

Parachuters vs. Climbers

Economic Consequences of Barriers to Political Entry
in a Democracy

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June 25, 2018

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Motivation

Context and Data

Conceptual Framework

Identification Strategy

Findings

Mechanisms

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 - But what about class background?

Example: same ascriptive identities but different backgrounds



Meira Kumar



Mayawati

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- Same sex, same religion, same ethnicity

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- But two very different entry routes

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- Unlike ascriptive identities, entry route is a choice variable

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Preview of findings

1. Parachuters lead to lower growth in close elections
2. Leader's entry route into politics is perhaps more important than ascriptive identities
3. Suggestive evidence that revenue extraction (operating via bureaucratic control) could be the underlying mechanism
 - Effect neither driven by regulation of technology adoption nor factor price manipulation

Context and Data

Context: Bihar ('heart of India')

Figure 1: Bihar, a state in North India



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Background

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- Study period: 1990-2015

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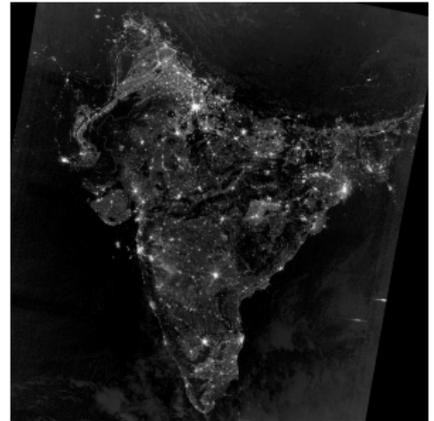
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- Consensus among Indian political scientists that state legislators play a critical role (Chhibber et al., 2004; Oldenburg, 2018)

Nighttime lights

- Satellite images recorded by NGDC at a 30 arc-second grid resolution between 1992 and 2012

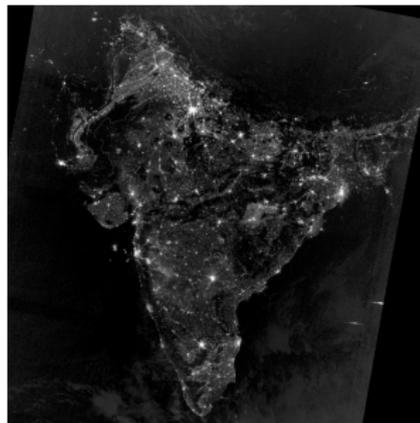
Figure 2: Lights in 2012



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- Satellite images recorded by NGDC at a 30 arc-second grid resolution between 1992 and 2012
- Economic growth is measured by difference in $\ln(\text{luminosity scores per } 100,000 \text{ voters})$ aggregated to the constituency level over the election cycle

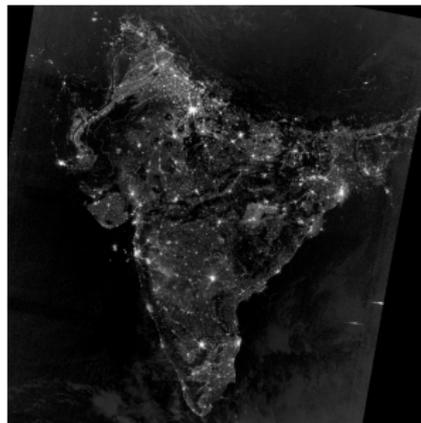
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- State domestic product to lights elasticity for Bihar = 0.13

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- Mini-biographies (ascriptive identity and entry routes)
- Legislator's traits (age, education, experience)

Conceptual Framework

'Mini-biographies' collected by conducting primary research and classified as follows:

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Climbers

- Activist

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- Local representative

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- Activist
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Political Background

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- Working class occupations

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- Don't value public goods as therefore under-invest in their provision
- Exert less effort as motivated by rent seeking/corruption

Identification Strategy

Identification Strategy: Regression Discontinuity Design

Constituency A

Parachuter: 36,000 votes

Climber: 35,725 votes

Margin of victory: +0.38%

Constituency B

Parachuter: 36,250 votes

Climber: 36,500 votes

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where,

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- $\text{MarginOfVictory}_{c,t} > 0 \Rightarrow$ Parachuter won
- $\text{MarginOfVictory}_{c,t} < 0 \Rightarrow$ Parachuter lost/climber won

Local linear regression

$$y_{c,t} = \beta_1 + \beta_2 \mathbf{1}(\text{MarginOfVictory}_{c,t} > 0) + \beta_3 \text{MarginOfVictory}_{c,t} + \beta_4 \mathbf{1}(\text{MarginOfVictory}_{c,t} > 0) \times \text{MarginOfVictory}_{c,t} + Z_{c,t} + e_{c,t} \quad (2)$$

where,

- β_2 is the coefficient of interest (impact of parachuters)
- $y_{c,t}$ is an outcome of interest (growth/redistribution) in constituency c at time t
- $Z_{c,t}$ are constituency- or candidate-level controls
- Standard errors $e_{c,t}$ are clustered at the constituency level

