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The Workforce of Clientelism: The Case of Local Officials in the Party Machine

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Abstract

Local politicians can function as crucial intermediaries between voters and party bosses in a clientelistic network. We study their role by matching data on 300 million welfare payments in the Indian state of West Bengal to village-level election returns. Local politicians systematically misallocate resources based on party loyalty and successfully deliver votes to their national co-partisans. Politicians are compensated for successful mobilization through a performance bonus immediately after the national election. The (promise of) increased compensation from government funds induces opposition candidates to switch to the ruling party in strategically important local councils, bringing them under its control.

JEL Codes: D72, D73, H53

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1 Introduction

Like any industry, clientelism has employees as well as managers and customers. The ultimate patrons of the clientelistic machine—the party bosses or high-ranking government officials—cannot personally form ties with each client. They rely on local leaders to dispense patronage and rally followers to the polls. A recent literature in political science suggests these so-called “brokers” are crucial to keeping the machine in power by undermining the opposition and misusing government funds (Brierley and Nathan, 2020, Forthcoming; Gingerich, 2020; Novaes, 2018; Stokes, 2005; Stokes et al., 2013). Understanding the machine requires understanding these underlings: what they do, how they are compensated, and how they are recruited. These questions can only be answered with person-level data on the services they provide on behalf of the machine and the payments they receive from the machine. But for obvious reasons, machines do not advertise how their agents misallocate government funds. The lack of data has forced researchers to rely largely on surveys, typically of the brokers themselves. These surveys have yielded important insights but must rely on an accurate report by respondents who may have ulterior motives. Officials may overrepresent their own importance or misconstrue the size and nature of their payments. And one key population of interest—officials who might join the machine eventually but have not yet done so—are typically unobserved.¹

This paper presents evidence from a unique dataset suited to studying these crucial intermediaries. We scrape and compile administrative records from the Indian state of West Bengal on the National Rural Employment Guarantee Act (NREGA), a massive make-work scheme intended to alleviate rural poverty. We observe 300 million payments made to named individuals spread across an eligible pool of 11 million households. We combine these records with data on thousands of candidates running for the lowest tier of Indian government, the village government or “gram panchayat council” (panchayat council for short). The panchayat councils, and especially the council presidents, control the allocation of welfare payments to villagers within their jurisdiction (called the gram panchayat, or panchayat for short). Newspapers and qualitative studies suggest that the power to select beneficiaries makes local politicians key inter-

¹ One exception is Novaes (2018), who shows that after party switching becomes harder in Brazil, candidates return more votes for their copartisans in legislative elections.

mediaries in the patronage system, with local voters being the ultimate clients of the network.² Since our dataset identifies NREGA payments to local politicians as well as to villagers, we have a uniquely direct window into what role local officials play, how they are compensated, and ultimately how they are recruited from the opposition.

We can leverage this dataset because West Bengal's federal political institutions create exogenous variation in control of local resources that is asynchronous with the national election cycle. The ruling party at the state level ultimately controls which local governments receive public works funds, but once allocated these funds are under the control of the council president. Gram panchayat elections in 2013 created quasi-random variation in which councils fell under the control of the ruling party in the lead up to the 2014 national election and the 2016 state election. Unlike most Indian states, West Bengal's local governments comprise councilors who campaign with explicit party affiliations to represent their constituency. These elected councilors then choose the president (essentially a Westminster model). Whichever party holds an absolute majority controls the presidency, and through it the public-works funding. The majority party is determined by the collective outcomes of the individual council member races. The margins by which these seats are won or lost determine how close the state's ruling party came to winning or losing the absolute majority. Using a multi-dimensional regression discontinuity (MRD) design, we construct the univariate distance to the threshold of having an absolute majority to credibly identify how the ruling party shifts resources when it takes control of the council.

We first show empirical patterns consistent with local politicians acting as intermediaries in a clientelistic machine. We find that panchayat councils controlled by the state ruling party receive 12 percent higher aggregate program allocations than other areas. Within panchayat councils controlled by the ruling party, the areas with higher ruling party vote share in the prior election—and thus more supporters of the ruling party—receive consistently higher payouts both in and after the national election. During the 2014 national election, panchayats narrowly

² On India, Singh (1997) writes that “In the last few years the minority and coalition governments - at the centre and in the states - have used funds either to build patronage-based support networks or to bribe opposition MPs [Member of Parliament] at critical junctures.” One anonymous elected representative acknowledges fielding a vast organization of “over 2,000 people” (CNN-IBN, “Health Scam: Official Gets Away after IT Raid” (22 June 2008)) For a collection of anecdotes from India see Appendix B.1.

controlled by the ruling party return an additional 2 percentage points for its parliamentary candidate. Together, these results are consistent with the working of a machine in which local officials are allocated funds to maintain networks of supporters who turn out for the ruling party in subsequent elections.

We then study how these crucial officials are motivated and retained. We find that panchayat councils controlled by the ruling party make excess payments to job cards registered to its local candidates. These payments are nearly 3 times larger than the already magnified payments to typical households in these panchayats and persist outside of election years. Party candidates receive the same excess payments *regardless whether they won or lost their races*. Since losing candidates hold no official position, they could not have authorized these payments personally. Instead, they could only have been made with the complicity of the party. That suggests the corruption is a feature of the party machine rather than an individual abuse of power.

In addition to fixed payments, we also find evidence of ‘performance pay’. Within a panchayat there is a positive correlation between the national vote returns in a candidate’s area and his personal program allocation during the 4 weeks immediately after the election. There is no similar pattern in a non-election year, suggesting the payment is directly linked to the election. It is consistent with a scheme that rewards local candidates for turning out their voters for the national candidate.

Finally, we use the party affiliations of candidates in the subsequent 2018 local election to identify how the ruling party poaches talent from the opposition. We infer that an individual registered under a different party in 2018 than in 2013 has switched parties. We show that the ruling party is far more likely to retain candidates than the opposition, and opposition candidates who switch to a new party are overwhelmingly switching to the ruling party. We find that the ruling party candidates who switch are also typically paid less between 2013 and 2018, whereas opposition candidates who switch are paid more.

We show that switching to the ruling party is disproportionately likely in panchayats where the ruling party just barely failed to win an absolute majority in 2013, suggesting the party uses (promises) of payments to eventually take over panchayats that were previously ruled in coalition or by the opposition. Although the 2014 national election came too soon for the consequences of this effort to be visible, by the 2016 state election these panchayats are returning

votes for the ruling party at the same rate as panchayats where it did win the majority. The effort is so effective that the discontinuity in vote returns visible in 2014 has vanished by 2016, and it is largely because of improved returns in “control” panchayats.

Our paper sits at the nexus of the literature on corruption and clientelism.³ Existing studies measure corruption as the cost of the funds diverted for private gain, and typically represent it as a crime of opportunity committed in the absence of adequate monitoring.⁴ Our results show that corruption, by financing the political machine, may be a means to far greater distortions. The actual cost of annual payments to ruling party officials amounts to only 0.06 percent of the total payments during the dry season of the election year.⁵ But the clientelistic network sustained by these payments diverted more than 100 times as much in extra funds to ruling party strongholds at the expense of equally deserving households living in areas outside its control. Arguably the greatest cost, however, is to the democratic process itself. These diverted funds allowed the network to tilt votes and undermine the opposition.

Likewise, the literature on clientelism and political machines has revealed the structure of these machines and the importance of the frontline “brokers” who connect voters to the machine.⁶ To our knowledge, this is the first study to give holistic evidence of how the subversion of a government program may be both the responsibility of these brokers and their source of compensation. While some studies have proposed models of political organizations (Persico et al., 2011; Stokes et al., 2013), the absence of the extensive data required to observe how public funds are redirected to voters and individual members both during and after an election has mostly prevented an empirical study at scale. We are also the first to reveal the dynamics of how a machine can expand its power through recruitment.

Both results make clear that an understanding of these machines must inform the design of anti-poverty programs. Existing work studies how these programs must balance the accurate

³ For an overview of the literature on clientelism, see Healy and Malhotra (2013) and Bardhan and Mookherjee (2020). See e.g. Akhmedov and Zhuravskaya (2004); Baskaran et al. (2015); Brender and Drazen (2008); Cole (2009); De la O (2013); Finan and Schechter (2012); Healy and Lenz (2014); Labonne (2013); Manacorda et al. (2011) for recent empirical studies documenting the importance of clientelism in a number of contexts.

⁴ See, for example: Reinikka and Svensson (2004); Banerjee (1997); Reinikka and Svensson (2005); Ferraz and Finan (2008, 2011); Campante and Do (2014); Bobonis et al. (2016).

⁵ Demand for NREGA jobs is at its peak during the dry season because casual farm work is rare.

⁶ See, for example: Bardhan et al. (2020); Dey and Sen (2016); Dixit and Londregan (1996); Nichter (2008); Persico et al. (2011); Stokes (2005); Stokes et al. (2013); Colonnelli et al. (2020); Anderson et al. (2015)

targeting of benefits with the possibility that some of them may be captured by local officials.⁷ Our results suggest that a sufficiently large anti-poverty program may ultimately change the political institutions themselves. A ruling party's control of an anti-poverty program may give it the funds to eventually buy off the most effective members of the opposition, leaving society with fewer democratic checks.

2 Context

2.1 Government Structure in West Bengal

Our analysis focuses on the Indian state of West Bengal, located in eastern India with a population of about 91 million as of the 2011 Census. India is a federation that holds national, state and local elections. At all levels, one full term lasts 5 years, but elections take place on different cycles. The lowest elected tier of politicians are those elected to the panchayat council. The panchayat council makes policy decisions that apply within its jurisdiction. Somewhat confusingly, this jurisdiction can contain multiple villages, which is especially common in large states like West Bengal. This is an important feature for our empirical analysis, since we have data that allows us to observe the allocation of welfare benefits both between the jurisdictions of different panchayat councils, as well as between different villages within the jurisdiction of the *same* panchayat council. We refer to the jurisdiction of a council as *panchayat* to distinguish it from the villages it contains.

In panchayat council elections, the panchayat area is divided into wards. Voters in West Bengal then elect the political candidate in the ward they live in. The council therefore consists of one elected member from each ward.⁸ The president of the council is not elected directly by voters, but is chosen indirectly in a vote by the council members. The office of the president carries substantial weight in the implementation of government programs, as we further discuss below. In contrast to most other Indian states, political candidates in West Bengal campaign with explicit party affiliations.

Our identification strategy exploits close elections that determine whether West Bengal's rul-

⁷ See, for example: Bardhan and Mookherjee (2006); Basurto et al. (2020); de Janvry et al. (2012); Olken (2007).

⁸ The number of wards depends on the population size.

ing party won a narrow absolute majority in the council in the 2013 local elections, which also implies control over the council presidency. We refer to the ruling party in 2013, the All India Trinamool Congress, by its party acronym AITC. The AITC took control of the state government in a landslide victory in 2011, defeating an incumbent government that had held power for 34 years. This provided the party with access to state financial resources for the first time. In the 2013 panchayat elections, the AITC won an absolute majority in about 55 percent of panchayats. After these two elections, the AITC controlled two levels of government in much of the state, giving it power over both the total resources received by the panchayat and the allocation of resources within the panchayat. The next panchayat elections occurred in 2018, which provides us with information about political candidates standing for re-election who switched their party affiliation at some point during their term.

Two high-profile elections occurred between 2013 and 2018: The national election of 2014 and the state election of 2016. The AITC won 34 of West Bengal's 42 seats in India's Lower House in the 2014 election, and was re-elected to the state government in the 2016 election with an increased absolute majority relative to 2011 (211 of 295 seats). Comparing outcomes in these two elections lets us distinguish the impact of ruling party control of a panchayat in the short run (2014) and the medium run (2016).

2.2 The Welfare Program NREGA

One of the largest responsibilities of the local government is to implement the welfare programs of the central and state governments in their area. The biggest anti-poverty program with some of the most sought after benefits is the National Rural Employment Guarantee Scheme, typically referred to as NREGA based on the accompanying Act. According to Dey and Sen (2016), NREGA accounts for 80 to 90 percent of local total annual expenditures, even though panchayat councils in West Bengal implement about 25 anti-poverty programs. On paper, NREGA guarantees every rural household up to 100 days of employment on public-works projects. Households can request work whenever needed throughout the year and are paid the minimum wage. There are no further means tests (Dey et al., 2006; Government of India, 2018; Zimmermann, 2018). The central government conceptualized NREGA as a flexible safety net for rural households dealing

with underemployment, seasonality and unexpected income shocks.

In practice, the actual employment provided to households falls substantially short of the demand from households in most states, including in West Bengal. This leads to rationing, and many households report having to wait passively for work to become available (Dutta et al., 2012; Mukhopadhyay et al., 2015). Nevertheless, previous research has shown that despite the shortcomings NREGA helps households better deal with shocks, and NREGA employment is typically much higher during periods such as the agricultural off-season when households in rural areas have few alternative job opportunities.⁹

Such a setup allows actors in control of the financial resources extensive power in deciding how NREGA employment is allocated spatially across panchayats and which individuals receive preferential access to jobs within the panchayat. While the national government pays for most of the scheme, state governments make important decisions on how to allocate NREGA funds within the state. Within a panchayat, the panchayat council and especially the panchayat council president determine how NREGA is implemented: they register households, propose local projects to sub-district and district officials, and assign individuals to work projects. A worker who wants NREGA labor must apply at the council office. These allocations are then submitted to higher-level officials, who approve the wage payments. To increase transparency about NREGA allocations, panchayat councils are required to keep physical records of muster rolls and to enter all NREGA-related information into a software application called NREGASoft (Government of India, 2013). The administrative data from the application is published in close to real time on a publicly available website dedicated to NREGA. We use information scraped from this website for our analysis.¹⁰¹¹

⁹ See Berg et al. (2018), Imbert and Papp (2015) and Zimmermann (2018) for analyses of the economic impacts of the program.

