# Do Informed Voters Make Better Choices? Experimental Evidence from Urban India

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#### Abstract

In the run-up to elections in a large Indian city, we provided residents in a random sample of slums with newspapers containing report cards. The report cards presented information on candidate qualifications and legislator performance obtained under India's two disclosure laws: the Right to Information Act and the mandatory disclosure requirement for citizens standing for elected office. We find robust evidence that information improved electoral accountability. Treatment slums saw a lower incidence of cash-based vote buying, increased voter turnout and electoral gains for better performing incumbents. We observe sophistication in the voters' use of information – they use heuristics on public good location to evaluate the relevance of spending in different public good categories, and they compare across candidates to overcome political agency problems and reward better performing incumbents.

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# 1 Introduction

The poor numerically dominate the electorate in many low-income democracies, yet have largely failed to translate their political weight into effective service delivery and other economic gains (see, for instance, Mauro (1995); UNDP (2002)). Explanations for this failure abound. By targeting clientelistic policies along ethnic lines, politicians may cause poor voters to value a candidate's group identity over his other qualifications (Horowitz, 1985; Chandra, 2004; Banerjee and Pande, 2009). Weak electoral institutions may allow the political elite to subvert democracy by stuffing ballots, buying votes and intimidating voters (Acemoglu et al., 2010; Simpser, 2008). Voters may be unable to identify politicians who would serve them well, either because they lack information (Djankov et al., 2010) or because they are unable to interpret the available information.

The empirical challenge in distinguishing between these possible culprits – weak institutions, clientelistic policies and poorly informed voter populations – is that they so often coexist in lowincome settings. In this paper we use data from a field experiment conducted in urban India to evaluate one channel of influence – information about politician performance and qualifications. Building on insights from political agency models, we test whether providing such information via the media influences voter turnout and incumbent voteshare.

Our field experiment occurred in the run-up to the 2008 state legislature elections in Delhi, India's capital city. India's Right to Information Act and mandated disclosure requirements allowed our partner NGO to obtain detailed information on legislator performance and characteristics. We published this information in the form of jurisdiction-specific report cards in a leading vernacular newspaper. Each report card contained information about incumbent performance along three dimensions – legislative activity, committee attendance and spending of discretionary constituency development funds. It also provided information on the wealth, education and criminal record of the incumbent and two main challengers in that jurisdiction.

In a random sample of 200 slums, households received a pamphlet on legislator responsibilities and a free copy of a newspaper that featured the report card for their jurisdiction. Households in the 575 control slums did not receive any informational material. The publication of report cards was unanticipated by politicians and occurred after the last date for candidate entry. In the paper we examine how information influences *politician selection* by voters.<sup>1</sup>

The information campaign led to significant changes in voter behavior and electoral outcomes.

<sup>&</sup>lt;sup>1</sup>Political agency models identify several reasons for why electoral accountability improves politician performance. In the *incentive* view, the threat of being voted out of office constrains politicians to act in the social interest (Barro, 1973; Ferejohn, 1986). In the *selection* view voters use elections to select politicians who they expect to serve their interests better in the future (Fearon, 1999; Besley, 2005). There is also the possibility of a natural interaction between these views if both the politician's type and his actions influence what they voters observe about them (see, for instance, Austen-Smith and Banks (1999); Banks and jan Sundaram (1998)).

First, cash-based vote-buying was 19 percent less likely to occur in treatment polling stations. Second, average voter turnout increased by 3.5 percent, or two percentage points (from 57.5% to 59.5%). This average increase masked significant heterogeneity in treatment effects – the increases in turnout were relatively higher in jurisdictions where the incumbent was a worse performer. Third, while the campaign did not influence average incumbent vote share, worse performing incumbents and those facing better qualified challengers received fewer votes.

We use a simple political agency model to understand the heterogenous turnout and incumbent vote share impacts. The idea that better information induces a stronger positive correlation between performance and incumbent voteshare is common to all political agency models. However, the accompanying turnout effects are ambiguous and depend on the costs of voting and voter priors. For instance, if voters face a positive cost of voting, then information that leads individuals to positively update their priors about incumbent quality may cause them to switch from voting for the challenger to not voting at all.<sup>2</sup>

The richness of the performance and qualification data provided in the report cards allows us to explore how voters use information. First, voters *only* react to information along dimensions that directly affect their well-being. They reward legislators with a better attendance record in oversight committees (for fair price shops and police) but do not react to their attendance record in the legislature. Equally, they condition their vote *not* on overall spending but on the extent of spending in slums. To do so, it appears that they combine heuristics on the extent of slum spending within a public good category (possibly derived from what they observed in their slum) with report card information on spending in each public good category.

Second, voters only use yardstick competition for the category which has common performance shocks. A single newspaper contained report cards for two neighboring jurisdictions. A legislator's attendance record in committees is likely comparable across jurisdictions and, in this case, voters engage in yardstick competition. In contrast, the extent of slum spending within a public good category is typically jurisdiction-specific, and consequently they do not engage in yardstick competition in this instance.

Similarly in the case of qualifications, we find some evidence that voters compare incumbent and challengers within the jurisdiction. Incumbents who were richer or less educated than their challengers received fewer votes. Moreover, consistent with a model of rational learning, voters ignore information about relative qualifications of irrelevant candidates (challengers in the neighboring jurisdiction). Finally, consistent with our interpretation of the electoral data, survey data collected after the election demonstrates that residents in treatment slums knew

<sup>&</sup>lt;sup>2</sup>Our finding that turnout is higher in jurisdictions where the incumbent is a worse performer resonates with several U.S. political economy papers which find that voters are often more energized by worse performers Bloom and Price (1975); Washington (2006); Hastings et al. (2007).

more about legislator responsibilities and performance.

Our paper is related to a growing political economy literature that demonstrates a net positive impact of information on policy outcomes in democratic setting (Besley and Burgess, 2002; Stromberg, 2004; Snyder and Stromberg, 2010). By using newspapers as the channel of dissemination, our paper is also related to several studies that relate information from media sources to turnout and governance outcomes (Stromberg, 2004; Gentzkow, 2006; della Vigna and Kaplan, 2007). Like much of this literature, our results emphasize the importance of an independent and credible media source in enhancing the quality of government (Besley and Prat, 2006; Djankov et al., 2003).

Turning to the channels of influence, Ferraz and Finan (2008) use detailed Brazilian electoral and audit data to show that new information about political corruption reduces the probability of reelection for corrupt incumbents. Here, we delve deeper into the selection mechanism and demonstrate sophistication in how voters process performance and qualification information. Our results suggest that the power of information is high even in settings with weak institutions and relatively less educated populations.

In assembling the report cards, we used data available under existing disclosure laws which provide broad information about the qualifications and performance of politicians. Hence, our results speak to the relevance of such laws. Arguably, the global move toward disclosure is better accomplished by broad revelations about performance than by specific disclosures of corruption charges. Our results support the optimistic view of the power of information disclosures suggested by Djankov et al. (2010), based on the negative cross-country correlation between disclosure laws and corruption. Our findings are also particularly salient in the context of constituency development funds, a popular decentralization initiative in many low income democracies, but one that has been associated with significant malfeasance. An often-voiced concern is the limited oversight by citizens or bureaucrats on how legislators spend these funds (Tshangana, 2010).<sup>3</sup>

Finally, our paper directly contributes to a growing experimental literature on voter behavior in low income countries (Pande, 2011). This literature builds on the insights of the Get Out the Vote literature for the U.S. (Gerber and Green, 2000), and has found significant turnout effects for nonpartisan motivational campaigns (Gine and Mansuri, 2010; Banerjee et al., 2010) and campaigns that exhort voters to use their electoral influence to protest against malpractices (Collier and Vicente, 2008). Evidence on whether information disclosures improve electoral

<sup>&</sup>lt;sup>3</sup>India was one of the first countries to introduce CDFs in 1993; since then, the following countries have adopted CDFs: Southern Sudan, Philippines, Honduras, Nepal, Pakistan, Jamaica, Solomon Islands, Tanzania, Malawi, Namibia, Zambia, Uganda, Ghana, and Malaysia. The last six countries distribute a fixed amount of funds annually per constituency/legislator, while Kenya and Tanzania partially adjust the formula according to to population, poverty levels, and geographical size of each constituency (Tshangana, 2010).

accountability is more limited but tends to support the view that citizens seek to base their voting choices on incumbent performance (Chong et al., 2010; Humphreys and Weinstein, 2010).<sup>4</sup>

The rest of this paper is structured as follows: Section 2 provides a conceptual framework to help interpret what we find. Section 3 describes the context, the experimental intervention and empirical design. Section 4 provides the results and Section 5 concludes.

# 2 A Conceptual Framework

We develop a simple model to examine how the release of report cards on incumbent performance and candidate qualifications influenced the twin decisions faced by a voter: whether to vote and who to vote for. (Report cards were released after the last date for candidate entry).

### 2.1 Basics

Consider a single jurisdiction two-period model. At the start of period 1 nature selects incumbent i = I with quality  $\theta_k(I)$ , which can take values,  $\theta_H$  or  $\theta_L$ . The incumbent then undertakes performance  $y_i(\theta_k(i)) \in 0, 1$ .  $\Pr[y = 1|\theta_H] = \alpha > 1/2$  and  $\Pr[y = 1|\theta_L] = 1 - \alpha < 1/2$ . Actual performance is unobserved. Rather, at start of period 2 challenger identity, i = C, is announced and voters receive signals on incumbent performance and incumbent and challenger qualification. Given this information, voters cast their vote in period 2.

There are three types of voters. A fraction  $\mu$  are partial voters, of which fraction  $\xi$  always vote for the incumbent and fraction  $1 - \xi$  always vote for the challenger. The remainder  $(1 - \mu)$  are swing voters who are non-strategic but face a cost of voting. If they vote in period 2, they vote for the candidate with the highest expected performance.