Empirical strategy: Polynomial control function

$$\begin{aligned} y_{c,t} = & \beta_1 + \beta_2 1(\text{MarginOfVictory}_{c,t} > 0) + f(\text{MarginOfVictory}) \\ & + 1(\text{MarginOfVictory}_{c,t} > 0) \times g(\text{MarginOfVictory}) \\ & + Z_{c,t} + e_{c,t} \end{aligned} \tag{3}$$

where,

- $f(\cdot)$ and $g(\cdot)$ are quadratic or cubic polynomial functions

Findings

Parachuter vs climber close elections



1990



1995



2000



2005

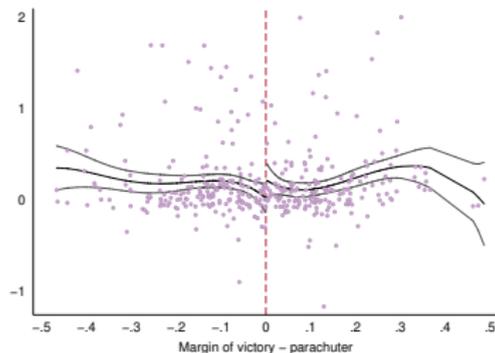
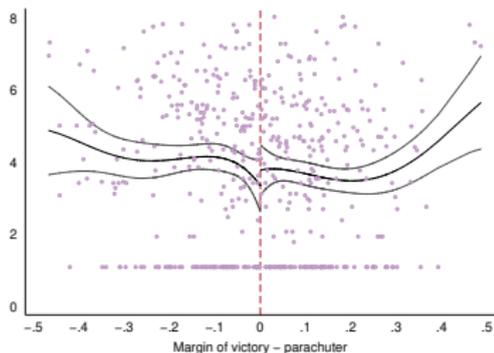


2010

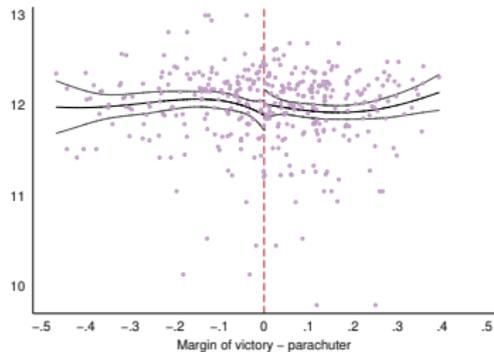
Findings

Covariate balance

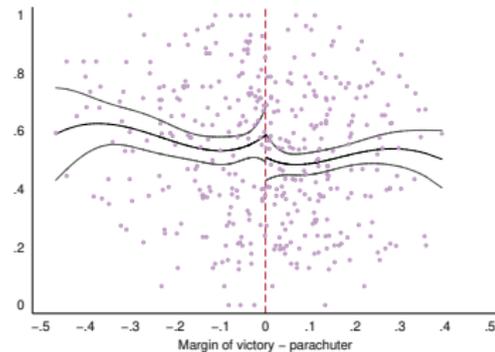
Covariate balance: Economic conditions



Initial level of $\ln(\text{luminosity})$



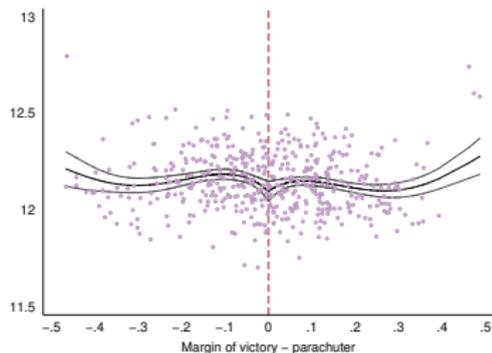
Lagged growth rates of lights



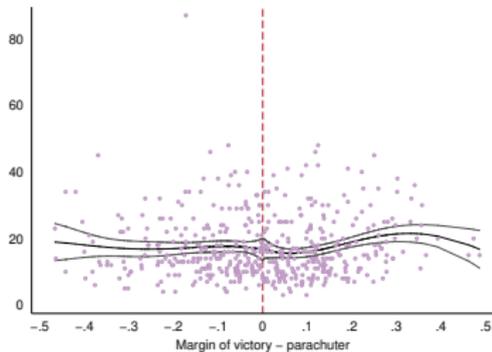
$\ln(\text{Population})$

Share of villages with electricity connection

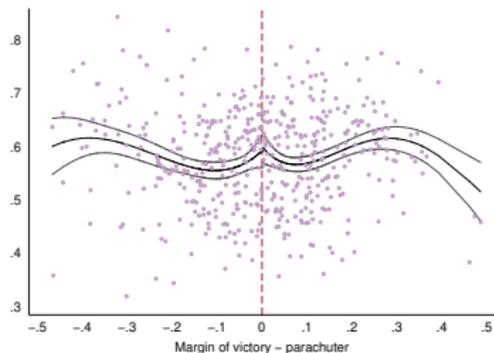
Covariate balance: Political competition



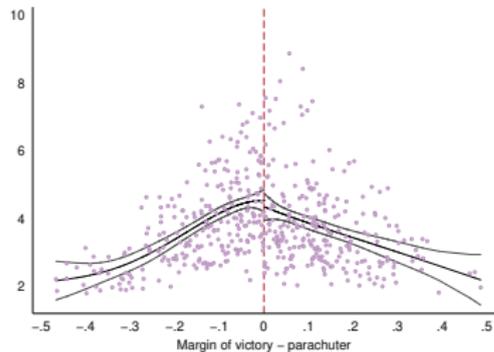
Ln(Electors)



Total contestants

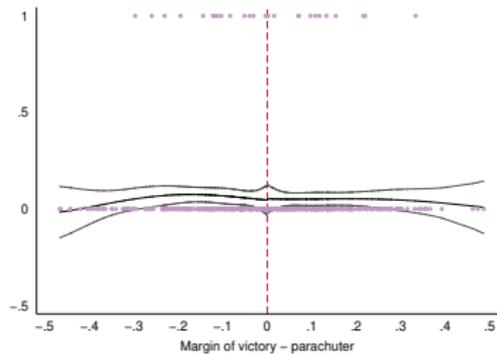
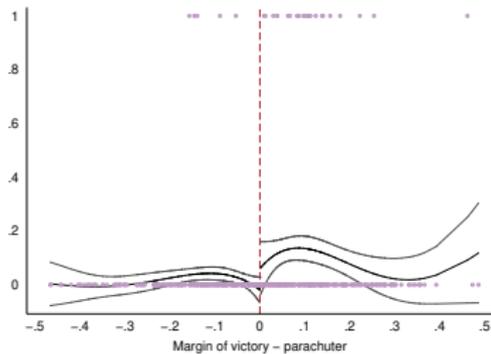


