# Fault Lines: The Effects of Bureaucratic Power on Electoral Accountability

Lucy Martin\* & Pia Raffler<sup>†</sup>
August 4, 2019

#### Abstract

This paper introduces a new explanation for why citizens may fail to vote based on government performance. We argue that when politicians have limited capacity to control bureaucrats, citizens will not know whether government performance is a good signal of the incumbent's quality. We develop a selection model of elections in which policy is jointly determined by a politician and a bureaucrat. When politicians have incomplete power over policy, elections perform worse at separating good and bad types of incumbents. We test the theory's predictions using survey experiments conducted with nearly 9,000 citizens and local officials in Uganda. We find that citizens and officials allocate more responsibility to politicians when they are perceived as having more power relative to bureaucrats. The allocation of responsibility has electoral consequences: when respondents believe that bureaucrats are responsible for performance, they are less likely to expect that government performance will affect incumbent vote share.

<sup>\*</sup>Department of Political Science, University of North Carolina, lucy.martin@unc.edu.

<sup>&</sup>lt;sup>†</sup>Department of Government, Harvard University, praffler@gov.harvard.edu. We thank Frédéric Cochinard, Paola Elice, Yuen Ho, Kyle Holloway, Steven Kizza, Justin Loiseau, Samuel Olweny, Ezra Rwakazooba, and Laura Schmucker for excellent research assistance and support and Daniel Posner and Doug Parkerson for sharing data. We thank participants of the Yale Experiments Workshop, the Princeton Niehaus Fellows Workshop, the UNC Comparative Politics Working Group, Claire Adida, Cameron Ballard-Rosa, Sarah Brierley, Natalia Bueno, Christopher Carter, Brandon de la Cuesta, Ana de la O, German Feierherd, Jeffry Frieden, Jessica Gottlieb, Saad Gulzar, Nahomi Ichino, Maria Carreri, Malte Lierl, Helen Milner, Laura Paler, Jan Pierskalla, Guadalupe Tuñón, three anonymous reviewers, and the editors at AJPS for helpful comments and the Yale Macmillan Center, Fidelity Charitable Gift Fund, and Department for International Development for funding.

#### 1 Introduction

An enduring puzzle in political economy is when elections will help citizens hold governments accountable. Existing theory and evidence suggest that, when it is clear which political actors are responsible for observed policy outcomes, citizens can use these signals to infer politicians' quality and, on this basis, decide whether to re-elect the incumbent (Fiorina, 1981; Powell Jr and Whitten, 1993; Tavits, 2007; Harding, 2015). When this works well, there will be a strong relationship between government performance and citizens' vote choice. However, citizens often face significant challenges in evaluating the information they receive about government performance; indeed, giving citizens information on such performance often fails to change voting behavior (Dunning et al., 2019). One reason citizens may fail to vote based on performance is that, when multiple officials are responsible for policy outcomes, it may not be clear whether observed performance represents the politician's intended policy choices, and thus whether that politician should be re-elected. Thus, electoral accountability—defined as the link between politicians' actions in office and electoral outcomes—will be weaker if citizens cannot clearly infer incumbent quality from observing performance. Previous work has focused on clarity of attribution across different politicians or parties, arguing that electoral accountability will be weaker when power is shared across different levels of government (Berry, 2008; Fan, Lin and Treisman, 2009); between political actors like parties, legislatures, and presidents within a government (Powell Jr and Whitten, 1993; Lago-Peñas and Lago-Peñas, 2010); or when performance is heavily influenced by exogenous shocks (Hellwig and Samuels, 2007).

This paper introduces a new mechanism that explains why attribution may not be clear even in cases where a *single* politician within a *single* level of government is in charge of a certain policy, and where outcomes are insulated from outside shocks: the balance of power between politicians and bureaucrats. Bureaucrats play a key role in implementing policies. In standard electoral accountability theories, voters implicitly hold politicians accountable both for their own actions, and those of the bureaucrats they supervise. This is often borne out in reality. For example, American Presidents Bush and Obama were held responsible for scandals in the Veterans Health Administration: citizens believed that each president failed to properly supervise the department (YouGov, 2014).

Yet, there are many settings where politicians have limited power over bureaucrats, either because formal institutions insulate the bureaucracy or because politicians lack the capacity to monitor bureaucrats effectively. Weber (1922) described the relationship as one of the

<sup>&</sup>lt;sup>1</sup>Existing evidence suggests that citizens only reward politicians for performance-related outcomes like service delivery when they can clearly attribute them to individual politicians (Harding, 2015).

'dilettante' attempting to monitor the 'expert'. This tension is at the core of delegation theory: politicians have an incentive to delegate to highly qualified bureaucrats in order to achieve better outcomes, but this creates an expertise gap that makes oversight more difficult (Niskanen, 1971; Epstein and O'Halloran, 1994). When political oversight is incomplete, government performance is a less informative signal of the quality of the incumbent. Poor service delivery may be due to the actions taken by the bureaucrat rather than the politician, making it difficult for citizens to decide whether a challenger might improve performance relative to the incumbent. If citizens recognize these limitations, they may be less willing to electorally punish politicians for poor outcomes or reward them when conditions improve, weakening the link between performance and electoral outcomes.

These problems can be exacerbated at the subnational level, where politicians are often lower capacity. While systematic data is hard to come by, the available evidence paints a consistent picture of comparatively low education among local politicians. In Ghana, less than 2% of the population holds a university degree, compared to 60% of local professional bureaucrats hired in 2012 (Brierley, Forthcoming). In an author-conducted survey of politicians and bureaucrats in Malawi, 3% of district politicians had college degrees, compared to 50% of district bureaucrats. In India, local politicians find themselves working with highly qualified officers of the Indian Administrative Service (Iyer and Mani, 2012). In Peru, mayors with low education levels oversee well-educated municipal managers.<sup>2</sup> In many contexts, local politicians are also unable to hire and fire centrally appointed bureaucrats.<sup>3</sup> For the remainder of this paper, we focus our discussion on *local* politicians.

In this paper we develop a theory of elections in which policy outcomes are jointly determined by a bureaucrat and a politician; citizens are unsure about the true policy preferences of each, and must decide based on observing government performance whether to re-elect the incumbent. We show that when bureaucrats have even *some* power over what policy is enacted, citizens become less likely to re-elect politicians who share their preferences, and more likely to keep politicians with incongruent preferences. An observable implication of this is that the connection between government performance and citizens' vote choice will be weaker. This becomes more severe as the power of politicians decreases relative to bureaucrats.

While our theory could apply in many settings, we expect bureaucratic oversight to be weakest in developing countries where overall government capacity and human capital are lower and independent oversight institutions weaker, and in local governments where

<sup>&</sup>lt;sup>2</sup>Interviews with two country experts.