 $p_H(i)$  is a voter's prior probability that candidate *i* is of quality  $\theta_H$ .  $\theta_k(i)$  is independently drawn from the respective prior distributions for i = I, C. Citizens use three signals received before the period 2 election to form their posterior probability  $-\pi_H(i)$ . The signals are a signal for period 1 incumbent performance,  $y^s(I)$ , and quality signals for whether incumbent and challenger are high quality ( $\theta_H(i), i = I, C$ ):  $\theta^s(i)$ 

$$\Pr[y^{s}(I) = 1 | y(I) = 1] = \Pr[y^{s}(I) = 0 | y(I) = 0] = \beta > 1/2.$$
  
$$\Pr[\theta^{s}(i) = \theta_{H} | \theta(i) = \theta_{H}] = \Pr[\theta^{s}(i) = \theta_{L} | \theta(i) = \theta_{L}] = \gamma > 1/2, i = I, C$$

<sup>&</sup>lt;sup>4</sup>Chong et al. (2010) evaluates an information campaign in Mexico where program information was provided to voters. Since incumbent politicians cannot stand for re-election the voters faced the more complicated metric of using this information to hold parties (not candidates) accountable. One interpretation of their main finding (that voter turnout is lower when incumbents perform worse) is that party affiliations are relatively strong in Mexico. In ongoing work, Humphreys and Weinstein (2010) examine the incentive effects of providing information and preliminary results suggest that voters care about information.

The independence of quality signals reflects the assumption that candidate quality is independently drawn. If this were violated, then we learn about both candidates from a signal about one candidate. However, as long as a signal is more informative about the candidate it refers to, our main results will not change.

A swing voter votes for the candidate with a higher  $\pi_H(i)$ . However, she only votes if the expected payoff gain from voting for candidate *i* exceeds her cost of voting  $\tilde{c}$  such that

$$\begin{aligned} &|\alpha(\pi_H(I) - \pi_H(C)) + (1 - \alpha)[(1 - \pi_H(I)) - (1 - \pi_H(C))]| \\ &= |(2\alpha - 1)(\pi_H(I) - \pi_H(C))| \ge \tilde{c}. \\ &= |(\pi_H(I) - \pi_H(C))| \ge c^*. \end{aligned}$$

where  $c^* = \frac{\tilde{c}}{|2\alpha-1|}$ . Assume that c for each voter is independently drawn from a uniform distributed over  $[0, \bar{c}]$  where  $\bar{c} > c^*$ . (Hence, not everyone votes). Let the associated density function be g(c). Our formulation assumes voting is expressive. While this provides the simplest internally consistent explanation for our voting results, our empirical results remain consistent with strategic voting.

# 2.2 Results: Signal Quality and Electoral Outcomes

We model the release of report cards as improving the precision of the signals  $\beta$  and  $\gamma$ . Consider a voter who observes a generic signal vector  $\{\theta^s(I), y^s(I), \theta^s(C)\}$ . He updates his posterior using Bayes rule.

$$\pi_H(I)|\theta^s(I), y^s(I) = \frac{\Pr\{\theta^s(I), y^s(I)|\theta_H\}p_H(I)}{\Pr\{\theta^s(I), y^s(I)|\theta_H\}p_H(I) + \Pr\{\theta^s(I), y^s(I)|\theta_L\}(1 - p_H(I))}$$

and

$$\pi_H(C)|\theta^s(C) = \frac{\Pr\{\theta^s(C)|\theta_H\}p_H(C)}{\Pr\{\theta^s(C)|\theta_H\}p_H(C) + \Pr\{\theta^s(C)|\theta_L\}(1-p_H(C))}$$

We start by considering the impact of improvements in performance signal  $\beta$ . In the Appendix we show that  $\pi_H(I)|\theta^S(I), y^s(I) = 1$  is increasing in  $\beta$  while  $\pi_H(I)|\theta^S(I), y^s(I) = 0$  is decreasing in  $\beta$ .

Claim 1 For initial values of  $\beta$  and  $\gamma$  and fixed realizations of  $\theta^s(I)$  and  $\theta^s(C)$ , a small increase in  $\beta$  will increase expected incumbent vote share if y = 1 but reduces expected incumbent vote share if y = 0.

The proof is in the Appendix and shows that the impact of information is sensitive to voter priors and the cost of voting. While information strengthens the positive correlation between voteshare and performance, the predictions for turnout are ambiguous. For instance, consider a situation where all swing voters who vote vote for the challenger. A small increase in  $\beta$  will reduce the (absolute) gap between voter posterior belief about the challenger and incumbent. For some voters this difference may now be smaller than the cost of voting. Hence, better information will reduce the turnout of swing voters when the incumbent has performed well. Since all those who abstain would have voted for the challenger, the challenger's vote share will go down. On the other hand, when the incumbent has performed badly, the belief gap between incumbent and challenger will increase. Hence, turnout of swing voters will go up and all of them will vote for the challenger whose vote share will go up.

Next we examine the impact of improvements in qualification signal  $\gamma$ . It can be easily checked that  $\pi_H(I)|\theta^S(I) = \theta_H, y^s(I)$  and  $\pi_H(C)|\theta^S(C) = \theta_H$  are both increasing in  $\gamma$  while  $\pi_H(I)|\theta^S(I) = \theta_L, y^s(I)$  and  $\pi_H(C)|\theta^S(C) = \theta_L$  are decreasing.

Now consider a situation where we have

$$\pi_H(C)|\theta^s(C) = \theta_H > \pi_H(C)|\theta^s(C) = \theta_L > \pi_H(I)|\theta^s(I) = \theta_H, y^s(I) > \pi_H(I)|\theta^s(I) = \theta_L, y^s(I) = \theta_L, y^s$$

at the initial values of the parameters. To look at the effect of a small increase in  $\gamma$  on turnout, we need to sign

$$\frac{dExp_{\theta^s(C)}|\pi_H(C)|\theta^s(C) - \pi_H(I)|\theta^S(I) = \theta_H, y^s(I)|}{d\gamma} - \frac{dExp_{\theta^s(C)}|\pi_H(C)|\theta^s(C) - \pi_H(I)|\theta^S(I) = \theta_L, y^s(I)|}{d\gamma}$$

where the expectation comes from the fact that we want the average across the different realizations of  $\theta(C)$ . But because of the way the terms are ordered, we can write this expression as

$$\frac{d(Exp_{\theta^s(C)}\pi_H(C)|\theta^s(C) - \pi_H(I)|\theta^S(I) = \theta_H, y^s(I))}{d\gamma} - \frac{(dExp_{\theta^s(C)}\pi(C)|\theta^s(C) - \pi_H(I)|\theta^S(I) = \theta_L, y^s(I))}{d\gamma}$$

which is just

$$\frac{d(\pi_H(I)|\theta^S(I) = \theta_L, y^s(I) - \pi_H(I)|\theta^S(I) = \theta_H, y^s(I)))}{d\gamma},$$

which is negative. Hence in this case turnout will go up less when the incumbent is well-qualified compared to when he is not. Moreover since the fall in turnout favors the incumbent, incumbent vote share will go up by more with  $\gamma$  when the incumbent is better qualified. <sup>5</sup>

<sup>&</sup>lt;sup>5</sup>Actually  $Exp_{\theta^s(C)}\pi_H(C)|\theta^s(C)$  is not changed by an increase in  $\gamma$  by the law of iterated expectations, incumbent vote share must go up in absolute terms when the incumbent is good and go down whenhe is bad and correspondingly, turnout must go down when he is good and go up when he is bad. What we test however is the relative effect on good and bad candidates.

The exact same argument works in reverse when we have

$$\pi_H(I)|\theta^S(I) = \theta_H, y^s(I) > \pi_H(I)|\theta^S(I) = \theta_L, y^s(I) > \pi_H(C)|\theta^s(C) = \theta_H > \pi_H(C)|\theta^s(C) = \theta_L.$$

The incumbent vote share will go up by more when the incumbent is good and in this case turnout will go up with it.

**Claim 2** Suppose for the initial values of  $\beta$  and  $\gamma$  and fixed realizations of  $y^{s}(I)$ 

$$\pi_H(C)|\theta^s(C) = \theta_H > \pi_H(C)|\theta^s(C) = \theta_L > \pi_H(I)|\theta^s(I) = \theta_H, y^s(I) > \pi_H(I)|\theta^s(I) = \theta_L, y^s(I)$$

then a small increase in  $\gamma$  reduces turnout when the incumbent is  $\theta_H$  but increases turnout when he is  $\theta_L$ . The incumbent vote share goes up when he has performed well and goes down when has performed badly. If, however,

$$\pi_H(I)|\theta^S(I) = \theta_H, y^s(I) > \pi_H(I)|\theta^S(I) = \theta_L, y^s(I) > \pi_H(C)|\theta^s(C) = \theta_H > \pi_H(C)|\theta^s(C) = \theta_L.$$

a small increase in  $\gamma$  increases both turnout and incumbent vote share when the incumbent is  $\theta_H$  and reduces both when he is  $\theta_L$ .

The rest of the cases have less clearcut results. As a result the average effect on turnout and even the vote share of a high quality incumbent can go either way. To see this, observe first that while a high quality incumbent's vote share does go up when the challenger is low quality, the weight given to this event depends on how likely it is. If the challenger is unlikely enough to be low quality this effect cannot outweigh the effect when the challenger is high quality which, by our assumption, goes in the opposite direction. As for the effect on the vote share of the low quality incumbent, we can make it as small as we want by assuming, for example, that almost everyone is already voting for the challenger in this case and therefore the effect is small (formally we need to assume that  $g(c^*)$  is small near the cutoffs for voting that apply to this case).

# 2.3 Empirical Predictions

This simple framework highlights that the impact of improvements in signal quality on voter behavior will depend on voters' prior beliefs about incumbent performance and candidate qualifications. In defining our empirical test, the first challenger we face is that we do not know what constitutes good performance in objective terms. Therefore, we test a slightly weaker prediction – that the release of report cards should improve incumbent vote share more with when he has performed better.

We also relate turnout to the incumbent's performance, but since the result depends on the (unobserved) relative strength of the incumbent in the swing voter population absent any additional information, we have no priors about how the effect of better information on turnout should vary based on the performance of the incumbent. This, therefore, remains an empirical question. In the case of qualifications, we estimate similar regressions but recognize that the predictions are weaker.

We have assumed that the production function for y is known. If this is uncertain then the voter will try to infer something about the production function by observing other incumbents and his decision will depend not just on  $y^S$  but also on signals about the performance of incumbents in other constituencies. In other words there will be an yardstick effect. We examine this effect empirically below. By contrast, the qualifications of challengers in other jurisdictions should not matter because those candidates are not available.

# 3 Experimental Design and Data

This section describes the context of our intervention, the design of report cards and the datasets we use.

