (1) and (3) include Population and Non-Agricultural worker indices at the village-level, from the Indian 2001 census. Geographic RD models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

Table A13: Robustness of Main Results - Geo RD by Model and Bandwidth

Distance to Boundary	(1) 5km	(2) 10km	(3) 25km	(4) 50km
Panel A: Outcome - ln(Workdays)				
Linear	-0.074**	-0.079***	-0.071***	-0.084***
	(0.030)	(0.020)	(0.017)	(0.016)
Quadratic	-0.074**	-0.079***	-0.071***	-0.084***
	(0.030)	(0.020)	(0.017)	(0.016)
Cubic	-0.073**	-0.079***	-0.071***	-0.084***
	(0.030)	(0.020)	(0.017)	(0.016)
Quartic	-0.073**	-0.079***	-0.071***	-0.084***
	(0.030)	(0.020)	(0.017)	(0.016)
Panel B: Outcome - ln(Worked)				
Linear	-0.084*	-0.093***	-0.088***	-0.109***
	(0.047)	(0.030)	(0.025)	(0.024)
Quadratic	-0.084*	-0.094***	-0.088***	-0.109***
	(0.047)	(0.030)	(0.025)	(0.024)
Cubic	-0.083*	-0.094***	-0.088***	-0.109***
	(0.047)	(0.030)	(0.025)	(0.024)
Quartic	-0.083*	-0.094***	-0.088***	-0.109***
	(0.047)	(0.030)	(0.025)	(0.024)

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. All outcomes are in natural logarithms and vary at the village cluster (gram panchayat) level. The unit of observation is villages. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects as well a control for area of block. All models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). The controls functions are of the following forms. Linear: $x + y$, Quadratic: $x + y + x^2 + y^2 + xy$, Cubic: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$, and Quartic: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2 + x^4 + y4 + x^3y + x^2y^2 + xy^3$. Cubic control function is a replication of Dell (2010) and Michalopoulos and Papaioannou (2011)'s main specification. We also use this as our main RD specification in the paper.