<sup>&</sup>lt;sup>3</sup>Examples include Walis in Algeria, Intendentes in Chile, Governors in the Democratic Republic of Congo, Préfets de Region in Djibouti, municipal bureaucrats in Italy, Chief Administrative Officers in Uganda, and heads of Oblast State Administrations in Ukraine.

politicians are often lower-capacity and accountability weak (Chiweza, 2016; Grossman and Michelitch, 2018). To test the theory in a developing-country context, we use survey experiments on nearly 9,000 citizens and local government officials in Uganda. In the experiments, respondents were told about a hypothetical local government in which the quality of roads was either good or bad, then asked who they believed was most responsible for the quality of the roads. In both cases, a significant percentage of respondents allocate responsibility to the local bureaucrat, rather than the local politician, suggesting that Ugandan citizens are cognizant of politicians' limited control over the bureaucracy.

We then use a randomized treatment to show that increasing the power of the bureaucrat reduces the percentage of respondents who perceive the politician as responsible for policy outcomes. Both respondents' initial beliefs about responsibility, and a randomized information treatment about responsibility, have significant downstream effects on perceived electoral outcomes: there is a strong link between whether a politician receives blame or credit, and whether respondents believe that he will lose or gain votes in the next election. Our results are consistent across our citizen and elite samples, alleviating concerns that results are driven by citizens who are unaware of local political dynamics.

This paper contributes to the literatures on clarity of attribution, electoral accountability, and bureaucratic insulation. Our findings support previous work arguing that vote choice will only be closely linked to government performance, when there is clarity of attribution. However, while existing research suggests that lack of clarity occurs when multiple politicians are responsible for policy outcomes (Berry, 2008; Fan, Lin and Treisman, 2009), or when exogenous shocks influence government performance (Hellwig and Samuels, 2007), this paper highlights the importance of the balance of power between bureaucrats and politicians. When politicians cannot control bureaucrats, citizens may struggle to use elections to hold politicians accountable. Yet, our paper does not imply that electoral accountability is meaningless in these settings. In all but the most extreme cases, politicians do have some influence over policy, and citizens do still attempt to use elections to select politicians who share their preferences. The core issue is that when responsibility is split between politicians and bureaucrats, this process simply works less well.

Existing theories often posit that when *electoral accountability* is weak, it is either because government institutions are flawed (perhaps because they limit electoral competition or citizens' access to information) (Przeworski, Stokes and Manin, 1999), or because citizens fail to use these institutions effectively (Achen and Bartels, 2017). This paper shows that government institutions can also affect electoral accountability through the balance of power between politicians and bureaucrats. When political oversight is weak, even rational voters who wish to select good politicians using government performance as a signal may not be

able to do so. We thus suggest a novel explanation for why government accountability is often weak (Przeworski, Stokes and Manin, 1999), and why citizens may fail to change their voting behavior in response to information about the quality of services (Dunning et al., 2019). Our findings can also help to explain why clientelism is so prevalent in developing countries. Existing research shows that citizens' beliefs about government capacity are inversely linked to their willingness to vote based on clientelism (Gottlieb, 2016). While we do not directly test a link between politicians' capacity and clientelism, our findings suggest that if politicians have limited capacity to affect policy, citizens may have few incentives to vote based on programmatic policy platforms. This may make it more likely that citizens vote along alternate dimensions such as clientelistic transfers.

Finally, our paper contributes to debates on whether bureaucratic insulation will help or hinder government performance (Epstein and O'Halloran, 1994; Stephenson, 2007). While in some cases insulation helps bureaucratic performance, we highlight a channel through which it may have unintended consequences. If voters are less likely to hold their politicians to account for poor service delivery when they perceive bureaucrats as particularly influential, then—all else equal—initiatives aimed at strengthening or insulating bureaucracies may also undermine electoral accountability.

#### 2 Accountability and Split Responsibility

In a basic theory of electoral accountability, citizens observe government performance or policy and on this basis decide whether to re-elect an incumbent or vote for a challenger. Citizens use elections to increase the likelihood that the incumbent politician implements their preferred policy (Fearon, 1999). We posit this occurs through a retrospective voting process of *selection*, in which citizens use observed policy to infer the politician's true preferences and vote for the incumbent when they believe she is more likely than the challenger to be a "good type" who shares citizens' preferences. This section develops a theory of how split responsibility between politicians and bureaucrats affects this process; Appendix A formalizes our logic using a two-stage selection model. In this set-up, electoral accountability can be defined as the extent to which elections do a good job of re-electing politicians who share citizens' preferences, and kicking out those who do not (referred to below as "bad types"). If electoral accountability is low, there will be a weaker connection between an incumbent's policy preferences and her chance of re-election. Our empirics focus on a critical observable implication of electoral accountability, namely the link between government performance and citizen vote choice.

<sup>&</sup>lt;sup>4</sup>This could be any unidimensional policy, including public goods provision, corruption, or the tax rate.

Any factor that weakens the connection between incumbent behavior and vote share therefore undermines electoral accountability. There is evidence that performance does in fact affect re-election in many settings (Powell Jr and Whitten, 1993; Aytaç, 2018). However, this link requires citizens to draw a clear connection between performance and the relevant politician; Harding (2015) and Harding and Stasavage (2013) show that voters only reward African presidents for service delivery when they can clearly attribute improvements to their actions. When retrospective voting does not take place, one explanation is therefore lack of clarity of attribution. In practice, policy is typically jointly determined by multiple actors, and electoral accountability will only function properly when citizens can attribute responsibility for observed outcomes to the correct officials, and when outcomes are more insulated from random shocks (Fiorina, 1981; Powell Jr and Whitten, 1993; Tavits, 2007). In contrast to this paper, previous work has focused on attribution across different types of politicians, parties, or levels of government. Within a single level of government, attribution is easier when one party has a clear majority, or when institutions indicate which party is responsible (Powell Jr and Whitten, 1993). When decentralization splits responsibility across different levels of government, electoral accountability may worsen unless institutions or budgets clearly signal which levels of government are responsible for which outcomes (Rodden, 2006; Tavits, 2007; Berry, 2008; Fan, Lin and Treisman, 2009; Lago-Peñas and Lago-Peñas, 2010; Harding, 2015). Individual characteristics also matter; partisanship affects both how citizens evaluate performance and to whom they attribute responsibility (Malhotra and Kuo, 2008; Marsh and Tilley, 2010), and "sophisticated" voters may be better able to evaluate government performance (Gomez and Wilson, 2001; Tilley and Hobolt, 2011).