# 3.1 Setting

### A. Delhi: Slum population and Elections

Delhi is India's national capital and second-largest metropolis. It is home to over 15 million people, over 15% of whom live in slums (2001 Indian census). Widely dispersed across Delhi, slums vary in size and generally consist of poorly built congested tenements with inadequate infrastructure (Banerjee et al 2011). Most slum dwellers lack legal property rights and are relatively poor, factors which make them a politically active group that candidates target during elections.

Delhi has an independent state legislature composed of seventy legislators. Elections occur every five years with each legislator elected via plurality rule from a single member jurisdiction. Each legislator represents over 100,000 citizens. There has been a steady accretion in legislator responsibilities over the last two decades, as a part of an overall push towards decentralization and devolution of powers away from the bureaucracy. Voters have limited contact with their legislators and know relatively little about what they should expect from them. A large fraction of slum residents do not regularly read newspapers, which remain the main source of relatively unbiased information about politics and politicians.<sup>6</sup>

 $<sup>^{6}</sup>$ In a household survey among slum dwellers in our sample 40% of the men and 66% of the women stated

Our field experiment occurred in the run-up to the November 2008 State election in which three major parties were contesting: the incumbent party, Congress, Bhartiya Janata Party (BJP) and Bahujan Samaj Party (BSP). While all three made issues relating to the urban poor central to their campaigns, each took a different angle: Congress campaigned on a platform of local development, and emphasized the regularization of slums undertaken since 2007, BJP emphasized controlling price rise and combatting terrorism, and BSP, targetted lower-caste poor households.<sup>7</sup>

Our campaign was timed to coincide with the official two-week campaign period (ending 48 hours before polling started). This period saw widespread party campaigning, especially in slums. According to newspapers and local observers, political parties plied slum voters with bribes, most often in the form of liquor and cash. This was evidenced by a 400 percent rise in reported liquor smuggling cases two weeks prior to the election, with the Delhi excise department registering over 1,500 bootlegging cases that month (IANS, 2008).

#### **B.** Public Disclosure Laws in India

Our experiment makes use of two disclosure laws. In October 2005 the Indian Right to Information (RTI) Act was implemented, giving Indian citizens access to all non-classified government records. Under the Act, a citizen may request information from a public authority and be legally entitled to an expeditious reply (typically within 30 days). It is estimated that roughly a million RTI petitions have been filed annually since 2005 (PricewaterhouseCoopers, 2009). Our partner NGO filed over 70 RTIs in 2008, through which it obtained information about legislator responsibilities and incumbent performance along several dimensions. To the best of our knowledge, this paper is one of the first evaluations that measures the impact of any form of RTI activism.<sup>8</sup>

Our second source of disclosures was furnished by a 2003 Supreme Court ruling that made it compulsory for candidates contesting national and state elections to submit affidavits at the time of filing their nomination revealing their educational qualifications, assets and liabilities and any past criminal charges.<sup>9</sup> We based our measures of qualifications of candidates of the three major parties on this affidavit information.

that they do not read newspapers.

<sup>&</sup>lt;sup>7</sup>The Congress government initiated slum regularization in 2007, whereby slum dwellers could purchase property rights to their dwellings. It also included a government drive to provide basic infrastructure in slums. In contrast, BJP's main campaign slogan was *Mehengi Padi Congress* ("Congress is Expensive"); during 2008, Delhi saw sharp price inflation of food, fuel, and other consumer goods. Coincidentally, Delhi elections occurred three days after the 26/11 Mumbai terrorist attacks, which many predicted would bolster the BJP in elections. This election marked BSP's first entry in Delhi elections.

<sup>&</sup>lt;sup>8</sup>Peisakhin and Pinto

<sup>&</sup>lt;sup>9</sup>This judgment was implemented by the Indian Election Commission which made filing an affidavit disclosing this information a precondition for appearing in the ballot.

# 3.2 Report Cards

The central plank of our information campaign was a door-to-door distribution of newspapers containing report cards on legislator characteristics and performance. Below, we describe these data and Table 1 reports some summary statistics.

#### A. Performance measures

The RTI responses told us that Delhi legislators have three main responsibilities. First, to attend the legislature and represent their jurisdiction in the legislative process. The report card gave information on legislator attendance and participation during the year of 2007. Table 1 shows that the average legislator attended 16.9 out of 18 sessions. However, approximately half the legislators asked no questions.

Second, legislators participate in three oversight committees: the Ration Vigilance Committee, the Police Vigilance Committee, and the District Development Committee. The first of these is tasked with ensuring that local ration shops are effective in their function of providing subsidized food to below-poverty-line residents, the second, with ensuring that local police stations operate well and the police do not harass locals. The third, the District Development Committee, is a district-level committee that provides oversight of development projects. Unlike the first two committees, it is not convened by the legislator, though legislators play a role as members. The report card provided information on legislator attendance in the most recent committee meeting. Across Delhi 70% of legislators attended the most recent Ration Committee meeting, 46% attended the Police Vigilance committee meeting and only 29% attended the District Development committee.

Finally, each legislator enjoys access to a constituency development fund. He receives 20 million Rupees a year (roughly \$ 45,000) known as the MLA Local Area Development Scheme Fund (MLALADS) to spend on development in his jurisdiction, along with five million Rupees annually to be spent exclusively on water development. The legislator is responsible for fund allocation.<sup>10</sup>

Our report card provided category-wise information for MLALADS spending between 2004 and 2007 (unspent money can be rolled over into the next year, but is forfeited at the end of the legislative term). The average legislator spent 512 lakh - more than 80% of the funds available to him. In contrast to MLALADS spending, all legislators spent the full water fund.

<sup>&</sup>lt;sup>10</sup>After deciding on a particular development project, the legislator must obtain cost and feasibility analysis from the implementing municipal corporation. He then allocates funds to the municipal corporation, which carries out the work.

Our analysis exploits variation in performance along three dimensions: First, attendance and number of questions asked in the legislature in 2007. Second, legislator attendance at the most recent meeting of the Ration Vigilance Committee and Police Vigilance Committee. Third, MLALADS spending between 2004 to 2007 under the following categories; roads (including sidewalks), water (referring to water supply infrastructure such as borewells, pumps, and tanks), parks and statues, sewage (sewage pipes and public toilets), drains, lights, community halls, and boundary walls and others.<sup>11</sup>

#### **B.** Qualification Indicators

Affidavits filed by candidates required information on value of assets owned by the candidate and his/her spouse, criminal charges and educational qualifications.

91 candidates had pending criminal charges. These candidates featured prominently on the rolls of the major parties (a quarter of the major party candidates faced criminal charges). Half the incumbents in our sample faced criminal charges. A common characterization of wealth in India is being a *crorepati*, i.e. have assets in excess of Rs. 10 million. In the 2008 election close to 20% of the candidates (153 candidates) were crorepatis.<sup>12</sup> Finally, candidates in Delhi are relatively well-educated. Overall, only 3% (18 candidates) were illiterate. 18% had up to 10 years of schooling, and 19% had up to twelve years of schooling. 19% held a college degree and 15% a post graduate or professional degree.

Our report cards presented information on total assets, criminal charges and education qualifications for the three major party candidates in each jurisdiction, always including the incumbent.

# 3.3 Experimental Design

### A. Sample

Our sample was drawn from ten jurisdictions with high slum density and where the incumbent was standing for reelection. Table 1, column (6) shows that incumbent performance and characteristics in sampled and non-sampled jurisdictions were similar.

For each jurisdiction we constructed a sample frame consisting of all polling stations that served slum areas. A polling station serves roughly 400 households (1,000 adult voters) who

<sup>&</sup>lt;sup>11</sup>The two performance indicators which show no variation across our sample (and are, therefore, dropped from the analysis) are attendance in District Development Committee (no legislator attended) and spending from water board fund (all legislators spent the full amount).

<sup>&</sup>lt;sup>12</sup>Delhi Election Watch, a consortium of NGOs that independently monitors elections, analyzed the change in personal assets of the 45 incumbents who were recontesting. The average increase in assets per MLA over a single five-year term was 211%, amounting to an average of almost 1.8 crore.

live in the same or adjacent neighborhoods.<sup>13</sup> In each jurisdiction, we randomly selected twenty polling stations for treatment. This yielded a sample of 200 treatment and 575 control polling stations with stratification at the jurisdiction-level.

### **B.** Intervention

In each treatment polling station we conducted a three-phase voter information campaign, which targeted all households with at least one adult voter who featured on the voter list. *Pamphlet Campaign* The first phase was a door-to-door campaign, in which treatment households received a pamphlet containing three types of information (see Figure 1). First, information was laid out about the voting process including the actual mechanics of voting, such as how to determine eligibility to vote, accepted forms of identity proof, and complaint procedures. Voters were reminded that vote-buying is illegal and they should not let party workers accompany them to the polling station. Second, legislator responsibilities were listed. Third, voters were informed about politician disclosure laws and encouraged to read our partner newspaper to learn about candidates' backgrounds. No candidate-specific information was provided. On average, a two-member NGO team covered the households associated with a polling station in one and half days. Monitoring reports show that, on average, two-thirds of the households in a polling station were reached with the NGO spending 15 minutes per household.

Newspaper Campaign Every day between November 20 and 25, 2008 (roughly ten days before the election) our partner newspaper Dainik Hindustan published report cards for two report cards. (An example is provided in Figure 2). The two jurisdictions included in a day's paper were geographic neighbors. On the morning of publication, NGO workers placed a free newspaper on the doorstep of each household included in the treatment slums. Four hundred newspapers were disseminated per slum, yielding a total delivery of 80,000 newspapers. After newspaper distribution, independently hired monitors visited 20 households in 172 of the 200 treatment polling stations to check for newspaper presence. Newspapers were observed in 80% of households.

*Public Reading* Since a significant fraction of slum dwellers are illiterate, NGO workers organized a neighborhood meeting within 48 hours of newspaper distribution in each treatment polling station to read out the information provided in the report card. Monitors were assigned to observe 155 focus group discussions, of which they located and observed 130. The average meeting lasted 1.5 hours but, compared to newspaper delivery, attendance at this meeting was relatively low. The average meeting was only attended by 20 women and 14 men (out of a target

<sup>&</sup>lt;sup>13</sup>Households are assigned to polling stations on the basis of a door-to-door survey conducted by the Indian Election commission.

population of 1000 adults). 93% of the monitoring reports state that the meeting discussed the Hindustan report card and in 90% of the cases the audience had copies of the report card during the campaign. 95% of the monitoring reports state that the NGO worker was non-partian.