Voter turnout

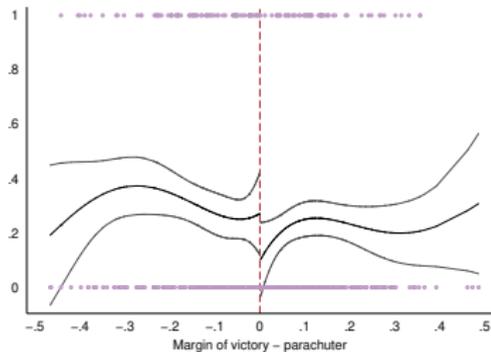


Effective number of candidates

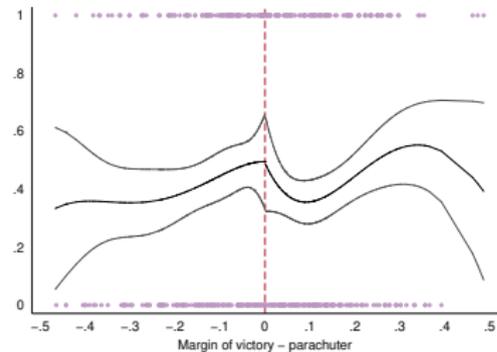
Covariate balance: Candidate's identity



Sex (female)



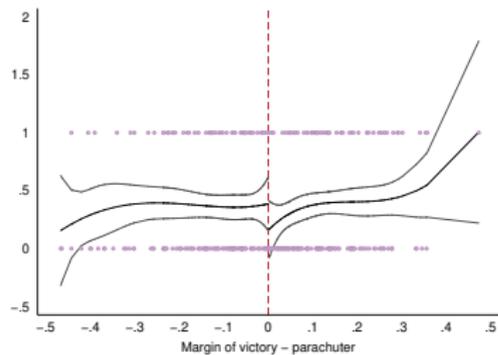
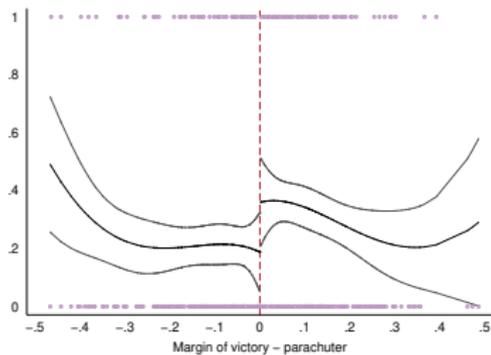
Religion (muslim)



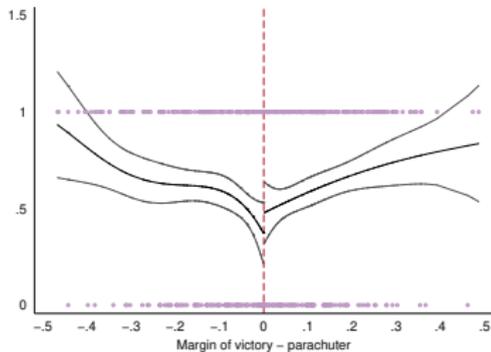
Ethnicity (lower caste)

Ethnicity (middle caste)

Covariate balance: Candidate's characteristics

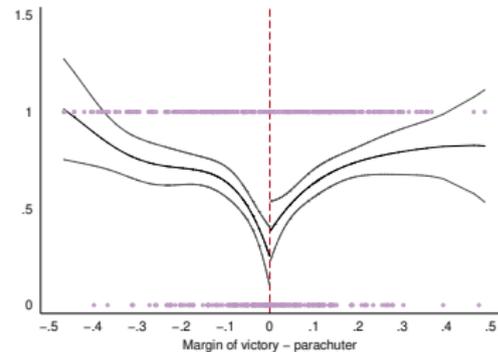


Ethnicity (upper caste)



