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# Criminal Politicians and Socioeconomic Development: Evidence from Rural India

October 25, 2019

## Abstract

Although it seems intuitively clear that candidate quality provides a critical pillar of democratic governance, the consequences of electing low-quality politicians remain unclear. Combining census data and election results, we conduct a regression discontinuity analysis to examine the socioeconomic effects of criminal politicians in India. We find that the election of state legislators with criminal charges can exacerbate household poverty in a village as household electrification and literacy rates both decrease when criminal candidates win close elections against non-criminal ones. In contrast, the presence of criminal politicians does not have a conclusive negative effect on the supply of local infrastructures, such as paved roads and power grids. These results highlight the importance of differentiating between different types of policy outcomes. Rent-seeking politicians will engage in local infrastructural projects, but they may pay little attention to these projects' contribution to poverty reduction.

**Keywords:** India; candidate quality; political economy of development; elections; regression discontinuity design

## 1 Introduction

Theories of democratic governance highlight the importance of candidate quality (see Caselli and Morelli, 2004; Besley, 2005; Alt, Bueno de Mesquita, and Rose, 2011). Ideally, electoral competition allows citizens to fill public offices with honest and capable candidates and hold them accountable.<sup>1</sup> However, in real life, asymmetric information and other issues have prevented voters from monitoring politicians and evaluating their performance (Ferejohn, 1986; Przeworski, Stokes, and Manin, 1999). While electoral accountability through “sanctioning of poor performance” should bring good government, democratic institutions also leave scope for candidate characteristics to shape policy outcomes.

In this vein, the electoral success of candidates with *criminal charges* in democratic countries is disturbing. As Banerjee et al. (2014) note, “[i]n practice... even countries with competitive elections described as free and fair by outside observers routinely elect large numbers of officials who are believed to be corrupt or prone to illegal conduct.” Similarly, indicates Vaishnav (2017), “[i]n India,... [o]nce voting is over and the results are announced, a ... wave of stories about the criminal records of those who are actually elected pours forth.” This phenomenon has drawn attention from scholars, who have used newly available data on criminal charges against candidates to understand why people elect them and what they do once elected (Chemin, 2012; Fisman, Schulz, and Vig, 2014; Prakash, Rockmore, and Uppal, 2014; Aidt, Golden, and Tiwari, 2015).<sup>2</sup>

But how concerned should we be about criminal politicians? Several scholars have maintained that criminal politicians can strengthen grassroots governance as they can provide local public goods (e.g., community security) that the formal state has failed to offer (see Vaishnav, 2017). Some suggest that criminal politicians are harmful to the society (e.g., Banerjee et al., 2014; Aidt, Golden, and Tiwari, 2015), but the evidence turns out to be thin. Few rigorous studies have sought to estimate the socioeconomic effects of the election of criminal politicians, but they shed little light on how political criminality might compromise democratic policymaking and implementation.

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<sup>1</sup>Following Besley (2005), we distinguish between honesty/integrity and competence as the two principal dimensions of candidate quality.

<sup>2</sup>Most existing studies focus on India, but few have analyzed criminal politicians in Italy (Mastrorocco and Di Cataldo, 2016), the United Kingdom (Larcinese and Sircar, 2013), and the Philippines (Magno, 2010).

For instance, Prakash, Rockmore, and Uppal (2014) employ the regression discontinuity design and show that the election of criminal candidates causes night-time luminosity – a proxy for the volume of economic activity – to decrease. While their focus is of clear policy and normative importance, they focus on criminal politicians’ impact on overall economic activity instead of policy-specific outcomes. Their findings may conceal crucial variation in the effects of criminal politicians on different dependent variables.

We depart from existing studies by arguing that criminality will *not* always have an adverse impact. Local infrastructure projects provide ample opportunities for rent-seeking and, therefore, criminal politicians have incentives to introduce them. Meanwhile, we expect to observe negative effects on the provision of household amenities. Criminal politicians find them less attractive because investments in household electrification and education do not require large-scale projects with the opportunities for rent accumulation, and programs that target individuals make it more difficult for politicians to divert resources for personal gain (Bardhan and Mookherjee, 2006b).

To illustrate, we estimate the causal effects of criminality on local public good provision and development outcomes in rural India. In 2003, India’s Election Commission required all candidates to submit signed affidavits that reveal their educational qualifications, pending criminal charges, and assets (see Sastry, 2014). Merging the affidavits with state election results and village-level census data in 2001 and 2011, we assemble a dataset of nearly 600,000 observations to identify the effects of electing criminal candidates from the regression discontinuity analysis of close elections (Imbens and Lemieux, 2008; Lee, 2008; Caughey and Sekhon, 2011; Snyder, Folke, and Hirano, 2015).<sup>3</sup> We focus on state assembly elections between 2004 and 2010, and examine how the electoral success of criminal candidates in close elections shapes different village-level socioeconomic outcomes.

We find that the electoral success of criminal candidates has complex effects. The electing of a criminal candidate in a close election to become a Member of State Assembly (MLA) does not appear to impede local infrastructure construction. The estimated coefficients on village electrification and road construction are close to zero and statistically insignificant. In contrast, criminal politicians do seem to undermine poverty alleviation, as both household electrification and literacy

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<sup>3</sup>See Section 5 to see the definitions of close elections.

rate decline when criminals are voted into office. The coefficients for these outcomes are consistently large, negative, and mostly statistically significant. When we consider candidates with “serious” accusations, such as assault, murder, kidnap, rape, and corruption,<sup>4</sup> we find similar results.

We also study different heterogeneous effects of candidate criminality. First, we explore the impact of education, a popular candidate characteristic in the literature (see Carnes and Lupu, 2016) – controlling for education does not change the estimates. This result suggests that criminality itself, as opposed to pending criminal charges being correlated with other candidate characteristics, is driving the primary findings. Next, we find that criminal politicians hampered road construction when they did not come from the political party of the Chief Minister in the state. This finding illuminates a causal mechanism driving our results: aligned criminal politicians use their connections to secure funds for road construction, while unaligned criminal politicians are unable to do so (e.g., Lehne, Shapiro, and Eynde, 2016). Lastly, we compare the effects of criminal politicians on villages with different caste compositions to investigate whether criminality contributes to increased socioeconomic inequality – the negative effects of criminal politicians are not differentiated by the caste composition of a village. When a criminal politician is elected, villages with varying size of scheduled castes and tribes are equally hurt. The adverse effects of criminal politicians on rural development apply widely, from socially privileged to the most marginalized communities.

We also consider the *quality* of road construction. Using data from a national road construction scheme, we find that criminal politicians reduce the quality of projects, as assessed by independent inspectors. They also reduce the occurrence of inspections by national authorities, most likely in an effort to conceal low-quality construction due to corruption. These results are consistent with our argument that the ambiguous effect of criminal politicians on infrastructure results from reduced quality off-setting the increased incentive to secure investments.

Our study offers two contributions. We propose and test new hypotheses about the impact of candidate quality. While the literature has focused on aggregate economic outcomes, we not only provide causal estimates of the effects across different types of development and infrastructure programs but also consider the distributional implications of candidate quality. We thus answer a

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<sup>4</sup>See Section 4 for more discussion on the definition of serious crimes.

call by Kramon and Posner (2013) to theorize how political factors influence the provision of *different* local public goods and services.<sup>5</sup> Our findings delineate a more nuanced picture of candidate quality and human development, moving the empirical literature on political selection beyond simple associations between candidate quality and economic growth (e.g., Besley, Montalvo, and Reynal-Querol, 2011; Prakash, Rockmore, and Uppal, 2014; Carnes and Lupu, 2016).

We also join recent studies that seek to understand the presence of criminals in elected offices and their impact on democratic governance in India (e.g. Banerjee et al., 2014; Fisman, Schulz, and Vig, 2014; Prakash, Rockmore, and Uppal, 2014; Aidt, Golden, and Tiwari, 2015; Vaishnav, 2017). We show that electing criminals or other low-quality candidates, while generating negative effects on household-level outcomes, does not have a clear-cut adverse impact effect on infrastructure projects. While the presence of criminal politicians can result in lower-quality projects or excessive use of public resources, our findings question the notion that the people living in these areas would themselves face reductions in overall local infrastructure. Hence, India’s criminal politicians may be less of a threat to growth in general than to “inclusive” growth (see Drèze and Sen, 2002).