In augmenting newspaper delivery with a pamphlet campaign and public readings, our aim was to maximize the likelihood that slum-dwellers received the report card information. However, the use of a multi-pronged strategy does raise the concern that, independent of newspaper distribution, the door-to-door campaign or citizen meeting may have influenced voter behavior.

Several pieces of evidence suggests this was not the case. First, the pamphlet provided no incumbent-specific information. Our main findings suggest significant voter responsiveness to incumbent performance which, in turn, suggests that the impacts relate to actual information. The remaining concern, then, is that NGO members primed citizens on how to respond to information during the citizen meeting. However, the magnitude of the impacts we observed suggests an influence on the voting behavior of a larger population than those attending the meetings. Finally, we show below that the treatment effects do not vary with the quality of NGO staff conducting the public reading.

# 3.4 Data

Our empirical analysis utilizes several datasets. The first is official polling-station electoral returns. Here, the two outcomes of interest are voter turnout and incumbent votes (as a fraction of total votes cast). Average voter turnout in the control polling stations was 57%, and the average incumbent vote share was 46%. Nine of the ten incumbents were from the ruling party (Congress). 90% of the incumbents in our sample won. Some victories were narrow – the margin of victory varied from 0.53% to 30%.

Our second dataset is a observational survey: in 29 treatment and 32 control polling stations, a surveyor spent approximately four hours on the eve of the election noting any visible evidence of party campaigning and/or distribution of cash, liquor, food, clothes or milk/refreshments as enticement. These data show that 95% of the polling stations witnessed door-to-door campaigning, and public rallies occurred in over 70%. We also use these data to examine whether the observer noted any instances of either cash or non-cash gift giving by outsiders in the slum. Such gift-giving was prevalent in roughly 80% of the slums (Figure 3 shows the distribution of different types of gift-giving).

Finally, we use data from a household survey that was conducted in the six-day interval between election day and when results were announced. The survey was conducted in the 200 treatment polling stations and a randomly selected 200 control polling station localities. In each polling station ten randomly selected individuals were administered a brief pop-quiz on politician performance and perceptions of politician spending behavior.

Our analysis uses actual report card data to examine whether voter responsiveness varied with incumbent performance and qualifications. The report card provided category-wise information on spending, but it is likely that categories differ in their relevance for slum dwellers. For example, road spending may be less useful for slum dwellers with unpaved roads. Therefore, after the elections we provided the NGOs that had conducted the door-to-door campaign data on the location of each spending item and got them to identify whether the spending had benefitted slum residents. Each NGO was provided a list of all projects in their jurisdiction that had been allocated funding by the incumbent. The NGO then dispatched fieldworkers to visit the site of each spending in slums (overall and category-wise). Figure 4a shows the average distribution of slum and non-slum spending for each public good category. In Figure 4b we show this breakdown for roads for the ten jurisdictions – we observe significant cross-jurisdiction variation in slum spending per category. This cross-jurisdiction variation in the extent of spending and placement of public goods holds up for every spending category.

In Table 2 we report a randomization check. Panel A uses electoral roll data and Panel B household survey data. The average polling station had a thousand electors, and Panel B shows that electors are relatively poor – the average per capita household income is a dollar a day. In column (3) we observe balance on electoral roll covariates across treatment and control polling stations for the electoral data sample (775 polling stations). In column (6) we observe similar balance for electoral and survey data for the household sample (3,896 respondents across 388 jurisdictions). In column (9) we consider the smaller sample of 61 polling stations for which we have observational data. The electoral data and observer reports on fraction temporary housing are balanced. However, in the household survey we observe imbalance on two covariates – monthly income and literacy. This imbalance in the household sample selected in these polling stations may or may not reflect imbalance at the polling-station level. In our analysis we focus on the pure experimental estimates but have checked that our results are robust to controlling for average household covariates.

# 4 Did Information Influence Voter Behavior?

This section evaluates campaign impacts on electoral outcomes and examines the roles of performance and qualification information in influencing voter behavior.

# 4.1 Average Impacts on Electoral Outcomes

We start by using observational and electoral data (both at the polling station level) to examine campaign impacts on voter turnout, incumbent vote share and the nature of party campaigning. We estimate regressions of the form

$$Y_{sj} = \alpha_j + \beta T_{sj} + \epsilon_{isj} \tag{1}$$

 $T_{sj}$  is a dummy indicating whether polling station s in jurisdiction j was assigned to treatment, and  $\beta$  is the unbiased ITT effect. We include jurisdiction fixed effects  $\alpha_j$  to account for stratification.

Table 3 reports the results. In columns (1)-(4) we consider the observational data sample and examine whether the campaign influenced party campaigning and vote-buying. Overall, observers report a very high incidence of campaigning – Door-to-door campaigning was observed in 96% of the polling stations and a public meeting or rally was ongoing in over 70%. However, neither form of campaigning was affected by treatment (columns 1 and 2). Next, we examine the incidence of vote-buying. Vote-buying in Delhi slums was widespread – in over 60% of the polling stations observers report some form of cash and non-cash gifts being given by party workers. In column (3) we observe a 19 percentage point decline in the incidence of cash bribes in treatment polling stations. We do not observe a decline in non-cash vote-buying, prominent among which is distribution of liquor (column 4).

The decline in cash bribes may reflect either a supply-side or a demand-side response. Party workers may have become wary of distributing cash in areas where a NGO campaign occurred. Alternatively, voters may have decided to not sell their vote – either because they were primed about the ills of vote-buying by the campaign or because information about candidates led them prefer voting for their favored candidate rather than selling their vote. Our data is, unfortunately, not detailed enough to allow us to distinguish between these channels. In the remainder of the paper, we therefore focus on turnout and incumbent vote share as the key outcome variables.

In columns (5) and (6) we turn to the official electoral data. To flexibly estimate turnout effects we consider the log number of voters as the outcome variable and include log number of registered voters as a control variable.<sup>14</sup> The campaign increased turnout by 3.6%. In column (6) we consider incumbent vote share as the outcome variable and do not observe any impact on average incumbent vote share.

The absence of an average campaign impact on incumbent vote-share are consistent with

 $<sup>^{14}</sup>$ This allows the turnout response to vary as a function of number registered voters. Our results are very similar if we instead use fraction of registered voters who voted as the dependent variable.

alternative theories of voter choice. For instance, the campaign may have increased voter awareness of democratic practices. This could cause more citizens to vote and reject vote-buying practices even when voter preferences for the incumbent remain unaffected. Alternatively, as laid out in our model the absence of an average campaign impact on incumbent vote share may reflect heterogenous treatment effects with respect to incumbent performance and candidate qualifications. If citizens seek to reward better performing incumbents and punish those who are doing badly, then we would not expect any obvious effect on the average incumbent vote share across jurisdictions. For this reason we now examine whether treatment effects vary by incumbent performance and candidate qualifications.

# 4.2 Do Impacts Vary with Incumbent Performance ?

Our report cards provided information along three dimensions of incumbent performance – legislative behavior, committee attendance and spending (overall and by category). To obtain a summary performance measure, we conducted a principal component analysis using data on incumbent legislative performance, committee attendance, total spending and fraction slum spending. We use the highest eigenvalue as our performance summary statistic (now on, PCA).

#### 4.2.1 Basic Results

We start with a visual representation of the heterogeneity in treatment effects with respect to incumbent performance. Since we stratified the sample by jurisdiction we can estimate jurisdiction-specific treatment effects by separately estimating regressions (of the form given by equation (1)) for each jurisdiction. In Figures 5a and 5b we plot the jurisdiction-specific point estimates from regressions where turnout and incumbent vote-share are the dependent variables. In Figure 5a and 5b we order jurisdictions by PCA and slum spending respectively. In both cases a lower score reflects better performance, and in both figures we observe a similar pattern. In treatment slums, relative to control slums, turnout is lower and incumbent vote share is higher when an incumbent performs well. The converse is true if the incumbent was a poor performer.

To more rigorously quantify these impacts we return to our pooled sample (for the ten jurisdictions) and estimate

$$Y_{sj} = \alpha_j + \beta_1 T_{sj} + \beta_2 P_j \times T_{sj} + \epsilon_{sj} \tag{2}$$

where  $P_j$  is the performance indicator for the incumbent. While treatment assignment coincides with the unit of observation (polling-station) our performance measures vary at a more aggregate level. The small number of jurisdictions makes clustering standard errors by jurisdiction inappropriate. We report robust standard errors and alongside report the results from a randomization inference which tests the sharp null of no treatment effect (details of the procedure are in the Appendix).

The results are in Table 4. Columns (1) and (2) confirm the patterns in Figures 5a and 5b. Turnout is decreasing in incumbent performance while the incumbent's vote share is increasing in his performance. The randomization inference rejects the null of no treatment effects. To better understand the economic relevance of our results we calibrate the estimated effects for two values of PCA. For the median legislator in our sample (PCA value of -0.305) the turnout in treatment slums was 5.3% higher relative to control slums and there was no impact on vote share. For the best performing legislator in our sample (PCA value of 3.681) the turnout was 3.8% lower in treatment slums than control slums and the incumbent vote share was 6.9% higher.

In columns (3)-(10) we separately evaluate the different components of legislator performance. Columns (3)-(4) show that information about an incumbent's attendance in the legislature and his record of asking questions in the legislative assembly did not influence voting outcomes. This is consistent with the view that slum dwellers see the main responsibilities of their legislator as relating to local development and grievance redressal not the enacting of bills.

Columns (5)-(6) consider committee attendance. The report cards provided information on whether last meeting of the committee was held according to schedule and whether the incumbent attended the meeting. We construct an aggregate committee attendance index based on attendance record in the Ration Committee and Police Committee meetings. Committee attendance does not influence voter turnout. In contrast, going from attending neither committee to attending both increases the incumbent's vote share by over 7 percentage points.

In columns (7)-(8) we examine whether turnout and incumbent vote share is sensitive to the extent of discretionary fund spending. A failure to spend all available funds may measure an unwillingness on the part of the incumbent to exert effort. Alternatively, the widespread belief that discretionary spending is subject to significant corruption may lead respondents to associate higher spending with greater corruption. Possibly reflecting this ambiguity, we fail to observe voter responsiveness to total spending by the incumbent.

Next, we investigate whether voters react to the nature of spending. The report card listed incumbent spending by public good category. After the election, our NGO partners coded for each spending item whether the spending had occurred in a slum. Columns (9) and (10) present the results based on these additional data. We find that turnout is decreasing in the amount spent in slums while incumbent vote share is increasing in the extent of slum spending.