¹⁰ <https://nrega.nic.in>

¹¹ To cut down on corruption, NREGA profiles are linked to biometric markers through a national identification ('Aadhar') number, and the central government directly transfers wages for completed work into beneficiaries' bank accounts. Muralidharan et al. (2016) find that these features have substantially improved targeting and overall household benefits, plausibly by making it much more difficult to impersonate beneficiaries or intercept the benefits.

2.3 Local Politicians as Political Intermediaries

The literature on vote-buying ‘brokers’ has documented that parties need intermediaries to organize their networks.¹² Bussell (2019) documents that in India, voters are most likely to approach elected panchayat council members for patronage and assistance in accessing government programs. Similarly, one member of parliament notes of his own election that

[Decentralization] provides ready-made people at the grassroots level from the village upwards. When campaigning, I rely extensively on the help of panchas and sarpanchas [ward representatives and council presidents] – they are extremely important to getting elected. (Thomas Bohlken, 2016, p. 62)

Singh et al. (2003) conclude from their study of panchayat councils in Madhya Pradesh that council presidents “are a key grass root political intermediary, acting as fixers for powers above, in return for funds that can buy vote-banks.”

Based on a survey of households in several Indian states, Dunning and Nilekani (2013) find that 73 percent of respondents asked members of the panchayat council for assistance, typically regarding “access to government welfare schemes”. Conversely, Johnson et al. (2003) write that

... in almost all of our sample villages, we found examples of villages and entire hamlets being punished by the sarpanch [panchayat council president] and other powerful figures for failing to support his party in the previous election. Punishment here could include being denied employment opportunities provided by public works programmes or being deprived valuable forms of infrastructure...

And Ziegfeld (2017) quotes a local official in Rajasthan who explains his political success:

This village and the surrounding villages are my family’s jagir [feudal estate]. It is in my blood to do something for others. After my graduation [from college], people came to me with their problems. I became sarpanch [equivalent of a rural mayor], running unopposed. Villagers came by the thousands to vote for me. (Ziegfeld, 2017, p. 105)

These examples suggest that panchayat council politicians in India function as key intermediaries between higher-level politicians and voters.

3 Research Design

¹² For additional anecdotes and case studies from India and other countries, please see Appendix B.1

3.1 Data

We scrape roughly 11 million West Bengali NREGA job card profiles from the official government portal (<http://nrega.nic.in>). Each profile contains the name of the household head and all household members registered under the job card, as well as the election photo ID card number of the registrant; panchayat and village of the job card holder; and the project name, start date, days of labor, and total payment for each job spell. The full sample amounts to roughly 300 million job spells.

We merge these job cards to data on the outcome of each local council ward race from the 2013 local elections. These data are scraped from the website of the State Election Commission of West Bengal. Each record gives the party, ward, and vote returns of each candidate (as well as the candidate's name, caste group, and gender). We supplement these data with information collected from district offices on the names of panchayat council officers, which let us identify which elected panchayat council member is the council president.

We digitize PDFs of polling station-level returns from the 2014 national election downloaded from the Chief Election Office of West Bengal. The station identifiers are merged to station names and geocoordinates using data from Susewind (2016). We identify the polling stations within each panchayat by querying election photo ID cards from the NREGA data against the Chief Election Office's website, which we use to construct a station-to-panchayat crosswalk.

Finally, we merge data from the 2011 Census to the panchayat-level election and NREGA data. We build a crosswalk between Census villages and panchayats using data scraped from West Bengal's Panchayat Raj Department. We then aggregate the village-level census data by panchayat. We describe the precise steps for merging and aggregation, as well as the sources of the underlying data, in greater detail in Appendix C.

3.2 Defining the Running Variable

Unlike most Indian states, West Bengal uses a Westminster system to govern its panchayats. The panchayat is divided into wards that each elect a council member, and the council then chooses a president. This system is a strength of our context because it lets us distinguish the impact of holding an absolute majority from that of leading a coalition as the largest party. But it also

raises a challenge because there is no single vote count that determines control of the council. Since we cannot use a simple univariate regression discontinuity design, we instead define a multidimensional running variable (Feigenbaum et al., 2017; Folke, 2014; Katakorpi et al., 2013; Zajonc, 2012).

In this design the vote share of the AITC in each ward is a dimension in N -space (for a panchayat with N wards). Within this space there is a ‘frontier’ that, once crossed, implies the AITC holds an absolute majority of seats. In a council with 5 seats, for example, the frontier is defined by all possible vote shares where the AITC just barely holds exactly 3 seats. One point on the frontier is the scenario where the AITC wins ε more votes than its nearest competitor in all three, while in another the AITC wins uncontested in two seats and by ε in the third.

These two examples show that the frontier can be approached from many directions. Following Feigenbaum et al. (2017), Reardon and Robinson (2012), and Wong et al. (2013) we simplify the problem by calculating a single metric that gives the distance between each election outcome—meaning the outcomes of all races in all wards in the panchayat council—and the frontier where the AITC wins an absolute majority. The most standard metric is the k -norm, defined as

$$D_k(x, y) = \left[\sum_j |x_j - y_j|^k \right]^{1/k}$$

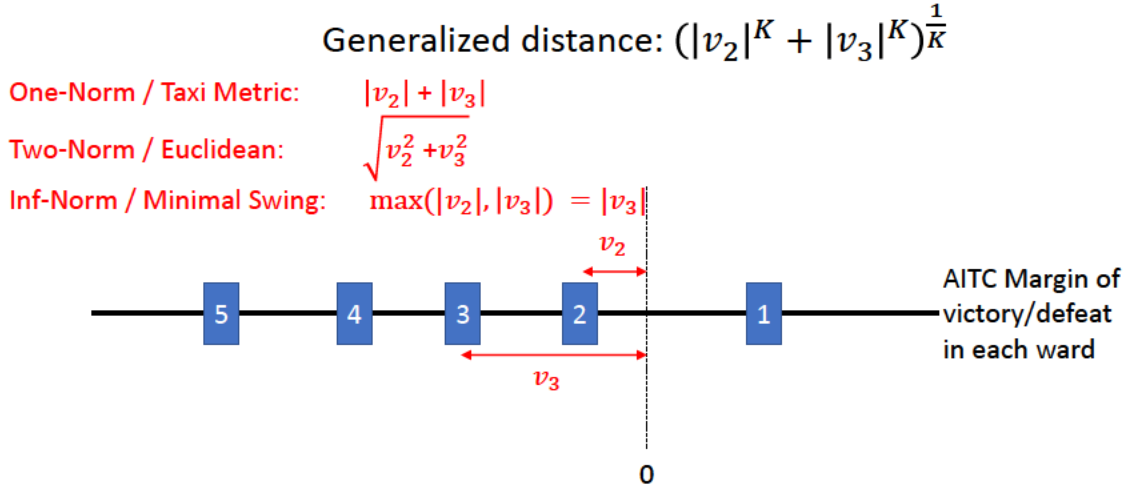
For any norm K we define the running variable for any panchayat i as the K -norm distance between the election outcome in i and the closest point where the AITC holds an absolute majority. Our main specification sets $K = 1$, but we also show results for $K = 2$ and $K = \infty$.

Figure 1 shows how these three metrics would be calculated for an election where the AITC wins one ward and loses the rest. Each marker shows the margin of the AITC candidate relative to the best performing other candidate. Since AITC came closest to winning in wards 2 and 3, the closest point on the frontier of AITC control is the outcome where the AITC wins ward 1 by exactly the same margin as it did, but also barely wins wards 2 and 3.

Our preferred metric throughout the paper is the one-norm, which can be interpreted as the total number of percentage points of votes the AITC would need to ‘buy’ across all wards to get control of the panchayat council. This metric is more intuitive than the Euclidean norm and less noisy than the infinity norm, although our results are not sensitive to the choice of norm.

Figure 1

An Example of Calculating Distance Metrics



We set the running variable to be the metric itself if the AITC won an absolute majority, and its negative if the AITC lost.¹³ We estimate changes at the cutoff with several specifications. Since the specification depends on the test, we describe each in our discussion of the results immediately before showing the estimates.

3.2.1 Tests for Manipulation of the Running Variable

In Appendix A.1 we report several tests for manipulation of the running variable. We first test for whether there is a discontinuity in the density of the one-norm at the margin where the AITC wins an absolute majority. Any such discontinuity would imply that the AITC or one of its competitors is able to manipulate the outcomes of elections to ensure it wins barely enough votes in barely enough seats to win a majority. Such precise manipulation is implausible because the Election Commission of India is a non-partisan bureau that is widely respected and considered free from corruption. Applying the test of McCrary (2008) shows no evidence of any discontinuity. Appendix A.1 also tests for discontinuities in panchayat-level outcomes measured in the 2011 Census. Since the census was taken before the 2013 election, any discontinuity would suggest there was manipulation. We find no evidence of discontinuities in population, caste composition, or the presence of various public goods.

¹³ If the panchayat council has an even number of seats we define an absolute majority as 50% + 1 seats.

4 Results, Part 1: What is the Role of Local Officials?

4.1 Managing the Aggregate Funds Misallocated under Their Control

We estimate the discontinuity in outcomes using a local linear regression of the form

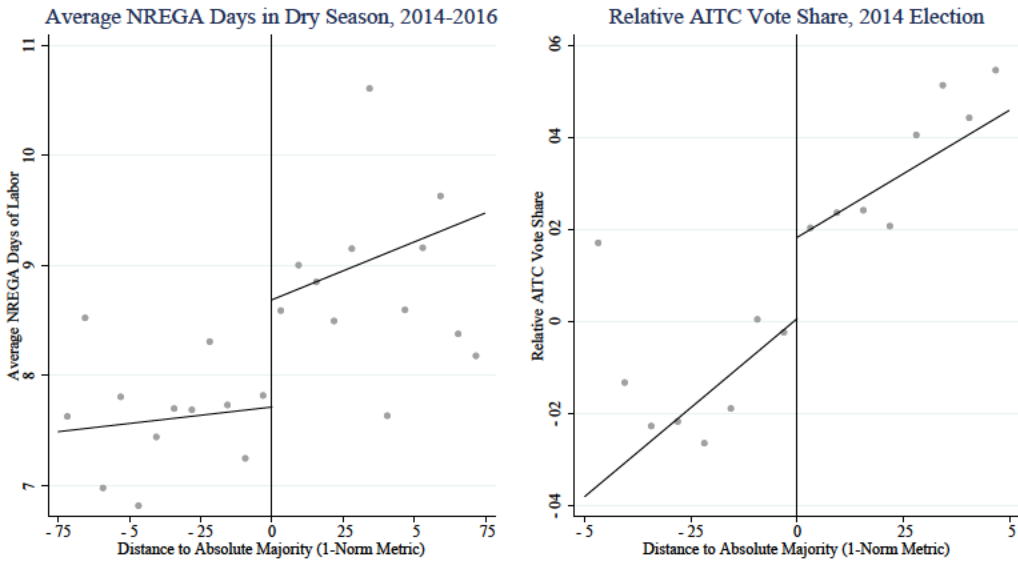
$$Y_{pt} = \phi_0 + \phi_1 d_p + \phi_2 d_p M_p + \beta M_p + X_p \gamma + \varepsilon_{pt} \quad \text{for } p \text{ such that } |d_p| < h \quad (1)$$

where Y_{pt} is the outcome for a panchayat p in year t , d_p is the running variable (the 1-norm in most specifications), and M_p a dummy for whether the AITC holds the absolute majority on the panchayat council. The coefficient β gives the regression discontinuity estimate. We estimate the bandwidth h using the optimal bandwidth proposed by Calonico et al. (2014). We weight observations using a triangular kernel and cluster standard errors by panchayat. In some specifications we control for additional variables X , typically fixed effects for the revenue district and parliamentary constituency. The Calonico et al. (2014) estimator has trouble calculating an optimal bandwidth while controlling for these fixed effects. We instead use the optimal bandwidth calculated for the analogous regression with no fixed effects and use that bandwidth in the other specifications.

The left-hand panel of Figure 2 shows the regression discontinuity with the 1-norm as the running variable and the NREGA job allocation of the average household as the outcome, pooling outcomes across years $t = 2014, 2015, 2016$. This figure, like much of our analysis, is based on allocations during the dry season when regular agricultural work is scarce (though there is a similar pattern in full-year allocations, as we report in Appendix A.2). When the 1-norm switches from negative to positive the AITC switches to holding an absolute majority in the panchayat council after the 2013 local election. The figure implies that the average household in an AITC-controlled panchayat receives roughly 1 more day of NREGA labor (9 days versus 8 days—see Column 1 of Table 1).

Table 1 confirms that this result holds across several specifications. Column 1, which is the same specification as Figure 2, estimates (1) without controls. Column 2 shows that the coefficient is largely unchanged by adding district and constituency fixed effects. Columns 3–4 show that the estimates are almost identical when the running variable is the 2-norm (Euclidean dis-

Figure 2
 AITC-Controlled Panchayats Get More NREGA Labor and Subsequently
 Return More Votes for the AITC in the 2014 National Election



Note: Outcome is the panchayat-level average NREGA household allocation, pooling data from 2014-2016 (analogous to Column 1 of Table 1). Each dot shows the average of the outcome within a bin of width 6.25 percentage points in the tax metric. The observations are restricted to the optimal bandwidth (rounded to the nearest bin). The linear predictions are generated using a triangular kernel.