## 2 Democratic Governance and Candidate Quality

Democratic institutions are designed to hold politicians accountable and maintain the quality of government through competitive elections. However, existing studies have discussed various voters’ challenges in monitoring their elected representatives, given that politicians are often better informed than voters and face the temptation to abuse their power for private gain or to the advantage of special interest groups (e.g., Ferejohn, 1986; Persson, Roland, and Tabellini, 1997; Besley and Burgess, 2002; Caselli and Morelli, 2004; Maskin and Tirole, 2004; Bardhan and Mookherjee, 2006a).

While it is crucial to help voters make more informed choices by increasing government transparency, sound democratic governance thus also rests upon elections being able to select honest and competent candidates. Candidate quality has received considerable attention as a critical factor of democratic governance. As Besley (2005: 45) writes, “if the control of politicians through

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<sup>5</sup>With a focus on India, Lee (2018) shows that the electoral victory of women politicians will lead to the provision of high-quality latrines.

elections is limited, then improving the quality of government requires an increase in the honesty, integrity or competence of those who are elected.” Indeed, a formal model of “bad” politicians by Caselli and Morelli (2004) posits that dishonest politicians are eager to win elections as they value the opportunities to extract private rents from the public office. Our analysis of candidates with criminal charges speaks to the question of honesty and integrity, as criminal records can indicate less for both and thus a higher propensity of corruption.

The empirical evidence on candidate quality largely comes from studies that examine the variation in socioeconomic development outcomes as a function of election results. In particular, many studies use education as a proxy for candidate quality (e.g. Besley, Montalvo, and Reynal-Querol, 2011; Brollo et al., 2013; Baltrunaite et al., 2014). However, as Carnes and Lupu (2016: 36) note, “there simply is not much empirical research on the link between politicians educational attainment and their performance in office.” The lack of empirical evidence applies broadly to the relationship between a candidate’s characteristics and her performance in office, as measuring candidate quality without relying on the education proxy has been a daunting task. Besides educational attainment, few other objective indicators of candidate quality are available.

In the case of India, studies such as Aidt, Golden, and Tiwari (2015), Banerjee et al. (2014), and Vaishnav (2017) focus on the electoral performance of criminal politicians. Our study aligns with those exploring the consequences of electing criminals or other corrupt candidates. Meanwhile, while Fisman, Schulz, and Vig (2014) find that elected politicians accumulate assets faster than their losing peers in corrupt states and note that the “results are consistent with a rent-seeking explanation,” they do not quantify the cost of such rent-seeking endeavors for the society. Vaishnav (2017) explains why Indian voters often support criminal candidates, but his analysis does not identify the causal effects of criminal politicians.

Chemin (2012) is among the first to study the relationship between electing criminal politicians and rural development. He examines the household expenditure of non-Brahmin households in 2004 across 180 administrative districts, showing a negative effect on household consumption from a regression discontinuity analysis. Using constituency-level election data, Prakash, Rockmore, and Uppal (2014) conduct another regression discontinuity analysis, showing that criminal politicians

are causally associated with decreases in lighting at night. The authors interpret the results as decreases in economic activity. Our study is different from both approaches in that we theorize about and empirically examine a range of direct measures of both socioeconomic development and infrastructure programs across inhabited villages in India. Moreover, we consider heterogeneous effects as a function of pre-existing village and candidate characteristics to explore if criminal politicians have distributional implications across constituencies. Finally, we use more refined data on election outcomes over a long period of time and over a larger area of India.<sup>6</sup>

### 3 Theory and Hypotheses

We begin with the premise that individuals with criminal charges mostly disregard the rule of law and are prompted to engage in corrupt rent-seeking endeavors when running for elected politicians (e.g., Banerjee et al., 2014; Fisman, Schulz, and Vig, 2014; Aidt, Golden, and Tiwari, 2015; Vaishnav, 2017). Following Besley (2005), we also perceive criminality an indicator of self-interest. Altogether, criminality itself does not have a direct impact on the outcomes of interest. Instead, criminality allows us to measure characteristics of politicians whose corrupt, self-interested behaviors do influence outcomes.<sup>7</sup>

We propose that the election of criminal candidates does not always cause an adverse impact on human development. More specifically, we argue that criminal politicians undermine household poverty alleviation; elected representatives with criminal charges, however, do not necessarily hinder the construction of local public facilities. While the lack of integrity inherent in criminal politicians can undermine their incentives to channel resources for rural development to individual households, this negative effect is partially offset by their keen interest in reaping rents from infrastructure projects.

In India, the *local* impact of elected representatives can manifest itself through politicians'

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<sup>6</sup>Gehring, Kauffeldt, and Vadlamannati (2016) also seek to estimate the effect of electing criminal politicians into office on their legislative effort and the use of local development funds, but they focus on criminal politicians in Lok Sabha, the national parliament, instead of state assemblies.

<sup>7</sup>In the Indian context, a robust democratic constitution and a series of anti-corruption laws imply that the legal system and regulations governing political activity are themselves of relatively high quality. The problem is that many politicians circumvent the rules and engage in illegal activities, and the criminal character of a politician is thus a good indicator of these inherent character traits. In contrast, in a country with biased laws on paper, willingness to break the law might not say anything about self-interest or a lack of respect for the rule of law.

ability to secure and allocate resources for their constituencies (Jensenius, 2015; Gehring, Kauffeldt, and Vadlamannati, 2016; Asher and Novosad, 2017). Although individual Members of Legislative Assembly (MLAs) have limited capacity to legislate under India’s strict party discipline, they do have access to funds to pursue various goals at the grassroots level, ranging from rural development to rent seeking. These resources were embedded in India’s clientelistic machinery, which the then-dominant Indian Congress Party built in the 1960s to facilitate the exchange of resources for votes (Weiner, 1967; Piliavsky, 2014).

For instance, most Indian states provide each MLA with Local Area Development Scheme, which the MLAs can employ for any purposes they deem fit (Malhotra and Jain, 2009).<sup>8</sup> In each constituency, an MLA plays a crucial role in allocating government funds, grading contracts of local public infrastructure, and appointing local bureaucrats – including the influential Block Development Officer (Witsoe, 2012; Jensenius, 2015). As Jensenius (2015: 197) notes, “politicians spend most of their time in their home constituencies, where they work to expand their support-base by helping individuals get benefits they are entitled to, facilitating access to governmental schemes, putting pressure on the bureaucracy to implement development works, or by lobbying political allies and business contacts to bring projects to their area.” We draw on this logic and theorize about how criminal candidates shape outcomes when elected to State Legislative Assemblies.

Jensenius (2015: 201) notes several other channels that MLAs can use to shape local development. Because these politicians tend to spend most of their time in their home district, “they work to expand their support-base by helping individuals get benefits they are entitled to, facilitating access to governmental schemes, putting pressure on the bureaucracy to implement development works, or by lobbying political allies and business contacts to bring projects to their area.” These channels, which are only partially formal and rely heavily on connections and social standing, underscore the MLA’s role as a local promoter of public works and champion of individuals and families in need of help. According to Vaishnav (2017), “many of the bad habits and customs of the License Raj remain deeply entrenched in India,” as cumbersome licensing and permitting

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<sup>8</sup>Researchers have also noticed that some MLAs do not spend their allotted funds in constituencies. As Keefer and Khemani (2009) highlight, an MLA’s effort of delivering pork will be lower in constituencies when these constituencies are their party’s stronghold, perhaps because politicians would like to focus their resources on swing voters. We include fixed effects in our analysis to account for this caveat.

procedures give bureaucrats, whose career fortunes are in turn controlled by politicians, excessive power over private business.

### **3.1 Criminal Politicians and Local Infrastructure**

Local politicians usually have a genuine interest in public infrastructure projects within their constituencies because these projects can act as a major source of rent-seeking. In Indonesia, Olken (2007) finds that road construction in the absence of regular, rigorous government audits see significant cost increases because of corruption. Even in industrialized countries such as Japan, official corruption and organized crime have pervaded the construction industry (Woodall, 1996). While not focusing specifically on criminal politicians, Lehne, Shapiro, and Eynde (2016) find that contractors sharing the surname of a politician – a proxy for informal social connections in India’s stratified, hierarchical society – are more likely to secure large payments for projects without corresponding improvements in the quality of the roads constructed.