In Appendix Table 1 we separately consider the three largest spending categories – roads, parks and drains. These are also the three categories for which we see spending in every jurisdic-

tion. In every case, voters respond *not* to the overall level of spending (odd columns) but only to slum-specific spending in the category (even columns). Turnout is higher when incumbent spends less in slums while incumbent vote share is increasing in slum spending in each category.

The spending results suggest significant sophistication on the part of voters. They have a (correct) heuristic about the fraction of spending within each category that is in slums and use this to evaluate the relevance of total spending by the incumbent in a category. The most likely explanation for how voters form the heuristic is by observing spending in that category in own slum or nearby slum. The report card information then helps them translate this information into an estimate of how much of the spending within a category was relevant for them (i.e. occurred in slums). Voters rewarded incumbents who spent more in slums. Further, the results suggest that voters used turnout to express displeasure with worse performing incumbents.

### 4.2.2 How do Voters Parse Information?

To provide further insights on voter use of information and check the robustness of our findings, we undertake two further tests. For expositional ease we consider the two performance outcomes that voters care about – committee attendance and slum spending.<sup>15</sup>

We first examine whether voters compare performance outcomes across incumbents, i.e. engage in yardstick competition. Each newspaper featured two report cards from neighboring jurisdictions. We examine whether voters used information on the performance of the incumbent in the neighboring jurisdiction to benchmark their own incumbent's performance. Our estimating equation is of the form

$$Y_{sj} = \alpha_j + \beta_1 T_{sj} + \beta_2 P_j \times T_{sj} + \beta_3 P_k \times T_{sj} + \epsilon_{sj} \tag{3}$$

where  $P_k$  is the performance of the incumbent in the neighboring jurisdiction.

The results are in Table 5. In the case of oversight committees we observe yardstick competition (columns 1 and 2). Turnout is increasing in the committee attendance record of the neighboring incumbent and the vote share of the incumbent is lower when the neighbor attends. In contrast, we observe no evidence of yardstick competition in the case of slum spending (columns 3 and 4). This finding is consistent with the observation that voters use jurisdictionspecific information about how spending in a public good category translates into slum spending in evaluating the incumbent. To the extent that such jurisdiction-specific information relies on personal exposure to slum spending we would not expect voters to be able to evaluate spending in other jurisdictions.

Next we ask whether the quality of an NGO working in a particular area predicts alum

<sup>&</sup>lt;sup>15</sup>Results for legislative attendance and PCA are available from authors.

dwellers' response to the campaign. This provides one way of addressing the concern that NGOs used the public meetings (and possibly the door-to-door campaign) to prime voters. Eight NGOs worked in the ten sample jurisdictions. We create an ordinal index of NGO-specific influence (if it exists) on two qualitative dimensions:

First, quality of field implementation. All eight NGOs were required to send their fieldworkers to a series of nonpartisan training sessions held by our partner citizens' group. However, attendance rolls indicate that at least two of the NGOs skimped on the required number of sessions. Independent monitoring reports suggest that their delivery of the subsequent field campaign– especially the knowledge and perceived credibility of their fieldworkers–may have suffered as a result.For instance, monitors assigned to watch these two problematic NGOs complained that that when prompted by voters, some fieldworkers could not answer simple questions on material that had been included in the training module. Although we do not have detailed information on the public newspaper readings (where priming was most likely to occur), we infer that there was also a correlation between quality of worker training and this last phase of the campaign.

Second, pre-campaign coverage and credibility in assigned jurisdictions. During the initial sampling, participating NGOs were asked to peruse the list of polling stations for their jurisdictions and, based on their knowledge of the demographics and infrastructure in these areas, classify each polling station as "slum" or "non-slum." There was considerable variation among the returned annotations. Some NGOs provided almost ground-level detail on relative development and poverty between polling stations. At the other extreme, one NGO claimed that an entire jurisdiction was "completely slum," despite this being an obvious gross misrepresentation. Interestingly, the NGOs that provided the most vague area descriptions during sampling were the same ones that shirked their training and apparently implemented relatively poor campaigns.

Of the eight NGOs, two NGOs (who worked in three jurisdictions) were ranked as poor performers. In columns (5)-(8) report results where we include the triple interaction between performance indicators with treatment as additional explanatory variables. The committee attendance results for incumbent vote share are noisier but similar sized. Conditional on committee attendance, we observe a negative effect of a weak NGO on turnout. But, this effect is hard to interpret given the absence of any overall impact of committee attendance on turnout. Importantly, our findings for slum spending are robust to inclusion of the weak NGO interactions (columns 7 and 8). This result is particularly important in supporting the idea that NGO priming did not exert an independent influence on voter behavior.

# 4.3 Do Impacts Vary with Candidate Qualifications?

Next, we examine the relevance of the candidate qualification information provided in the report card. Simple correlations between (incumbent) qualifications and the two key performance indicators – committee attendance and slum spending – shows no significant correlation. Given this, we examine whether qualifications exerts any independent effects on the incumbent vote share. For each of the three qualification categories we estimate

$$Y_{sj} = \alpha_j + \beta_1 T_{sj} + \beta_2 Q_j \times T_{sj} + \beta_3 C Q_j \times T_{sj} + \beta_4 C Q_i \times T_{sj} + \epsilon_{sj} \tag{4}$$

where  $Q_j$  is the relevant qualification and  $CQ_j$  is the fraction of challengers who have this qualification. As a robustness check we also include the fraction of challengers in the neighboring jurisdiction *i* with the qualification  $CQ_i$ . This information should be irrelevant for the voter.

We start by considering educational qualifications, as measured by whether the candidate attended college. In general, college education is relatively high at 80% for the incumbents. In column (1) we see that, unlike the case of performance, turnout responds positively to qualifications. Voters are more likely to turnout in treatment slums when the incumbent has a college education. In column (2) we see that voters care about the relative qualifications of challengers. Incumbent vote share is increasing in the fraction of non-college educated challengers. Importantly, voters place no weight on irrelevant information - the educational outcomes of challengers in the neighboring jurisdiction does not influence vote shares.

In columns (3)-(4) we consider candidate wealth. Here, we choose to use a wealth indicator that is salient in the particular cultural context. An incumbent's qualification is having more than a crore (10 million) rupees in declared wealth, while the challenger variable is the fraction of challengers who do not have that much. The results suggest that voters discriminate against rich candidates. Interestingly, this effect only shows up for the challengers. Turnout is higher when the challengers are better qualified (i.e. when the incumbent looks worse). In column (4) we see that the incumbent also receives significantly more votes when his opponents are "crorepati's". If it is disclosed that both his opponents are crorepatis his vote share is 6.6% higher than when it is disclosed that both of them are crorepatis and he is not. One possibility is that for the incumbent voters have other performance information which they consider as more relevant than wealth. In contrast, for challengers they have less information and are, therefore, more willing to condition their vote on characteristics such as wealth.

Finally, in columns (5)-(6) we examine a clearer measure of candidate quality - criminal charges. Half the incumbents in our sample faced criminal charges. Here, the challenger variable is the fraction of candidates who face criminal charge. We observe no significant effect on vote share but some evidence of higher voter turnout when the incumbent does not face a criminal

charge.<sup>16</sup>

These results, with the possible exception of the weak criminality results, accord with intuition. The poor are suspicious of rich candidates, either because they feel that the rich are less likely to care about what they care about or because they see wealth as a signal of corruption, but like candidates who are educated, probably because education signals competence.

They also suggest that voters are quite sophisticated in how they interpret evidence: For one, voters are responding to the relative qualifications of the incumbent suggesting that they do not react naively to the incumbent's wealth or education, but compare him with the challengers and favor the one that looks better to them.

Another important check on voter rationality involves including the qualifications of candidates in the neighboring jurisdiction that was also featured in the same issue of the newspaper in the qualification regressions. Given that those candidates are not in the choice set, their presence should not matter, and this is indeed what we find.<sup>17</sup> At the same time the results for qualifications are weaker than for performance which is consistent with our theoretical framework.

# 4.4 Did the Campaign Improve Voter Information? Survey Evidence

In the six days between voting and announcement of election results, we conducted a household survey in the 200 treatment slums and a random sample of 200 control slums. In each slum ten respondents were interviewed about legislator responsibilities, qualifications and perceptions of performance. The survey was conducted by an independent survey company with substantial post-poll experience *and* no relation with the research group coordinating the experiment or the NGOs. This helped respondents clearly distinguish between the opinion poll and the intervention. The main disadvantage, however, was the survey company's relative unfamiliarity with the area and our limited ability to monitor the survey company.

Given these caveats, we start by examining whether treatment and control slums differed in exposure to the three aspects of the campaign. The three outcomes of interest are whether the respondent received any pamphlets, whether she received and/or read a newspaper with legislator information and whether she attended the public reading. Our estimation equation is of the form given by equation (1) but as the unit of observation is an individual we cluster standard

<sup>&</sup>lt;sup>16</sup>The results are similar when we use any criminal charge but since any criminal charges includes charges that politicians often end up with while doing their job (being a demonstration, for example) this variable is intrinsically less interesting and is not reported.

<sup>&</sup>lt;sup>17</sup>Finally, it is possible that qualification information allows voters to coordinate away from the worst challenger. We have, therefore, estimated regressions where we ask whether the vote share of the worst qualified challenger is reduced by treatment. We do not observe any significant impacts, which may reflect strategic placement of candidates or the relevance of unobserved dimensions.

errors by polling-station. We also examine whether treatment impacts were concentrated among more educated respondents, defined as respondents with at least 5 years of formal education.<sup>18</sup>

Columns (1)-(6) of Table 7 reports the results. In all cases the average in control slums is relatively low. Roughly 5% of households in control slums reporting receiving any pamphlet and 1.6% attended any public meeting. Receiving and reading newspapers with legislator information was higher at 9.6%. Respondents in treatment slums are almost twice as likely to receive a pamphlet (column 1) and two-thirds more likely (column 2) to receive or read a newspaper but no more likely to attend a focus group (column 3). The last is consistent with the relatively low levels of attendance in public meetings reported by our monitors. The treatment impacts for pamphlets and newspaper, while very significant, are much smaller than the actual extent of distribution (which was verified by monitors during the campaign). We conjecture that the survey responses reflect, in part, the salience of newspaper and pamphlet distribution for respondents. Consistent with this interpretation, we observe higher reported newspaper readership in households where the respondent was educated (column 4). We observe a similar but noisier impact for pamphlet distribution (column 2). Similarly, we observe much larger treatment effects among male respondents relative to female respondents (even though newspaper and pamphlet distribution was door-to-door and did not condition on respondent identity). Male slum-dwellers are significantly more educated and politically active than their female counterparts.<sup>19</sup>

In columns (7)-(9) we turn to respondent knowledge of legislator responsibilities, spending performance and candidate qualifications. We asked each respondent a series of eleven factual questions and code the response for each question as correct or incorrect.<sup>20</sup> In column (7) we consider the total score across the eleven questions. Respondent knowledge levels are low and the average respondent has a score of 2.7 out of 11. We see that the campaign improved knowledge levels by a very significant 10% among educated respondents. In columns (8) and (9) we divide the questions into information on legislator responsibilities that the respondents received during the pamphlet phase and incumbent and challenger specific information provided by the report cards. For both, the campaign significantly improved information levels among educated respondents.