National party

Candidate incumbency

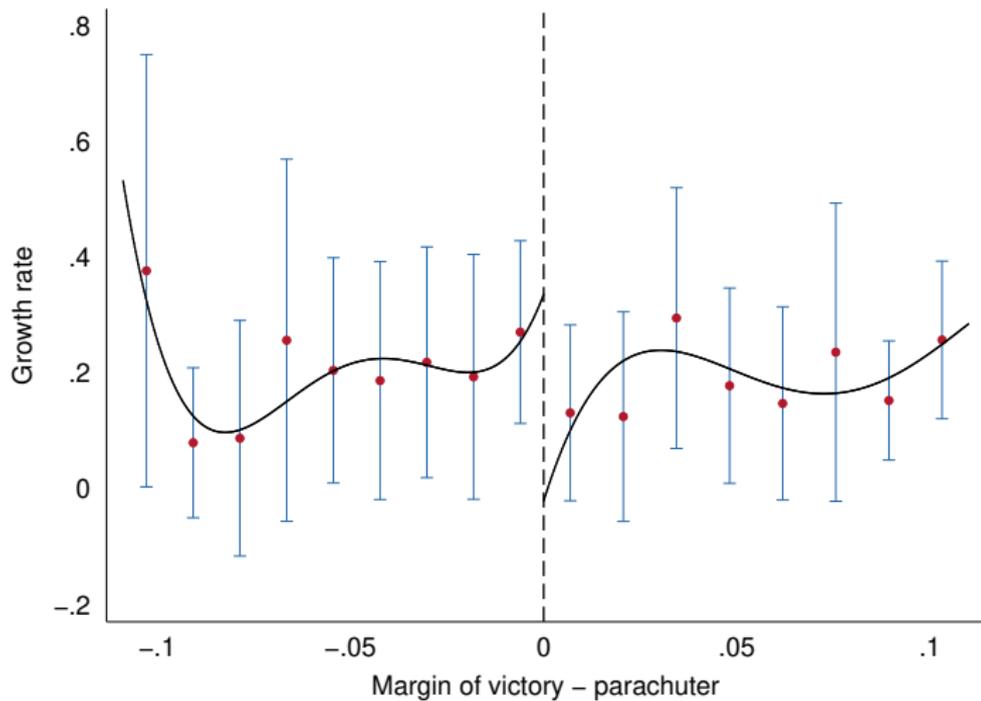


Aligned to ruling party

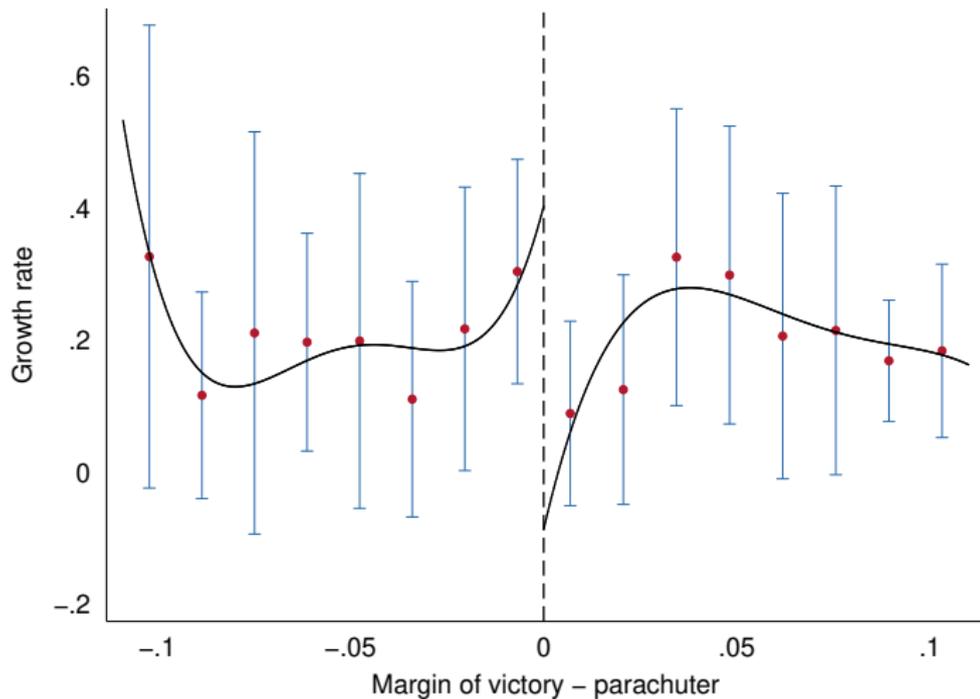
Findings

Economic impacts

Impact of parachuters on growth (5-year window)



Impact of parachuters on growth (4-year window)



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- Parachuters also lead to lower school construction ▶ Robustness 7

Findings

Ascriptive identity vs background

Adding covariates

	(1)	(2)	(3)	(4)
Conventional	-0.16 (0.09)*	-0.15 (0.09)	-0.16 (0.09)*	-0.08 (0.04)*
Bias-corrected/ Robust	-0.32 (0.09)*** [0.11]***	-0.30 (0.09)*** [0.12]***	-0.32 (0.09)*** [0.11]***	-0.15 (0.04)*** [0.06]***
N	225	225	225	133
Bandwidth	0.11	0.11	0.11	0.11
Constituency controls	No	Yes	Yes	Yes
Candidate controls	No	No	Yes	Yes
Incumbency control	No	No	No	Yes

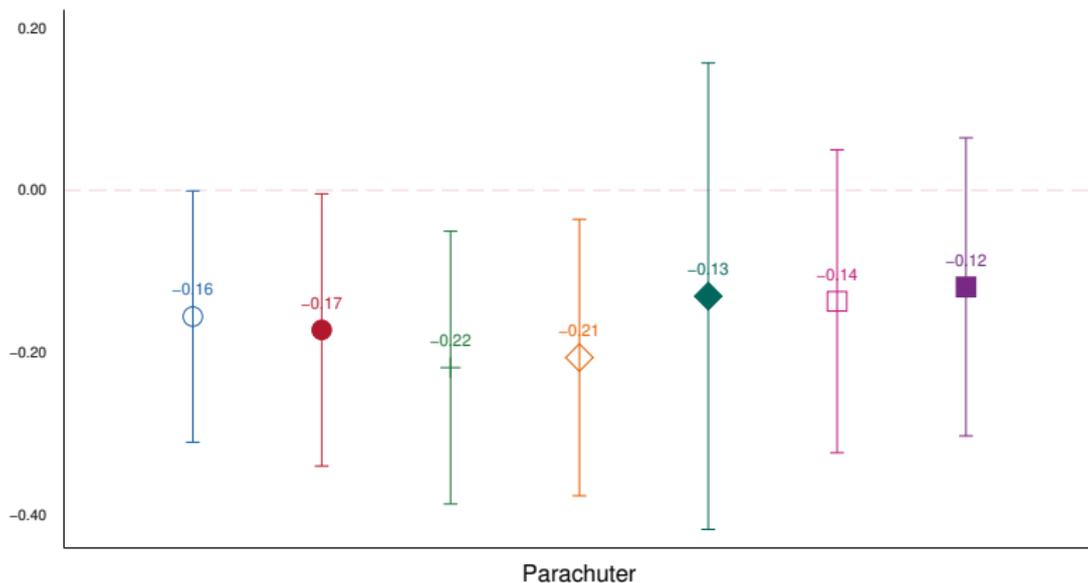
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Robustness to restricting candidate pool



- Drop none
- + Drop reserved constituencies
- ◆ Drop middle caste candidates
- Drop muslim candidates
- Drop women candidates
- ◇ Drop lower caste candidates
- Drop upper caste candidates

Summary so far

- Barriers to political entry and post-colonial elite persistence have perverse economic consequences, especially when executive constraints are weak

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- Barriers to political entry and post-colonial elite persistence have perverse economic consequences, especially when executive constraints are weak
- Magnitude of effect is meaningful: estimates of GDP-to-night-lights elasticity show that electing parachuters leads to 0.2 percentage point lower GDP growth per year compared to constituencies where climbers are elected
- Leader's entry route is a significant feature of political selection – perhaps more important than the role conventionally assigned to ascriptive identities such as sex, religion and caste

Mechanisms

How might parachuters lead to lower growth?