However, uncertainty over responsibility may remain even if it is clear which level of government and which politician is responsible for policy. While politicians are typically responsible for initial policy decisions, bureaucrats play a key role in actually implementing those decisions and producing observed policy.<sup>5</sup> Bureaucrats who are dishonest, incompetent, or simply do not share politicians' preferences can significantly impact the outcomes citizens observe. Yet, most work on accountability in general, and clarity of attribution more specifically, implicitly assumes that politicians, whose responsibilities often include monitoring bureaucrats, should be held accountable for not only their own failures and successes but also those of bureaucrats.<sup>6</sup> While in many contexts politicians have enough control over the bureaucracy that citizens can effectively ignore bureaucrats as independent political actors, there are also many contexts where politicians have less control over bureaucrats (Kathyola,

 $<sup>^5</sup>$ Malhotra and Kuo (2008) examine blame allocation across politicians and bureaucrats following Hurricane Katrina, but not how blaming bureaucrats affects electoral outcomes.

<sup>&</sup>lt;sup>6</sup>This is consistent with the two-stage principal-agent structure in Pande et al. (2011).

2010).

We argue that, where political control of bureaucrats is incomplete, it can negatively impact how well electoral accountability functions within a single level of government. The case of Uganda, described further below, provides an intuition for why this is. In Uganda, subcounty-level elected officials often lack the formal education and skills to monitor and supervise the work of government. Subcounty bureaucrats, in contrast, are all college educated, and have often held office for a number of years. This mismatch in capacity frequently allows bureaucrats to circumvent even well-meaning politicians, for example by withholding key financial documents and monitoring funds. Ugandan citizens are well aware of politicians' shortcomings, and of bureaucrats' power. In this setting, citizens may struggle to tell if good (or bad) government performance is due to the politician's choices, or the bureaucrat's. This lack of clarity can weaken electoral accountability: if the bureaucrat holds significant power, citizens cannot reliably use government performance to infer whether politicians share their preferences.

This case suggests a more general theory of how an imbalance of power between politicians and bureaucrats can affect electoral accountability. Appendix A formalizes this theory, developing a retrospective voting model with incomplete information based on the two-period selection model in Fearon (1999) (see p. A2-A8). Consider a simple government comprised of a politician and a bureaucrat. While this could represent any level of government, we focus on local governments, as this theory is most likely to hold at that level. We assume that politicians and bureaucrats each vary in whether they are "good" types who will always (attempt to) implement citizens' ideal policy, or "bad" types who prefer another policy. These preferences could be innate, or could result from pressures from party officials (for politicians) or higher-level bureaucrats (for bureaucrats). In our empirics we focus on a common policy of concern in low-income countries: the provision of public goods. In this setting, good types wish to provide citizens' preferred public goods, while bad types instead provide less-valued goods; embezzle funds; or shirk.

Electoral accountability functions best when politicians have the ability to effectively monitor and control bureaucrats, ensuring that their preferred policy is implemented. When citizens observe good (bad) performance, they will then attribute credit (blame) to the politician. In this setting, if poor performance is the results of bureaucratic failures, voters

<sup>&</sup>lt;sup>7</sup>For qualitative evidence on local Ugandan politicians' limited capacity, see Appendix C.

<sup>&</sup>lt;sup>8</sup>Below we discuss the possibility that citizens attempt to elect higher-capacity politicians.

<sup>&</sup>lt;sup>9</sup>While many local governments include additional actors, considering a simpler polity allows us to focus on clarity of attribution between the political and bureaucratic wings of a government.

<sup>&</sup>lt;sup>10</sup>For example, a higher-level bureaucrat could encourage a subcounty bureaucrat to improve public services, or to embezzle on her behalf.

assume that the politician could have achieved a better outcome if she desired. In such a system, we should expect that when politicians share citizens' preferences, they work to ensure good performance and are rewarded accordingly; in contrast bad types will be likely to perform poorly, resulting in electoral sanctions. Thus, there is a strong link between a politician's type and the probability she is re-elected.

Consider, however, a situation in which the politician and bureaucrat may disagree over which policy to implement, and the politician has only imperfect control over the bureaucrat. In this case, the policy actually enacted could be that favored by the politician or by the bureaucrat. Note that this does not imply that that politician has no control at all over the bureaucrat, only that this control is imperfect. We can think of a more powerful politician as one who is more likely to win the fight to implement her preferred policy.

When power is divided in this way, citizens can no longer be sure whether government performance is the result of the politician's actions, or the bureaucrat's. This creates uncertainty about whether replacing the incumbent in the next election could improve future performance, and may lead citizens to be less likely to punish or reward politicians based on performance. This uncertainty lowers electoral accountability by weakening the relationship between politicians' policy choices, government performance, and incumbent support.

In this setting, how well electoral accountability functions will depend on the precise balance of power between the politician and the bureaucrat. When the politician has very limited power over the bureaucrat, the policy outcome is a poor indication of the politician's type. As the politician becomes more powerful, observed policy is a better indication of the politicians' true preferences, allowing citizens to better condition electoral support on performance. In Appendix A, we formally show that this has a direct impact on electoral accountability (see p. A2-A8). When politicians have incomplete control, citizens are less likely to punish poor performance, and may mistakenly keep bad types in office. Likewise, good performance is less likely to be rewarded, and good types may be mistakenly voted out of office. As the politician's power over the bureaucrat increases, the probability that good types are re-elected, and bad types removed, increases.

#### 2.1 Hypotheses

When citizens know the degree to which politicians control bureaucrats, but are uncertain about the true policy preferences (type) of each, we posit that this balance of power directly affects electoral accountability. When an incumbent is strong, she can either directly set policy, or ensure that the bureaucrat enacts her preference. In this setting, citizens will be likely to vote based on observed government performance; they will re-elect politicians

who share their preferences, and those who do not will lose office. As power shifts away from politicians and towards bureaucrats—either because politicians lack necessary skills, or because formal institutions grant politicians limited oversight—the signal becomes weaker and this process breaks down. Citizens become more likely to mistakenly remove "good type" politicians from office or keep bad types. Low electoral accountability does not mean that incumbents are always re-elected: in the extreme case where politicians have no control over bureaucrats, our formal model predicts that both good and bad types will lose office 50% of the time, which is consistent with the high electoral turnover in many developing countries. In this case, electoral accountability is low because the probability of re-election is not correlated with politicians' actual policy decisions.

We use data from Uganda to test the theory's assumptions and implications. Our key assumption is that when politicians are weak relative to bureaucrats, citizens will take this into consideration when allocating responsibility:

**Assumption:** When politicians have limited control over the bureaucracy, citizens will split blame and credit between the bureaucrat and the politician.

We argue that the degree to which citizens blame (credit) the politician will be driven by the balance of power between the politician and bureaucrat. As politicians' control over bureaucrats decreases, bureaucrats will receive a larger share of responsibility for policy outcomes.

**Hypothesis 1:** The degree of credit (blame) that bureaucrats receive will increase as the balance of power shifts away from the politician and towards the bureaucrat.

We test Hypothesis 1 using a randomized treatment that induces exogenous variation in the balance of power between the politician and bureaucrat.