Finally, we turn to respondent perceptions of legislator performance. The survey asked the

 $<sup>^{18}</sup>$ In our sample, roughly a third of the respondents state that they are illiterate or have basic literacy, slightly over a quarter state that they have less than 5 years of education and the remaining 37% have 5 years or more of education. We observe qualitatively identical but slightly noisier estimates if we include more education categories.

<sup>&</sup>lt;sup>19</sup>These results are available from the authors.

<sup>&</sup>lt;sup>20</sup>We code the answer to how much money was spent by the legislator as correct if the answer was within 1 standard deviation of actual spending. Similarly, we code the answer to how much did you legislator spend relative to the average legislator as correct if the answer is "more" and the legislator spent more than average, if answer is "less" and the legislator spent less than average, or if answer is "same" and legislator the spent within 1 standard deviation of average.

respondent to rank the amount of work done by the incumbent across multiple categories. We consider responses regarding the two largest spending categories which featured in the report card and for which we observe spending in every jurisdiction (and know the extent of slum spending).<sup>21</sup> For both categories we create an indicator variable for whether the respondent believed that the incumbent did a lot of work.

32% of the respondents state that the incumbent had done a lot of work on roads and 12% believe this to be the case for drains. In column (10) we see that the likelihood that treatment causes the respondent to believe the incumbent did a lot of work is increasing in the fraction of total road spending that occurred in slums. In column (11) we observe the same pattern for drains. These results are striking because the report cards provided category-specific spending but *not* broken down by whether it occurred in slums. Thus voters are able to use other available information to correctly evaluate the incidence of slum spending within a category. Here, we do not observe any difference in responsiveness by education status. We interpret this finding as suggestive of information spillovers between educated and less educated residents. Slum dwellers discussed the salient aspects of the report cards and/or interpreted them jointly with others in their neighbhorhood and as a result information spread.

# 5 Conclusion

The idea that voters in an otherwise well-functioning democracy might be severely constrained by information about the candidates' qualifications and past record is both striking and important. We see that voters when given the information move quite substantially and if this information had reached the entire jurisdiction, outcomes may have been quite different. We also see evidence that voters are somewhat sophisticated in how they use the information, allaying fears that information would simply confuse them.

# 6 Appendix

### **Computing Probabilities**

$$\Pr\{\theta^{s}(I) = \theta_{H}, y^{s}(I) = 1 | \theta_{H}\} = [\alpha\beta + (1-\alpha)(1-\beta)]\gamma$$
  
$$\Pr\{\theta^{s}(I) = \theta_{H}, y^{s}(I) = 0 | \theta_{H}\} = [(1-\alpha)\beta + (1-\beta)\alpha]\gamma$$

<sup>&</sup>lt;sup>21</sup>A printing error in the questionaire meant that the third such category of parks mistakenly featured twice, once in combination with community hall and once with lights. Thus, we are unable to identify perceptions on spending on parks (or the other two categories). The other categories of sewage, schools, and crime do not correspond to categories on the report card and cannot be matched. The last category we can match to aggregate spending is water. However, as we lack slum spending measures for this category we do not use it.

and

$$\Pr\{\theta^s(I) = \theta_H, y^s(I) = 1 | \theta_L\} = [(1 - \alpha)\beta + (1 - \beta)\alpha](1 - \gamma)$$
  
$$\Pr\{\theta^s(I) = \theta_H, y^s(I) = 0 | \theta_L\} = [\alpha\beta + (1 - \alpha)(1 - \beta)](1 - \gamma)$$

### Proof of Claim 1 Proof

1. If

$$\pi_H(C)|\theta^s(C) > \pi_H(I)|\theta^S(I), y^s(I) = 1 > \pi_H(I)|\theta^S(I), y^s(I) = 0,$$

(where the last inequality reflects the fact that better incumbents perform better on average). A small increase in  $\beta$  will reduce the gap

$$\pi_H(C)|\theta^s(C) - \pi_H(I)|\theta^s(I), y^s(I) = 1$$

and increase the gap

$$|\pi_H(C)|\theta^s(C) > \pi_H(I)|\theta^S(I), y^s(I) = 0$$

Hence, turnout will decline when there is good news about the incumbent and increase when there is bad news.

2. If

$$\pi_H(I)|\theta^S(I), y^s(I) = 1 > \pi_H(I)|\theta^S(I), y^s(I) = 0 > \pi_H(C)|\theta^s(C)$$

then turnout goes up when there is good news and goes down when there is bad news, so that the increase in turnout resulting from a small increase in  $\beta$  is increasing in the performance of the incumbent. The effect on the vote share of the incumbent is same signed since the additional voters in the good news case vote for the incumbent while all those who stop voting in the bad news case would have voted for him.

3. When

$$\pi_H(I)|\theta^S(I), y^s(I) = 1 > \pi_H(C)|\theta^s(C), > \pi_H(I)|\theta^S(I), y^s(I) = 0$$

turnout goes up both when there is good news and when there is bad news, and hence the effect on turnout can go either way. However since those additional voters who now turn out in the good news case vote for the incumbent while those who turn out in the bad news case vote for his opponent, once again the effect on the vote share of the incumbent is positive when he performs well and negative when he performs badly.

# 6.1 Data Appendix

Our randomization inference p-values are based on 10,000 replications within each sample frame. We explain the procedure for regressions using polling station electoral data. We took as the sample frame polling stations and then simulated treatment assignment by randomly selecting 20 polling stations in each jurisdiction. We repeated this simulation 10,000 times so that we had 10,000 different treatment-control assignments in our 10 jurisdictions. Thus the basic idea is to reassign treatment while leaving outcomes unaffected to represent the hypothesis of no effect. Next we run regressions with simulated treatment and compare with actual treatment effects. After creating each simulated treatment variable we re-ran the regressions. These simulations yield a distribution for each coefficient, centered around 0, with standard deviations that could be compared to the standard errors on the coefficients from regressions using actual treatment assignment. We then perform t-tests on whether the actual coefficients are comparable to the simulated coefficients. Since the simulated coefficients are approximately 0, this is equivalent to measuring the significance levels of the actual coefficients but replacing the actual standard errors with the simulated standard errors.

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	Max.	Fraction =	Mean for	Mean for	Mean for	Sampled and
	Value	0	All	Sampled	Sampled	non-sampled
			Incumbents	Incumbents	Challengers	incumbents
						p-value (of diff)
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Incumbent Performance						
Legislature Attendance	18	0.000	16.885	16.000		0.552
			(3.401)	(5.268)		
Any Legislature Questions	1	0.500	0.500	0.500		1.000
			(0.504)	(0.527)		
Ration Committee	1	0.500	0.667	0.500		0.256
			(0.475)	(0.527)		
Police Committee	1	0.556	0.457	0.444		0.937
			(0.504)	(0.527)		
Development Committee	0	1.000	0.293	0.000		0.000
			(0.459)	(0.000)		
Total MLA LADS Spending	6.007	0.000	5.122	5.018		0.690
			(1.058)	(0.888)		
MLA LADS Road Spending	5.232	0.000	3.073	3.270		0.562
			(1.118)	(1.207)		
MLA LADS Park Spending	2.219	0.000	0.586	0.674		0.661
			(0.612)	(0.718)		
MLA LADS Drain Spending	1.053	0.000	0.515	0.497		0.849
			(0.427)	(0.312)		
MLA LADS Spending in Slums	5.935	0.000		1.437		
				(2.060)		
Water Board Spending	1.054	0.000		0.989		
				(0.053)		
Panel B: Candidate Qualifications						
Charged with Crime	1	0.4		0.600	0.250	
				(0.516)	(0.444)	
Net Assets	5.95	0.000		1.971	2.542	
				(1.759)	(3.643)	
Has One Crore	1	0.3		0.700	0.500	
				(0.483)	(0.513)	
Did Not Attend College	1	0.8		0.200	0.600	
				(0.422)	(0.503)	
Panel C: Electoral Information						
Incumbent Vote Share	54.65	0.000	44.892	46.003		0.646
			(10.933)	(7.786)		
Voter Turnout	0.945	0.000	0.577	0.575		0.679
			(0.036)	(0.107)		

Table 1: Politician Characteristics and Voter Behavior: Summary Statistics

Notes:

1. Panel A reports incumbent outcomes compiled from RTI data. Sample size for column (3) and (4) is 70 and 10, respectively. Panel B reports candidate outcomes from candidate affidavits. Sample size for columns (4) and (5) is 10 and 20, respectively. Panel C reports jurisdiction-level outcomes for vote shares of incumbents recontesting during the 2008 MLA election (observations are 61 and 10). Panel C reports jurisdiction-level outcomes for Delhi-wide voter turnout and polling station-level outcomes for in sample voter turnout (observations are 70 and 775).

2. Columns (1) and (2) refer to values for sampled incumbents. Column (6) reports p-values of tests of differences in means of unsampled and sampled incumbents.

3. The spending and net aset variables are in 10 million Rs. The committee variables equal one if legislator attended most recent meeting and zero if legislator did not attend the most recent meeting or if no committee meeting was held during the last 3 quarters.