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Strategies that elites could use to preserve own power:

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3. Corruption and revenue extraction

- Elites set distortionary taxes to transfer resources to themselves (Acemoglu, 2006)

Mechanisms

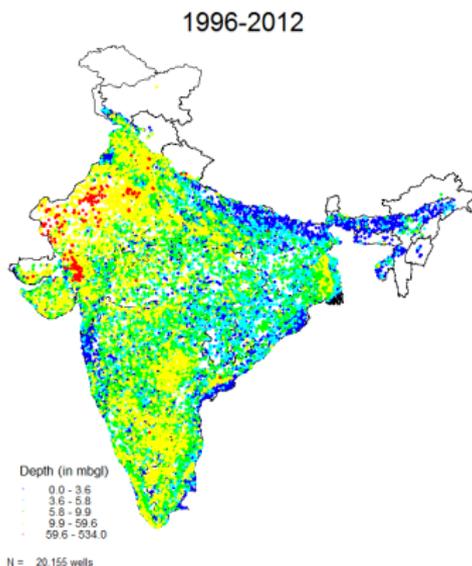
Regulation of Technology Adoption

Outcome: Irrigation investments (a proxy for tech. adoption)

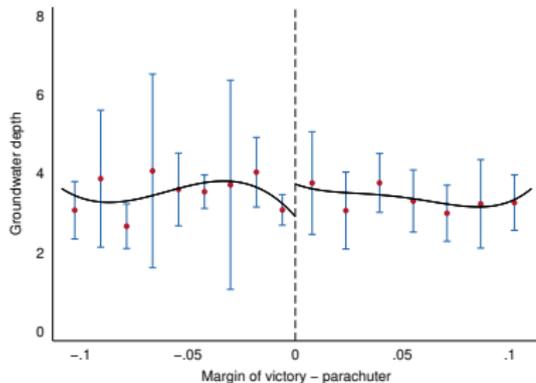
Depth of water tables

- Irrigation key to increase agricultural productivity
- Use depth below ground level to proxy for investments in tube wells/mechanized pumps
- Lower water tables suggests agrarian dynamism (greater technology adoption)

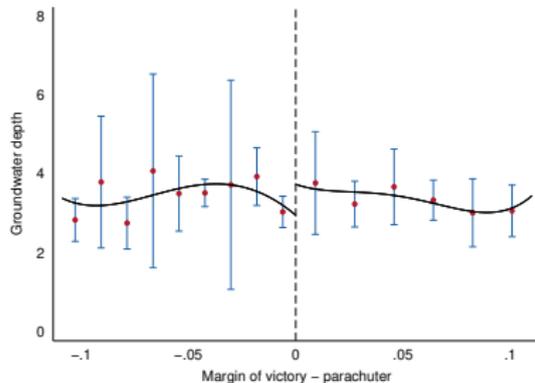
Figure 3: Groundwater depth in Rabi/lean season (November)



No impact on regulation of technology adoption



5-year window

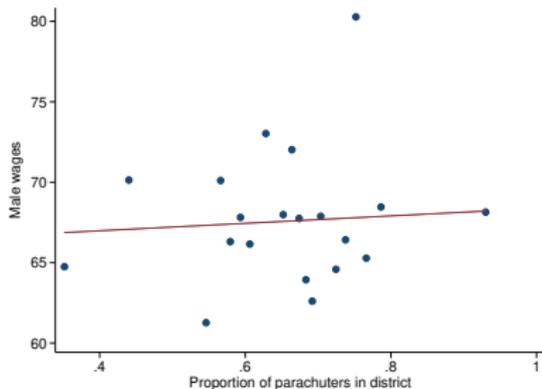


4-year window

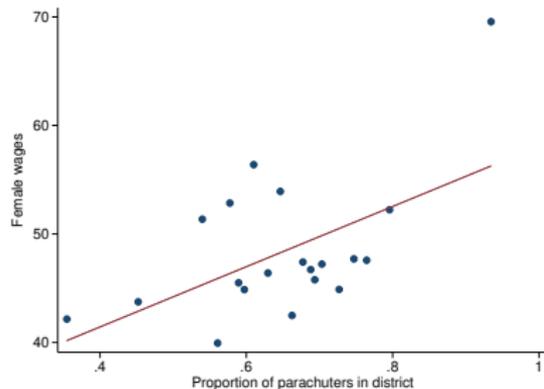
Mechanisms

Factor Price Manipulation

Wages not lower in districts with higher parachuters



Male wages



Female wages

Mechanisms

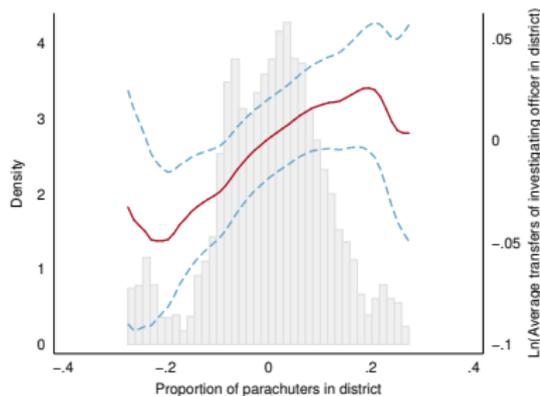
Revenue Extraction

- Bureaucratic control via 'transfers and posting' is a major source of revenue of rent seeking in which MLAs can play an important role (Ghosh, 1997; Saksena, 1993)