Vaishnav (2017) introduces the example of Y.S. Rajasekhara Reddy (known as YSR). Hailing from the Kadap district of Andhra Pradesh, YSR used his family’s mining revenue to build a local stronghold that guaranteed landslide victories in elections over time. He first scored an MLA seat in 1978, and by 2004 had become the state’s Chief Minister. Throughout his tenure, he abused his office to give land allotments to businesses that agreed to invest in his son Jagan’s empire. These businesses, in turn, did well because their projects circumvented regulatory review and purchased state assets at a significant discount.

Another example from Vaishnav (2017) is the Adarsh Housing Society in Mumbai, which was built in 1999 for widows of soldiers who fought in 1999 in Kargil against Pakistan but turned into free flats for politicians, bureaucrats, and regulators. The housing complex failed to comply with zoning and environmental rules, as state politicians – including cabinet ministers – controlled complicit bureaucrats who ignored the rules governing residential construction and diverted extremely expensive flats to influential people.

In line with the literature, we argue that candidate criminality will have a negative impact on the quality of local infrastructure projects while not necessarily undermining their availability within the constituencies. According to Kenny (2007), bribery and kickbacks in local infrastructure

construction, which act as an adverse drain on public resources, induce criminal politicians to secure and implement construction projects. Since politicians focus more on putting these projects in place than assuring the benefits that public infrastructure brings to the local community, their rent-seeking attempts undermine quality, compromise environmental and social safeguards, and even cause deaths and injuries through increased accidents during and after construction.

While we are not aware of any micro-level studies in this regard, Keefer and Knack (2007: 566) find that “public investment rises when governments have greater incentives to seek rents.” A pioneering study by Mauro (1998) shows that corrupt governments shift expenditures away from education to other uses. He argues that the reason for the negative association between corruption and education spending is that spending on education “does not provide as many lucrative opportunities for government officials as other components of spending do” (Mauro, 1998: 265). Mastroiocco and Di Cataldo (2016) show that when mafia penetrates municipal government in Italy, spending shifts into activities such as construction and waste management that generate rents, while tax collection and policing decline.

On balance, criminal politicians should have no definite effect on the implementation of local public infrastructure projects overall. First, a criminal politician might compromise the quality of projects because of corruption, along the lines of Olken (2007): if the politician awards projects to incompetent contractors in exchange for bribes and the bidding competition declines accordingly, the quality of the projects suffers. As a result, criminal politicians may reduce the input-output efficiency of infrastructure projects. Next, criminal politicians’ pursuit of installing local infrastructure *in the first place* means that the reduced quality may be at least partially canceled out by a positive local scale effect.<sup>9</sup> In the Indian case, although the average quality of any given project is lower under a criminal MLA, the increased *number* of projects can compensate for the reduced *quality*.<sup>10</sup>

**Hypothesis 1.** *The supply of local infrastructure is unaffected when a criminal candidate wins an*

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<sup>9</sup>A positive scale effect does not mean that criminal politicians do not have an overall adverse effect. A positive local scale effect could come at the expense of areas governed by non-criminal politicians in a zero-sum game of resource allocation.

<sup>10</sup>Here, of course, we must remember that such an increase in the number of projects does imply inefficient resource use and possibly the implementation of fewer projects in other areas of the country.

*election.*

### **3.2 Criminal Politicians and Household Poverty**

Unlike local infrastructure, we argue that criminal politicians undermine household poverty alleviation and rural development. The reason is twofold. First, criminal politicians lack a compelling self-interest in these outcomes. Using criminality as the indicator for the latent characteristic of self-interest, the share of dedicated public servants motivated by an intrinsic interest in improving the well-being of the poor is lower among criminal than among non-criminal politicians. As Chemin (2012: 669) explains, criminals candidates are usually not interested in alleviating poverty because these politicians prioritize abuse of power for their self-interest.

According to Prakash, Rockmore, and Uppal (2014: 4), who cite a large body of literature on corruption (e.g., Bardhan, 1997), “[c]orruption has its adverse effects not just on static efficiency but also on investment and growth.” If criminal candidates are more likely to divert public resources for private use and/or offer contracts to low-quality contractors, their behavior sacrifices the efficiency of public policies enacted to mitigate poverty. Even if an Indian state government wants to invest in poverty alleviation, for example, a powerful criminal politician’s presence complicates implementation. The criminal politician diverts resources for economic and political gain, whereas a more honest politician would allocate more resources to meet the actual goals of the policy: poverty alleviation and human development.

Criminal politicians are interested in poverty alleviation to the extent that it promises electoral gains. This incentive is the same for both criminal and non-criminal politicians, however, as any office-seeking politician will seek to secure electoral support (e.g., Barro, 1973; Ferejohn, 1986). Even an altruistic politician would be office-seeking because an electoral defeat would prevent the altruist from enacting his or her preferred policies. Therefore, criminal politicians tend to downplay poverty alleviation not only because they lack the spirit of public service but also because poverty alleviation does not promise the kind of rampant rents that motivate criminal candidates in the first place.

In the extreme, criminal politicians may even prefer to collude with local elites to undermine the provision of local public goods. Economic growth, literacy, and social policies can empower

the poor and thus reduce criminal politicians' ability to win elections in the future. Bardhan and Mookherjee (2006b), in their study on pro-poor programs in West Bengal, explain that it is usually difficult for corrupt officials to reap rents from household-level poverty alleviation programs, as citizens entitled to the privileges are incentivized to detect deviations in policy implementation.

**Hypothesis 2.** *Household poverty increases when a criminal candidate wins an election.*

The abuse of political office for private gain can be flagrant. According to a *Wall Street Journal* interview with Anurag Yadav, a Chief Development Officer for Lucknow, the state capital of Uttar Pradesh: "In one scam, a member of the national parliament provided 2.5 million rupees, or about \$60,000, through an NGO to help construct the villa of an Uttar Pradesh state legislator facing 20 criminal cases, including murder. In another, a politician used public funds to build a nursing home only to rent it out for weddings, collecting the fees."<sup>11</sup> Here, criminal politicians are merely using public funds for their own sake rather than promoting rural development and alleviating poverty.

Raja Bhaiya, an Uttar Pradesh politician notorious for his criminal activities, illustrates these tendencies (Vaishnav, 2017). According to one of his former aides, this longtime gangster had the aide collect bribes worth USD 200,000 per week between 2004 and 2007 from food aid provided by the state. This money, intended to reduce hunger among the state's poorest, instead enriched a criminal politician.

#### 4 Criminal Candidates in Indian State Elections

In 2003, the Election Commission of India issued the order that mandates all candidates running for elections to submit public affidavits. Every affidavit should include a candidate's past criminal charges, educational qualifications, and personal assets. The website `myneta.info` managed by the Association for Democratic Reforms (ADR) in Delhi publishes all affidavits for state assembly elections after 2004.

In using data on candidate characteristics as a proxy for their quality, it is important to consider a few challenges in regard to the notion of criminal charges. In India, pending criminal charges against a candidate could be politically motivated, and so it is possible that opposition candidates,

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<sup>11</sup>"Lawless Legislators Thwart Social Progress in India," May 4, 2007, *Wall Street Journal*, available at <http://www.wsj.com/articles/SB117823755304891604> (accessed August 17, 2016).

in particular, are targeted.<sup>12</sup> In light of this caveat, we replicate our analysis focusing only on “serious” criminal charges. The Delhi-based ADR defines a serious criminal politician as one who has been charged with any offense for which maximum punishment is of five years or more, any non-bailable offense, any electoral offense (e.g., bribery), any offense related to loss to exchequer, any offenses related to assault, murder, kidnap, rape, any offenses stipulated in Representation of the People Act (Section 8), any offenses under Prevention of Corruption Act, and any crimes against women.<sup>13</sup> Because such charges are difficult to fabricate, they offer a conservative approach to identifying the effects of criminal politicians.<sup>14</sup>

Table 1 provides an overview of criminal state assembly candidates for the full sample and close elections with varying margins of victory. We break down the distribution of criminal candidates by state, party affiliation, education, gender, and caste.<sup>15</sup> In the full sample, most winning criminal politicians are from Bihar, Maharashtra, and Uttar Pradesh. According to the 2011 Census, these are the most populous states in India. Jharkhand stands out as exceptional given that the state only has less than 3% of the Indian population. These states are also four of the poorest in the country (Bose, 2013).