Second, we expect that electoral accountability will be conditioned on the distribution of responsibility between politicians and bureaucrats. Our experiments test this using both citizens' priors on attribution, and an informational treatment.

**Hypothesis 2a:** When citizens blame the politician for poor service provision, she will lose more votes than when the bureaucrat receives blame.

**Hypothesis 2b:** When citizens credit the politician for good service provision, she will gain more votes than when the bureaucrat receives credit.

#### 3 Political Context in Uganda

We test our theory using survey experiments about subcounty governments in Uganda. Governance in Uganda is decentralized, with elected and appointed officials at the national, district, and subcounty levels. We focus on the subcounty level (also called "Local Council 3" (LC3)), the lowest level of institutionalized government in Uganda. Uganda has 1,403 subcounties, with a median population of 20,000. Their primary task is the delivery of basic services by contracting private firms to construct and maintain feeder roads, bore holes, and latrines (Golooba-Mutebi, 2003). While Uganda's national political space is relatively closed, there is more opportunity for political competition at the local level, and voters tend to speak openly. This allows us to gain insights into voter and official perceptions of subcounty-level accountability processes.

Ugandan subcounty governments are neatly divided into political and bureaucratic wings. The political wing is headed by the LC3 Chairperson, who presides over a 13-30 person council consisting of councilors from each parish, plus special councilors for women, youths, and people with disabilities. Council members are directly elected for five-year terms in partisan first-past-the-post elections with no term limits. The council makes policy and approves budget allocations, which are then implemented by bureaucrats. For example, politicians would allocate funds to their desired local feeder road projects, then task bureaucrats with the procurement process. The LC3 Chairperson wields substantial power over the council.

The head bureaucrat, called the Subcounty Chief, is responsible for administering funds, implementing council policies, and providing technical advice. The Subcounty Chief oversees a technical staff of two to four members. Only bureaucrats are signatories to the subcounty bank account, and only they can procure goods and services. Once the Subcounty Chief is tasked with the maintenance of a certain road, he initiates the process of procuring contractors and materials. Local procurement processes are fraught with corruption (Mwenda and Tangri, 2005), most commonly in the form of kickbacks. While all transactions are supposed to be transparent to council members, they are typically not, a point we return to below.

The Subcounty Chief is directly appointed by the Chief Administrative Officer (CAO) of the next higher level of government, the district. The CAO, in turn, is appointed by the central government. Thus, while local bureaucrats are officially agents of their elected counterparts, local politicians have limited power to enforce their wishes. They cannot directly fire recalcitrant officials, but must place a formal request with the CAO to transfer

<sup>&</sup>lt;sup>11</sup>Village governments receive no budget or bureaucratic support.

<sup>&</sup>lt;sup>12</sup>See Table B1, p. A11.

<sup>&</sup>lt;sup>13</sup>This appointed position is distinct from traditional chiefs.

a bureaucrat to another subcounty in the district. In extreme cases they can also refer issues to the police or other investigative bodies. Bureaucrats thus have effectively two principals: the elected council and the CAO. Voters typically have no power over bureaucrats, who rarely live where they are posted. Further details on Ugandan local government are included in Appendix B (p. A9-A11).

Even when subcounty politicians do have formal power over bureaucrats, differences in education and socio-economic status make controlling bureaucrats difficult. On average, subcounty councilors have ten years of formal education compared to 17 years among subcounty bureaucrats. Higher-quality candidates rarely run for office, due to limited incentives. The only council member receiving a (low) salary is the chairperson; councilors only receive a small allowance. Local politicians' average monthly household income is about US\$230, compared to US\$640 for bureaucrats. Furthermore, bureaucrats often spend many years in the administrative system, while there is substantial turnover among politicians. Politicians receive little training, leaving them reliant on their bureaucratic counterparts to clarify local government rules and procedures.<sup>14</sup>

These imbalances limit politicians' oversight capacity. 72% of council members say it is difficult to access subcounty financial documents and bank statements.<sup>15</sup> As one councilor said, "...it's hard to get [budget and expenditure] documents from the technical personnel, they keep telling us it's above us." Another councilor complained that although the council sent bureaucrats their budget priorities, "they often don't follow them and don't even inform us." Appendix C includes further quotes from councilors on their perceived lack of power (p. A12-A14).<sup>16</sup>

#### 4 Methodology

Testing how the balance of power between politicians and bureaucrats affects electoral accountability is not straightforward. First, it is difficult to find exogenous variation in the balance of power. To overcome this issue, we developed a vignette survey experiment that measures how the *perceived* balance of power between politicians and bureaucrats affects the allocation of blame and credit (Hypothesis 1), and how responsibility affects anticipated electoral outcomes for politicians (Hypotheses 2a and 2b). This approach follows a large

 $<sup>^{14}</sup>$ This situation can be taken advantage of: in our survey, 15% of bureaucrats falsely stated that a law prevents council members from seeing financial documents.

<sup>&</sup>lt;sup>15</sup>All figures are based on the subcounty officials' survey in section 4.2.

<sup>&</sup>lt;sup>16</sup>For further discussion of Ugandan politicians' limited capacity, see Raffler (2018).

literature arguing that perceptions are a key determinant of behavior.<sup>17</sup>

Second, to alleviate concerns over social desirability bias, our vignettes use an example of public goods provision (feeder roads) in a hypothetical nearby subcounty. The vignette's hypothetical nature should allow respondents to draw on their own perceptions and experiences without fear of reprisal. Using a hypothetical also lets us abstract from local factors that may affect how respondents interpret the treatments. For example, if respondents have very strong priors about the local balance of power, our treatments might not be able to move respondents; asking about a hypothetical subcounty reduces this concern. This structure also allows us to interpret our results purely in terms of the vignette, rather than local factors such as incumbent partisanship or local public goods provision.

#### 4.1 Survey experiments

Our vignette experiment centers around the provision of feeder roads in a hypothetical subcounty. Feeder road maintenance is the responsibility of subcounties, and formal allocation of maintenance responsibilities is typical of other local public goods in Uganda: politicians allocate and monitor maintenance funds. Bureaucrats oversee project implementation but may also influence allocation decisions. Road quality is highly salient for rural citizens, who rely on these roads to reach markets, hospitals and schools. Appendix D.1 reports the full text of the vignette (p. A15-A16).

The vignette had two parts. In the first part, respondents were given information about the quality of roads in a hypothetical nearby subcounty. To test our hypotheses under different levels of service provision, we randomly varied whether respondents received a vignette in which roads were good ("credit" condition) or bad ("blame" condition). Within each condition, we randomly varied the *relative* power of the politician and bureaucrat, allowing us to test how the balance of power affects responsibility attribution (H1). Thus, respondents could receive a vignette about good or bad roads where the bureaucrat is relatively more or less powerful.