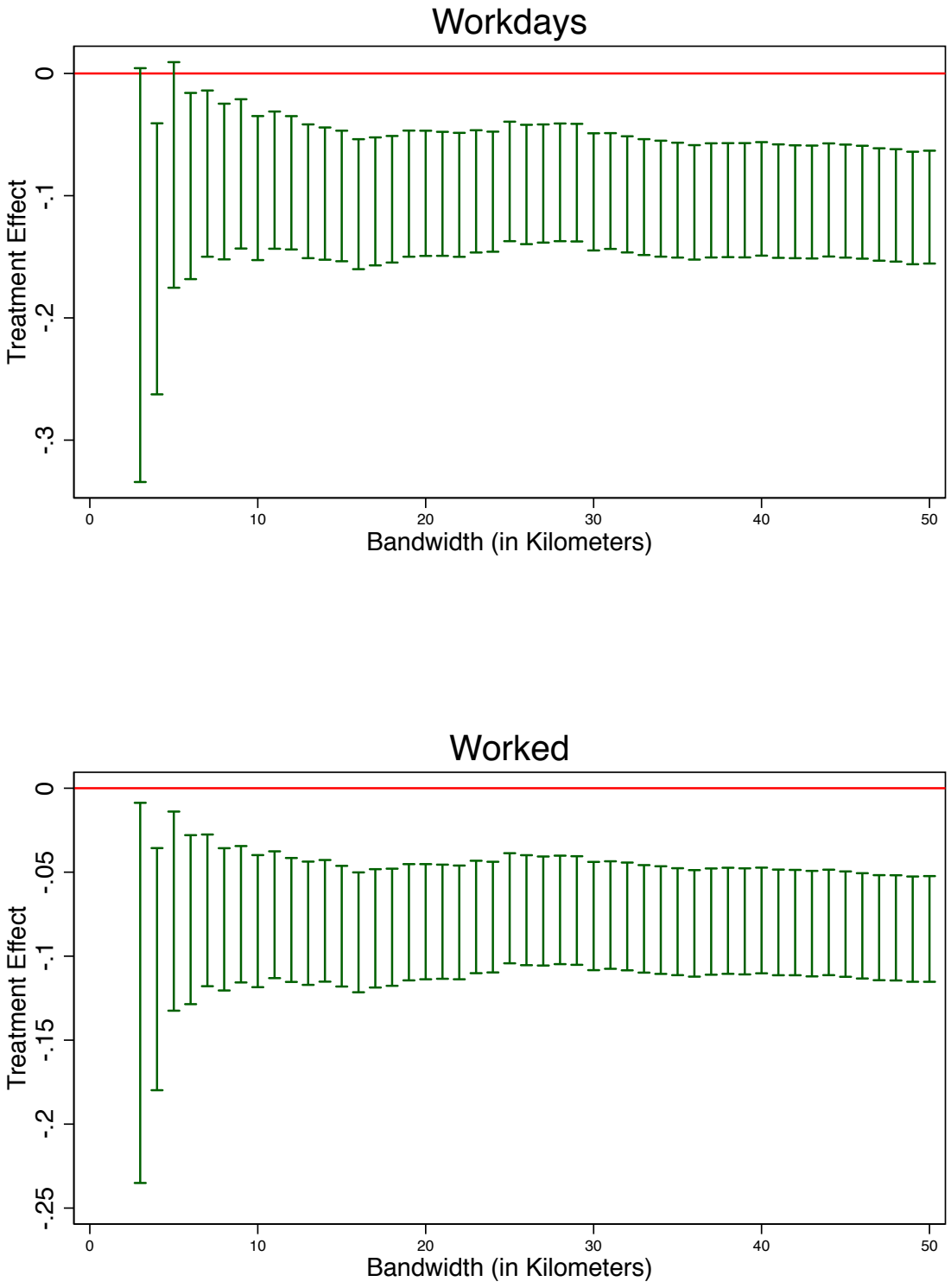


Figure A5: Geographic RD Treatment Effect by Bandwidth

Notes: This figure plots the geographic RD models along varying bandwidths. We present point estimates and the associated 95 percent confidence interval for the difference between unsplit blocks and split blocks. All outcomes are in natural logarithms and vary at the village cluster (gram panchayat) level. The unit of observation is the village. Standard errors

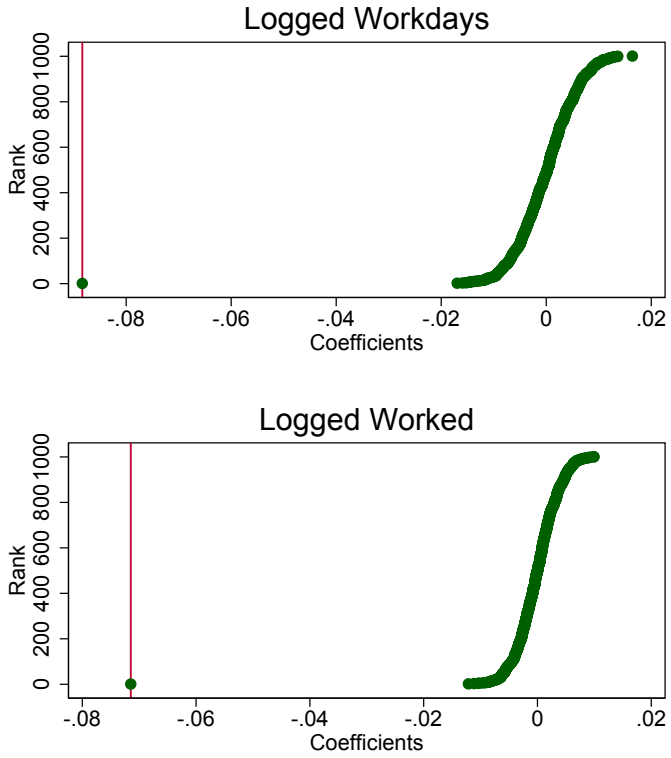


Figure A6: Geographic RD Treatment Effect Randomization Inference

Notes: This figure plots treatments effects from a permutation test using the standard geographic RD models within a bandwidth of 25 km. The p-values generated with this test do no require us to make any asymptotic limiting distribution for inference (Gerber and Green, 2012). We perform this test by creating a vector of artificial treatment assignments using a random number generator. For each treatment assignment, a corresponding artificial treatment effect is generated. This is represented by dots in this figure. The plot these artificial treatment effects by the rank of their size on the y axis. The actual observed treatment effect, represented by the vertical line through the dot is ranked 1, and lies much further from the distribution of 1000 artificial treatment effects. This shows that the observed effect has not occurred by chance.