Nearly 40% of criminal politicians come from parties with national presence, such as the Bharatiya Janata Party (BJP) and the Indian National Congress (INC). Another 8.4% are affiliated with the Bahujan Samaj Party (BSP), a party devoting to the well-being of scheduled castes. Furthermore, similar to their non-criminal peers, the majority of criminal politicians (70%) do not have college degrees. Nearly all winning politicians are male. Finally, more than three quarters of criminal politicians are found in general constituencies. The patterns described are very similar to

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<sup>12</sup>The same concern also applies to the self-reported educational qualifications. See, for example, “5 Indian Politicians Shrouded in Fake Degree Scandals,” *New Indian Express*, June 9, 2015.

<sup>13</sup>Non-serious cases include charges such as trespassing, wrongful restraint, defamation, and joining an unlawful assembly. We also scraped the charges faced by candidates from [myneta.info](http://myneta.info), which lists all charges by the Indian Penal Code (IPC); the most common crimes that MLA candidates committed include: organized armed riots and other criminal activities (IPC 34; IPC 143; IPC 147-149), physical assault (IPC 323, IPC 341, IPC 353), intimidation (IPC 506), and property damages (IPC 427). Most serious criminal politicians were charged for offenses that affect the human body (IPC 299-377) and offenses against property (IPC 378-462).

<sup>14</sup>Vaishnav (2017) follows a similar approach. Unfortunately, we cannot use data on actual convictions as opposed to pending charges. Criminal convictions against incumbent politicians are very rare in India and the legal process very time-consuming.

<sup>15</sup>To clarify, here we only present five states where criminal politicians are most common, but the following analysis includes villages from the entire country.

	Full Sample		Margin < 1%		Margin < 2%		Margin < 5%	
	Criminal	Non-criminal	Criminal	Non-criminal	Criminal	Non-criminal	Criminal	Non-criminal
Uttar Pradesh	18.1	10.9	15.8	14.0	16.5	14.4	17.3	14.7
Bihar	17.6	4.9	14.0	4.7	12.6	8.2	12.7	8.6
Maharashtra	16.1	5.8	8.8	14.0	11.7	8.2	13.9	9.5
Andhra Pradesh	7.0	9.3	10.5	9.3	10.7	7.2	8.4	8.2
Jharkhand	7.0	2.5	7.0	4.7	6.8	5.1	6.3	4.7
INC	20.6	32.6	14.0	30.2	21.4	28.9	21.9	28.9
BJP	19.1	20.6	19.3	30.2	14.6	25.8	18.6	21.1
BSP	8.4	5.7	10.5	4.7	9.7	7.2	9.3	8.2
SP	6.2	3.2	1.8	4.7	5.8	3.1	5.5	3.0
IND	5.7	5.1	7.0	2.3	5.8	4.1	6.8	3.9
Below College	70.0	65.0	73.1	60.5	73.5	65.6	71.0	66.1
Above College	30.0	35.0	26.9	39.5	26.5	34.4	29.0	33.9
Male	96.8	90.8	94.7	81.4	95.2	86.6	96.2	90.5
Female	3.2	9.2	5.3	18.6	4.9	13.4	3.8	9.5
GEN	84.1	70.2	82.5	79.1	80.6	80.4	81.4	81.5
SC	8.7	15.5	7.0	9.3	10.7	9.3	10.5	10.8
ST	7.2	14.2	10.5	11.6	8.7	10.3	8.0	7.8

Table 1: Winning criminal politicians versus other politicians.

what we observe for the serious criminal politicians (Table A1 in Supporting Information).

Figure 1 shows the geographic distribution of criminal candidates. The geographic units are electoral constituencies before and after the 2008 district delimitation. Criminal candidates are a common phenomenon across India. Although they tend to come from the large, less developed states of northern India, no geographic region is without its share of successful criminal candidates.

## 5 Empirical Analysis

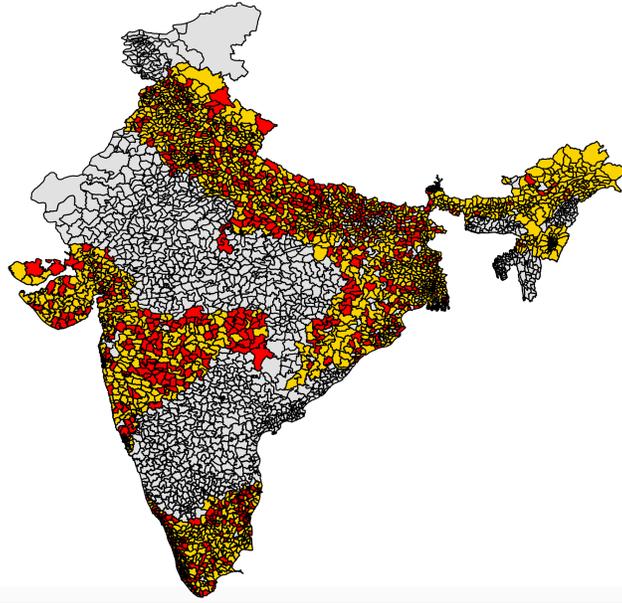
We conduct a regression discontinuity design (RDD) analysis to examine the local average treatment effect (LATE) of candidate criminality on various development outcomes. Drawing on the 2011 Census of India, our dataset has a variety of socioeconomic variables for 586,899 villages across the entire country. Electoral results are based on official election statistics for state assemblies.<sup>16</sup>

For causal identification, we focus on close elections in which the winner’s margin of victory over the runner-up is within 5% of valid votes. We compare constituencies in which either the winner or the runner-up, but not both, is a criminal candidate. Doing so leaves us with a total of 4,022 constituency-level election outcomes between 2004 and 2010.<sup>17</sup> For robustness, we also estimate models with 1% and 2% bandwidths. The data on candidate quality are based on affidavits submitted by candidates, as required by the Election Commission of India.

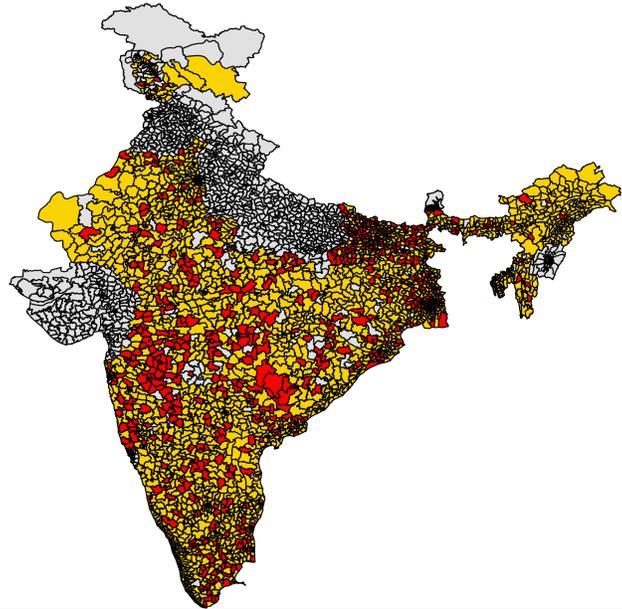
The unit of analysis is village-election because each village may have more than one election.

<sup>16</sup>Note the change of constituency boundaries in India after the March 2008 elections in Meghalaya. Using both administrative records and GIS maps of Indian boundaries, we have assigned every village in the country separately for pre-2008 and post-2008 constituency.

<sup>17</sup>See Table A1 for the composition of our samples, both at the village and constituency level.



(a) Before 2008



(b) After 2008

Figure 1: The distribution of criminal politicians in India. Areas marked in red refer to assembly constituencies where criminal politicians won. Yellow areas are constituencies represented by non-criminal politicians. In constituencies marked in gray, either no election was held or no data are available.