Table 1
Panchayats Under AITC Control Receive Larger Per-Household
NREGA Allocations in the Dry Season

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	All	All	All	2014	2015	2016
RD Estimate	0.979*** (0.354)	1.068*** (0.292)	1.111*** (0.348)	1.181*** (0.387)	1.482*** (0.464)	0.735*** (0.278)	0.842* (0.461)
Obs in BW	4200	4200	3963	3843	1326	1307	1294
Clusters in BW	1400	1400	1321	1281	1326	1307	1294
Control Mean	7.83	7.83	7.56	7.73	10.61	2.73	10.55
Bandwidth	0.775	0.775	0.282	0.169	0.583	0.549	0.521
Robust p-val	0.008	0.015	0.031	0.033	0.103	0.011	0.173
Metric	1-Norm	1-Norm	2-Norm	Inf-Norm	1-Norm	1-Norm	1-Norm
District FEs		X	X	X	X	X	X
Constituency FEs		X	X	X	X	X	X

Note: The outcome in all columns is the average per-household days of labor received in the dry season, where the average is over all job cards in the panchayat. Columns 1–4 pool observations across the years 2014–2016, while columns 5–7 restrict to a single year. Bandwidths are calculated using the method of Calonico et al. (2014) on the equivalent specification without fixed-effects (see text for details). “Robust p-val” gives the p-value after adjusting for bandwidth uncertainty. “Metric” gives the distance metric (to AITC absolute majority) used as the running variable. Standard errors are clustered within panchayat. See text for description of each specification.

*p=0.10 **p=0.05 ***p=0.01

tance) and the infinity-norm (minimal swing).

While columns 1–4 of Table 1 pool the post-election years 2014 to 2016, columns 5–7 report the specification from Column 2 separately by year. By measuring impacts separately for each year, we can test whether these distortions are a mere election cycle or whether they persist. The increase in average NREGA allocations is apparent in 2014, the year of the national election, but the systematically higher program benefits persist in 2015 and 2016. The impact in 2015 is especially notable because there is no election of any sort in 2015, yet relative to the control mean it is the largest. This persistent misallocation is what would be expected from a clientelistic network. Clients expect continued support from their patrons as hardships arise, even when they arise outside an election year.

4.2 Rewarding Villages for Their Loyalty

The results so far show that panchayats controlled by the AITC benefit from persistently higher aggregate NREGA allocations after the 2013 panchayat election. If local officials are using the excess NREGA jobs to maintain networks of supporters, we would expect a disproportionate share

of the largess would go to areas that have supported the AITC in the past. For obvious reasons we cannot observe individual votes, but we can measure votes by ‘village,’ a sub-panchayat administrative unit with a median size of 200 households. We test whether *within a panchayat*, villages that have historically voted for the AITC are disproportionately rewarded when it controls the panchayat council.

We estimate a difference-in-discontinuity specification

$$Y_{pvt} = \alpha_p + \phi_1 d_p s_{pv} + \phi_2 d_p M_p s_{pv} + \beta M_p s_{pv} + \varepsilon_{pvt} \quad \text{for } p \text{ such that } |d_p| < h \quad (2)$$

where v indexes a village within panchayat p and α_p is a panchayat fixed-effect. The main effect of the running variable and the dummy for AITC control are absorbed into the panchayat fixed-effect. What remains is the interaction of these terms with the village-level historical vote share of the AITC s_{pv} , which we proxy with either of two measures of prior support: the AITC vote share in the state election of 2011, and the average vote share in the local election in 2013 for all local AITC candidates residing in the village.¹⁴ The outcome is the average NREGA allocation among households within the village, either pooled for 2014–2016 or just 2014, the year of the national election.

Table 2 shows the difference-in-discontinuity estimates for allocations during both the dry season and the full year. For both measures of electoral support, villages with more demonstrated loyalty receive higher average NREGA allocations. The estimate in Column 7, for example, implies that a village that increased its AITC vote share in the 2011 election by 13.5 percentage points would receive 1 extra day of NREGA labor per household in 2014. Using the average vote share of AITC candidates living in the village yields similar estimates.¹⁵

¹⁴ As we are unaware of any method to estimate the optimal bandwidth in a difference-in-discontinuities specification, we instead apply the method of Calonico et al. (2014) to the village-level analog of Equation 1. Likewise, we are unaware of any method to estimate bandwidth-robust p-values for a difference-in-discontinuities and thus cannot report them.

¹⁵ These regressions have fewer observations because there are many villages where we cannot match an AITC candidate.

Table 2
 Within Panchayats Controlled by the AITC, NREGA Allocations are Higher
 in Villages That Have Given More Support to the AITC in the Past

	Dry Season				Full Year			
	(1) Pooled	(2) Pooled	(3) 2014	(4) 2014	(5) Pooled	(6) Pooled	(7) 2014	(8) 2014
Majority X AITC2011	3.301* (1.747)		5.533* (3.093)		7.411** (3.729)		11.481** (5.246)	
Majority X GPSHARE		2.307* (1.300)		5.840** (2.594)		7.828** (3.124)		11.229** (4.806)
Obs in BW	23856	19440	7731	6332	24153	19734	7708	6301
Clusters in BW	1307	1341	1168	1257	1325	1362	1163	1251
Control Mean	7.45	7.45	10.15	10.15	18.96	18.96	20.55	20.55
Bandwidth	0.655	0.655	0.606	0.606	0.705	0.705	0.583	0.583
Metric	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm
Panchayat FEs	X	X	X	X	X	X	X	X

Note: The table shows estimates of Equation 2. “Metric” gives the distance metric (to AITC absolute majority) used as the running variable. Bandwidths are calculated using the method outlined in Footnote 14. The unit of observation is a village-year, and standard errors are clustered by panchayat. AITC2011 refers to AITC vote share in 2011 state election, GPSHARE to the average vote share of all resident AITC candidates in the 2013 local election.

*p=0.10 **p=0.05 ***p=0.01

4.3 Mustering Votes for the Party

If local officials are using excess funds to maintain their patronage networks, we would expect that in return these networks would deliver votes for the party’s national candidates. We can test that hypothesis because India held a national parliamentary election in 2014, the year after West Bengal’s local officials were elected in 2013. We calculate the average vote share of the AITC candidate within each panchayat. We define the ‘AITC Lean’ of a panchayat as the difference between the share of AITC votes within the panchayat, minus the overall share received by the candidate in the entire parliamentary constituency. We estimate Equation 1 on the vote lean using several specifications. Since there was only a single election at $t = 2014$ the unit of observation is a panchayat and clustering the standard errors by panchayat is no longer necessary. Instead we use the 3-nearest-neighbor estimator for standard errors (which is more conservative than the usual heteroskedasticity-robust standard error).

The right-hand panel of Figure 2 visualizes the impact of AITC control of the local council on the AITC lean. Control of the council yields roughly 2 percentage points more votes for the AITC’s parliamentary candidate during the 2014 election. Table 3 confirms these results using

Table 3
Impact on 2014 National Election

	(1)	(2)	(3)	(4)	(5)	(6)
	AITC Lean	AITC Lean	Raw AITC Share	Hom. AITC Lean	AITC Lean	AITC Lean
RD Estimate	0.017*** (0.006)	0.021*** (0.005)	0.020*** (0.005)	0.021*** (0.005)	0.018*** (0.005)	0.018*** (0.006)
Obs in BW	1262	1262	1126	1263	1282	1123
Bandwidth	0.478	0.478	0.328	0.480	0.261	0.126
Robust p-val	0.010	0.002	0.002	0.003	0.007	0.032
Metric	1-Norm	1-Norm	1-Norm	1-Norm	2-Norm	Inf-Norm
District FEs		X	X	X	X	X
Constituency FEs		X	X	X	X	X

Note: “Robust p-val” gives the p-value after adjusting for bandwidth uncertainty (see Calonico et al., 2014). “Metric” gives the distance metric (to AITC absolute majority) used as the running variable. Bandwidths are MSE-optimal. Standard errors are calculated using 3 nearest neighbors (as each panchayat is observed only once, clustering is unnecessary). See text for description of each specification.

*p=0.10 **p=0.05 ***p=0.01

several specifications. Column 1 is the same specification as the figure. Column 2 shows that this estimate is largely unchanged when we control for district and constituency fixed effects. Column 3 shows that using the raw AITC share (without netting out the party’s overall share in the constituency) yields near identical coefficients. Column 4 recalculates the discontinuity for a measure of the vote share calculated after discarding polling stations within the panchayat where some job card holders are registered to vote in a different parliamentary constituency. Columns 5 and 6 show that the estimates are almost identical when the running variable is the 2-norm and the infinity-norm (minimal swing).

4.4 Control Over Resources Is Crucial to Fulfilling Their Role

Any study of clientelism or patronage is dogged by the question of whether any measured impacts—say, on votes—is driven by the patron’s largess or the prestige of his office. Officeholders have an advantage in raising votes for their co-partisans even in advanced democracies because their name recognition magnifies the weight of their endorsement, and their access to the media gives them a big platform.

The local institutions in West Bengal are uniquely suited to disentangle endorsement from control of government resources. As in many parliamentary systems, any would-be president must be backed by a majority of elected council members. But since most panchayats have

multiple competing parties, in some panchayat councils the AITC wins the most seats but falls short of an absolute majority, forcing it to form a coalition. By convention the largest party almost always has the first chance to form a coalition. Hence the party of the president will generally be from the AITC regardless of whether it has a majority or is merely the largest party. The difference is that when the AITC holds an absolute majority there is no institutional check, whereas when it is only the largest party its coalition partner can threaten to bring down the government. This threat can prevent the AITC from diverting program funds into building its organization.

We disentangle the impact of being the largest party versus holding the absolute majority by estimating two sets of regressions. Let \tilde{M}_p be a dummy for whether the AITC is the largest party in the panchayat council, while M_p is still a dummy for whether the AITC also holds the absolute majority.¹⁶ Let \tilde{d}_p be a distance metric to the number of seats where the AITC becomes the largest party, while d_p is still the distance to an AITC absolute majority. We estimate

$$Y_p = \phi_0 + \beta M_p + \varepsilon_p \quad \text{for } p \text{ such that } |d_p| < h \text{ and } \tilde{M}_p = 1 \quad (3)$$

$$Y_p = \phi'_0 + \beta' \tilde{M}_p + \varepsilon'_p \quad \text{for } p \text{ such that } |\tilde{d}_p| < h \text{ and } M_p = 0 \quad (4)$$

Equation 3 restricts the sample to panchayats where the AITC is the largest party, and estimates the change in the outcome when the AITC goes beyond being the largest party to holding the absolute majority. Equation 4 does the converse. It restricts the sample to panchayats where the AITC *does not* hold the absolute majority—cases where it is either a minor party or the largest party without having a majority. The coefficient β' estimates the change in the outcome when the becomes the largest party, which we can compare to β in Equation 3.

There are not enough observations where the AITC is the largest party but does not hold an absolute majority for the regression discontinuity design. We control for selection bias by restricting the regression to observations within a distance h of the key cutoff in each specification, and then vary h to understand the limiting behavior of the estimates as the sample comes closer to the discontinuity. We use the infinity-norm metric because there is no clear way to define the distance to the point where the AITC is the biggest party under the 1-norm and 2-norm

¹⁶ The dummies are not mutually exclusive. Indeed, $M_p = 1$ only if $\tilde{M}_p = 1$, though the converse is not true.

metrics.¹⁷

Figure 3 shows the estimates for three outcomes: whether the AITC holds the council presidency, the per-household NREGA allocation during the 2014 dry season, and the 2014 election results. The left-hand panels estimate Equation 3 and the right-hand panels Equation 4. The top two panels show that the impact on the probability of an AITC president is similar for both transitions. Switching from being the biggest party to having an absolute majority raises the probability of an AITC president by roughly 35 percentage points, and switching from being a minor party to being the biggest party has a comparable or even bigger effect. The size of the impact is similar even when we narrow the window for estimation to within 0.05 of either cutoff.

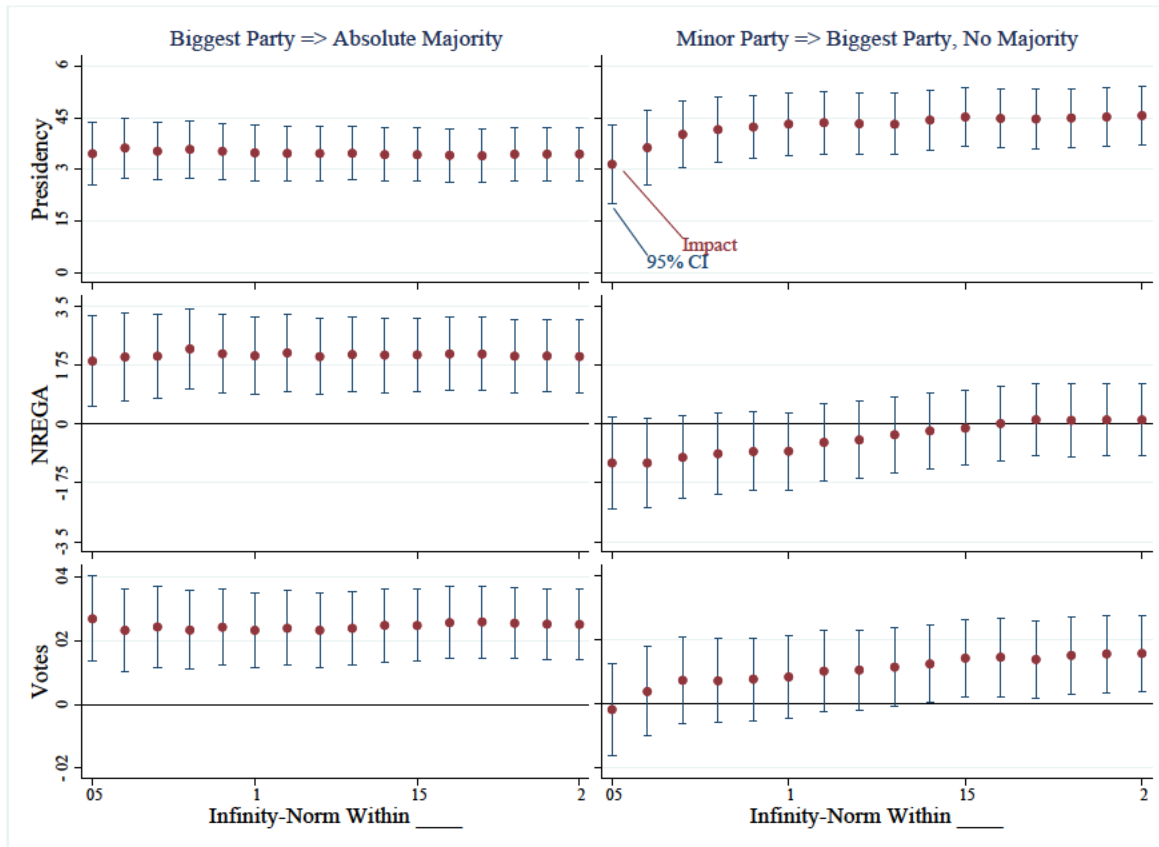
But even though there is a similar impact on the probability of holding the presidency, the middle two panels show that the impact on aggregate NREGA allocations is completely different. Only when the AITC gains an absolute majority is there any impact, and the impact is comparable to our regression discontinuity estimates above. The middle-right panel shows that panchayats where the AITC is the biggest party without a majority receive no more NREGA labor than those where it is a minor party.