To create exogenous variation in relative power, we sought to alter the perceived balance of power without priming respondents on it directly. We do so by taking advantage of an empirical fact: Ugandan bureaucrats are sometimes assigned to subcounties in their home district, and sometimes assigned to subcounties in other districts; politicians typically serve in their home district. Our fieldwork suggests that bureaucrats hailing from other districts are perceived as having poor information about local conditions and as less embedded in local networks, creating perceptions that they are less influential. Bureaucrats' outsider

<sup>&</sup>lt;sup>17</sup>For example, Gottlieb (2016) shows that changing citizens' perceptions of state capacity changes political behavior.

status is easily observable, making it a good choice for a survey context. Leveraging this difference in perceived influence, we randomly assigned respondents to receive a vignette in which the bureaucrat is "from the same district" (insider) or "from another district" (outsider). Since we are not providing cues to manipulate the expected leverage of the politician, manipulating the bureaucrat's type should change the perceived *relative* leverage of bureaucrats and politicians in the hypothetical local government, helping us tease out how perceptions of relative power affect attribution.

The first part of the vignette reads:

Let me give you an imaginary example about a subcounty in a nearby district. In that subcounty, the feeder roads are [not being/well] maintained and [are in very bad condition - people cannot pass, and the sick cannot get to the health centre in time/people can get to town and the health centre easily]. Both the LC3 chairperson and the subcounty chief have some power over roads. Both have been in office all term. [The subcounty chief comes from another district, the LC3 chairperson is from that same district/Both are from that same district].<sup>18</sup>

Respondents were then asked "In your opinion, who is more at fault that the roads are not maintained – the subcounty chief, who is from [that same/another] district, or the LC3 chairperson, who is from that same district?" This binary variable, *Prior*, measures respondents' initial allocation of *primary* responsibility. Our main assumption is that at least some respondents will assign primary responsibility to the bureaucrat, not the politician. Following Hypothesis 1, we also expect more respondents to allocate responsibility to the politician when the bureaucrat is less powerful (i.e. in the outsider condition).

The vignette's second stage tests how blame and credit affect electoral outcomes (Hypotheses 2a and 2b). After collecting respondents' priors on responsibility, we randomly assigned respondents to receive information that either the politician or bureaucrat was *in fact* responsible for the state of the roads; randomization was blocked on initial treatment assignment.<sup>19</sup>

Following the randomized information treatment, we asked respondents how they thought road quality would affect the next election. We expect the politician to lose more votes when she is to blame for poor roads, and to gain more votes when she deserves credit for good roads (H2a and H2b). Using a randomized information treatment, rather than relying on

<sup>&</sup>lt;sup>18</sup>Piloting ensured that this wording was clear to respondents and conveyed the desired insider and outsider connotations.

<sup>&</sup>lt;sup>19</sup>The vignette also reiterated the road quality and insider/outsider treatments.

the insider/outsider treatment from the first part of the vignette, allowed us to test how attribution affects electoral accountability even if the insider/outsider treatment had no effect on attribution. Our pre-analysis plan specifies that we did not expect the insider-outsider treatment to affect perceived electoral outcomes, in part because we expect the information treatment to swamp the insider/outsider treatment. Figure 1 depicts the eight possible treatment arms for the experiment.

Because we ask respondents about outcomes in a hypothetical subcounty, our results are best interpreted as measuring respondents' perceptions of how they think citizens in general will behave. We assume that responses are driven by respondents' own priors and beliefs about the balance of power among politicians and bureaucrats in Uganda generally, as well as their beliefs about how they, and voters in general, make electoral decisions. For our results to differ from those actually driving citizen behavior in Uganda, it would have to be the case that no one thinks the balance of power is actually important, but all respondents believe that others think it matters.

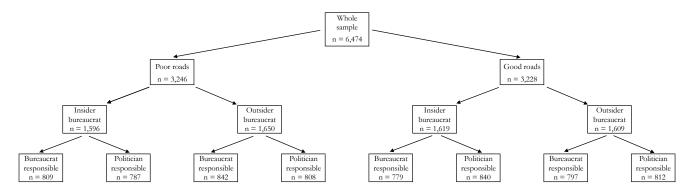


Figure 1: Treatment arms for citizen survey

#### 4.2 Sampling

The experiments were conducted on citizens and subcounty government officials in Uganda in 2014. The officials survey was run first. Hypotheses were developed prior to the officials survey, and the pre-analysis plan was registered prior to the authors obtaining access to citizen survey data.<sup>20</sup> We therefore use the citizen survey as the main test of our theory. Having both citizen and officials surveys helps us overcome common limitations of survey research: the officials survey shows that our results replicate in a different sample and reduces

<sup>&</sup>lt;sup>20</sup>The registration ID is AEARCTR-0000767.

concerns that results are driven by poor information among citizens or other peculiarities of the citizen sample.

Citizen survey The citizen survey sampled 6,474 predominantly female Ugandan heads of households in rural and peri-urban areas. The survey was embedded in the baseline survey of an unrelated field experiment conducted in the catchment area of 159 public health centers across six districts.<sup>21</sup> For each health center, the closest three villages within the same parish were selected. Enumerators listed all households in the three villages, randomly selected forty households with children under five, and interviewed the female head of household. In households without a female head, the male head of household was interviewed.

Government officials survey The officials survey was conducted with 2,497 local government officials in 219 subcounties (representing 25 districts) from across Uganda. Approximately eleven officials per subcounty were interviewed, including appointed bureaucrats (the Subcounty Chief and the Sub-Accountant) and elected politicians (the chairperson and councilors).<sup>22</sup> The experiment was embedded in the baseline survey for a separate field experiment.<sup>23</sup>

#### 5 Results

We predict that, as the perceived balance of power shifts towards the bureaucrat, voters will assign less responsibility to the politician, weakening the link between government performance and electoral outcomes. This section first shows that respondents do believe responsibility is split between politicians and bureaucrats, and that the politician's perceived power affects the degree to which he is held responsible for road quality. We then show that lower perceived responsibility results in weaker anticipated electoral punishments (rewards) for poor (good) service delivery.

All specifications except t-tests include district fixed effects and a pre-specified set of demeaned control variables.<sup>24</sup> Since the unit of randomization is the individual, we do not

<sup>&</sup>lt;sup>21</sup>See Appendix D.2 for more details. The field experiment assessed the impact of a community monitoring intervention in the health sector. The study protocol has been approved by the IRB of Innovations for Poverty Action (Protocol #497), by the IRB of the Uganda National Council for Science and Technology (UNCST) (Protocol # ARC157) and by UNCST itself (Protocol # SS3559).

 $<sup>^{22}</sup>$ Councilors were randomly sampled, giving priority to parish councilors over councilors representing special groups such as women or youth.

<sup>&</sup>lt;sup>23</sup>District selection is discussed in Appendix D (p. A16).