N The Effect of Split as the Number of Splits Increase

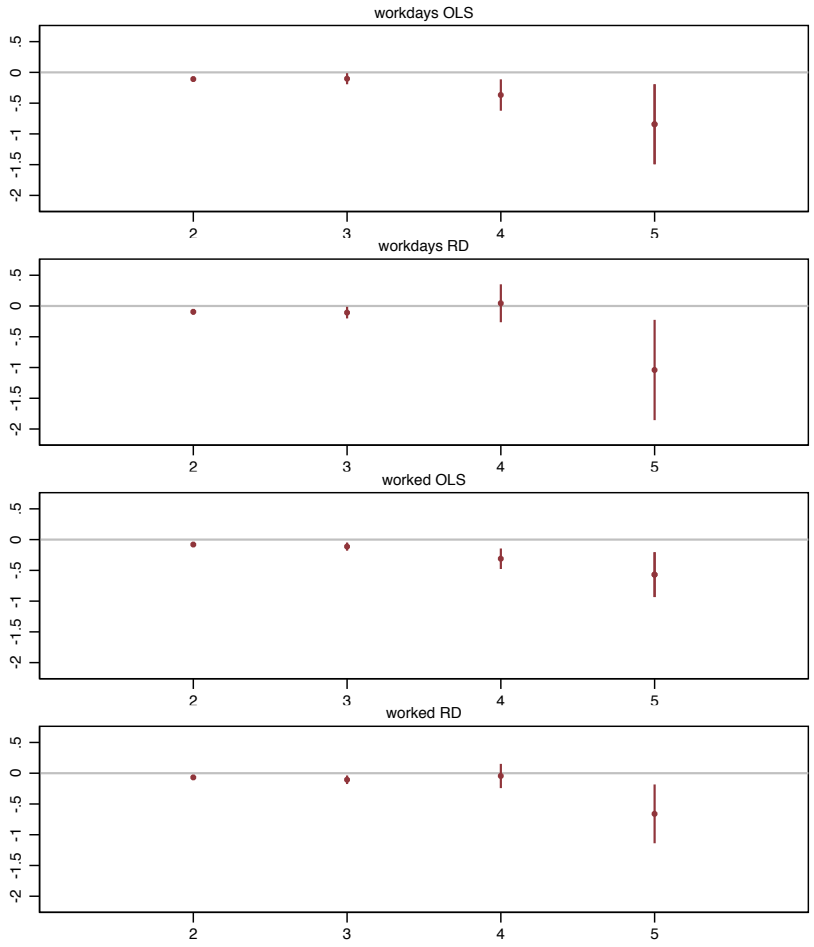


Figure A7: Treatment Effect by the Number of Splits

Notes: This figure plots the the difference between unsplit and split blocks using fixed effects regressions (in the first and third panels), and geographic RD models (in the second and fourth panels) with a 25 Km bandwidth. We present point estimates and the associated 90 percent confidence interval for the difference between unsplit blocks and split blocks, where the number of splits varies across the horizontal axis. All outcomes are in natural logarithms and vary at the village cluster (gram panchayat) level. The unit of observation is the village. Standard errors, clustered at the block level, are reported in parentheses. All models include a covariate for the area of a block and constituency fixed effects. OLS models include controls for census indices including Population and Non-Agricultural Worker. Geographic RD models include boundary fixed effects and a flexible function of village centroid longitudes (x) and latitudes (y) of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

O Varying the Close Election Threshold: Neighboring Politician

Figure A8: Different Party Wins Election in Neighboring Constituency

Notes: Dots represent means of data binned in 16 equal parts using the `binscatter` command in Stata. The data are residualized for common shocks at the state level, a control for area of block, and Communications, Bank and Urbanization controls from the Indian census. This figure is generated with data collapsed at the polygon level. All outcomes are logged. Positive values on the horizontal axis refer to instances where the politician in the neighboring constituency belongs to a different party. Negative values indicate are for instances where neighboring politicians belong to the same party.