Table 2: Randomization Check									
_	Full sample		Diff (1) and	Household s	urvey sample	Diff (4) and	Observati	on sample	Diff (7) and
_	Control	Treatment	(2): p-value	Control	Treatment	(5): p-value	Control	Treatment	(8): p-value
Panel A: Electoral Rolls	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total Electors	1013.977	1000.510	0.478	1016.979	1002.546	0.622	933.094	1044.034	0.365
	(321.010)	(305.698)		(327.605)	(305.837)		(379.542)	(374.847)	
Total Female Electors	424.424	427.495	0.783	418.536	428.603	0.482	382.531	440.103	0.223
	(142.392)	(138.124)		(139.553)	(137.951)		(145.307)	(173.622)	
Electors per Household	4.404	4.542	0.488	4.375	4.556	0.356	4.292	4.980	0.307
	(2.069)	(2.135)		(2.288)	(2.153)		(2.859)	(1.697)	
Elector Age	35.501	35.333	0.926	35.215	35.307	0.671	34.686	35.469	0.245
	(2.340)	(2.408)		(2.456)	(2.412)		(1.984)	(2.980)	
Percent Temporary							0.108	0.116	0.960
housing							(0.208)	(0.229)	
Joint F Test			0.815			0.831			0.328
Observations	575	200		195	194		32	29	
Panel B: Survey Data									
Female				0.496	0.499	0.776	0.547	0.505	0.101
				(0.500)	(0.500)		(0.499)	(0.501)	
Age				36.510	35.918	0.278	34.968	36.722	0.176
				(13.320)	(12.912)		(12.779)	(14.157)	
House Size				5.952	6.097	0.143	5.949	6.194	0.333
				(2.701)	(2.924)		(2.553)	(3.163)	
Monthly Income (INR)				6385.397	6687.185	0.268	5460.000	7499.665	0.038
				(5321.758)	(5933.879)		(3322.642)	(7181.029)	
Ration Card Holder				0.817	0.819	0.958	0.823	0.819	0.940
				(0.387)	(0.385)		(0.382)	(0.385)	
Literate				0.762	0.776	0.461	0.727	0.833	0.047
				(0.426)	(0.417)		(0.446)	(0.374)	
Muslim				0.153	0.182	0.249	0.151	0.174	0.496
				(0.360)	(0.386)		(0.359)	(0.380)	
Low Caste				0.579	0.583	0.891	0.685	0.579	0.194
				(0.494)	(0.493)		(0.465)	(0.495)	
Joint F Test						0.752			0.255
Observations				1946	1952		311	299	

Notes:

1. Panel A reports polling station-level outcomes. Panel A, columns (4) - (6) are restricted to polling stations included in the postpoll household survey. Panel A, columns (7) - (9) are restricted to polling stations included in the observational study of polling stations on the eve of elections. Panel B reports individual-level outcomes from the household survey, restricted to the corresponding subset of polling stations from Panel A.

2. Columns (1), (2), (4), (5), (7) and (8) report means with standard deviations in parentheses. Columns (3), (6) and (9) report p-values of tests of differences in means across preceding two columns. Panel A calculations include jurisdiction fixed effects and robust standard errors. Panel B calculations include jurisdiction fixed effects and standard errors clustered by polling station.

3. "Electors per Household" is the average number of registered voters per household. "Percent Temporary housing" is the percent of homes in the polling station identified as jhopdi, kachhijhogi, or polythene by monitors in the observational study.

4. Each joint F test includes all variables reported for the corresponding observations in the previous 2 columns.

	Door to	Public				
	Door	Meeting or		Non-Cash		Incumbent
	Campaign	Rally	Cash Bribe	Bribe	log(Voters)	Vote Share
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.034	0.029	-0.194**	-0.028	0.035**	0.004
	(0.057)	(0.088)	(0.091)	(0.078)	(0.016)	(0.011)
Ν	61	61	61	61	775	775
<b>Control Mean</b>	0.969	0.719	0.625	0.648	0.575	0.463

### Table 3: Average Treatment Effects: Party and Voter Behavior

#### Notes:

1. Columns (1) through (4) use observation sample. Columns (5) and (6) use electoral roll data

2. We report OLS regressions with jurisdiction fixed effects and robust standard errors. Column (5) regression includes a control for log number of registered voters.

The dependent variables are: (1) whether a door to door campaign on behalf of any party was observed, (2) whether a public meeting or rally on behalf of any party was observed, (3) whether any cash bribe was observed, and (4) whether any bribe of liquor, clothes, milk, or ration was observed; (5) log number of voters, (6) percent of votes for incumbent.

	Principal	Component								
	Ana	alysis	Legis	lature	Comr	nittees	MLALAD	S Spending	MLALADS S	lum Spending
		Incumbent		Incumbent		Incumbent		Incumbent		Incumbent
	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment	0.046***	-0.005	0.020	0.006	0.026	-0.029	0.183	-0.039	0.131	0.009
	(0.016)	(0.012)	(0.052)	(0.034)	(0.022)	(0.019)	(0.146)	(0.072)	(0.154)	(0.076)
Treatment * Incumbent Performance	-0.023***	0.019***								
	(0.009)	(0.007)								
Treatment * Legislature Attendance			0.002	-0.001						
			(0.003)	(0.002)						
Treatment * Any Questions Raised			-0.014	0.032						
			(0.033)	(0.026)						
Treatment * Committee Attendance					0.023	0.077**				
					(0.053)	(0.039)				
Treatment * Total MLA LADS Spending							-0.029	0.008	-0.014	-0.005
							(0.027)	(0.014)	(0.030)	(0.015)
Treatment * Total MLA LADS Spending									-0.015**	0.014**
in Slums									(0.006)	(0.006)
N	775	775	775	775	775	775	775	775	775	775
N Dendeminstien lafenenen ausluss for	//5	//5	775	//5	//5	//5	//5	//5	//5	//5
Randomization interence: p-values for	Probability(AC		= Estimated Co	enicient)						
Ireatment * Incumbent Performance	0.007	0.004								
Treatment * Legislature Attendance			0.303	0.221						
Treatment * Any Questions Raised			0.354	0.110						
Treatment * Committee Attendance					0.343	0.028				
Treatment * Total MLA LADS Spending							0.152	0.279	0.322	0.356
Treatment * Total MLA LADS Spending										
in Slums									0.007	0.009

Table 4: Impact of Incumbent Performance on Turnout and Incumbent Vote Share

Notes:

1. We report OLS regressions containing jurisdiction fixed effects and robust standard errors. All columns use data from electoral rolls and report cards.

2. Legislature Attendance refers to incumbent attendance in 2007. Committee Attendance refers to whether the incumbent attended the last ration committee meeting (.5), the last police committee meeting (.5), neither (0), or both (1). "MLALADS" variables refer to incumbent spending from 2004 to 2007. The incumbent performance variable is the first component resulting from a principal component analysis of z\_score(total spending), z\_score(total slum spending), ration committee attendance, police committee attendance, any legislature questions asked, and z\_score(legislature attendance). Z scores use means and standard deviations from the 10-jurisdiction sample.

3. The dependent variable for odd-numbered columns is log number of voters at polling station; these regressions include a control for log number of registered voters. The dependent variable for evennumbered columns is percent of votes for incumbent at polling station.

		Yardstick (	Competition		NGO Quality				
		Incumbent		Incumbent		Incumbent		Incumbent	
	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Treatment	-0.048	0.016	0.078**	-0.009	0.01	-0.031	0.064***	-0.017	
	(0.031)	(0.028)	(0.031)	(0.019)	[0.030]	[0.027]	[0.025]	[0.016]	
Treatment * Incumbent Committee Attendance	0.036	0.069*			0.069	0.071			
	(0.054)	(0.039)			[0.064]	[0.050]			
Treatment * Opposite Committee Attendance	0.159***	-0.097**							
	(0.047)	(0.043)							
Treatment * Total Incumbent MLA LADS Spending			-0.021***	0.012**			-0.020**	0.018*	
in Slums			(0.007)	(0.006)			[0.010]	[0.010]	
Treatment * Total Opposite MLA LADS Spending in			-0.007	-0.004					
Slums			(0.007)	(0.005)					
Treatment*Weak NGO					0.05	0	-0.003	-0.015	
					[0.044]	[0.038]	[0.042]	[0.032]	
Treatment * Incumbent Committee					-0.257**	0.084			
Attendance*Weak NGO					[0.106]	[0.089]			
Treatment *Total Incumbent MLA LADS Spending in							0.004	-0.005	
Slums*Weak NGO							[0.012]	[0.012]	
Ν	775	775	775	775	775	775	775	775	
Randomization Inference: p-values for Probability(A	Randomization Inference: p-values for Probability(Actual Coefficient = Estimated Coefficient)								
Treatment * Incumbent Performance Measure	0.263	0.044	0.004	0.024					
Treatment * Opposite Performance Measure	0.001	0.017	0.182	0.259					

#### Table 5: How do Voters Parse Information on Performance? Further Tests

Notes:

1. We report OLS regressions containing jurisdiction fixed effects and robust standard errors. All columns use electoral roll and report card data.

2. "Incumbent" and "Challenger" variables refer to the incumbent and challengers from the current jurisdiction respectively. Report cards were presented for 2 jurisdictions side by side. "Opposite" variables refer to the constituency whose report card appeared alongside the current jurisdiction report card . "Performance", "Committee", "MLA LADS", and dependent variables are as defined in table 5.

	Education		As	sets	Criminality	
		Incumbent		Incumbent		Incumbent
	log(Votes)	Vote Share	log(Votes)	Vote Share	log(Votes)	Vote Share
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.054	-0.035	0.074	-0.030	0.100**	-0.021
	(0.057)	(0.033)	(0.052)	(0.032)	(0.041)	(0.030)
Treatment * Incumbent Did Not Attend College	-0.064*	0.012				
	(0.033)	(0.024)				
Treatment * Fraction of Challengers Who Did Not	-0.027	0.068*				
Attend College	(0.048)	(0.035)				
Treatment * Fraction of Opposite Challengers Who Did	0.020	-0.008				
Not Attend College	(0.066)	(0.034)				
Treatment * Incumbent Has One Crore			-0.005	0.008		
			(0.038)	(0.031)		
Treatment * Fraction of Challengers with One Crore			-0.128*	0.066*		
			(0.067)	(0.037)		
Treatment * Fraction of Opposite Challengers with One			0.057	-0.011		
Crore			(0.067)	(0.051)		
Treatment * Incumbent Charged with Crime					-0.063*	0.023
					(0.036)	(0.027)
Treatment * Fraction of Challengers Charged with Crime					-0.036	0.001
					(0.064)	(0.053)
Treatment * Fraction of Opposite Challengers Charged					-0.071	0.041
with Crime					(0.061)	(0.045)
Ν	775	775	775	775	775	775
Randomization Inference: p-values for						
Treatment * Incumbent Qualification	0.030	0.314	0.448	0.405	0.062	0.209
Treatment * Fraction of Challengers with Qualification	0.294	0.030	0.062	0.039	0.305	0.490
Treatment * Fraction of Opposite Challengers with	0.394	0.411	0.191	0.427	0.140	0.192

### Table 6: Impact of Candidate Qualifications on Turnout and Incumbent Vote Share

Notes:

1. We report OLS regressions containing jurisdiction fixed effects and robust standard errors. All columns use electoral roll and report card data.