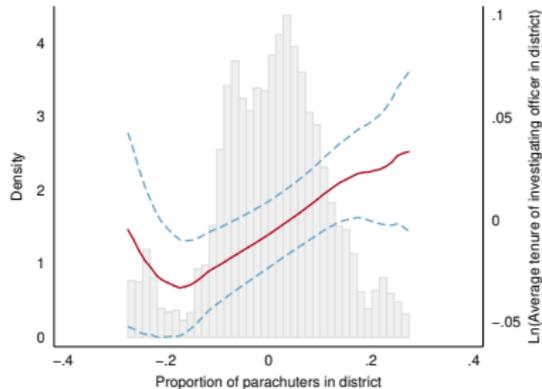
- Bureaucratic control via 'transfers and posting' is a major source of revenue of rent seeking in which MLAs can play an important role (Ghosh, 1997; Saksena, 1993)
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- I analyzed data on around 100,000 transfers of non-IAS police officers (these investigating officers form backbone of policing system)
- Hypothesis: Misallocation of police resources by elites \Rightarrow reduced efficiency of investigation \Rightarrow increased crime rates \Rightarrow depressed growth

Parachuters interfere in bureaucratic reassignment decisions



$\ln(\text{transfers})$



$\ln(\text{duration})$

Police turnover-crime elasticity

	Ln(All crime)			Ln(Economic crime)		
	(1)	(2)	(3)	(4)	(5)	(6)
Ln(duration)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.12 (0.08)	0.16 (0.08)*	0.17 (0.08)**
N	444	432	432	444	432	432
Mean	7.80	7.81	7.81	4.27	4.28	4.28
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Zone \times year trends	No	Yes	No	No	Yes	No
Range \times year trends	No	No	Yes	No	No	Yes

Note: Table presents results from the following regression in a district-year panel: $\ln(\text{duration})_{dt} = \beta \ln(\text{crime})_{dt} + u_d + f(t) + e_{dt}$ where, $\ln(\text{duration})_{dt}$ is the log of average tenure of investigating officers in district d in year t ; $\ln(\text{crime})_{dt}$ is the log of crime (either total crime or economic crimes) in district d in year t ; u_d are district fixed effects; $f(t)$ are non-parametric controls such as year FE, zone \times year trends and range \times year trends; e_{dt} is the idiosyncratic error term that is clustered at the district level.

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	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
Parachuter	0.04 (0.10)	-0.31 (0.12)**	-0.14 (0.12)	-0.45 (0.16)***
N	116	109	63	57
Mean	0.17	0.25	0.14	0.28
Sample restriction:				
Economic crime	Low	High	Low	High

Note: Col (1) and col (3) restrict the sample to districts which have below median crime rates, whereas col (2) and col (4) restrict the sample to districts above median crime rates.

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- Do climbers perform better because they are better informed and parachuters perform poorly because they incompetent?
- Or, are vested interests of the elite responsible for corruption?
- Difficult to untie these two competing explanations but perhaps examining heterogeneity by candidate's traits might provide some hints?

Ability or vested interests?

	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
<i>Panel A: Age</i>				
Parachuter	-0.11 (0.14)	-0.16 (0.13)	-0.34 (0.19)*	-0.39 (0.16)**
N	76	77	47	41
Mean	0.26	0.20	0.24	0.17
Sample restriction	Young	Old	Young	Old

Note: Col (1) and col (3) restrict the sample to legislators with below median age, whereas col (2) and col (4) restrict the sample to legislators with above median age.

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	(1)	(2)	(3)	(4)
<i>Panel B: Education</i>				
Parachuter	-0.01 (0.24)	-0.22 (0.14)	-0.43 (0.21)*	-0.41 (0.18)**
N	35	83	16	51
Mean	0.17	0.23	0.07	0.20
Sample restriction	Below graduate	Above graduate	Below graduate	Above graduate

Ability or vested interests?

	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
<i>Panel B: Education</i>				
Parachuter	-0.01 (0.24)	-0.22 (0.14)	-0.43 (0.21)*	-0.41 (0.18)**
N	35	83	16	51
Mean	0.17	0.23	0.07	0.20
Sample restriction	Below graduate	Above graduate	Below graduate	Above graduate

Ability or vested interests?

	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
<i>Panel C: Experience</i>				
Parachuter	-0.04 (0.15)	-0.19 (0.13)	-0.27 (0.23)	-0.43 (0.15)***
N	74	79	39	47
Mean	0.29	0.20	0.28	0.16
Sample restriction	Inexp.	Exp.	Inexp.	Exp.

Note: Col (1) and col (3) restrict the sample to candidates with below median political experience, whereas col (2) and col (4) restrict the sample to legislators with above median political experience.

Ability or vested interests?

	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
<i>Panel C: Experience</i>				
Parachuter	-0.04 (0.15)	-0.19 (0.13)	-0.27 (0.23)	-0.43 (0.15)**
N	74	79	39	47
Mean	0.29	0.20	0.28	0.16
Sample restriction	Inexp.	Exp.	Inexp.	Exp.

Note: Col (1) and col (3) restrict the sample to candidates with below median political experience, whereas col (2) and col (4) restrict the sample to legislators with above median political experience.

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- 'Blame' falls on political parties, where the lack of intra-party democracy, non-meritocratic promotion and weak organization leave the door open for elite capture
- Understanding politician-bureaucratic linkages is an important avenue for future research

Questions?