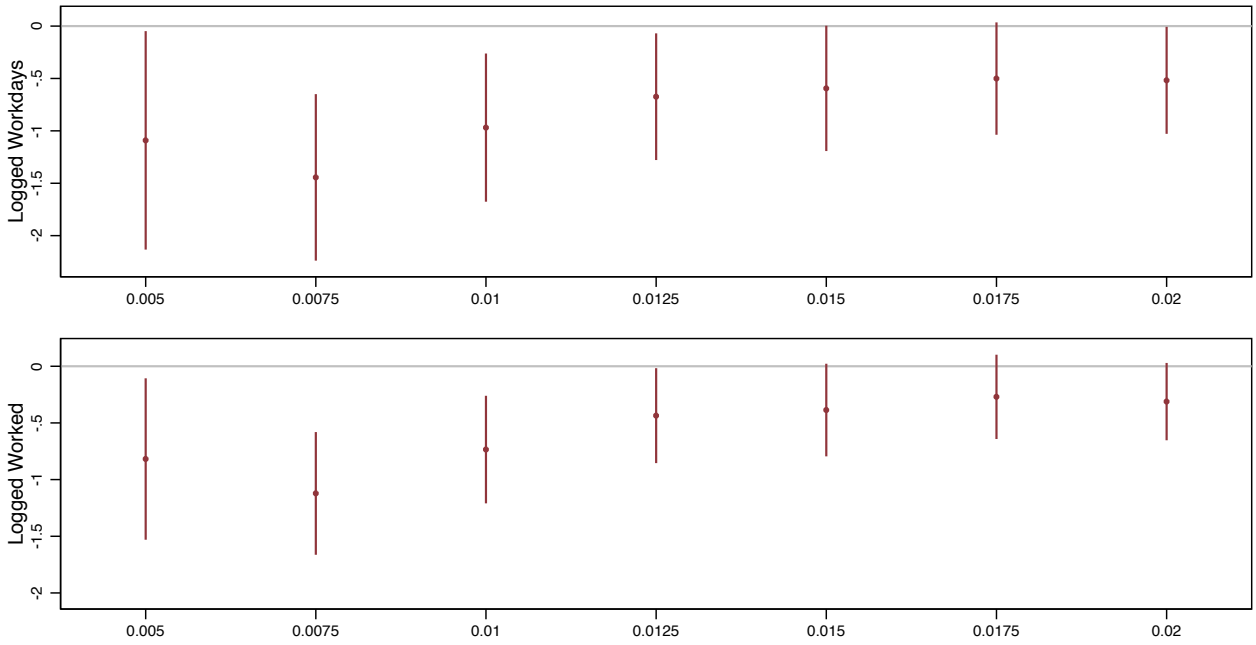


Figure A9: Close Election Threshold: Varying Bandwidth Robustness

Notes: In this figure we analyze how the quasi-random assignment of politician party in the neighboring political constituency affects NREGS delivery. This is presented across several bandwidths of margin of victory around the cut-off. The vertical lines block the 90 percent confidence interval around the treatment effect. In the top figure the outcome is workdays (logged) and in the bottom figure the outcome is number of individuals who worked (logged).

P McCrary Test for Different Party Close Elections

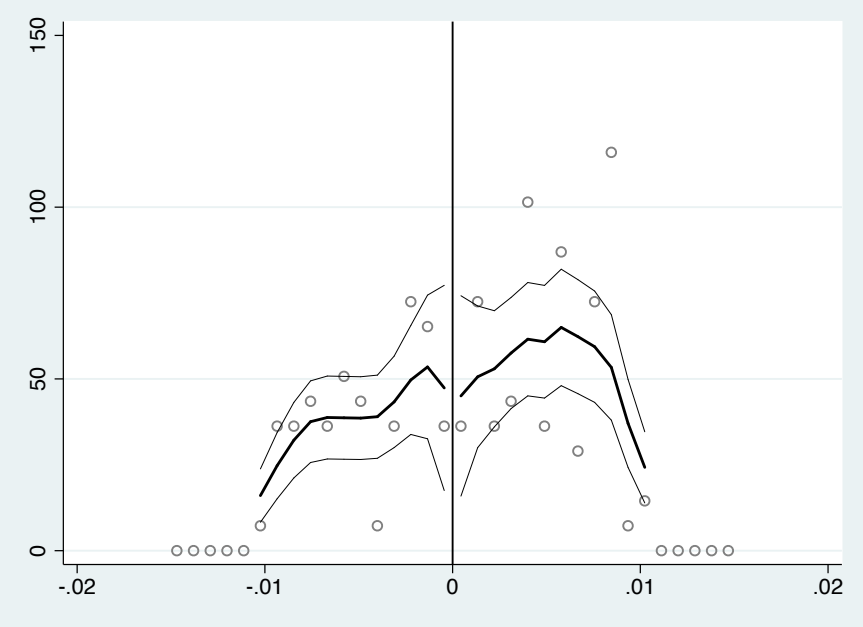


Figure A10: McCrary Test for Different Party Close Election Analysis (McCrary, 2008)

Q Varying the Close Election Threshold: INC Winner analysis

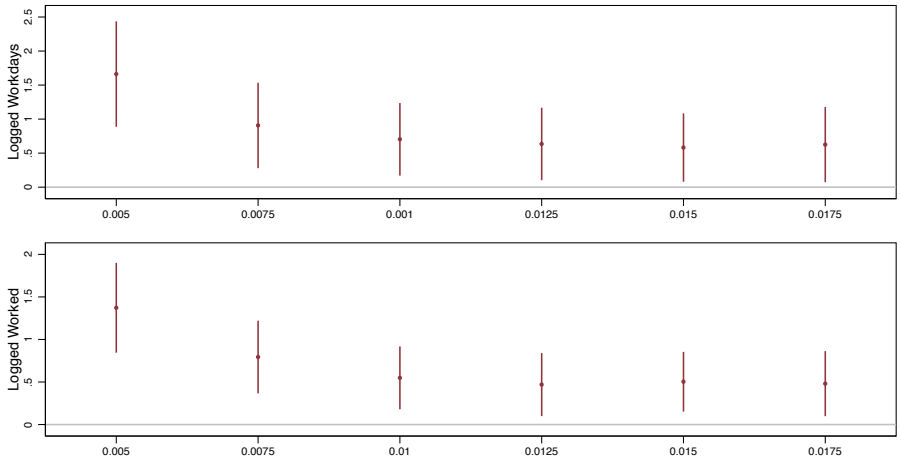


Figure A11: Close Election Threshold: INC winner

Notes: In this figure we analyze how the quasi-random assignment of INC legislator affects NREGS implementation. This is presented across several bandwidths of margin of victory around the cut-off. The vertical lines block the 90 percent confidence interval around the change in treatment effect of a split block. In the top figure the outcome is workdays (logged) and in the bottom figure the outcome is number of individuals who worked (logged).