<sup>&</sup>lt;sup>24</sup>Control variables include education, gender, and a wealth index. Following Lin and Green (2016), missing values are set equal to the sample mean.

cluster standard errors. For ease of interpretation and following our pre-analysis plan, our primary specification is ordinary least squares (OLS). Findings for the bureaucrats' sample should be taken as suggestive due to the small sample size.

#### 5.1 Responsibility is split

Our key assumption is that citizens recognize politicians' limited capacity and, in response, will assign responsibility to the bureaucrat at least some of the time. To test this, we asked respondents who they thought was more responsible for the condition of the roads in the vignette. We turned this into an indicator variable, *Prior*, that takes value 1 if a respondent said the politician was primarily responsible, and 0 otherwise.<sup>25</sup>

Table 1: Distribution of Perceived Responsibility by Respondents

Sample	ple % Politician responsible		% Indifferent or missing	n
Citizens	67.21	26.49	6.30	6,474
Local Politicians	82.25	15.77	1.98	2,073
Local Bureaucrats	47.17	41.98	10.85	424

Notes: "Indifferent" includes respondents who were not leaning one way. "Missing" includes those who replied "Don't know" or refused to answer.

Table 1 provides strong evidence that responsibility is split: 26% of citizens, 16% of politicians, and 42% of bureaucrats consider bureaucrats to be primarily responsible for road quality. This supports the idea that citizens and officials both recognize the limited oversight capacity of local politicians in Uganda: if politicians had complete oversight, we would expect (nearly) all respondents to state that the politician is *primarily* responsible for the quality of services. Our results could occur if the average citizen respondent thinks that there is a two-thirds probability that the politician is responsible (and provides a probability weighted answer), or if two-thirds of citizens believe the bulk of power rests with the politician, and one-third think it rests with the bureaucrat. Either is consistent with our theoretical framework. Table G2 (p. A34) uses pilot survey data to show that citizens who blamed the bureaucrat did so because he was perceived as more powerful.

<sup>&</sup>lt;sup>25</sup>Indifferent respondents are coded as 0. Table F1 (p. A20) shows robustness to alternative codings.

<sup>&</sup>lt;sup>26</sup>Bureaucrat and politician responses could differ if each type of official believes they are responsible for performance.

#### 5.2 Perceived balance of power affects attribution

Table 2 demonstrates that the insider-outsider treatment significantly affects attribution. Citizens are 7.2 percentage points more likely to think that the politician is *primarily* responsible for road quality when the hypothetical bureaucrat is from another district and thus perceived as relatively less powerful. While the small bureaucrat sample means that results should be taken as suggestive, the share of bureaucrats who think the politician is primarily to blame is 15.3 percentage points higher when the hypothetical bureaucrat is an outsider. The direction of effects in the politician sample is consistent but smaller (1.6 percentage points) and insignificant, which may be due to ceiling effects. Additionally, the binary outcome variable only reflects changes around the 50% threshold and is therefore hard to move.

Table 2: Attribution and Bureaucrat's Identity

Dependent variable:	Perceive politician as primarily responsible				
Sample:	Citizens All Officials Politici		Politicians	Bureaucrats	
	(1)	(2)	(3)	(4)	
Outsider bureaucrat	0.072**	0.039*	0.016	0.153**	
	(0.012)	(0.017)	(0.016)	(0.052)	
Assigned to bad roads	0.019	-0.083**	-0.073**	-0.106*	
	(0.012)	(0.017)	(0.016)	(0.052)	
Constant	0.650**	0.803**	0.868**	0.450**	
	(0.0)	(0.014)	(0.014)	(0.045)	
Observations	6,251	2,410	2,032	378	
R-squared	0.011	0.036	0.044	0.116	

Notes: DV is an indicator for whether respondent believes the politician is primarily responsible for road quality. "Outsider bureaucrat" indicates whether the local bureaucrat was described as from another district. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Additional survey data shows that outsider bureaucrats are indeed perceived as having less power than insider bureaucrats. We asked a random subset of the citizen sample (n=3,031) whether they agreed that the insider or outsider bureaucrat in their vignette had "a lot of power". Those asked about an insider bureaucrat were more likely to agree with the statement (78.6%) than those asked about an outsider bureaucrat (72.9%); the difference is significant at the 1% level (two-sided t-test). Appendix E presents further descriptive results (p. A17-A19). We conclude that the insider-outsider treatment successfully altered the perceived power balance between bureaucrats and politicians.

#### 5.3 Blame and credit attribution has electoral implications

Having demonstrated that politicians are perceived as less responsible when bureaucrats are more powerful, we now show that this undermines electoral accountability. We hypothesized that poor service provision will be less likely to lead to electoral losses when the politician is not directly blamed for poor service delivery, and vice versa for good service provision. This connection is not automatic; it is possible that voters will punish politicians for poor performance regardless of who is "at fault", as a politician's responsibilities include monitoring bureaucrats.

To test the effects of attribution on vote share, after respondents reported their priors on responsibility, they were randomly assigned to receive information either that the local politician or the local bureaucrat held responsibility in this particular instance, stressing that the community was aware of this. We code this treatment as a binary variable, *Info*, that takes value 1 if a respondent was told that the politician was actually responsible.

We then asked a random subset of respondents "How do you think this situation will affect the next election, if at all? The LC3 Chair loses a lot of votes, the LC3 Chair loses some votes, there is no effect on voting, the LC3 Chair gains some votes, or the LC3 Chair gains a lot of votes.". For analysis we transform this into a 3-point variable (*VoteChg*) that takes a value of -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected.

We use the following equation to estimate the effect of the information treatment on expected vote change, controlling for respondents' pre-treatment beliefs about responsibility:

$$VoteChg_i = \alpha + \beta_1 * Prior_i + \beta_2 * Info_i + \gamma * X_i + \epsilon_i$$

where *i* indicates each respondent;  $Prior_i = 1$  if a respondent's prior was that the politician was primarily responsible;  $Info_i = 1$  if a respondent received information that the politician was actually responsible;  $X_i$  is a vector of demeaned control variables; and  $\epsilon_i$  is the error term. We estimate this equation separately for the blame and credit conditions. In the blame (credit) condition we expect that the politician will lose (gain) more votes when she is responsible; Prior and Info should have negative (positive) coefficients.

Overall, 74% of citizens and 92% of officials thought that the politician would lose at least some votes in the case of poor roads, while 65% of citizens and 70% of officials thought that the politician would gain votes in the case of good roads. As expected, these numbers vary dramatically based on information about actual responsibility.

Columns 1-3 of Table 3 show the results for the blame condition, while columns 4-6 show the results for the credit condition; positive coefficients indicate an expected gain in

votes. As expected, the information treatment has significant effects on perceived electoral consequences in all three samples. When roads are poor, the politician is perceived as significantly more likely to lose votes when the information treatment says she is responsible for performance; in the credit condition attribution increases the electoral gains from good performance.