The bottom left and right panels, which show the impact on 2014 vote shares, look similar to the middle panels. Gaining an absolute majority wins the AITC extra votes, but merely being the biggest party does not. The bottom right panel shows that only in the widest windows is there any evidence of an impact on votes, and as the window shrinks the estimates likewise shrink to zero. These results imply that merely holding the council presidency wins no extra votes. The impact on votes arise only when there is an impact on NREGA allocations, which only appear when the AITC has unchecked power on the distribution of funds.

5 Results, Part 2: How Are Local Officials Compensated and Motivated?

¹⁷ The challenge arises because while there is a unique number of seats that give the AITC the absolute majority, there are many combinations that make it the largest party. Any metric must take account of how the runner-up to the AITC in any seat may or may not be of the party most likely to be the next largest party.

Figure 3
The Results are Not Driven by the Endorsement of the Panchayat President



Note: The left-hand panels restrict the sample to panchayats where the AITC is the largest party and plot estimates from a regression of each outcome on a dummy for holding an absolute majority. The right-hand panels restrict the sample to panchayats where the AITC does not have the absolute majority and plot estimates from a regression of each outcome on a dummy for being the largest party. We estimate these regressions restricting the sample to observations within increasingly narrow windows based on the infinity-norm distance to either holding the absolute majority (left-hand panels) or being the largest party (right-hand panels). The outcomes are: “Presidency,” a dummy for whether the president of the panchayat council is an elected official registered with the AITC; “NREGA,” the number of days of NREGA labor allocated to an average household during the 2014 dry season; and “Votes,” the AITC vote share during the 2014 national election relative to the overall share in the parliamentary constituency.

5.1 AITC Candidates Receive Excess NREGA Payments

If local officials are crucial intermediaries—the “employees” alluded to in the introduction—then we would expect them to be compensated for their work. Since we observe beneficiary names in the NREGA administrative dataset, we can test whether AITC political candidates receive more generous payouts under AITC control by matching the candidates standing for election in the 2013 election to their NREGA job card profiles. We estimate a modified version of Equation 1 that simultaneously estimates the discontinuity for the households of AITC candidates and other households.¹⁸ Conceptually this method is similar to estimating Equation 1 separately for AITC candidates and regular households, but by estimating them together we allow for correlation in the coefficients and can test for differences between them. Since there is no standard method to calculate a bandwidth for an RDD like this, we instead use the optimal bandwidth for a simple RDD based on applying the Calonico et al. (2014) method to the pooled sample.

Columns 1 and 2 of Table 4 report the estimated additional NREGA allocation at the discontinuity that an AITC politician’s household received compared to the benefits of all other households in the area. In the dry season, an AITC candidate’s household benefits about twice as much from the control his party has in the panchayat council as other households in the area. The difference is even bigger if we compare allocations over the entire year, with AITC households benefiting 3 times as much.

One natural objection to this test is that it may reflect personal corruption by the individuals in power rather than a payment by the party. We test this possibility by splitting the AITC candidates into those that won their seat on the council and those that did not, and estimating the

¹⁸ To be precise, we estimate the discontinuity in NREGA allocations to AITC candidate households and all other households simultaneously in a regression of the form

$$\begin{aligned}
 Y_{pt,x} = & \phi_0 + V^{AITC} \left(\phi_1 d_p + \phi_2 d_p M_p + \beta_{AITC} M_p \right) \\
 & + V^{OTHER} \left(\phi_3 d_p + \phi_4 d_p M_p + \beta_{OTHER} M_p \right) \quad \text{for } p \text{ such that } |d_p| < h \\
 & + X_p \gamma + \varepsilon_{pt}
 \end{aligned} \tag{5}$$

where V^x is a dummy for whether the job card belongs to either $x = AITC, OTHER$. The outcome is the panchayat-level average allocation to AITC candidate households or other households. We estimate a regression of the same form for comparisons between winning AITC candidates and losing AITC candidates.

Table 4
 AITC Candidates, Regardless of Whether they Won in 2013,
 Receive Excess Payments in Villages Controlled by the AITC

	Candidates vs. Others		Winners Vs. Losers (pooled)		Winners Vs. Losers (2014)	
	(1) Dry Season	(2) Full year	(3) Dry Season	(4) Full year	(5) Dry Season	(6) Full year
AITC Candidate	2.091*** (0.555)	5.219*** (1.262)				
All Other HHs	0.977*** (0.346)	1.958*** (0.714)				
Winners			1.585** (0.747)	4.149** (1.715)	2.511* (1.287)	6.357*** (2.315)
Losers			1.780** (0.733)	4.250*** (1.640)	2.410** (1.190)	3.835* (2.316)
Obs in BW	7563	7962	6858	7221	2296	2310
Clusters in BW	1266	1333	1242	1317	1249	1258
Bandwidth	0.489	0.603	0.471	0.593	0.477	0.491
Test for Equality	0.015	0.002	0.835	0.962	0.949	0.394
Metric	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm
District FEs	X	X	X	X	X	X
Constituency FEs	X	X	X	X	X	X

Note: Columns 1 and 2 reports the regression discontinuity estimates of the change in the size of NREGA payments to “AITC Candidate” and “All Other HHs” when the AITC gains an absolute majority on the panchayat council. These discontinuities are estimated in the same regression to adjust for cross-equation correlations. The unit of observation is a panchayat-year-type (where type is AITC candidate or non-candidate household). Columns 3–6 estimate similar regressions where the household types are AITC candidates who won their 2013 race versus those who lost that race. “Metric” gives the distance metric (to AITC absolute majority) used as the running variable. Bandwidths are calculated using the Calonico et al. (2014) method for a simple RDD on the pooled sample. “Test of Equality” tests for equality of the two coefficients in each column. Standard errors are clustered within panchayat. See text for description of each specification.

*p=0.10 **p=0.05 ***p=0.01

discontinuity separately for each. As the results show, the increase in benefits is very similar for winners and losers, both when pooled across years and in the year of the election. We cannot reject that the coefficients are equal. Since losers have no direct control over the program, these excess payments could only happen with the complicity of the party apparatus. That is consistent with the idea that the payments are in return for maintaining networks and delivering votes rather than serving in office. In unreported results we also find that the AITC council president’s payments on average are roughly equal to those of a regular AITC council member, reinforcing that the payments are not linked to their position on the council.

5.2 Candidates Who Muster More Votes Receive Bigger Post-Election Payouts

Recent anecdotal and historical evidence suggests party bosses tend to reward local organizers after an election, typically in proportion to the number of votes they delivered.¹⁹

Figure 4 shows the average NREGA payments to AITC candidates in each week of 2014 and 2015, where we index each week relative to the calendar week of polling during the 2014 national election. We compare these averages between panchayat councils controlled by the AITC and all others. To ensure the two sets are comparable we restrict attention to councils that lie within 0.1 of the discontinuity using the 1-norm.

The left-hand panel, which shows allocations in 2014 (the year of the national election), shows that although there is a gap in payments towards the beginning of the year (the dry season), the most striking feature is a spike in payments just a few weeks after the election. The right-hand panel, which shows payments in 2015 when there was no election, does not find any comparable spike, suggesting the effect is not driven by seasonality. The spike suggests these immediate post-election payments may be a reward for performance or a reimbursement of expenses.

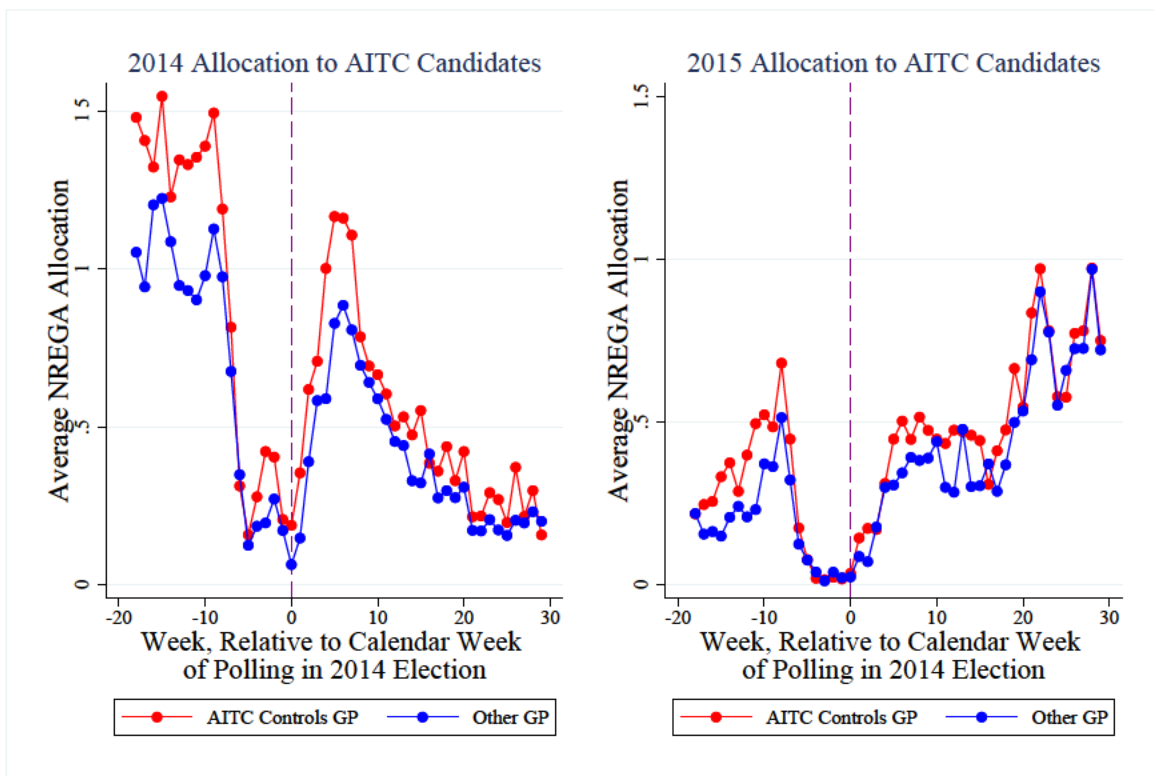
Is this post-election spike in payments a “performance bonus” for star performers? We test whether, controlling for panchayat fixed-effects, there is a positive correlation between the 2014 vote share in an AITC candidate’s home village and their NREGA allocation in the 4 weeks after the election. We first run simple ordinary least squares regressions of the form

$$Y_{pv} = \alpha_p + \beta s_{pv} + X_{pv}\gamma + \varepsilon_{pv} \quad \text{for } p \text{ such that } |d_p| < h \text{ and } M_p = 1 \quad (6)$$

where, as in Equation 2, α_p is a panchayat fixed-effect, but s_{pv} is now the vote share of the AITC in the village in the 2014 national election, X_{pv} is a vector of village-level controls, and Y_{pv} is the average payment in the 4 weeks after the election to AITC candidates living in the village. As in Figure 4 we restrict our sample to panchayats within $h = 0.1$ of the discontinuity using the 1-norm to ensure these are relatively competitive panchayats. We also restrict to panchayats

¹⁹ For example, Novaes (2018) describes how parties in Brazil maintain spreadsheets that record the vote returns in each local candidate’s territory alongside the payments they will receive. A recent analysis of a similar set of accounts maintained by a 1950s-era Brazilian congressman shows a positive correlation between payments and the number of votes delivered in excess of prior performance (Gingerich, 2020).

Figure 4
Payments to AITC Candidates Spike Just After the Election



Note: Graphs show the weekly average NREGA allocation of AITC candidates in villages that are or are not controlled by the AITC, restricting the sample to villages lying within a bandwidth of 0.1 based on the 1-norm metric. Dates are re-centered relative to the week of polling during the 2014 national election, which can be different depending on the location of the village. The right panel keeps the same time interval as the left panel, but there was no election.

where the AITC holds the majority and thus can control the allocation of NREGA jobs ($M_p = 1$).

Column 1 of Table 5 shows estimates of Equation 6 where the vector of controls is just a dummy for whether any of the AITC candidates in the village won their election to the panchayat council. Controlling for this dummy ensures any correlation by 2014 national vote share is not spuriously driven by simply having an elected ruling party councilor in the village. The estimate implies that for each additional 10 percentage points of vote share in the village, AITC candidates from the village received 1 additional day of NREGA benefits in the 4 weeks after polling day. Column 2 shows that the correlation holds even after controlling for the AITC vote share in earlier elections, implying it is a reward for performance in the most recent election.