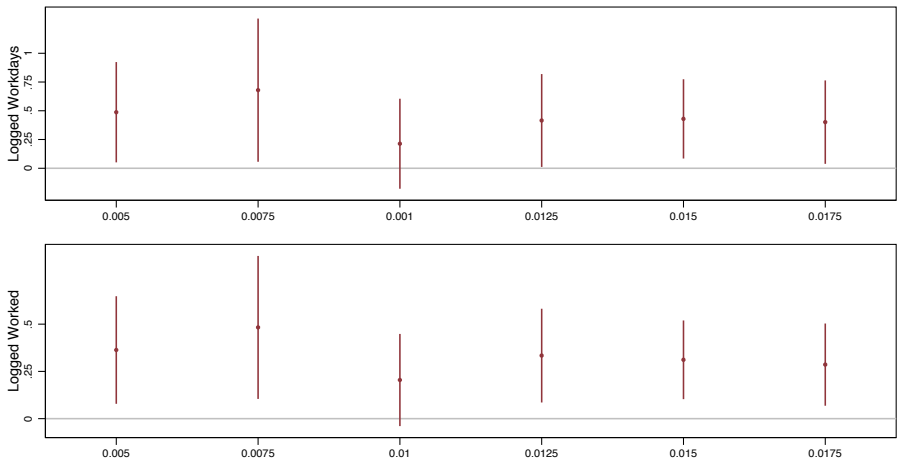


Figure A12: Close Election Threshold: Treatment Effect by INC

Notes: In this figure we analyze how the quasi-random assignment of INC legislator affects the treatment effect. This is presented across several bandwidths of margin of victory around the cut-off. The vertical lines block the 90 percent confidence interval around the change in treatment effect of a split block. In the top figure the outcome is workdays (logged) and in the bottom figure the outcome is number of individuals who worked (logged).

R McCrary Test for INC Winner Close Elections

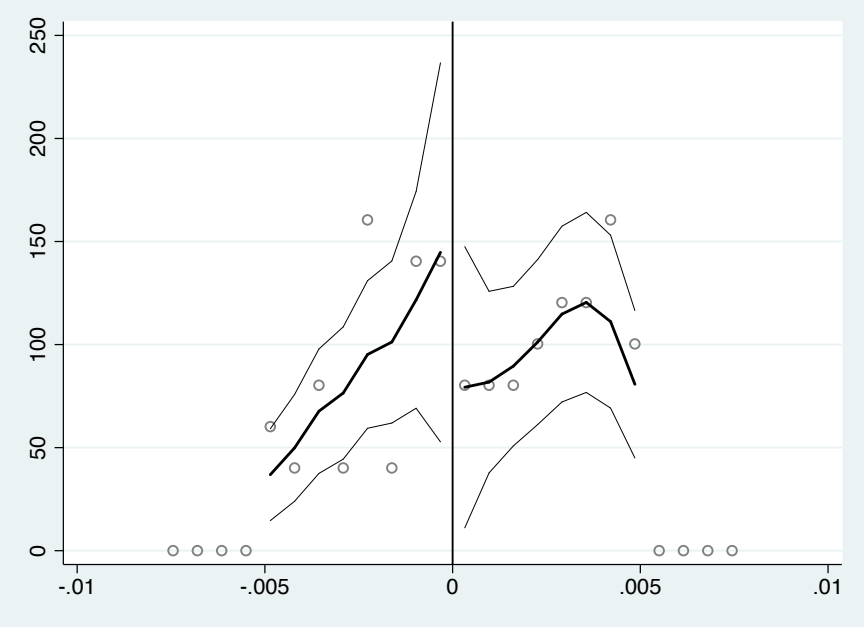


Figure A13: McCrary Test for INC Close Election Analysis (McCrary, 2008)

S Missing Data in Collusion Analysis

Table A14 analyzes whether missing data in Table 8is systematically correlated with treatment. We generate an indicate variable for missing data, and regress it on the treatment variable, Split, with the OLS (Column (1)) and Geographic RD (Column (2)) models. we can see that Split increases the probability of data being missing in the analysis by 0.7 percent. This is equivalent to about 126 observations in the geographic RD model. For comparison, we have 215,002 observations in the geographic RD model in Table 8. We interpret this as a small difference that is precisely estimated.