Given that the outcome variables are only measured in the 2011 census, in some states we have two measures per village. We cluster standard errors by village to avoid any bias from double-counting certain observations. Our baseline RDD model is

$$Y_{ijk} = \alpha + \beta \text{CRIMINAL}_{jk} + \epsilon_{ijk}, \quad (1)$$

where  $Y_{ijk}$  refers to an outcome of interest in village  $i$  for election  $j$  in constituency  $k$ . The coefficient  $\beta$  indicates the local average treatment effect of *CRIMINAL*, a binary indicator that shows whether a criminal politician winning the election. Throughout, we report two-way standard errors clustered by village and constituency so we can take into account that the treatment occurs at the constituency level while addressing the bias from double-counting.<sup>18</sup>

Building on Model 1, we add three specifications to address other potential confounding covariates. First, we include election-year (*YR*) and state (*STATE*) fixed effects. Second, we add the forcing variable, the winner’s margin of victory (*MOV*) against the first runner-up in a constituency.<sup>19</sup> In the same specification, we also include the interaction with the treatment and *MOV* to consider differential slopes of the treatment effect of *CRIMINAL*. Finally, since all of our dependent variables were measured in the 2011 Census, we control for the same outcomes measured in the 2001 Census. This comprehensive model is

$$Y_{ijk} = \beta \text{CRIMINAL}_{jk} + \gamma_1 \text{YR}_j + \gamma_2 \text{STATE}_i + \gamma_3 \text{MOV}_{jk} + \gamma_4 \text{CRIMINAL}_{jk} \times \text{MOV}_{jk} + \text{Y2001}_{ijk} + \epsilon_{ijk}, \quad (2)$$

where *Y2001* refers to the dependent variable measured in 2001.

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<sup>18</sup>Alternatively, we address the concern of duplicated villages, which would otherwise result in the over-representation of some villages in the sample, by providing the results with a single round of elections. The results in Section A14 are very similar to our main findings.

<sup>19</sup>Given our focus on the local RDD, we do not include higher-order polynomials, as they may produce biased coefficients (Gelman and Imbens, 2014). We estimate, instead, models that begin with the treatment variable alone, then add election year and state fixed effects, then add a linear local polynomial, and finally include pre-treatment control variables. This approach ensures robustness and avoids noisy, potentially biased estimates based on complex functional form.

## 5.1 Dependent Variables

The 2011 Census of India offers detailed data on local infrastructure and household poverty across different villages in the country. We also consider comparable outcomes from the 2001 Census, though the regression discontinuity analysis does not require multiple measures over time for causal identification.

We consider six outcomes in our analysis. The first two focus on the supply of local public infrastructure; we use two binary variables that respectively indicate whether a village has an electricity connection and “pucca” roads (i.e., paved roads). The remaining four dependent variables, ranging between 0 and 1, focus on the average level of poverty and human capital across different households in a village. The first variable is the share of households that use electricity as the primary source for lighting. The second variable is literacy rate, measured by the share of literate population – 7 years or older – in a village. The third variable is the share of households that have access to treated tap water for drinking. To capture the overall degree of extreme poverty in a village, we compute the share of households that do not own any assets listed in the census.<sup>20</sup> Compared with the first two variables, the second set of outcome variables concern the *efficiency* of local public goods at the household level. For instance, a village can have electricity access with many households remaining unconnected.

In the extended RDD specification, we control for the same outcomes from the 2001 Census to improve the precision of our estimates. The 2001 outcomes for household electrification and treated tap water are only available at the village level – whether there are any households benefiting from this amenity – so they are included as dummy variables. While the 2011 Census includes most variables from the previous census in 2001, the 2001 Census did not record individual households’ assets. We, therefore, use the share of marginal workers – villagers without permanent jobs – to measure extreme poverty in a village in 2001.

All our outcomes can be shaped by public investment: road construction, village electrification, household electrification, poverty alleviation schemes, and access to clean water are all areas of

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<sup>20</sup>The 2011 Census recorded a household lacking assets if it owned none of the following items: radio, television, computer (or laptop) with Internet connection, landline telephone, mobile phone, bicycle, scooter, or car.

major activity for Indian states. Given that our theory predicts null effects for infrastructure, which depends heavily on public investment, any bias from differing importance of state funding would go against our hypotheses. Of the poverty measures, in turn, household electrification and education are heavily dependent on state intervention.

## 5.2 Explanatory Variables

The main explanatory variable is a binary indicator that shows whether a criminal candidate won the close election in an assembly constituency. We define a winning candidate as a criminal politician if he or she faced at least one criminal charge prior to the election. To extend the analysis, following the definition of the Association for Democratic Reforms (ADR), we consider another treatment variable that indicates if the winner is a *serious* criminal politician, with similar results (Section A13 shows results when we only focus on candidates with property-related criminal charges, under the assumption such charges are particularly relevant to corruption). We use an automated algorithm to scrape information on more than 70,000 contesting candidates in Indian state assembly elections from National Election Watch, an on-line database affiliated with the ADR, after 2004.<sup>21</sup>

## 5.3 Identification Assumptions

For an RDD with a continuous forcing variable, the primary assumption is the discontinuity of treatment assignment. That is, the assignment of treatment can be reasonably presumed “as if” random around a defined threshold of the forcing variable. Observations that fall within a small bandwidth around the threshold, therefore, provide valid counteractions for causal identification. Using the winner’s margin of victory as the forcing variable, our RD design imposes the assumption that whether a criminal politician wins a highly contested election occurs at random. In our analysis, we restrict our samples at three bandwidths of electoral margin: 1%, 2%, and 5%.<sup>22</sup>

We use two common diagnostic tests. We first study the balance of covariates that could not be affected by the outcome of close elections. If these covariates are similar across the “treatment” (i.e., winning criminal candidate) and “control” (i.e., defeated criminal candidate) units, the concern

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<sup>21</sup>See <http://www.myneta.info/> for more details.

<sup>22</sup>In Section A6 (Supporting Information), we find the Imbens and Kalyanaraman (2012) optimal bandwidths and show that they are generally very close to 5%, thus validating our *a priori* decisions. We also apply different methods to see if our results vary by different optimal bandwidths (Hyytinen et al., 2018; Calonico et al., 2019); the results are very similar.

about non-random electoral results within the bandwidth is assuaged. We compute the differences in means for the control variables from the 2001 census, other constituency-related covariates (e.g., whether a constituency is reserved for the scheduled groups), and candidate characteristics (e.g., whether the winner is a woman, whether the winning candidate has received college education). While candidate characteristics, unlike the other covariates, are not suitable for standard balance tests, as their correlation with criminality would not violate the identifying assumptions, comparing the treatment and control groups for candidate characteristics is a good way to test whether our theoretical inferences could be biased by major differences across criminal and non-criminal candidates.

The differences in means are mostly insignificant, suggesting that criminality is neither correlated with underlying socioeconomic characteristics nor associated with other candidate characteristics that could explain the outcome. This latter observation is particularly important because it alleviates concerns about criminality as a proxy for candidate quality more generally: in close elections, criminal candidates are similar to non-criminal candidates. In some samples, however, the winning criminal politician is less likely to be a woman. We thus replicate our results in the appendix controlling for whether the candidate is a female politician (Section A12). See Section A3 for the balance statistics between the treatment and control observations.<sup>23</sup>

The imposed discontinuity of treatment assignment can also be questionable if subjects can *self-sort* around the threshold. In the context of close elections, this concern is more or less reduced because it is hardly plausible that candidates can precisely manipulate their margin of victory around zero. That being said, we conduct the McCrary (2008) density test, the standard technique for researchers to examine if there exists discontinuity of the forcing variable. In our case, if the RDD assumption holds, we should see a relatively smooth density distribution of the margin of victory. If there exists a statistically significant jump at the threshold 0, the validity of our RD design will be severely compromised as it suggests potential non-random sorting around the discontinuity. We present the results from the McCrary density test in Section A4. The results suggest that there are no large or statistically significant discontinuities of the margin of victory around the cutpoint.

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<sup>23</sup>All table, figure, and section labels beginning with “A” are in Supporting Information.

## 6 Findings

### 6.1 Main Results

Figure 2 summarizes the results based on criminal candidates. The figure shows the point estimates from four different models for the dependent variables and all three bandwidths (see Section A9 for full regression output). We normalize the coefficients and confidence intervals by the standard deviation of the data in the control group (i.e., a narrow loss by the criminal candidate in the relevant bandwidth) to make the estimates comparable. Figure A6 summarizes the estimated effects of serious criminals; a comparison to Figure 2 shows similar results.<sup>24</sup>

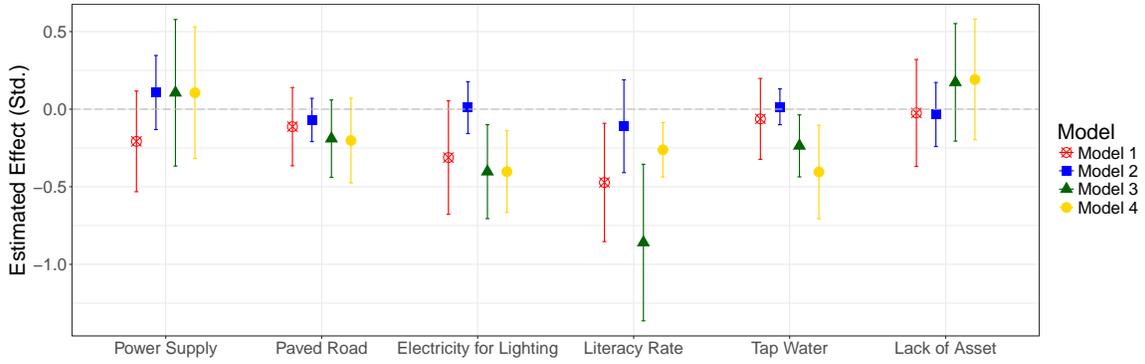
First, while the estimates for paved roads are all negative, they are mostly statistically insignificant; the estimates for electricity supply show no clear pattern. These results are consistent with the hypothesis that criminal politicians have neither negative nor positive effects on local infrastructure construction.