Among citizens, *Prior* also significantly predicts the anticipated electoral consequences. When the bureaucrat is a priori seen as the one responsible, citizens expect electoral repercussions to be less likely. This suggests that not only do citizens' personal beliefs about the proper allocation of responsibility matter for electoral accountability, but that providing additional information about responsibility may have an important impact on (anticipated) electoral accountability.

Together the effects are substantively large: citizens in the blame condition whose prior and information treatment agreed that the politician was responsible, were 22.7 percentage points more likely to believe that the politician would lose at least some votes, compared to those for whom both prior and information agreed that the bureaucrat was responsible; the corresponding gap in the credit condition is 29.4 percentage points (see Table F7, p. A26).

Table 3: Expected Change in Future Votes

DV:		Net expected ch				
		Bad roads			Good roads	
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.238**	-0.106**	-0.171	0.361**	0.625**	0.402**
into I onorcion l'espensione	(0.047)	(0.026)	(0.088)	(0.052)	(0.046)	(0.096)
Prior: Politician responsible	-0.120*	-0.018	-0.108	0.138*	-0.011	0.048
•	(0.052)	(0.033)	(0.088)	(0.056)	(0.064)	(0.101)
Constant	-0.376**	-0.825**	-0.657**	0.132*	0.169**	0.395**
	(0.050)	(0.033)	(0.067)	(0.054)	(0.063)	(0.078)
Observations	982	1,013	193	999	1,057	224
R-squared	0.037	0.033	0.157	0.063	0.217	0.255

Notes: Positive coefficients indicate an expected gain in votes. Prior indicates whether the respondent initially believed that the politician was responsible. In fo is an indicator for whether the respondent was subsequently told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

#### 5.4 Discussion

All results are robust to alternative specifications (Appendix F, p. A20-A32). These include replicating Tables 2 and 3 using probit and ordered probit, respectively; dropping covariates and district fixed effects; and dropping the 0.5% of observations with missing covariates. Results are also robust to alternative codings of respondents who are indifferent between blaming bureaucrats and politicians (Table F1); using the five-point Likert scale (Tables F9 and F10); and using subcounty, rather than district, fixed effects (Tables F5 and F14). Our results do not vary by gender (Tables F6 and F15).

Our results are remarkably consistent across conditions and samples. While our theory does not predict whether blame and credit will operate differently, one possibility is that the balance of power affects blame more than credit, perhaps because citizens suffer more utility loss from poor performance than they experience utility gain from good performance. We find very similar patterns in the blame and credit conditions, suggesting that they operate in comparable ways (see Tables H9 and H10 on p. A42-A43). Our findings are also similar across citizens and government officials; this increases confidence in the results and allows us to overcome the limitations of each sample. In particular, it alleviates concern that our results are driven by a peculiarity of our citizen sample, such as poor information or incomplete understanding of formal governance structures.

The rest of this section considers potential alternative mechanisms and confounding factors. First, one concern might be that our insider-outsider treatment results are driven by dimensions other than power. For example, outsiders could be seen as more likely to be "bad types", i.e. more likely to shirk or not implement citizens' preferred policies. Appendix E uses additional survey questions to show that, on average, outsiders are perceived to be lower quality along some measures but not others (p. A17-A19). To confirm that perceived differences in power rather than type are driving our results, Appendix G shows that respondents who perceived the bureaucrat as more powerful are less likely to assign responsibility to the politician (p. A33-A34). As outsiders are perceived as less powerful, this suggests that perceptions of power are playing a key role in our results. This result holds even when controlling for perceptions of quality, increasing confidence that our proposed power mechanism has the largest impact on the allocation of responsibility.

Second, our theory assumes that politicians' and bureaucrats' types are not correlated. A negative correlation is unlikely; it would imply that those appointing bureaucrats systematically undermine "good" politicians by pairing them with "bad" bureaucrats, but pair "bad" politicians with "good" bureaucrats. A positive correlation implies that observed policy signals the politicians' type regardless of the politician's power. This would bias us against finding an effect of our treatments on electoral accountability: it implies that citizens

should reward politicians for good performance, and punish them for bad performance, even when the bureaucrat has most of the formal power. Doing so still increases the probability of good performance in the future, especially if replacing the politician could also improve the quality of the bureaucrat.

Third, in many low income countries ethnic politics might interact with credit and blame attribution. While the majority of Ugandan subcounties are ethnically homogeneous<sup>27</sup>, this is not universal. Carlson (2015) shows that politicians benefit most when they are co-ethnics and have a proven track record of good performance. We therefore should expect that, even when ethnicity is a factor in elections, performance in general, and blame and credit attribution in particular, should still be important.

Appendix H considers three ways in which ethnicity could affect our results. First, if ethnicity interacts with blame and credit attribution, our results might be driven by citizens who are more or less exposed to local ethnic politics. To test this, we report subgroup analyses by whether a respondent is part of the local majority or minority ethnic group, as minority groups may be less able to rely on ethnic favoritism, in Tables H1 and H2 (p. A35-A36). We find no evidence of heterogeneity. Second, we consider that ethnic politics might interact with our insider-outsider treatment, causing respondents to perceive outsider bureaucrats as more likely to be non-coethnics. If respondents perceive non-coethnic bureaucrats as less powerful, this simply strengthens our desired treatment. An alternative is that non-coethnic outsiders are perceived as more likely to be "bad types". As discussed above, our evidence suggests that perceptions of power are a significant driver of our results, alleviating concerns that variation in type drives our results. Finally, if citizens have low expectations of non-coethnic bureaucrats, they could respond by seeking more powerful politicians. Below we show that this produces testable implications that are not supported by our results. We also find no evidence that respondents' priors or the information treatment have stronger effects on electoral losses in the outsider condition (Tables H6 and H7 on p. A40-A41), alleviating concerns that citizens seek stronger politicians when the bureaucrat is a non-coethnic.

Fourth, our theory assumes that voters believe politicians vary only in their type, not their power. But if citizens believe the politician is weak, they may seek to replace the incumbent with a challenger who is better able to control the bureaucrat. Practically, in Uganda, such high-quality candidates do not always exist. Overall levels of education are low, especially in rural areas, and the college-educated typically prefer the private sector or bureaucracy over local politics. Our theory also produces different testable implications from one in which citizens attempt to replace weak politicians with strong ones. Consider a

<sup>&</sup>lt;sup>27</sup>In homogeneous subcounties all candidates are typically co-ethnics, reducing the scope for ethnic politics.

case where performance is bad and citizens receive information telling them the bureaucrat is to blame. Citizens should benefit from a higher-capacity politician in this case, leading to lower votes for the politician. Yet, as predicted by our theory, we find the opposite: when citizens receive information that the bureaucrat is to blame the politician loses fewer votes, not more.