Table A14: Missingness in Deposits

	Missing (1)	Missing (2)
Split	0.007***	0.007**
	(0.002)	(0.003)
Missing Data	77156	29855
# Villages	465205	244858
Census Controls	YES	YES
Constituency FE	YES	YES
Boundary FE	-	YES
Bandwidth	-	25km
Model	OLS	Geo RD

Notes: $*p < 0.1$, $**p < 0.05$, $***p < 0.01$. The unit of observation is the village. The outcome is an indicator variable for whether there is missingness in the disbursement data. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects and a control for area of block. Additional census controls for OLS models in columns (1) include Population and Non-Agricultural Worker indices. Geographic RD models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

T Comparison of Changed Constituencies

We use GIS software to identify changes in these two sets of boundaries.This involved the following steps: (1) we used the `intersect` tool in ArcGIS to decompose the two boundaries into common polygons. To do this we allowed a tolerance of 5 kilometers as the two sets of boundaries are drawn with human error. (2) For each constituency, we checked to see if it contains more than one polygon in the pre or post delimitation stages. We code those that contain on polygon are remaining unchanged. The rest are coded as having been changed during the delimitation process. (3) We match this information back to our village level dataset. Table A15 shows the balance on the 2001 census indices between constituencies that we identified as changing during the delimitation process. As usual, we find very good balance on the indices, and control for the three slightly imbalanced variables in the analysis below.

TABLE A15 about here

If there is strategic manipulation we expect to see treatment effects amplified in places that saw changes in their political boundaries. We test for this in Table A16. Column (1) shows that changes to the constituency do not predict whether a block ends up being split. This suggests that constituencies were not moved around with the objective of splitting some blocks. Columns (2)-(5) show that our results are in fact stronger in magnitude for constituencies that *did not* see their constituency changed, a result contrary to what we would expect if there was strategic manipulation of boundaries. Therefore, changes in political boundaries do not seem to explain our results. If anything, they show that in places that saw changes to the boundaries, bureaucratic performance may have been relatively better. This suggests that the delimitation process may be reducing then problem of split jurisdictions overtime.

TABLE A16 about here

Table A15: Balance Table: Comparison of Changed Constituencies

Variable	Difference	p-value	# Unchanged	# Changed
Population Index	0.002	0.542	4818	424685
Minority Index	0.011	0.197	4818	424685
Vulnerable Pop Index	0.022	0.017	4802	420063
Education Index	-0.004	0.558	4821	424683
Medical Facilities Index	-0.008	0.243	4821	424683
Water Index	0.007	0.432	4821	424683
Communications Index	0.003	0.508	4821	424683
Banking Index	-0.001	0.843	4821	424683
Road Index	-0.007	0.437	4575	394131
Urbanization Index	-0.006	0.590	4575	394131
Irrigation Index	0.011	0.001	4807	424491
Agricultural Worker Index	0.022	0.038	4818	424684
Marginal Worker Index	-0.002	0.880	4802	419914
Non-Agricultural Worker Index	-0.004	0.610	4818	424684

Notes: This table presents balance between constituencies that changed during the delimitation process, and those that did not. The 'Difference' column represents the effect of constituency change on each Index in rows.

Table A16: The Effect of Split Bureaucrats by Constituency Changes

	Split (1)	Workdays (2)	Workdays (3)	# Worked (4)	# Worked (5)
Constituency Changed	0.027				
	(0.019)				
Split (β_0)		-0.173***	-0.169***	-0.139***	-0.121***
		(0.034)	(0.044)	(0.025)	(0.030)
Constituency Changed x Split (β_1)		0.100**	0.139***	0.086***	0.088**
		(0.041)	(0.053)	(0.030)	(0.035)
H: $\beta_0 = \beta_1$ (p-value)		0.000	0.001	0.000	0.001
Mean Dependent Variable	0.498	8.139	8.207	5.154	5.190
# Blocks	4789	4789	4732	4789	4732
# Constituencies	2860	2860	2722	2860	2722
# Villages	419866	419866	226400	419866	226400
Census Controls	YES	YES	YES	YES	YES
District FE	YES	YES	YES	YES	YES
Constituency FE	-	YES	YES	YES	YES
Boundary FE	-	-	YES	-	YES
Bandwidth		-	25km	-	25km
Model	OLS	OLS	Geo RD	OLS	Geo RD

Notes: $^*p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. The unit of observation is the village. The outcome for column (1) is a binary measure of weather a village belongs to a split block. The outcome for Column (1) is an indicator variable for whether a block is split. Outcomes for columns (2)-(5) are in natural logarithms and vary at the village cluster (gram panchayat) level. Standard errors, clustered at the block level, are reported in parentheses. All models include constituency fixed effects and a control for area of block. Additional census controls for OLS models in columns (1), (3) and (5) include Population and Non-Agricultural Worker indices. Geographic RD models also include boundary fixed effects and a flexible function in village centroid longitudes (x) and latitudes (y). This is of the form: $x + y + x^2 + y^2 + xy + x^3 + y^3 + x^2y + xy^2$.