Next, household electrification rates decrease in all except one model under criminal politicians, and most of the point estimates have narrow confidence intervals. This result is consistent with the hypothesis that criminal politicians undermine poverty alleviation, as household electrification is, first and foremost, achieved by reducing household connection costs in electrified villages.

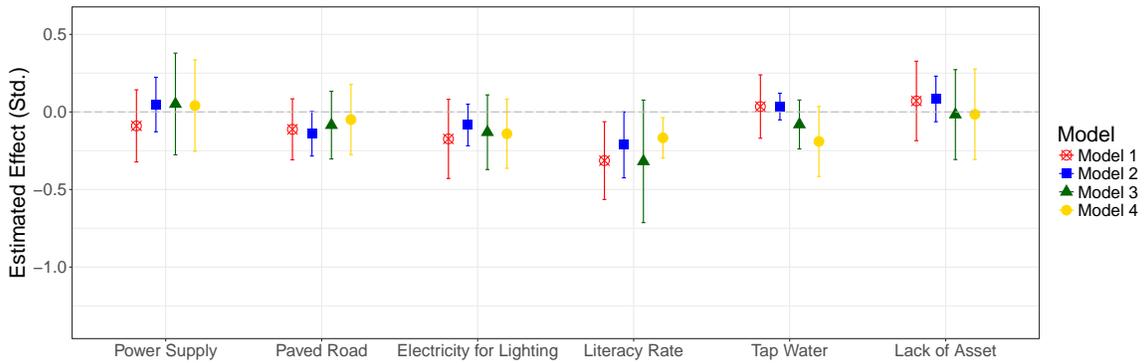
Meanwhile, literacy rate decreases in all models with most statistically significant coefficients at the conventional level. Depending on the model, estimated negative effects on household electrification go up to 15 percentage points and the negative effects on literacy rates up to 11 percentage points. While these estimates are the extreme bounds and other models produce smaller magnitudes, the estimations are overall realistic: India’s rural literacy rate increased by 8.4 percentage points between the 2001 and 2011 decennial censuses, consistent with the notion that investment in primary education can generate rapid results in a young population (7 years and older) – and criminal politicians can hurt such efforts within a decade. Compared to the inconsistency of estimates for infrastructure, the overall pattern is clear: successful criminal candidates have negative

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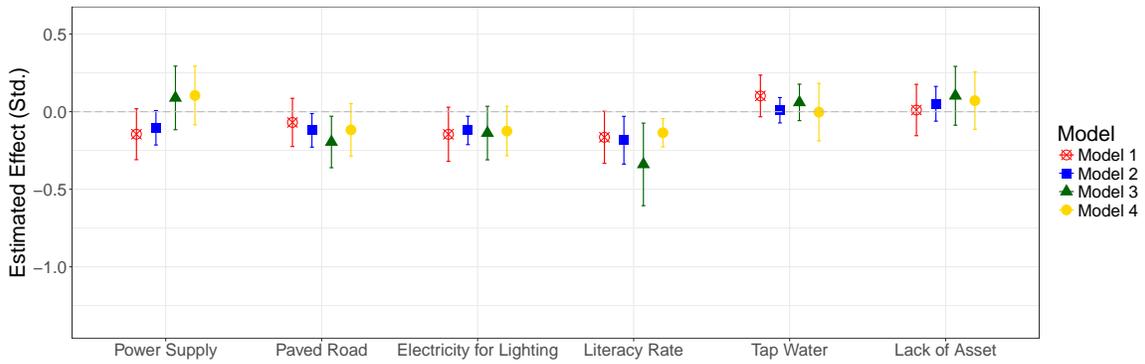
<sup>24</sup>Figure A6 shows that the effect on power supply of the serious criminal candidates is positive and sometimes statistically significant when we focus on the sample with the margin of victory smaller than 1%. This finding is still consistent with our proposed theory – that is, criminal politicians may have the incentive to provide local public infrastructure in pursuit of rents.



(a) Margin < 1%



(b) Margin < 2%



(c) Margin < 5%

Figure 2: Local average treatment effects of criminal candidates winning close elections with 95% confidence intervals. The coefficients and confidence intervals are normalized by the standard deviation of the control group (i.e., non-criminal candidate wins by a narrow margin) for comparability across models (see Section A8 for non-normalized estimates). Model 1 only includes the treatment variable. Model 2 adds election year and state fixed effects. Model 3 adds electoral margin and the interaction of electoral margin and treatment. Model 4 adds the 2001 census outcomes as pre-treatment control variables.

effects on rural socioeconomic development at the household level. All these patterns can also be seen in RD scatter plots with local linear controls (Section A5).

The results on treated tap water, nonetheless, are weak. The coefficients are sometimes positive and sometimes negative, with little evidence of a systematic pattern. One possible reason for the lacking effect is that the use of treated tap water remains rare in villages, so that only relatively wealthy households use it: in 2001, only 32.8% of villages had access to tap water. The results are also weak for lack of assets, as the coefficient is either very close to zero or positive (meaning more extreme poverty) across the models. This result suggests that criminal politicians have weaker, if any, negative effects on access to private goods, perhaps because criminal politicians are not a deterrent to economic growth in general. For example, the diffusion of mobile phones across rural India has little to do with government policy or politics.

Overall, the results reveal that criminal candidates have clear negative effects on poverty alleviation and other rural development efforts, except in the case of infrastructure construction. The outcomes that are the most affected by criminal politicians are household electrification and literacy rates. The patterns for serious criminals are also consistent with our expectations since serious crimes are often a reliable proxy for less honesty and integrity. The patterns are also helpful in rejecting the possible alternative explanation that minor criminal charges (e.g., trespassing) simply indicate a lack of competence, as being charged with murder or bribery does not suggest simple human error.

Despite the inclusion of state fixed effects, the results may differ in exceptionally corrupt or poor states. We conduct a separate analysis in which we divide all observations into two different groups. The first group of villages consists of those in the “BIMARU” states – Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, and states that used to be part of them – and the second group includes villages outside these states. Put together by Ashish Bose in the 1980s, the BIMARU states are known for being much less developed than other states (Sharma, 2015). Some of these states are famously corrupt (Bose, 2013). We present the results in Section A15.1 (Supporting Information). While most results are similar to the main findings, criminal politicians appear to hinder the supply of paved road in BIMARU states. These findings support our argument, as rich states can offer

criminal politicians stronger incentives to reap from local development projects that focus on the construction of local infrastructure.

## 6.2 Political Alignment

Political alignment plays a major role in Indian politics. We test whether criminal politicians have different effects when they are affiliated to the same political parties as their respective state chief ministers. If criminal politicians pursue their self-interest by seeking resources from the state government, it is possible that the effects of criminality are amplified under political alignment. Political alignment offers the *opportunity* that criminal politicians exploit to realize personal gains from illicit activities, including rent-seeking in public works.

The full results are shown in Section A15.3. Overall, political alignment does little to modify the effects of criminal politicians, with an important exception in the case of road construction (Figure 3). In this case, criminal politicians without alignment generate worse outcomes. Because road construction is largely funded by the state, the result is consistent with the notion that aligned criminal politicians use their connections to secure lucrative contracts in their constituencies, and then siphon resources through corruption and bribery (e.g., Lehne, Shapiro, and Eynde, 2016).<sup>25</sup> This interpretation is consistent with our argument: criminal politicians have no clear-cut effect on infrastructure projects.