Column 3 shows that when we change the outcome to be NREGA allocations during the same 4 calendar weeks in 2015, the correlation vanishes. The absence of any correlation in 2015 supports the idea that the payments are linked specifically to the 2014 election. We then estimate Equation 6, but for panchayats that are not controlled by the AITC ($M_p = 0$). Column 4 shows that there is no similar correlation in panchayats not controlled by the AITC, suggesting the party cannot offer its candidates any performance pay if it does not control NREGA funds.

Finally, Column 5 tests these results more formally as a difference-in-discontinuities similar to Equation 2 where s is now the AITC vote share within the village in the 2014 election and the outcome is the average NREGA allocation of all AITC candidates who live in the village. Analogous to the specifications reported in Columns 1–4, Column 5 also controls for whether any of the AITC candidates in the village won their election by interacting it with the discontinuity. Conceptually, the difference-in-discontinuity specification estimates the difference between Column 1 and Column 4 in the limit as the running variable approaches the discontinuity. The difference-in-discontinuity estimate is similar or perhaps even larger than the simple ordinary least squares estimates in Column 1.

6 Results, Part 3: How Are Local Officials Recruited to the Ruling Party?

Table 5
Candidates Whose Villages Return More Votes Receive More Pay in the
4 Weeks After the 2014 Polling Date

	Days of NREGA Received by AITC Candidates Just After Calendar Date of Polling				
	(1) 2014	(2) 2014	(3) 2015 (Placebo)	(4) 2014	(5) 2014
2014 Vote Share	10.246*** (2.851)	7.657** (3.840)	-3.306 (3.521)	-0.842 (3.295)	
Any Winning AITC Candidate	0.483 (0.462)	0.920* (0.549)	-0.192 (0.467)	0.092 (0.451)	
2009 Vote Share		1.327 (4.580)			
2011 Vote Share		7.088 (4.330)			
AITC Majority × 2014 Vote Share					14.838*** (4.879)
× Any Winning AITC Candidate					0.253 (0.767)
Obs in BW	962	727	962	929	3523
Clusters in BW	236	199	236	243	898
Bandwidth	0.100	0.100	0.100	0.100	0.471
Specification	OLS	OLS	OLS	OLS	Dif-in-Disc
Panchayat FEs	X	X	X	X	X
AITC Majority on Council?	Yes	Yes	Yes	No	N/A

Note: Estimates are from within-panchayat regressions where the unit of observation is a village. The outcome is the average NREGA payments to all AITC candidates in the village in the 4 weeks after the date of polling in the 2014 election. The key regressor of interest is the village's 2014 AITC vote share. Columns 1—4 are OLS regressions restricted to panchayats within 0.1 of the cutoff based on the 1-norm. Column 5 is a difference-in-discontinuities regression where the bandwidth is chosen by applying the method of Calonico et al. (2014) to a basic RDD framework with village-level observations. Standard errors are clustered by panchayat. See text for description of each specification.

*p=0.10 **p=0.05 ***p=0.01

6.1 Repeat Candidates Often Switch Parties and Usually Switch to the Ruling Party

If local officials are crucial links in the clientelistic network, the most effective way for the ruling party to expand its power is to poach them from the opposition. Suborning these candidates simultaneously expands its own network while dismantling that of the opposition.

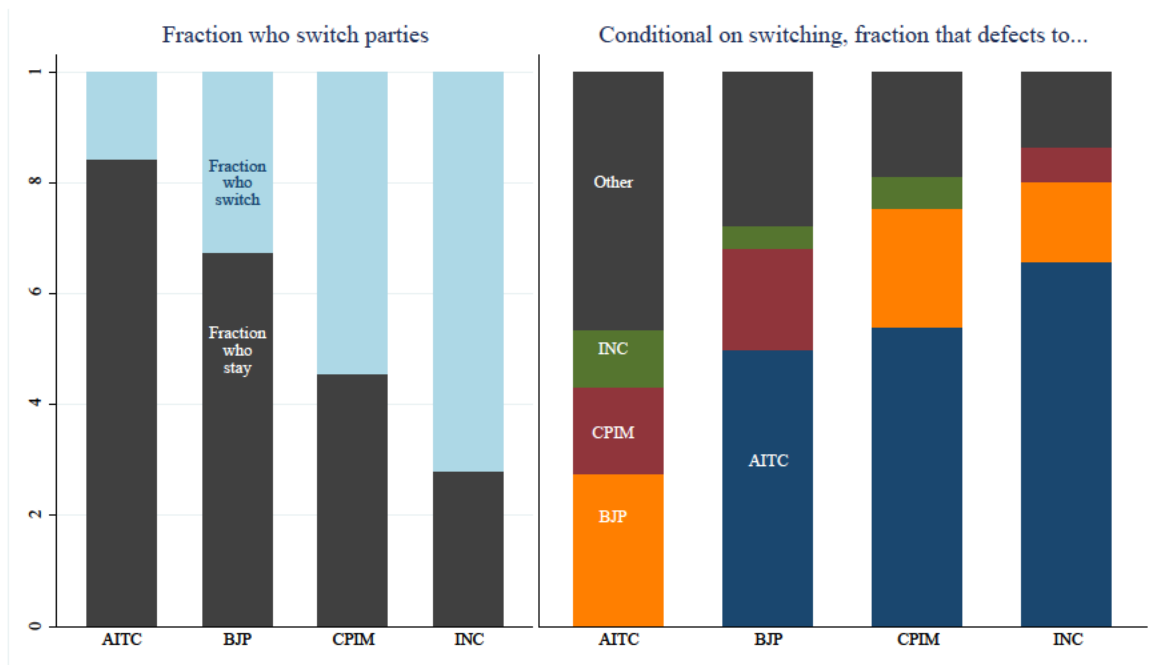
There is no official record of whether a local candidate has changed her allegiance. Instead we link candidates for the 2013 local election by name and panchayat to candidates in the subsequent 2018 local election. Within the subset of candidates who stood for office in both years, we infer that a candidate has “switched” allegiance if they register under a different party. For example, if we observe Abhishek Chatterjee contesting in 2013 as a member of the Communist Party-Marxist (CPIM) but in 2018 as a member of the AITC, we infer he has switched from the CPIM to the AITC. Likewise, we infer that a candidate has “stayed” with their party if they register under the same party in both elections.

The left-hand panel of Figure 5 shows the probability of switching versus staying conditional on the candidate’s 2013 party registration. Over 80 percent of the AITC’s candidates remain with the AITC—by far the highest retention rate of any major party in West Bengal. By contrast, both the CPIM and the Indian National Congress (INC) lose the majority of their candidates. The INC in particular loses over 70 percent of its candidates to other parties.

The right-hand panel of Figure 5 shows where, conditional on switching, these candidates choose to go. The AITC’s own relatively small pool of defectors tend to switch to either a minor party or the Bharatiya Janata Party (BJP). That is not surprising because after 2014 only the BJP has the resources to compete with the AITC.²⁰ But among all other parties the switchers overwhelmingly join the AITC, suggesting it is stealing many of these parties’ candidates. In unreported results we also find that defectors from the opposition parties tend to be their most popular candidates, meaning those who earned the most votes in the 2013 local election. The opposition is thus left with fewer and less effective organizers.

²⁰ Outside of West Bengal, the BJP won a massive victory in the 2014 national election. This victory, largely at the expense of the INC, gives the BJP resources unavailable to the other parties.

Figure 5
Candidates are Far More Likely to Leave Opposition Parties than the Ruling Party



Note: Among the set of candidates standing for election in both 2013 and 2018, the left-hand panel shows the fraction who “stay” registered with the same party in 2018 as in 2013 versus those who “switch” their 2013 party to register with a different party (or as an independent) in 2018. Each fraction is calculated among candidates registered in 2013 with the ruling party (AITC), the Bharatya Janata Party (BJP), the Communist Party-Marxist (CPIM), and the Indian National Congress (INC). The right-hand panel shows which parties candidates are switching into (conditional on switching). “Other” refers to minor parties and independents.

6.2 Candidates who Switch to or Stay With the Ruling Party Get Bigger Payments

What induces these opposition candidates to forswear their old allegiances? Though it is possible they are persuaded by ideology or a simple desire to be on the winning side, anecdotal accounts suggest money may be part of the answer. There are countless reports of politicians at all levels of government taking bribes to switch parties.²¹ We can look for direct evidence of such payments by measuring the average 2015 NREGA allocations to all AITC candidates who live in the village. We focus on 2015 because, as the next section implies, the year between the 2014 national election and the 2016 state election is crucial.

Figure 6 shows that candidates who stay with the AITC receive far larger NREGA allocations

²¹ A few recent examples: ‘BJP Offered Bribe to Congress MLAs to Switch Sides in Gujarat: Congress’, Hindustan Times, October 18, 2020; ‘On MLA’s “35-Crore Bribe” Claim, Sachin Pilot Says “Vexatious, Concocted”’, NDTV, July 20, 2020; ‘Why Minister Eshwarappa’s Letter Has Dealt ‘Unprecedented’ Blow to Already Troubled Yediyurappa’, The Print, April 2, 2021.

in 2015 than candidates who stay with any other party (the gap ranges from 8 to 13 days). More importantly, candidates who switch from the AITC between 2013 and 2018 receive far smaller allocations than those who remain (roughly 8.5 days fewer). By contrast, payments to candidates who leave at least two of the opposition parties (the CPIM and the INC) are higher than those to candidates who stay.²²

By themselves these results do not prove that the payments induced candidates to switch. It is possible they switched for other reasons and simply started receiving larger payments as part of the package. But the pattern is at least consistent with a higher return to staying in the AITC or switching to the AITC (at least for candidates originally aligned with the INC). The gap between stayers and leavers in the AITC, for example, translates to a difference of over 1400 rupees, roughly 30 percent of the monthly consumption expenditure of the median household in rural West Bengal.²³

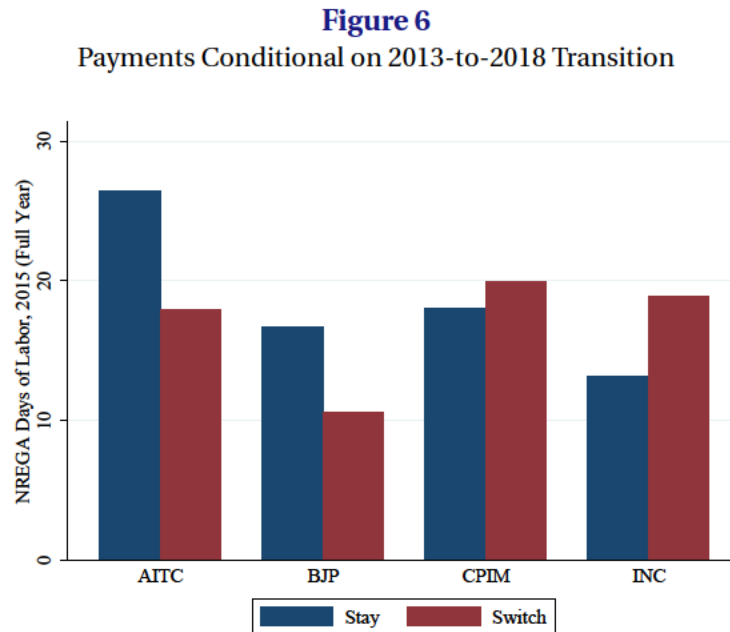
6.3 Switching to the Ruling Party is Most Common in Panchayats where the Ruling Party Just Falls Short of a Majority

If the ruling party is acting strategically, it will aim to recruit in places where the smallest number of new recruits will yield the biggest increase in the party's power. The most obvious targets are the gram panchayats where the party just barely fell short of holding a majority and was either shut out from power or had to form a coalition. If the party can recruit some independent or opposition members to its cause, it would be able to bring these panchayats under its control.

The left-hand panel of Figure 7 shows the AITC's average net gain in local candidates—the number who switch to the AITC minus the number who switch out—as a function of the running variable in the neighborhood of the threshold for absolute AITC control. We divide the running variable into bins of width 0.15 (the bins must be relatively wide because the outcome is noisy). We calculate the average net gains for the AITC across all panchayats within the bin. We restrict

²² The differences between payments to stayers in the three opposition parties versus stayers in the AITC are all highly significant (at the 1 percent level). The difference between switchers and stayers in the AITC is also significant at the 1 percent level. Estimates of differences between stayers and leavers in the other parties are noisy because there are so few cases. But the difference between leavers and stayers in the INC is significant at the 10 percent level.

²³ According to the 2014-2015 National Survey Sample dataset.



Note: Each bar shows the average 2015 NREGA allocation to candidates conditional on whether they “stay” with or “switch” from the party they were registered with in 2013 (which is labeled on the horizontal axis). For example, candidates who “stay” with the AITC get roughly 26 days of labor while those who “switch” get roughly 18 days. See Footnote 22 for the statistical significance of these differences.

our sample to the panchayats within a distance of 0.6 in the 1-norm metric.