U Census Variables in Balance Table Indices

Due to the large number of variables in the 2001 Indian census (203 total variables across the Socio-Demographic module and the Infrastructure module), we combine the individual census variables into indices. We generated these indices using the Indian Census' variable groupings - for instance, our Education Index combines 10 variables listed in the census grouping that includes all measures of school and college facilities.

The only exception we made to following the groupings of the Census was to constructing our own Vulnerability Index. This Index combines measures of the proportion of the village population under the age of 6, proportion illiterate, the proportion of 'non-workers' (a proxy for unemployment). Each index is constructed by averaging standardized census variables, after which we again standardize the resulting index..

We list each census' variable included in each index below. Note: while the vast majority of census variables are binary or counts, some variables provide additional qualitative information when village data was unavailable (known as 'range codes') – we omit these additional variables.

Socio-Demographic and Economic Module of 2001 Indian Census

- Population Index

  8 TOT_NM_HH - Total number of households

  9 TOT_POP - Total population

  10 M_POP - Male population

  11 F_POP - Female population

- Vulnerability Index (note: all components of Vulnerability Index are divided by TOT_POP)

  12 TOT_L6 - Total pop below 6 years

  14 F_L6 - Female pop below 6 years

24 TOT_ILLT - Total Illiterates

26 F_ILLT - Female Illiterates

60 TOT_NNW - Total Non-workers

62 F_NNW - Female Non-workers

- Minority Index (note: all components of Minority Index are divided by TOT_POP)