## 6.3 Criminal Politicians and Road Quality

We consider whether electing criminal politicians will affect the *quality* of built infrastructure. We expect an adverse effect because the null effect on road construction stems from a positive scale effect canceling out a negative quality effect.

In 2000, India launched the Pradhan Mantri Gram Sadak Yojana (PMGSY), a nationwide program seeking to improve road connectivity in the countryside. In addition to allocating funds for road construction, PMGSY introduces two inspection schemes at the national and state level

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<sup>25</sup>In Table A71, in the sample with the margin of victory smaller than 5%, we find that the interaction of “S criminal” with “alignment” is positive and statistically significant. This finding suggests that serious criminals are more likely to secure a village’s power supply when they are aligned with their respective chief ministers. However, in the same sample, which includes 18,981 observations with a serious criminal politician winning a close election, only 5,726 were aligned with their respective chief ministers.

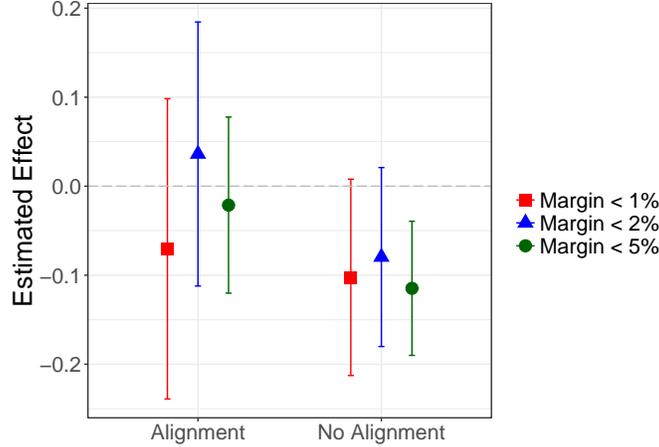


Figure 3: Political alignment of criminal politicians and road construction.

to monitor the quality of the built roads.<sup>26</sup> The national inspections are managed by the National Rural Roads Development Agency (NRRDA) under the Ministry of Rural Development (Thube and Thube, 2013; Lewis-Faupel et al., 2014). Each scheme assigns a grade to each of the inspected projects. We downloaded all inspection data between 2004 and 2013.<sup>27</sup>

Both schemes render the grading decision into one of the three categories: “satisfactory,” “requires improvement,” and “unsatisfactory.” We recode the decision as an ordinal variable from 1 to 3, with 3 denoting “satisfactory,” the best possible outcome. We conduct the RDD analysis to estimate the effect of criminal politicians winning close elections on road quality. We also estimate their effect on the number of inspections conducted.

We present our results in Tables 2.<sup>28</sup> Panel A shows the results of National Quality Monitoring (NQM) and Panel B shows those of State Quality Monitoring (SQM). For NQM, we find that criminal politicians have a statistically significant negative impact on the quality grade of built roads in the full model. Criminal politicians also appear to exercise a negative influence on the number of inspections.<sup>29</sup>

The patterns are consistent with our hypotheses. Criminal politicians undermine not only road

<sup>26</sup>The inspection includes items such as quality control arrangements, earthworks, side drains, road markings, surfacing, and pavement conditions.

<sup>27</sup>See Section A10.

<sup>28</sup>Table A18 (Supporting Information) shows the results based on serious criminal politicians.

<sup>29</sup>Section A11 shows suggestive evidence for criminal candidates’ election contributing to more road agreements and higher rates of non-completion, but the estimates are mostly statistically insignificant.

**Panel A: National Quality Monitoring**

	Inspection Grading				Number of Inspections			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Criminal (=1)	-0.030 (0.106)	-0.061 (0.110)	-0.506** (0.208)	-0.507** (0.209)	-0.023 (0.036)	-0.025 (0.038)	-0.222*** (0.083)	-0.233*** (0.083)
Electoral margin		0.022 (0.037)	-0.118 (0.072)	-0.119* (0.072)		0.011 (0.014)	-0.047* (0.026)	-0.048* (0.026)
Road length (log)				-0.024 (0.032)				0.046*** (0.010)
Criminal:margin			0.177** (0.082)	0.178** (0.082)			0.074** (0.030)	0.076** (0.030)
Constant	2.293*** (0.078)	2.122*** (0.145)	2.483*** (0.199)	2.518*** (0.206)	0.235*** (0.028)	0.182*** (0.050)	0.344*** (0.077)	0.293*** (0.077)
State FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Inspections	362	362	362	362	1742	1742	1742	1742
ACs	110	110	110	110	137	137	137	137
Observations	397	397	397	397	1,919	1,919	1,919	1,919
R <sup>2</sup>	0.0003	0.027	0.045	0.046	0.001	0.007	0.016	0.029
Adjusted R <sup>2</sup>	-0.002	0.017	0.033	0.031	0.0001	0.005	0.013	0.026

**Panel B: State Quality Monitoring**

	Inspection Grading				Number of Inspections			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Criminal (=1)	0.069 (0.084)	0.045 (0.067)	-0.096 (0.151)	-0.104 (0.150)	0.084 (0.116)	0.135 (0.127)	-0.489* (0.292)	-0.507* (0.292)
Electoral margin		0.021 (0.024)	-0.021 (0.046)	-0.021 (0.045)		0.062 (0.044)	-0.123 (0.089)	-0.123 (0.089)
Road length (log)				0.030** (0.015)				0.080*** (0.026)
Criminal:margin			0.053 (0.051)	0.055 (0.051)			0.236** (0.099)	0.239** (0.098)
Constant	2.409*** (0.068)	2.124*** (0.101)	2.241*** (0.161)	2.208*** (0.158)	1.843*** (0.086)	1.764*** (0.183)	2.279*** (0.310)	2.190*** (0.309)
State FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Inspections	1712	1712	1712	1712	1742	1742	1742	1742
ACs	136	136	136	136	137	137	137	137
Observations	1,888	1,888	1,888	1,888	1,919	1,919	1,919	1,919
R <sup>2</sup>	0.002	0.121	0.123	0.125	0.002	0.026	0.043	0.051
Adjusted R <sup>2</sup>	0.001	0.120	0.121	0.123	0.001	0.024	0.041	0.048

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 2: Estimated effect of criminal politicians winning close elections on PMGSY quality monitoring at the national and state level. Inspection grading: satisfaction (=3), need improvement (=2), and unsatisfactory (=1). Standard errors are clustered by constituencies.

quality but also road inspections by the national government – probably in an effort to conceal low-quality projects and the underlying corrupt practices. We find a negative quality effect *despite* efforts to prevent inspection. It is likely that without attempts to hide, the negative quality effect of criminal politicians would be even larger. Bohlken (2018: 5) finds that “incumbents aligned with the ruling party show a greater ability to deliver infrastructure outputs regardless of whether they are ministers or ordinary legislators.” Our results add that politicians with criminal backgrounds are responsible for compromised road quality.

We also explore whether the results differ by political alignment. The results in Table A19 (Supporting Information) are particularly noteworthy: when it comes to SQM, the interaction of *Criminal* with *Align* is always negative and statistically significant in many cases. In other words, aligned criminal politicians undermine the quality of road construction under PMGSY and, perhaps, even manage to sabotage quality inspections in their respective states.

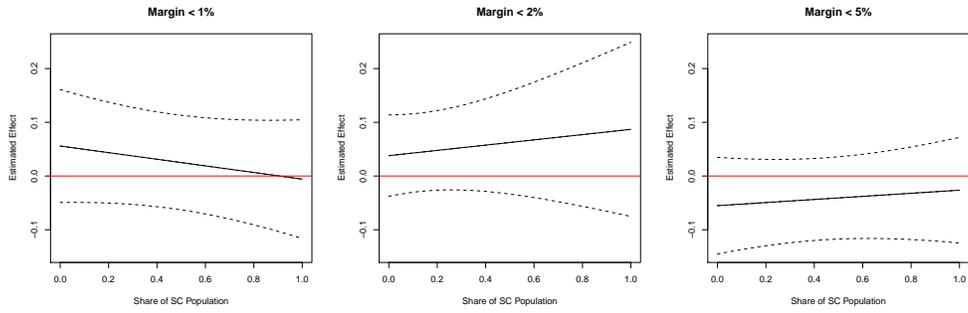
#### **6.4 Distributional Effects of Candidate Quality**

In this section, we study whether the negative impact of criminal politicians is particularly strong for the most disadvantaged communities. While the wealthy and privileged of the society can use coercion or bribery to obtain resources, the lower segments of the social hierarchy lack the status and connections to do so. In India, the scheduled castes and tribes have been officially indicated as such groups.