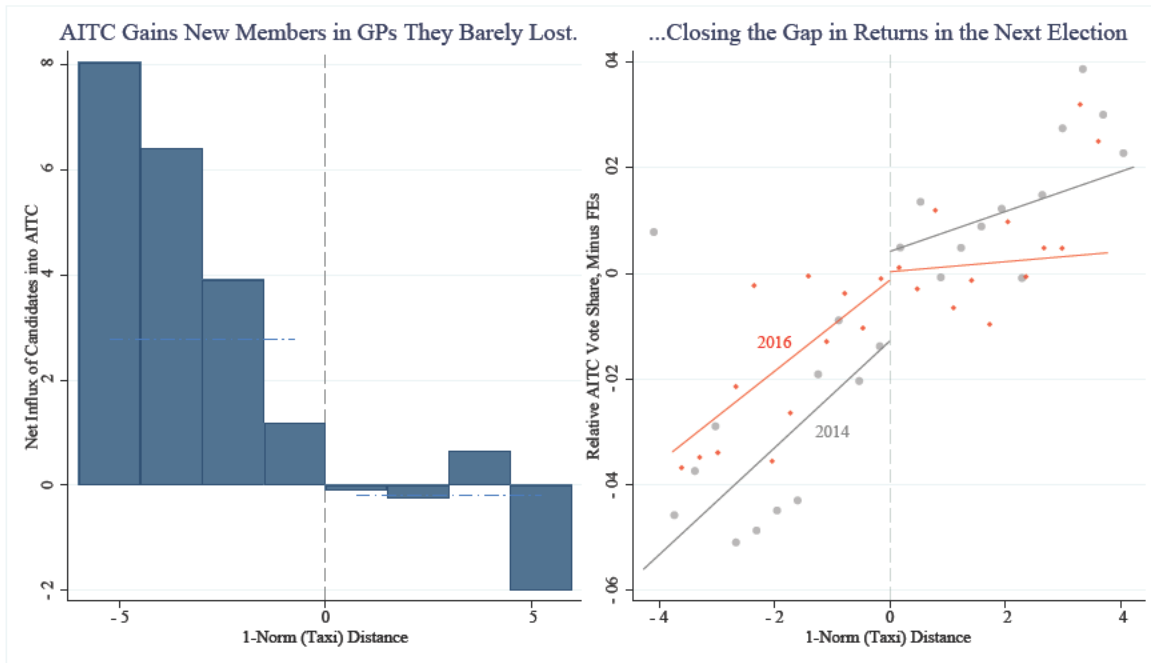
The figure shows that the AITC is most likely to gain members on the “control” (negative) side of the cutoff. On this side of the cutoff, the size of the average gain is proportional to the distance from the cutoff. Intuitively, the AITC gains members roughly in proportion to the number of new members it needs to take control.²⁴ By contrast, there is no obvious pattern on the “treated” side of the cutoff. In unreported results we find that this pattern is almost entirely driven by candidates who won their races and thus actually hold a seat on the council.

This pattern suggests the party’s recruitments over the period from 2013 to 2018 are effectively converting “control” panchayats into “treated” panchayats. Clearly the recruitments did not happen immediately after the 2013 local elections. If they had, the regression discontinuity

²⁴ This is only a rough intuition because the taxi metric depends not only on the number of seats but the margin by which the seats were lost. The party would presumably care about both when making recruitments (all else equal it would prefer to recruit popular candidates with many followers), but it is not obvious how it would weigh the quality of new recruits against the simple calculus of how many seats are needed for a majority. The taxi metric itself effectively treats two seats lost by 10 percent and 1 seat lost by 20 percent as equally distant from the cutoff even though the party may not.

estimates in Table 3 would have found that winning an absolute majority in 2013 would have had no impact on the national election of 2014.

Figure 7
Seats Gained Versus the Running Variable



Note: The left-hand panel restricts the sample to panchayats that lie within 0.6 of the cutoff for an absolute majority (based on the 1-norm). We divide the distance into bins of width 0.15 and calculate the average net gain of candidates for the AITC. The net gain is calculated as the number who switch from another party (or independent status) into the AITC minus the number who switch from the AITC. We average across panchayats within the bin. The blue dashed lines show the overall average on either side of the cutoff. The right-hand panel plots the regression discontinuity of the relative AITC vote share (share within the panchayat minus overall share in the constituency) for both the 2014 national election and the 2016 state election. We remove district and parliamentary constituency fixed effects to homogenize the two outcomes. For each year we restrict the sample to the optimal bandwidth (Calonico et al., 2014) and divide the running variable on either side of the cutoff into 12 equally spaced bins.

But we can get some measure of the incremental impact of the recruitments by applying the same test to the returns from a state election in 2016. The 2016 election pitted the same major parties in a contest for control of the state assembly of West Bengal, making the stakes even higher for the ruling party. Much as we did for the 2014 national election, we match polling stations to panchayats and measure the percentage of votes received by the AITC's state assembly candidate (relative to the candidate's overall share in the whole constituency for that assembly seat).

The right-hand panel of Figure 7 plots the regression discontinuity in the AITC lean for both the 2014 and 2016 election. To put the elections on a similar axis we first strip out district and

parliamentary constituency fixed-effects, making this the same specification as Column 2 of Table 3.²⁵ For each election we restrict observations to the optimal bandwidth and plot the linear prediction alongside the average of the outcome within 12 equally spaced bins.

The figure shows that the discontinuity in 2014 election returns has vanished by 2016. Panchayats where the AITC barely won an absolute majority in the 2013 local elections return no more votes than those where it barely lost. The figure shows that the discontinuity closes largely because of improvement in the performance of “control” panchayats. This result is consistent with the earlier result that the ruling party is incrementally converting “control” panchayats into “treated” panchayats by recruiting opposition candidates. The figure suggests those recruitments, which were not yet complete in 2014, had largely been completed by 2016. The implication is that the ruling party has expanded the frontier of its power deeper into the opposition’s strongholds.

7 Conclusion

In their seminal paper on party organization in Western democracies, Katz and Mair (1995) note that parties have become semi-state agencies: “[W]inning or losing may make less difference to a party’s political objectives because of the absence of great policy battles, but could make a good deal of difference to its sheer survival, since the resources for its sustenance now come increasingly from the state.” On India, Singh (1997) writes that “In the last few years the minority and coalition governments - at the centre and in the states - have used funds either to build patronage-based support networks or to bribe opposition MPs [Member of Parliament] at critical junctures.”

This paper finds that local politicians may be both the means and the end of a clientelistic party’s diversion of state resources. Areas controlled by the state’s ruling party receive systematically higher welfare allocations, both in election and non-election years, and yield more votes for the ruling party in the next national election. This pattern appears only in areas where the ruling party has full control over local government resources, suggesting voters are mobilized

²⁵ The results are similar if we add assembly constituency fixed-effects (Appendix A.3) or use the raw vote share (Appendix A.4).

by financial resources rather than a simple endorsement effect or other incumbency advantage. The party's local candidates receive excess welfare benefits that include a post-election surge proportional to their area's electoral returns. The ruling party appears to also be able to use the (promise of) similar payments to recruit opposition politicians in strategically important locations. All of this undermines political accountability and may result in a large economic misallocation of resources by distributing government benefits based on political networks rather than on need.

Our results reveal the high costs of clientelistic political organizations. While the cost of corruption is often measured simply as the money lost, our results suggest that by sustaining a clientelistic system, the bigger costs could come in undermining political institutions and distorting incentives away from an efficient response to a structural problem or crisis. This notion has come into greater prominence with recent revelations from around the world about how public funds intended for economic development have been diverted and used to sustain clientelistic networks. The 2019 Afghanistan Papers revealed, for example, that about 40 percent of US resources flowing into Afghanistan landed in the hands of warlords and corrupt officials and helped create a 'kleptocracy'.²⁶ And the European Union's farm subsidy program has come under fire for helping sustain the systematic misallocation of resources by some of its member governments.²⁷ The danger is that in the presence of such organizations, well-intentioned government funds might actually leave a society worse off than it would have been otherwise.

²⁶ The Washington Post, "U.S. Officials Admit to Fueling Corruption in Afghanistan by Flooding the Country with Money - and Then Turned a Blind Eye" (13 December 2019).

²⁷ The Economist, "Some Farmers Are Especially Good at Milking European Taxpayers" (21 November 2019).

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A Appendix: Additional Empirical Results

A.1 Tests for Manipulation

Figure 8
McCrary Density Test

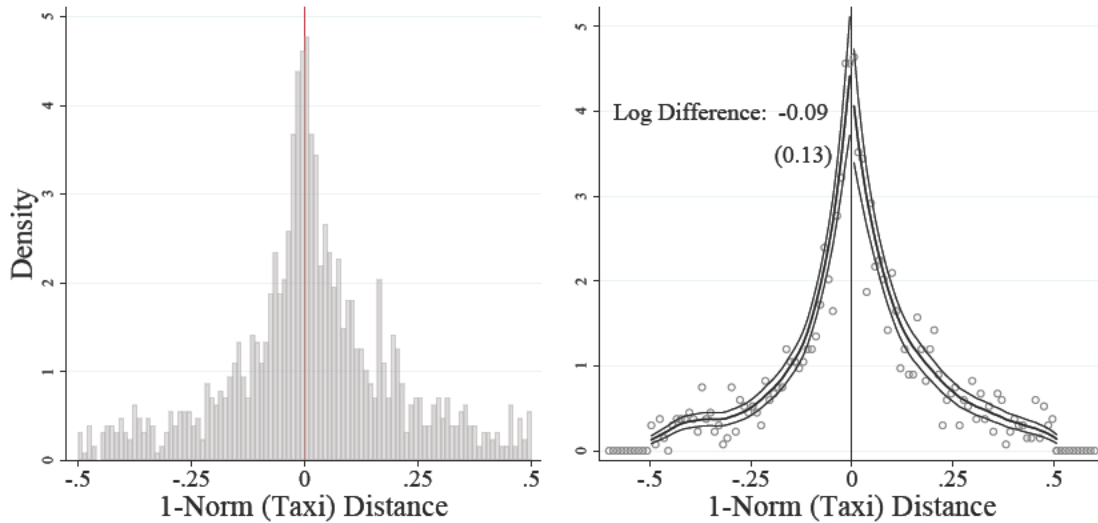


Figure 8 shows a McCrary test for whether there is a discontinuity in the density of the one-norm at the margin where the AITC wins an absolute majority (McCrary, 2008). Any such discontinuity would imply that the AITC or one of its competitors is able to manipulate the outcomes of elections to ensure it wins barely enough votes in barely enough seats to win a majority. Such precise manipulation is implausible because the Election Commission of India is a non-partisan bureau that is widely respected and considered free from corruption. Figure 8 confirms that there is no such discontinuity.

Table 6 reports a number of placebo baseline tests. Since we can match panchayats to disaggregated Census information, we can test whether the AITC was systematically better at winning a narrow absolute majority in areas with particular characteristics than in others. If the party was unable to manipulate votes perfectly, as the McCrary density test above suggests, we should not find differences at the discontinuity in outcomes that were measured in the 2011 Census, which occurred before the 2013 election. The table reports such baseline tests for a number of outcomes. One may be concerned, for example, that the AITC would target their efforts to precisely

Table 6
Placebo Tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Households	Population	SC Pop	ST Pop	Road	Primary Schools	Private Schools	Internet Cafe
RD Estimate	106.540 (109.604)	373.415 (477.810)	200.182 (264.026)	35.244 (136.239)	0.002 (0.018)	0.325 (0.482)	-0.072 (0.090)	-0.003 (0.012)
<i>N</i>	1852	1852	1852	1852	1848	1852	1852	1848
Obs in BW	1262	1298	1187	1231	1293	1304	1299	1213
Bandwidth	0.593	0.685	0.459	0.526	0.673	0.702	0.691	0.497
Robust p-val	0.527	0.525	0.591	0.825	0.908	0.167	0.803	0.901
Mean Left of Cutoff	3984.278	17821.926	5068.562	1252.698	0.148	16.674	0.529	0.065
Metric	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm	1-Norm
District FEs	X	X	X	X	X	X	X	X
Constituency FEs	X	X	X	X	X	X	X	X

Note: “Robust p-val” gives the p-value after adjusting for bandwidth uncertainty (see Calonico et al., 2014). “Metric” gives the distance metric (to AITC absolute majority) used as the running variable. Bandwidths are MSE-optimal. “Mean Left of Cutoff” in Panel C gives the mean of the outcome for observations within one-tenth of the bandwidth on the left of the cutoff. Standard errors are calculated using 3 nearest neighbors. See text for description of each specification. Outcome data comes from the 2011 Indian Census.

*p=0.10 **p=0.05 ***p=0.01

determine the outcome of an election depending on population or caste breakdown. Columns 1–4 of Table 6 show, however, that there is no evidence that the AITC was more likely to hold a narrow absolute majority in areas with a larger number of households, a higher population, or more lower-caste inhabitants (Scheduled Castes and Scheduled Tribes). Columns 5–8 find no evidence of a discontinuity in the availability of infrastructure (roads), schools of different types or the distance to an internet cafe. This further supports the internal validity of the multi-dimensional RD design.