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Impact of parachuters on growth in close elections

	Linear		Polynomial: quadratic		Polynomial: cubic	
	(1)	(2)	(3)	(4)	(5)	(6)
Parachuter	-0.16 (0.09)*	-0.12 (0.09)	-0.32 (0.12)***	-0.22 (0.11)**	-0.41 (0.13)***	-0.24 (0.12)**
Initial level of ln(luminosity)		-0.06 (0.01)***		-0.05 (0.01)***		-0.05 (0.01)***
N	225	225	225	225	225	225
Mean	0.21	0.21	0.21	0.21	0.21	0.21

Note: Table presents results for (triangular) kernel RD estimates of the impact of parachuters on growth rate of night lights, measured by difference in ln(luminosity scores) over the election cycle (4-year window) and winsorized at the 5th and 95th percentiles. A four-year window of the election cycle is chosen to avoid biasing the estimate due effects of an election year. Each coefficient in this table represents a separate regression using local linear and polynomial controls. The optimal bandwidth ($h = 0.11$) was calculated according to the algorithm in CCT (2017). Standard errors are clustered at the constituency level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Impact on lights, by time in office

	(1) Term 1	(2) Term 2	(3) Term 3	(4) Term 4	(5) Term 5
A. Bandwidth = $h/4$					
Parachuter	-0.01 (0.23)	-0.19 (0.20)	-0.28 (0.54)	-0.71 (0.40)*	0.27 (0.23)
N	44	44	53	53	53
Mean	-.026	.25	.086	.32	.14
B. Bandwidth = $h/2$					
Parachuter	-0.19 (0.19)	0.10 (0.19)	-0.35 (0.44)	-0.64 (0.33)*	0.24 (0.20)
N	81	81	104	104	104
Mean	-.041	.27	.075	.32	.13

Heterogeneity by strength of executive

	Bandwidth: h		Bandwidth: h/2	
	(1)	(2)	(3)	(4)
Parachuter	-0.26 (0.11)**	0.11 (0.10)	-0.34 (0.15)**	-0.15 (0.16)
N	133	92	75	45
Mean	0.16	0.29	0.17	0.27
Sample restriction: Executive constraints	Weak	Strong	Weak	Strong

Note: Col (1) and col (3) restrict the sample to years with weak executive constraints (1990-2005), whereas col (2) and col (4) restrict the sample to years when executive was strong (2005-15).

Outcome: Variability in vote %

Disaggregated vote shares

- Use micro data to look at distribution of vote shares across polling stations
- Define coefficient of variation of votes as a measures of within-constituency 'vote inequality'
- Higher inequality/variability suggests vote buying