  15 TOT_SC - Total scheduled caste

  16 M_SC - Male scheduled caste

  17 F_SC - Female scheduled caste

  18 TOT_ST - Total scheduled tribe

  19 M_ST - Male scheduled tribe

  20 F_ST - Female scheduled tribe

- Agricultural Worker Index

  33 TOT_CULT - Total Cultivators

  34 M_CULT - Male Cultivators

  35 F_CULT - Female Cultivators

  36 TOT_AGLB - Total Agricultural Labourers

  37 M_AGLB - Male Agricultural Labourers

  38 F_AGLB - Female Agricultural Labourers

- Non-Agricultural Worker Index

  39 TOT_MFHH - Total Household industry workers

  40 M_MFHH - Male Household industry workers

  41 F_MFHH - Female Household industry workers

42 TOT_OTH_W - Total other workers

43 M_OTH_W - Male other workers

44 F_OTH_W - Female other workers

- Marginal Worker Index

45 TOT_MRW - Total Marginal workers other workers

46 M_MRW - Male Marginal workers other workers

47 F_MRW - Female Marginal workers other workers

48 T_MRG_CULT - Total Marginal workers as cultivators

49 M_MRG_CULT - Male Marginal workers as cultivators

50 F_MRG_CULT - Female Marginal workers as cultivators

51 T_MRG_AGLB - Total Marginal workers as agricultural labourers

52 M_MRG_AGLB - Male Marginal workers as agricultural labourers

53 F_MRG_AGLB - Female Marginal workers as agricultural labourers

54 T_MRG_HH - Total Marginal workers household industry workers

55 M_MRG_HH - Male Marginal workers household industry workers

56 F_MRG_HH - Female Marginal workers household industry workers

57 T_MRG_OTH - Total Marginal workers as other workers

58 M_MRG_OTH - Male Marginal workers as other workers

59 F_MRG_OTH - Female Marginal workers as other workers

Infrastructure and Amenities Module of 2001 Indian Census

- Education Index

18. EDU_FAC - Educational facilities (binary)

19. P_SCH - Number of Primary School

21. M_SCH - Number of Senior Secondary School

23. S_SCH - Number of Secondary School

24. S_S_SCH - Number of Senior Secondary School

25. COLLEGE - Number of Collage

27. IND_SCH - Number of Industrial School

28. TR_SCH - Number of Training School

29. ADLT_LT_CT - Number of Adult literacy Class/Centre

30. OTH_SCH - Number of Other educational facilities

- Medical Facilities Index

31. MEDI_FAC - Medical facilities (binary)

32. ALL_HOSP - Allopathic hospital, Maternity and Child Welfare Centre and Primary Health Centre

34. AYU_HOSP - Number of Allopathic Hospital

35. UN_HOSP - Number of Unani Hospital

36. HOM_HOSP - Number of Homeopathic Hospital

37. ALL_DISP - Number of Allopathic Dispensary

38. AYU_DISP - Number of Ayurvedic Dispensary

39. UN_DISP - Number of Unani Dispensary

40. HOM_DISP - Number of Homeopathic Dispensary

41. MCW_CNTR - Number of Maternity and Child Welfare Centre

43. M_HOME - Number of Maternity Home

44. CWC - Number of Child Welfare Centre Number of Health Centre

45. H_CNTR - Number of Health Centre

46. PH_CNTR - Number of Primary Health Centre

48. PHS_CNT - Number of Primary Health Sub Centre

49. FWC_CNTR - Number of Family Welfare Centre Number of T.B. Clinic

50. TB_CLN - Number of T.B. Clinic

51. N_HOME - Number of Nursing Home

52. RMP - Number of Registered Private Medical Practiotioners

53. SMP - Number of Subsidised Medical Practitioners

54. CHW - Number of Community Health workers

55. OTH_CNTR - Number of Other medical facilities

- Water Index

56. DRNK_WAT_F - Drinking Water facility (binary)

58. TAP - Tap Water (T)

59. WELL - Well Water (W)

60. TANK - Tank Water (TK)

61. TUBEWELL - Tubewell Water (TW)

62. HANDPUMP - Handpumb (HP)

63. RIVER - River Water(R)

64. CANAL - Canal (C)

65. LAKE - Lake (L)

66. SPRING - Spring (S)

67. OTHER - Other drinking water sources (O)

- Communications Index

    71. P_T_FAC - Post, Telegraph and Telephone facilities (binary)

    72. POST_OFF - Number of Post Office

    74. TELE_OFF - Number of Telegraph Office

    75. POST_TELE - Number of Post and Telegraph Office

    76. PHONE - Number of Telephone connections

    78. COMM_FAC - Communication

    79. BS_FAC - Bus services

    81. RS_FAC - Railways services

    83. NW_FAC - Navigable water way including River, Canal etc.

    Number of Telephone connections

- Banking Index

    85. BANK_FAC - Banking facility (binary)

    86. COMM_BANK - Number of Commercial Bank

    88. COOP_BANK - Number of Agricultural Credit Societies

    90. CRSOC_FAC - Credit Societies (Y/N)

    91. AC_SOC - Number of Agricultural Credit Societies

    93. NAC_SOC - Number of Non Agricultural Credit Societies

    95. OTHER_SOC - Number of Other Credit Societies

    97. RC_FAC - Recreational and Cultural facilities (binary)

    98. C_V_HALL - Number of Cinema/Video-hall

    100. SP_CL_FAC - Number of Sports Club

    102. ST_AU_FAC - Number of Stadium/Auditorium

- Road Index

    104. APP_PR - Approach - Paved Road

    105. APP_MR - Approach - Mud Road

    106. APP_FP - Approach - Foot Path

    107. APP_NAVRIV - Approach - Navigable River

    108. APP_NAVCAN - Approach - Navigable Canal

    109. APP_NW - Approach - Navigable water-way other than river or Canal

    111. DIST_TOWN - Distance from the nearest Town (in kilometer(s))

- Urbanization Index

    112. POWER_SUPL - Power supply (binary)

    113. POWER_DOM - Electricity for Domestic use

    114. POWER_AGR - Electricity of Agricultural use

    115. POWER_OTH - Electricity of other purposes

    116. POWER_ALL - Electricity for all purposes

    117. PAP_MAG - Newspaper/Magazine (binary)

    118. NEWS_PAP - Newspaper (Indicate N, if arrived)

    119. MAGAZINE - Magazine (indicate M, if arrived)

- Irrigation Index

    126. LAND_FORES - Forest Irrigated (by source)

    127. CANAL_GOVT - Government Canal

    128. CANAL_PVT - Private Canal

    129. WELL_WO_EL - Well (without electricity)

130. WELL_W_EL - Well (with electricity)
131. TW_WO_EL - Tube-well (without electricity)
132. TW_W_EL - Tube-well (with electricity)
133. TANK_IRR - Tank
134. RIVER_IRR - River
135. LAKE_IRR - Lake
136. W_FALL - Waterfall
137. OTH_IRR - Others [Water source]
138. TOT_IRR - Total Irrigated Area
139. UN_IRR - Unirrigated Area
140. CULT_WASTE - Culturable waste (including gauchar and groves)
141. AREA_NA_CU - Area not available for cultivation

V Details for How Large are the Effects? Back of the Envelope Calculations

In this section we detail several back of the envelope calculations we made to measure the size of the effects found in this paper. We calculate a working age population of 2,200 by: rural population in 2011 of 833,000,000 / 240,000 gram panchayats in 2011 * working age proportion of the population of 63.4%. To summarize: 833,000,000/240,000*.634 $\approx$ 2200. We calculate a US$2,400 shortage in income injection with: (1,000 workdays x 150 rupees daily wage) / 62.5 rupees to a dollar conversion rate (as of April 19, 2015). We calculate a financial cost of roughly US$600 per village-cluster by: (39 workers x 6.4 workdays x Rs. 150 daily wage) / 62.5 rupees to a dollar conversion rate.