2. "Incumbent" and "Challenger" variables refer to the incumbent and challengers from the current jurisdiction respectively. Report cards were presented for 2 jurisdictions side by side. "Opposite" variables refer to the constituency whose report card appeared alongside the current jurisdiction report card.

		Exposure to Campaign						Quiz Score			Perceptions	
			Received/re	ad			Total	Responsibil	it Qualifications	Much road	Much drain	
	Received Pa	mphlet	Newspaper		Attended F	ocus group		es	and Spending	spending	spending	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
Treatment	0.032**	0.024*	0.060***	0.038**	0.002	0.004	-0.017	0.013	-0.030	0.028	-0.035	
	`(0.013)	[0.014]	[0.019]	[0.018]	[0.006]	[0.005]	[0.090]	[0.043]	[0.067]	[0.072]	[0.035]	
Educated		0.014		0.057***		0.021**	0.125*	0.058*	0.067	-0.084	0.000	
		[0.010]		[0.018]		[0.009]	[0.066]	[0.031]	[0.052]	[0.067]	[0.029]	
Treatment *Educated		0.024		0.060**		-0.009	0.280***	0.096*	0.184**	0.083	-0.031	
		[0.018]		[0.027]		[0.010]	[0.102]	[0.049]	[0.080]	[0.090]	[0.040]	
Treatment * MLA LADS										-0.023	-0.011	
Spending in that category										[0.023]	[0.043]	
Educated * MLA LADS Spending										0.034*	0.013	
in that category										[0.019]	[0.040]	
Treatment * MLA LADS										-0.038	0.062	
Spending in Category *										[0.028]	[0.055]	
Treatment * MLA LADS										0.061***	0.205***	
Spending in that category in										[0.023]	[0.075]	
Educated * MLA LADS										0.001	-0.031	
Spending in that category in										[0.024]	[0.055]	
Treatment * MLA LADS										0.020	-0.020	
Spending in category in Slums										[0.033]	[0.091]	
Ν	3898	3898	3898	3898	3898	3898	3898	3898	3898	3898	3898	
Control Mean	0.042		0.096		0.016		2.707	1.291	1.352	0.327	0.125	

#### Table 7: Impact on Voter Knowledge and Perceptions: Survey Evidence

1. We report OLS regression with jurisdiction fixed effects and standard errors clustered at the polling station level. All columns use household survey data.

2. The dependent variables are: columns (1) and (2): total quiz score (out of 11 questions listed below), (3): score on questions 1, 2 and 3), (4): score on questions5-11; (6) and (7): dummy for whether respondent observed "lots of work" on road development in jurisdiction during past 4-5 years, (8) and (9): dummy for whether respondent observed "lots of work" on drain development in jurisdiction during past 4-5 years. (8) and (9): dummy for whether respondent observed "lots of work" on drain development in jurisdiction during past 4-5 years. "MLALADS" variables refer to incumbent spending from 2004 to 2007,

#### Quiz Questions:.

Q1: Does your MLA get money to spend on loca Q 4: Which candidate is the wealthiest?Q 2: How much money is given to MLA for localQ 5: Which candidate is most criminal?Q 3: Name government committeesQ 6:Which candidate is least criminal?Q 7: Which candidate is the most educated?

Q 8: How much money spent by MLA on local dev? Q 9: What did MLA spend most on?

Q 10: What did MLA spend least on?

Q 11: How did MLA compare to average MLA in spending?

Notes:

Category		Roads				Parks			Drains				
<i>o ,</i>			Incum	pent Vote			Incum	pent Vote			Incumb	ent Vote	
	log(\	/otes)	SI	nare	log(\	Votes)	SI	hare	log('	Votes)	Sł	Share	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Treatment	0.043	0.070	0.027	0.005	0.044**	0.026	0.001	0.015	0.025	0.028	-0.016	-0.018	
*	(0.053)	(0.057)	(0.030)	(0.032)	(0.021)	(0.025)	(0.016)	(0.018)	(0.029)	(0.029)	(0.022)	(0.021)	
Treatment * Total MLA LADS Category Spending	-0.003	-0.004	-0.007	-0.006	-0.013	0.044	0.004	-0.040*	0.020	0.060	0.040	0.016	
	(0.014)	(0.014)	(0.009)	(0.009)	(0.019)	(0.044)	(0.014)	(0.025)	(0.061)	(0.067)	(0.035)	(0.036)	
Category Spending in Slums		- 0.029**		0.025**		-0.071*		0.056**		-0.155***		0.092**	
		(0.011)		(0.012)		(0.039)		(0.023)		(0.054)		(0.042)	
Ν	775	775	775	775	775	775	775	775	775	775	775	775	
Randomization Inference: p-values	Randomization Inference: p-values for Probability(Actual Coefficient = Estimated Coefficient)												
Category Spending	0.434	0.405	0.201	0.235	0.269	0.197	0.396	0.055	0.390	0.230	0.125	0.326	
Treatment * Total MLA LADS Category Spending in Slums		0.006		0.028		0.054		0.009		0.006		0.016	

#### Appendix Table 1: Impact of Category-Specific Spending Allocations on Turnout and Incumbent Vote Share

Notes:

1. We report OLS regressions containing jurisdiction fixed effects and robust standard errors. All columns use electoral roll and report card data. All variables are as defined in notes to Table 5.

2. Control means for odd-numbered columns include control-group polling stations whose incumbent spent a less than average amount on that category. Control means for even-numbered columns include control-group polling stations whose incumbent spent a less than average amount on that category both overall and in slums.

	Figure 1:	Pamphlet Distrubuted During Doc	or to Door Campaig	n III
	क्या आपके क्षेत्र में-	अवश्य ध्यान दें:	हमारी जरूरतें !	01
	त्र राशन ठीक से नहीं मिलता है? त्र पानी की समस्या है?	<ul> <li>मतदान के दिन अपना मत जल्द से जल्द देने का प्रयास करें, ताकि कोई अन्य व्यक्ति आपका मत आपसे पहले न</li> </ul>	हमारी मॉर्गे ! Ou हमारी मॉर्गे ! Ou दमारा तोट हमारी	ur Needs! ur Demands! ur Vote is Our Voice! आताल है।
	सड़क टूटी हुई है? जिस नाजायज़ परेशान करते है?	<ul> <li>डाल दे ।</li> <li>किसी अनजान व्यक्ति के साथ गाड़ी में मतदान केन्द्र तक हरगिज़ न जाएँ ।</li> </ul>	मतदान केन्द्र	নি হা
	स्ट्रीट लाईट नहीं है?	<ul> <li>अपना मत मुद्दों के आधार पर दें, न कि जाति या धर्म के आधार पर।</li> </ul>		ना
L	@ बारात घर नहीं है?	• जनना को किसी भी मकार का प्रलोभन		म् अ
In y	<ul> <li>Are you not getting rations p</li> <li>Are there problems with wa</li> </ul>	properly? ter supply? हिक चर्चा के		र्भ दा
	<ul> <li>Is the road/footpath broken?</li> </ul>	ों में आमन्त्रित	वोट देना - हमारा	अधिकार ता
	<ul><li>Do the police harass people</li><li>Are there no street lights?</li><li>Is there no community hall?</li></ul>	without justification?	A Star	एवं कर्तव्य
		Description         Col.         Col.           Altern per case the second termination of second termination and terminatin and terminatin and termination and termination and terminatin		

	उम्मीदिवान की जिम्मे	दार्भी क्या आप जानते है?	मतदान से पहले ध्यान दें-						
Your ML     The stille	एम. एल. ए. की जिम्मेदारियाँ ए • दिल्ली विधान सभा का सदस्य A is a member of the vidha	• आपके क्षेत्र के विकास के लिये सालाना २ करोड़ रूपए एम.एल.ए फंड में होते हैं। इनमें n sabha. • sabha.	<ul> <li>क्या आपका नाम वोटर सूची में है? अगर है, तो आप वोट दे सकते हैं।</li> <li>पता करें कि आपका नज़दीकी मतदान कक्ष व केन्द्र कहाँ हैं– उसी केन्द्र में अपना वोट</li> </ul>						
<ul> <li>Your ML and dema</li> </ul>	A is responsible for raising nds of our citizens in the vi के तरीके तय करने में मदद करन	aking laws for Definition the needs dhan sabha.	डालें। • वोटर पहचान पत्र अपने साथ ले जाना न भूलें • वोटर पहचान पत्र न होने पर भी आप मतदान कर सकते हैं। उसके लिए आपका नाम वोटर ान कार्ड या						
	क्या सरकारी कामकाज पर नज़र लिए समितियाँ बनाई गई हैं? एम. एल. ए:- • राशन निगरानी समिति के अध्यक्ष • थाना समिति के अध्यक्ष हैं।	<ul> <li>Your MLA gets two crore every year t constituencies' local development. He drainage, water facilities, roads, commented in the drainage of the st or the st or the drainage of the st or the drainage of the st or the st or the drainage of the st or the st or the drainage of the st or the st or the drainage of the st or the st or the drainage of the st or the st</li></ul>	to spend on his e can spend it on schools, nunity halls, sanitation, etc.						
Is there anyor Is a memb Is a memb Is a memb Is a memb	Is there anyone watching over the workings of the government? Your MLA: Is a member of the Ration Vigilance Committee. Is a member of the Police Oversight Committee. Is a member of the District Development Committee Is a member of the Complaint Redressal Committee.								
	A H	<ul> <li>A copy of the Hindustan containing th you between X and X. It is your response information carefully and learn about you</li> </ul>	is information will be given to onsibility to read this your candidates' background.						



Figure 2: Report Cards in The Hindustan Times on November 24, 2008





Figure 4A: MLALADS Spending on Slum-Area Projects across 10 Sample Jurisdictions (\*Road figures divided by 10 for scale)





Figure 5A: Treatment effects by individual jurisdiction legislative performance PCA rank

Incumbent Vote Share



Figure 5B: Treatment effects by individual jurisdiction slum spending rank