Figure 4: Polling station level data

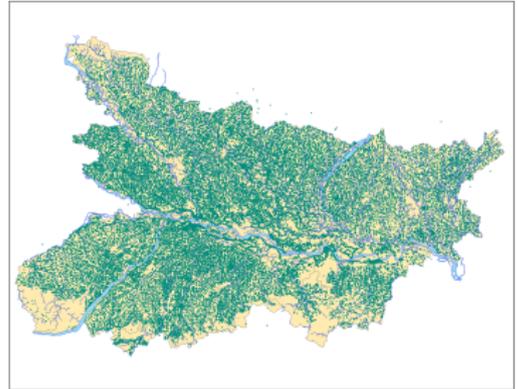


Figure 5: Inequality in vote distribution within a constituency

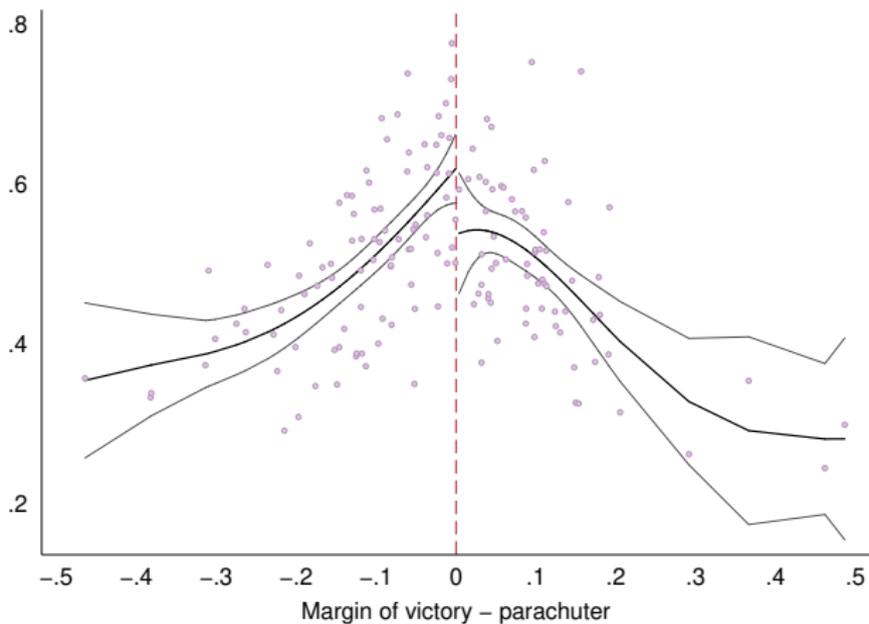


Figure 6: Dropping constituency/candidates with peculiar characteristics

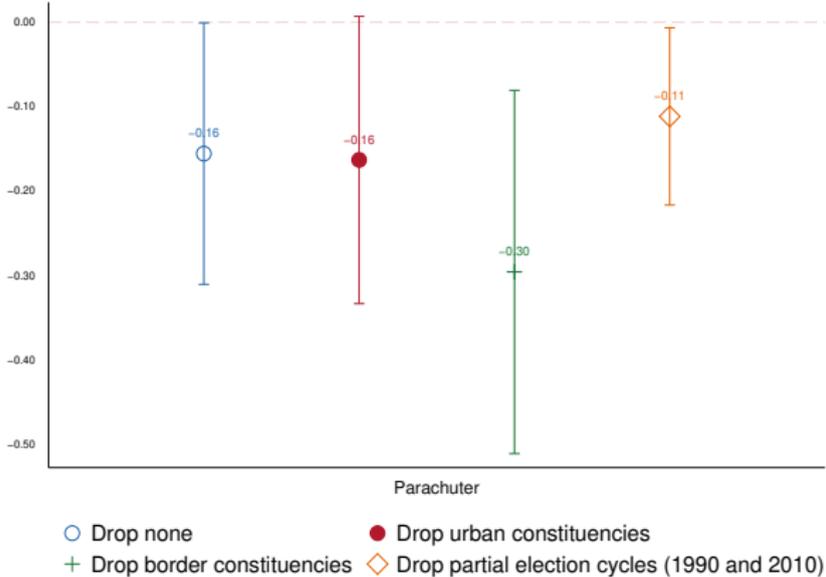


Figure 7: Dropping administrative divisions iteratively

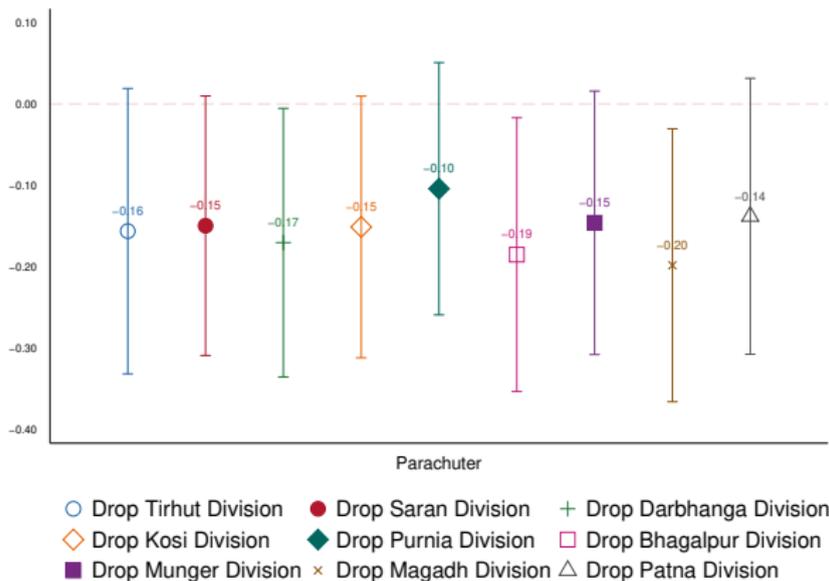
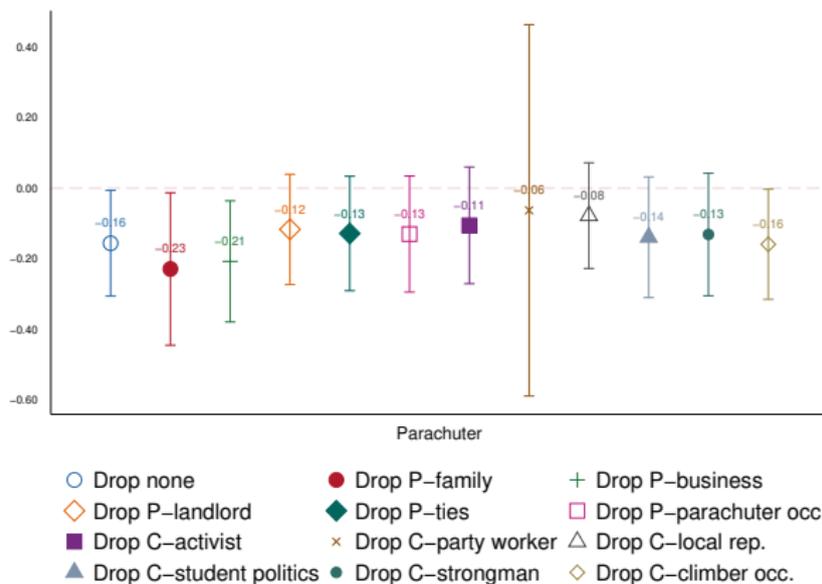
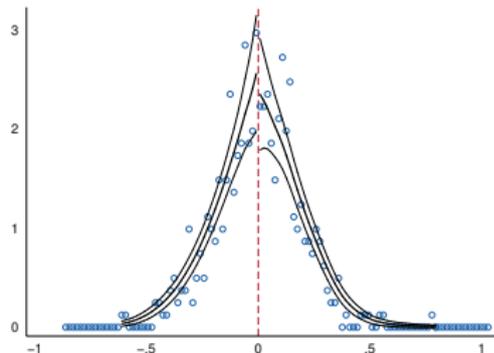
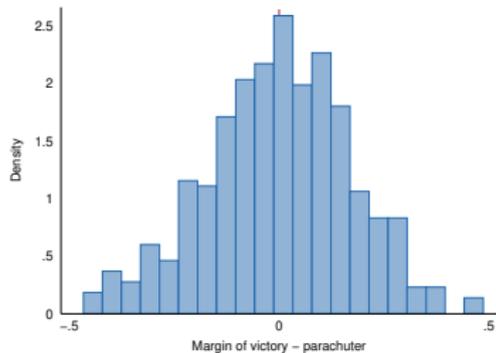


Figure 8: Robustness for impact of parachuters on growth for alternative definitions



Threats to identification



Note: Figure depicts whether there is a discontinuity in the density of the running variable (margin of victory).

Discontinuity estimate (log difference in height) for 'parachuter' running variable is -0.077 and the standard error is $.20$. This implies that there is no sorting and the cutoff cannot be manipulated.

◀ Forcing variable

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