A.2 Aggregate Misallocation: Full Year

Table 7
Results from Table 1 Using
Per Household NREGA Allocations over the Full Year

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	All	All	All	2014	2015	2016
RD Estimate	1.769** (0.750)	1.983*** (0.604)	1.747** (0.775)	1.716** (0.871)	2.377*** (0.831)	1.607** (0.704)	1.510* (0.859)
<i>N</i>	5877	5877	5877	5877	1959	1959	1959
Obs in BW	4323	4323	3810	3621	1324	1329	1276
Clusters in BW	1441	1441	1270	1207	1324	1329	1276
Control Mean	20.05	20.05	19.05	19.10	21.17	15.63	23.39
Bandwidth	0.898	0.898	0.247	0.147	0.578	0.591	0.496
Robust p-val	0.030	0.028	0.144	0.126	0.195	0.077	0.372
Metric	1-Norm	1-Norm	2-Norm	Inf-Norm	1-Norm	1-Norm	1-Norm
District FEs		X	X	X	X	X	X
Constituency FEs		X	X	X	X	X	X

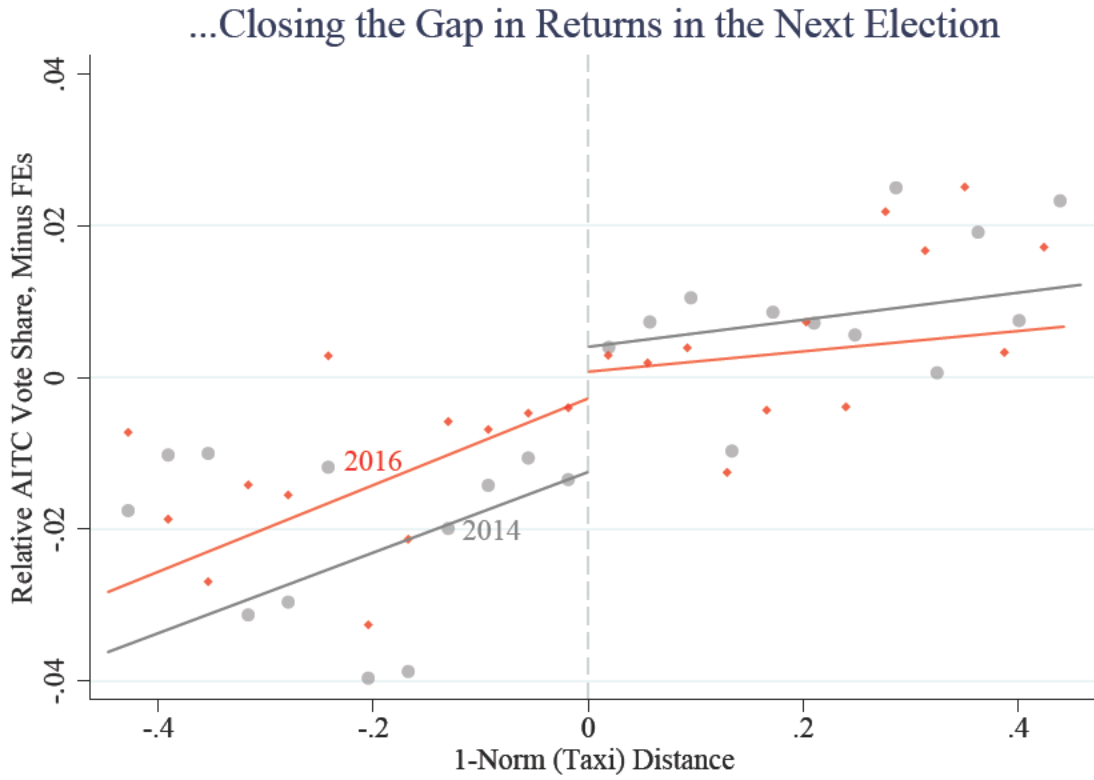
Note: These specifications are identical to Table 1 except the outcome is the average days of labor over the entire year.

*p=0.10 **p=0.05 ***p=0.01

A.3 Right-Hand Panel of Figure 7 Using Assembly Constituency Fixed-Effects

Figure 9

The Contrast Between 2014 and 2016 is Equally Stark Using Assembly Constituency Fixed-Effects

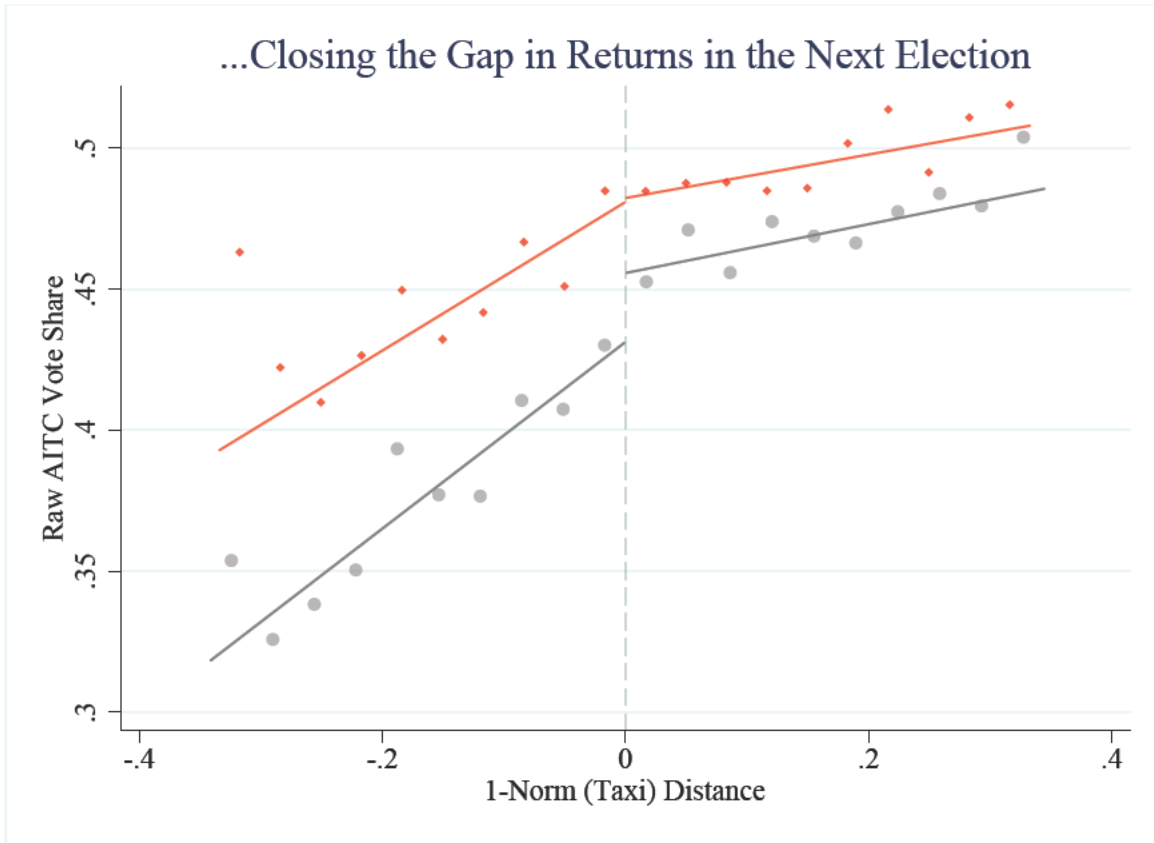


Note: This figure is exactly the same as the right-hand panel of Figure 7 except vote leans in both years are stripped of assembly constituency fixed-effects rather than parliamentary constituency fixed-effects.

A.4 Right-Hand Panel of Figure 7 Using Raw Vote Shares

Figure 10

The Contrast Between 2014 and 2016 is Equally Stark Using Raw Vote Shares



Note: This figure is exactly the same as the right-hand panel of Figure 7 except it uses raw vote share as the outcome and does not strip out district and constituency fixed-effects.

B Anecdotes: The Role of Local Political Intermediaries

B.1 Anecdotes from India

The literature on vote-buying ‘brokers’ has documented that parties need intermediaries to organize their networks. Bussell (2019) notes that in India elected panchayat council members are the most likely to be approached for patronage and assistance in accessing government programs. Similarly, one member of parliament notes of his own election that

[Decentralization] provides ready-made people at the grassroots level from the village upwards. When campaigning, I rely extensively on the help of panchas and sarpanchas [ward representatives and council presidents] – they are extremely important to getting elected. (Thomas Bohlken, 2016, p. 62)

Singh et al. (2003) conclude from their study of panchayat councils in Madhya Pradesh that council presidents “are a key grass root political intermediary, acting as fixers for powers above, in return for funds that can buy vote-banks.”

Based on a survey of households in several Indian states, Dunning and Nilekani (2013) find that 73 percent of respondents asked members of the panchayat council for assistance, typically regarding “access to government welfare schemes”. Conversely, Johnson et al. (2003) write that

... in almost all of our sample villages, we found examples of villages and entire hamlets being punished by the sarpanch [panchayat council president] and other powerful figures for failing to support his party in the previous election. Punishment here could include being denied employment opportunities provided by public works programmes or being deprived valuable forms of infrastructure...

Multiple studies also describe the dynamic relationship between local politicians and their supporters. Boo (2014) describes how a local organizer of the Shiv Sena party in a Mumbai slum would be approached by a queue of supplicants with problems she could solve by unlocking or misusing government programs.²⁸ The organizer could in return “deliver her neighbors to the polls” (Boo, 2014, p. 19). In one instance she is approached by someone bringing a gift as thanks “because on this date, three years earlier, Asha had helped her secure a temp job with the city government...” (Boo, 2014, p. 21)

Ziegfeld (2017) quotes a local official in Rajasthan who explains his political success:

²⁸ For example, covering the cost of a medical procedure using a government program intended to support microenterprises (Boo, 2014, p. 25).

This village and the surrounding villages are my family's jagir [feudal estate]. It is in my blood to do something for others. After my graduation [from college], people came to me with their problems. I became sarpanch [equivalent of a rural mayor], running unopposed. Villagers came by the thousands to vote for me. (Ziegfeld, 2017, p. 105)

Even as local politicians maintain relationships with supporters, the ultimate patrons—the party boss and higher officials—must maintain a relationship with each of their lieutenants. Their positions as local politicians (either elected or otherwise) give them a unique power because of their face-to-face connection with voters. But their loyalty and willingness to perform cannot be taken for granted. Indian politics is rife with examples of politicians who defect from their parties. In West Bengal, the leader of the AITC has “attacked the leaders who have switched over to the BJP [a key rival]”²⁹. Newspapers report on a particularly damaging defection:

Roy joined the BJP in November 2017, after a fallout with Banerjee... On March 8, Roy visited TMC MLA Sabyasachi Dutta at his residence³⁰... Dutta's defection would help the BJP in two ways: it will have a face in a TMC bastion and will strengthen its ground-level networking.³¹

These anecdotes suggest that the patron must keep local intermediaries at least indifferent between staying and leaving. Conditional on staying they must also be enticed or threatened into delivering results. The AITC is reported to have

... started a survey of local party leaders and existing councilors. According to TMC [AITC] sources, the performance of councilors in the last five years, ground-level connect with people, organisational skills and whether they have amassed an unusual amount of wealth will be taken into consideration in the survey... TMC sources revealed that so far negative feedback from locals has come up against several councilors.³²

Aside from revealing that the party does explicitly reward the most competent, the anecdote also implies that there is asymmetric information. The fact that a survey was necessary shows that party leaders cannot readily observe performance.

²⁹ The Wire, “Mamata Banerjee Revamps TMC Organisation to Counter Rise of BJP” (26 May 2019). Available at <https://thewire.in/politics/mamata-banerjee-revamps-tmc-organisation-to-counter-rise-of-bjp>.

³⁰ TMC and AITC are commonly used abbreviations for the same political party.

³¹ The Wire, “Explainer: The Defection Story Playing Out in West Bengal” (16 March 2019). Available at <https://thewire.in/politics/explainer-the-defection-story-playing-out-in-west-bengal>

³² Deccan Herald, “West Bengal: Trinamool Congress Starts Survey for Candidates in Municipal Polls” (January 31 2020). Available at <https://www.deccanherald.com/national/national-politics/west-bengal-trinamool-congress-starts-survey-for-candidates-in-municipal-polls-800174.html>

B.2 Anecdotes from Other Countries

Here, we provide anecdotes from outside India that mirror the Indian anecdotes.

On Argentina, Núñez (2018) writes:

Conventional wisdom in Argentina holds that support from mayors is key for the performance of parties in elections to other offices. News coverage reflects this, with headlines such as “[Former President] Cristina Kirchner tests the support of mayors for advancing in the construction of an opposition front” (Infobae, 2016, author’s translation) and “[President] Macri is already thinking about the 2017 elections and seeks to seduce mayors [...]” (iProfesional, 2016, author’s translation), which highlight the importance for national leaders of counting with the support of local politicians for contesting national elections.

Thomas Bohlken (2016) provides a detailed case study on the building of a political organization in Venezuela:

Indeed, popularly elected governors and mayors would offer a new channel for Perez through which to target patronage and maintain support for the regime at the local level. [...] [T]he newly elected mayors were able to dispense local jobs and contracts and develop independent bases of support.

In his ethnographic account on clientelism in Argentina, Auyero (2000) describes the system like this:

In contexts of extreme material deprivation and sociocultural destitution, la red peronista operates as a problem-solving network that institutes a web of material and symbolic resource distribution. It functions as a source of goods and services, a safety net protecting against the risks of everyday life, one of the few remaining paths of social mobility, and a solidaristic community that stands in opposition to the hardship and exclusion visited on those living in poor and destitute areas. This net concentrates (monopolizes) information and depends to a great extent on state resources.

For Paraguay, Finan and Schechter (2012) provide two quotes on the relationship between sub-patrons and voters:

To enable us to obtain votes, we visit families personally and, for sure, right then and there, they are going to ask you for a favor. They first ask if you have work for one of the members of that family, help for health expenses, purchase of medicines, water bills, and electricity. They virtually force you to perform, and if you don't then you don't get their vote. - Atilio López (Liberal), head of the municipal legislature in Capiata

And the political operatives do their job with the money, specifically, with the money of the candidate. The operative does his work, buying the conscience of the voter with money, with alcohol, buying his

id card, a little medicine, sugar, bread, tea, and in this way he goes buying and winning adherents. -
Antonio Espinoza, president of the neighborhood committee in Capilla del Monte

Auyero (2000) describes the relationship between a new sub-patron and patron in Argentina, providing an example of regular payments from patron to sub-patron, as well as evidence that trust between patron and sub-patron needs to be built over time, presumably due to information asymmetries:

In September 1996, [Norma] opened a grocery store in the front part of [her] house. Norma told me in our interview, “You know, things were not working very well, so I decided to open an *unidad básica* (a grassroots office of the Peronist party) and see what happens!” Their decision coincided with the ascending career of Gustavo Pedele, a Peronist councilman [...]. Pedele now pays Norma’s utility bills and provides her family with small amounts of cash. Norma is now Pedele’s broker (his *puntera*) and Pedele is Norma’s political patron (her *referente*). [...] Because Norma is “just starting with this party thing,” her access to state resources is for the time being restricted..

In her case study from Venezuela, Thomas Bohlken (2016) describes that while Perez implemented decentralization reform to create local politicians as a layer of sub-patrons, Venezuela remained highly fiscally centralized, which made it easier to ensure the loyalty of the sub-patrons:

As a result, local representatives would continue to be dependent on the national government for the resources they would need to carry out their functions and gain re-election.