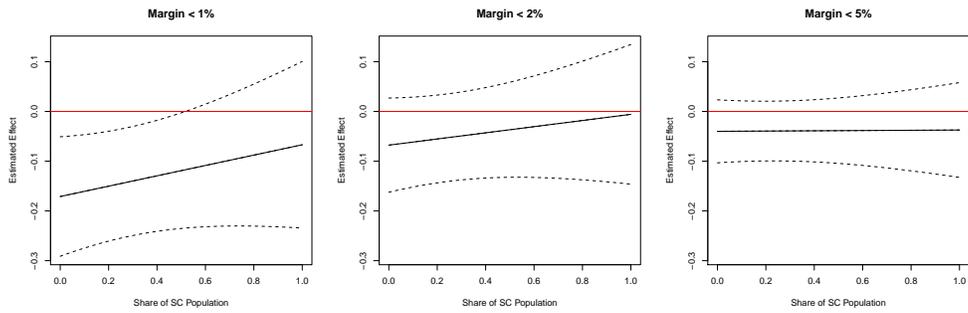
We see no conclusive pattern of villages with scheduled caste populations (see Section A15.2). Figure 4 shows the marginal effects of electing criminal candidates with different average shares of scheduled caste (SC) population at the village level for outcome variables in which there is some evidence of interactive effects. If anything, we find suggestive evidence for a positive interaction: villages with many scheduled caste people certainly do not suffer more in terms of household electricity access and literacy rate.

#### **6.5 Gender and Education**

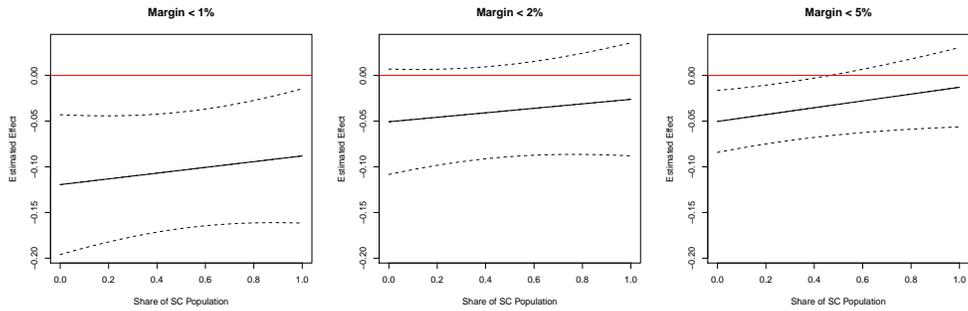
We consider two possible alternative explanations for our results (see Section A12 for full regression output). Our balance statistics suggest a gender imbalance in some samples. While this issue is



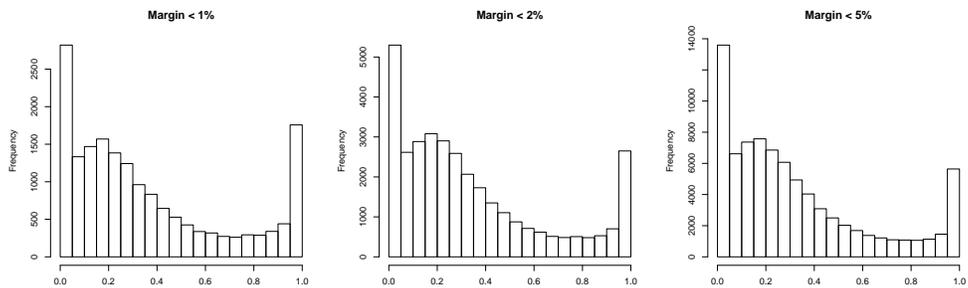
(a) Power supply



(b) Electricity for lighting



(c) Literacy rate



(d) Distribution of SC population share

Figure 4: Heterogeneous effects of winning criminal politicians.

unlikely to be important because there were very few female candidates in Indian elections, we replicate our analysis controlling for the candidates' gender.

We also control for whether the winning candidate has a college degree: although education is balanced between the treated (i.e., criminal politicians won close elections) and control (i.e., criminal politicians lost close elections) observations, the literature often uses education as a measure of candidate quality (e.g., Carnes and Lupu, 2016). The test on education allows us to evaluate the possibility that criminal candidates are less qualified than non-criminal candidates.

Including these controls does not change our substantive conclusions, as the coefficients remain unchanged. The associations between gender, education, and socioeconomic outcomes are generally weak, though it appears that educated politicians are associated with somewhat less poverty in the villages. Overall, we see little evidence of criminality and other candidate traits being conflated.

## 6.6 Law and Order

We use official statistics and household surveys to investigate whether criminal politicians' negative impact on socioeconomic outcomes can be partially attributed to the reduction in law order. As Chemin (2012) notes, “[c]riminal politicians may affect consumption by the poorest by increasing the prevalence of criminality, which disproportionately affects the most vulnerable sections of society.” If they do not, it is more likely that our findings stem from corruption and a lack of good governance, independent of changes in crime in society.

First, we analyze district-year data from India's National Crime Records Bureau on murders to see if the election of criminal candidates drives crimes. Murders, unlike other crimes, are ideal for this test because hiding an actual murder from the statistics would be very difficult. Our instrumental variable analysis shows that the logged number of murders within a district does not change with the election of criminal candidates (Section A16), suggesting that criminal politicians do *not* compromise local law and order. Instead, criminal politicians compromise the implementation and effectiveness of poverty-reduction policies.

Next, we examine how criminal politicians influence perceived crime, community conflict, and confidence in various social institutions. Drawing from two rounds of the India Human Development

Survey (IHDS),<sup>30</sup> we estimate the effect of electing criminal politicians on these outcomes with an instrumental variables approach (Section A17). Again, the results are weak: the election of criminal politicians does not seem to induce changes in these outcomes.

## 7 Conclusion

We show that criminal politicians have heterogeneous effects on the different aspects of rural development in India – when criminal candidates win close elections, they reduce household electrification and literacy rates, but they do not impede public infrastructure. Meanwhile, they undermine poverty alleviation more through corruption than through the deterioration of law and order. The fact that criminal politicians hinder road construction when they are unaligned with the state government suggests that criminality has two countervailing effects on infrastructure: while corruption reduces efficiency and quality of projects, self-interested criminal politicians cancel out some of this adverse impact by working hard to provide lucrative projects.

Therefore, criminal politicians exhibit a concerning imperfection in real-world democratic politics, but the cost they incur is not straightforward. If criminal politicians *do* invest in local infrastructure, they may not undermine economic growth on a grand scale. But if criminal politicians at the same time neglect investment in education and other basic human capital, their electoral victory can impede the prospects of “inclusive growth” (see Drèze and Sen, 2002). The neglect of providing essential household amenities and alleviating extreme poverty raises a troubling possibility that even if criminal politicians can generate growth, they perpetuate and exacerbate inequalities in developing societies.

Economic development depends on improving infrastructure, building human capital, creating social security systems for the poor, and solving many other problems that plague developing countries. Our findings suggest that reducing the progress in addressing these problems into an overarching indicator, such as GDP per capita, can leave us with a simplistic and misleading understanding. Scholars of the political economy of development should begin systematically theorizing about the role of governance in shaping different outcomes.

A promising direction for future research on criminal candidates pertains to strategies to com-

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<sup>30</sup>The IHDS Project selected nationally representative samples in both rounds. See [ihds.info](http://ihds.info).

municate to poor voters the damage that criminal politicians can cause. Today, criminal politicians win elections by leveraging the financial resources of their supporters, by coercing recalcitrant voters, and by promising to protect co-ethnic voters against other groups. Is there a way to communicate effectively to the rural poor that criminal politicians have large negative effects on the pillars of rural development, such as literacy? Could non-criminal candidates use this information to their advantage in electoral campaigns?

Our results call for more attention to how voters assess candidate quality. The criminality of candidates is not a secret to voters in developing countries such as India, but this awareness so far has not prevented criminals from winning elections – on the contrary, studies such as Vaishnav (2017) suggest that criminal candidates may even reap benefits from their rough reputation. A theoretically insightful and practically relevant direction for research would be to examine whether concrete evidence about the harmful effects of criminal office-holders would translate into changes in voting decisions.

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