C Data Appendix

C.1 Raw Sources of Data

We rely most heavily on 3 datasets that we constructed by converting unstructured administrative data into structured data files. As described in later sections, we supplement these data with several other sources that were scraped, digitized, or obtained directly from government officials.

The most important original dataset is the NREGA job card dataset, which was scraped in late 2018 through early 2019 from the government’s public web portal (<https://nrega.nic.in>). Figure 11 shows an example of a job card (the names and identification numbers have been replaced in this figure to protect the identity of the household). The parts of the record we use are the job card details, the family details, and the employment given.

We also scrape outcomes of the 2013 and 2018 gram panchayat elections from the website of the State Election Commission of West Bengal (<http://www.wbsec.gov.in>). Figure 12 shows an example of the results for a single panchayat. Some panchayats did not report results through this portal and are excluded from our study.

Our third major source of data is the official "Form 20" tally sheet of booth-level vote counts for each parliamentary constituency and assembly constituency, drawn from the website of the Chief Election Officer of West Bengal (<http://ceowestbengal.nic.in/>). Figure 13 shows an example of a tally sheet from the 2014 national election. We hired a contractor to apply optimal character recognition to convert these results to structured data, and validated the totals using basic consistency checks. The Form 20 sheets for the 2016 state election were too blurry to be read by machine. Instead we hired four contractors to manually enter the data, which was then validated and corrected by an undergraduate research assistant.

C.2 Constructing the Dataset Used to Show the Impact of AITC Control on National and State Election Outcomes

We construct 3 distance metrics to the frontier of an AITC absolute majority using the 2013 gram panchayat election outcomes. These panchayat-level distance metrics are the running variable for the regression discontinuity design. The next step is to merge the running variable to panchayat-level aggregates of the vote count in the 2014 and 2016 elections.

As we were unable to find any record specifying which gram panchayat contained each polling station, we constructed our own crosswalk through the NREGA job card data. Some fraction of households registered for their job cards using their election photo ID card (EPIC). As shown in Figure 11, those households have the EPIC number listed on the job card. We constructed a random sample of 10 epic numbers from each village in each gram panchayat and queried those numbers against an online portal created by the Chief Election Officer of West Bengal to let voters find their polling station for the 2019 election (which, at this stage of the data construction, was in progress). Since most locations used for polling in 2014 were retained for 2019, this dataset gave us a mapping between job card numbers and the names of buildings used by the job card holder. We assigned a polling location to a gram panchayat if the plurality of job

cards linked to EPICs registered to vote at that location were also registered under the gram panchayat.³³ This gave us a crosswalk between the names of gram panchayats and the names of polling locations.

Since the Form 20 tally sheets record only the numerical ID of a polling station, we had to link the station-level vote counts by ID number to the data constructed by Susewind (2016), which contains the ID number and name of each 2014 polling booth. We cleaned these names and consolidated the data to the building-level.³⁴ We fuzzy-matched this dataset by the name of the polling location to the crosswalk constructed above, and hired two native Bengali speakers to independently validate the matches.³⁵

C.3 Constructing the Dataset Used to Show the Impact of AITC Control on NREGA Allocations

We restrict our sample of job cards to the subset living in panchayats linked to polling stations (see previous section). Using the station to panchayat crosswalk we infer the polling date of each panchayat, which lets us calculate the the number of days of labor received by each job card within the period 4 weeks after the date of polling as well as during the dry season (which we define as the first 12 weeks of the calendar year) and each full calendar year. To be precise, we record a job card as having received some number of jobs within a period if it was given a job spell whose start date fell within the period. If a job card did not have a job spell within that period, it was recorded as receiving zero days of labor.

We identify the subset of these job cards that are AITC candidates by fuzzy string-matching candidates by name to the full set of NREGA recipients (individuals registered under any job card). We discard cases where the gender or caste group of the recipient is inconsistent with the reservation status of the district being contested by the candidate (which would imply the match

³³ In the vast majority of cases all EPICs registered to vote at a polling station were linked to a job card from the same panchayat.

³⁴ Some polling stations are actually separate rooms within the same building. Since the crosswalk between panchayats and 2019 stations gives only the polling location, we consolidated 2014 and 2016 vote counts within building.

³⁵ There is a small number of polling locations created for the 2016 election that were not used in the 2014 election. These stations necessarily were lost because we could not identify their names. The number of new stations was small enough—typically a handful in each assembly constituency—that the resulting measurement error is small.

is incorrect). We also discard any cases where multiple candidates or NREGA recipients have the same name (as they are functionally indistinguishable). This set of machine-identified matches was then hand verified by two native Bengali speakers working independently, and cases where the two disagreed were adjudicated by the authors. We tag a jobcard as matched to an AITC candidate if any individual registered under the job card was matched. After discarding ambiguous cases, in the full sample we match just over half of AITC candidates to a job card.

We calculated the mean days received by all job cards within the panchayat (our measure of “aggregate” allocations) as well as by the subset of job cards matched to an AITC candidate and the subset of individuals not recorded as AITC candidates. Though it is possible that some candidates are missed or mismatched, there is no reason to expect the level or sign of the resulting measurement error to systematically change at the discontinuity.

C.4 Constructing the Village-level Datasets Used to Show Within-Panchayat Outcomes

All within-panchayat analyses use a village-level dataset constructed analogously to the two panchayat-level datasets above. We match polling stations to villages using the same method, and identify AITC candidates within each village using the same job card-level matches. The one new variable is the 2009 and 2011 average vote share within the village. We digitize station-level data from the Chief Election Officer, and merge the counts to station names scraped from an archived version of the website. We consolidate station-level data to the building-level using a similar method as described above for 2014 stations before fuzzy string-matching to 2014 locations by name (as above, the machine-generated matches are validated by two independent India-based research assistants). Since there is a nontrivial number of stations that do not match (and unlike the 2014 and 2016 vote counts, the 2009 and 2011 vote shares are used on the right-hand side of the regression) we average party-level vote shares within village rather than summing vote counts and subsequently calculating shares. This procedure reduces the risk of putting undue weight on one or two large stations, though in practice the results are almost identical to using the other method.


C.5 Constructing the Datasets On Party-Switching

We constructed the candidate-level dataset by fuzzy string-matching candidates by name and panchayat from the 2013 data to the 2018 data. We discard matches where the gender and caste of the 2018 candidate is inconsistent with the reservation status of the 2013 candidate.³⁶ We discard matches with a low match probability (below 98.95 percent) or cases where multiple candidates are matched. The final sample includes only candidates who appear in 2013 and are matched to 2018. We machine-match this subset of candidates by name to the job card data using a similar procedure to that outlined above.³⁷ We calculate the total labor allocation to the job card of each matched candidate for each year (restricting the sample only to those who did match to a job card). The final dataset is at the candidate-level (which we combine with the aggregate-level datasets by panchayat).

³⁶ Unfortunately we do not know the actual gender and caste of the candidate in the 2013 data, only the reservation status of the seat being contested.

³⁷ For this phase we did not hire native speakers to hand-validate the matches, as we noted that the additional step made almost no difference when applied to the AITC candidates. Nevertheless, for this phase we use only machine-matched candidates (even though we have hand validated matches for the AITC candidates) to ensure there is no systematic measurement error based on political party.

Figure 11
Sample Job Card
(Names and ID Numbers Changed to Protect Privacy)

Job card				
MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE ACT				
Job card No.:	WB-01-002-011-999/111	Family Id:	111	
Name of Head of Household:	AJAY SHENOY			
Name of Father/Husband:	MANOHAR SHENOY			
Category:	OTH			
Date of Registration:	1/2/2008			
Address:				
Villages:	MAHATPUR-3			
Panchayat:	MAHATPUR			
Block:	CHAPRA			
District:	NADIA(WEST BENGAL)			
Whether BPL Family:	YES	BPL Family No.:	987654-IN50	
Epic No.:	WB/12/079/123456			
Details of the Applicants of the household willing				
S.No	Name of Applicant	Gender	Age	Bank/Postoffice
1	AJAY SHENOY	Male	35	Pukhuria - Tilakpur S.K.U.S. LTD
2	AJITA SHENOY	Female	68	Pukhuria - Tilakpur S.K.U.S. LTD
Signature/Thumb impression of Applicant		Seal & Signature of Registering Authority		

Period and Work on which Employment Given

S.No	Name of Applicant	Month & Date from which employment requested	No of Days	Work Name	MSR No.	Total Amount of Work Done	Payment Due
1	AJAY SHENOY	16/01/2008	6	Imp of road from H/O Abdul hamid sk to H/O Chandu Molla	2865	450	0
	Sub Total FY 0708		6			450	0
2	AJITA SHENOY	05/03/2009	6	Earthen Rood From the H/O Asan Ali Sk to Modhu Molla	39626	484	0
3	AJAY SHENOY	05/03/2009	6	Earthen Rood From the H/O Asan Ali Sk to Modhu Molla	39635	480	0
	Sub Total FY 0809		12			964	0
4	AJITA SHENOY	07/12/2009	6	Re-excavation of Khal the Plot of Alip Molla	45804	480	0
5	AJITA SHENOY	19/01/2010	6	Implimentation of earthen road from Masjid to Beledoy	51865	588	0
	Sub Total FY 0910		12			1068	0
6	AJITA SHENOY	04/06/2010	5	Implimentation of earthen road cum bundh from ferryghat to fataghat	74273	450	0
7	AJITA SHENOY	09/06/2010	2	Deslting of Pond of Bidar Shaikh	74017	160	0
8	AJITA SHENOY	24/06/2010	2	Earthen road from Pakurtala to Primary school	78428	166	0
	Sub Total FY 1011		9			776	0
9	AJITA SHENOY	29/12/2011	5	Earth work in Bundh from Pukhuria fataghat to Paschimpara Snanerghat	83995	450	0
	Sub Total FY 1112		5			450	0

Figure 12
Example of 2013 Gram Panchayat Election Report

Gram Panchayat Election Results, 2013

Zilla Parishad Name:
 Panchayat Samity Name:
 Gram Panchayat Name:

Seat Name	Total Electors	Votes Polled	Votes Rejected	OSN	Candidate Name	Party Name	Votes Secured
I/1 WOMAN	1250	1019	106	1	MAMANI ROY	CPIM	352
				2	MALA ROY	BJP	78
				3	SARASWATI ROY	AITC	483
II/2 GENERAL	650	579	12	1	ARUP SHIT	AITC	273
				2	PARESH NANDI	BJP	17
				3	ROHIT SHIT	CPIM	277
III/3 SC WOMAN	893	745	42	1	JABARANI MANDAL	AITC	365
				2	BHABANI MONDAL	INC	122
				3	MINATI MANDAL	CPIM	200
				4	SHILA MONDAL	BJP	16
IV/4 SC	1029	845	40	1	ANADI MONDAL	AITC	334
				2	PIJUSH MANDAL	INC	163
				3	BUDDHADEB MONDAL	AIFB	270
				4	SUDHIR MONDAL	BJP	38
V/5 WOMAN	861	774	33	1	APARNA PATRA	CPIM	369
				2	BANALATA MUKHUTI	AITC	372
VI/6 SC WOMAN	1114	939	15	1	PARUL PARAMANIK	AITC	575
				2	PRATIMA MAL	CPIM	349
VII/7 GENERAL	868	713	64	1	ALAM RAFIKUL KHAN	INC	8

Figure 13
Example of 2013 Gram Panchayat Election Report

FORM 20
FINAL RESULT SHEET, PGE 2014

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PART-I

Total No. of Electors in Assembly Constituency : 216911

Name of the Assembly Constituency : 2, MATHABHANGA(SC)

Sl. No.	Polling Station No.	No. of valid votes cast in favour of.												Total of valid votes	No. of rejected votes	NOTA	No. of Test Votes	Total	No. of tendered votes
		Keshab Chandra Ray	Girindra Nath Barman	Dipak Kumar Roy	Renuka Sinha	Hem Chandra Barman	Kamal Krishna Bairagi	Dalendra Nath Ray	Nripen Karjee	Pijush Barman	Hare Krishna Sarkar	Bangshi Badan Barman	Hitendra Das						
1	1	17	4	236	255	136	4	0	2	3	7	2	5	671	0	11	0	682	0
2	2	23	10	259	255	44	6	4	2	1	5	7	7	623	0	12	0	635	0
3	3	8	12	254	258	64	3	0	2	1	1	2	2	607	0	7	0	614	0
4	4	6	8	195	222	93	30	1	1	2	3	0	1	562	0	3	0	565	0
5	5	19	7	180	208	62	2	0	3	0	1	0	2	484	0	2	0	486	0
6	6	24	18	305	258	88	7	3	3	2	5	10	6	729	0	10	0	739	0
7	7	22	14	334	273	52	7	2	0	2	4	5	5	720	0	6	0	726	0
8	8	45	18	375	361	95	4	4	3	3	7	4	4	923	0	7	0	930	0
9	9	4	12	249	155	65	4	0	2	0	1	3	1	496	0	1	0	497	0
10	10	19	14	373	334	54	4	3	1	4	4	5	2	817	0	8	0	825	0
11	11	4	9	407	327	20	2	2	1	1	4	3	4	784	0	3	0	787	0
12	12	13	6	382	314	23	3	1	1	1	4	6	6	760	0	10	0	770	0
13	13	25	16	633	353	51	5	6	2	3	6	3	6	1109	0	12	0	1121	0
14	14	4	5	367	217	33	3	4	1	0	1	1	1	637	0	5	0	642	0
15	15	17	9	344	490	73	5	1	2	2	3	4	8	958	0	6	0	964	0
16	16	11	8	406	313	88	10	2	2	2	3	4	8	857	0	11	0	868	0