Fifth, social desirability bias is a concern in any survey experiment. We focus on Table 3, as here the "desired" answer is most clear. Our vignette deliberately asked about voters in a hypothetical subcounty to minimize experimenter demand. We also test for experimenter demand through subgroup analysis. Social desirability bias is likely to be lower in higher-status respondents, as measured by wealth and education. Table H11 shows that our information treatment is significant in both high and low status groups (p. A44). We also find consistent results across our citizen and officials samples, which is reassuring as government officials may be less susceptible to experimenter demand.

Sixth, if respondents infer that the politician in our vignette is a co-partisan they may judge him more favorably or be unwilling to accept a treatment suggesting he is to blame. Three observations render such motivated reasoning unlikely. First, our findings are robust to the inclusion of subcounty fixed effects (Tables F5 and F14 on p. A24 and A31). Second, Table 2 provides suggestive evidence counter to motivated reasoning: citizens are, if anything, more likely to attribute blame to the politician when the roads are bad. Third, if confirmation bias were an issue among citizens, we would expect an interaction between respondents' priors and the information treatment to be positive. Table H3 shows that the coefficient on the interaction term is small, negative, and insignificant. Similarly, Table H4 finds no evidence of disconfirmation bias (p. A38).

Finally, our theory and experiment do not directly examine the possibility that officials use credit-claiming or blame-shifting to manipulate citizens' beliefs about the balance of power in the government. Both behaviors are well-documented (Grimmer, Messing and Westwood, 2012; Bueno, 2018). Say a weak politician claims responsibility for good outcomes, leading citizens to believe that the politician is more powerful. While in the short term this could be electorally beneficial, if performance subsequently deteriorates it may be harder for the politician to avoid blame. Thus, it is not clear theoretically when credit-claiming and blame-shifting will be in the politician's best interest. While we do not directly measure blame-shifting or credit-claiming, our information treatment could be viewed as similar to such attempts. We consistently find that priors remain a predictor of citizen behavior even when contradictory information is given.<sup>28</sup> This suggests that blame-shifting

<sup>&</sup>lt;sup>28</sup>Such imperfect updating is common in information experiments (Kendall, Nannicini and Trebbi, 2015). It could occur if citizens are Bayesian updaters, or if while some respondents updated completely, others'

and credit-claiming cannot completely erase citizens' initial beliefs about responsibility.

#### 6 Conclusion

Electoral accountability requires a clear relationship between politicians' policy choices, government performance, and vote share. When government performance is a meaningful signal of politicians' preferences, citizens can select politicians who share their preferences by rewarding incumbents who perform well, and penalize those who do poorly. When policy is decided by multiple actors, citizens may struggle to correctly attribute responsibility for performance to the correct official, hurting electoral accountability. This paper introduces and tests a new mechanism affecting clarity of attribution: the degree to which politicians can effectively monitor and control their bureaucratic counterparts. If politicians lack skills and power relative to bureaucrats, citizens may be unable to effectively determine a politician's type, undermining electoral accountability. Using data from Uganda, we find that citizens and government officials alike are less likely to attribute responsibility to local politicians when local bureaucrats are more powerful, and are less likely to punish or reward politicians for the quality of roads when they believe that the bureaucrat holds more responsibility.

Our results are likely to hold in a wide range of settings, especially at the local level. Many countries have decentralized in the past two decades, placing substantial administrative responsibility with relatively new local governments. In areas where public office is not financially attractive, and where overall levels of education are low, it may not be realistic to expect a pool of high-quality candidates to emerge, especially when the private sector and bureaucracy are associated with higher wages and more prestige. In these cases, governments may need to invest in training and education for newly-elected incumbents in order to empower politicians and give them the skills they need to be effective.

A critical implication of our results is that, when politicians are weak and bureaucrats are strong, citizens have few incentives to vote based on government performance. This suggests two alternatives. First, citizens could simply be less likely to vote at all. Second, citizens could vote on a basis other than policy. For example, in many low- and medium-income countries, clientelism is prevalent. Our results suggest that, if citizens believe that the politician in power has little impact on government performance, it may be rational to accept clientelist transfers. While we do not claim this to be the single driving force behind clientelism, we believe it to merit further theoretical and empirical exploration. From a policy perspective, our findings suggest that initiatives aimed at strengthening or insulating local bureaucrats may have the unintended consequence of weakening electoral accountability.

posteriors did not shift at all. Imperfect updating will lead us to underestimate treatment effects.

#### References

Achen, Christopher and Larry Bartels. 2017. Democracy for realists: Why elections do not produce responsive government. Princeton University Press.

Aytaç, Selim Erdem. 2018. "Relative economic performance and the incumbent vote: A reference point theory." The Journal of Politics 80(1):16–29.

Berry, Christopher. 2008. "Piling on: Multilevel government and the fiscal common-pool." *American Journal of Political Science* 52(4):802–820.

Brierley, Sarah. Forthcoming. "Combining patronage and merit in public sector recruitment." The Journal of Politics.

Bueno, Natalia. 2018. "Bypassing the enemy: Distributive politics, credit claiming, and non-state organizations in Brazil." Comparative Political Science 51(3):304–340.

Carlson, Elizabeth. 2015. "Ethnic voting and accountability in Africa: A choice experiment in Uganda." World Politics 67(2):353–385.

Chiweza, Asivati. 2016. The political economy of fiscal decentralisation. In *Political transition* and inclusive development in Malawi, ed. Dan Banik and Blessings Chinsinga. Routledge.

Dunning, Thad, Guy Grossman, Macartan Humphreys, Susan Hyde and Craig McIntosh. 2019. *Metaketa I: The limits of electoral accountability*. Cambridge University Press.

Epstein, David and Sharyn O'Halloran. 1994. "Administrative procedures, information, and agency discretion." *American Journal of Political Science* 38(3):697–722.

Fan, Simon, Chen Lin and Daniel Treisman. 2009. "Political decentralization and corruption: Evidence from around the world." *Journal of Public Economics* 93(1):14–34.

Fearon, James. 1999. Electoral accountability and the control of politicians: Selecting good types versus sanctioning poor performance. In *Democracy, accountability, and representation*, ed. Adam Przeworski, Susan Stokes and Bernard Manin. Cambridge University Press.

Fiorina, Morris. 1981. Retrospective voting in American national elections. Yale University Press.

Golooba-Mutebi, Frederick. 2003. "Devolution and outsourcing of municipal services in Kampala City, Uganda." *Public Administration and Development* 23(5):405–418.

Gomez, Brad and Matthew Wilson. 2001. "Political sophistication and economic voting in the American electorate: A theory of heterogeneous attribution." *American Journal of Political Science* 45(4):899–914.

Gottlieb, Jessica. 2016. "Greater expectations: A field experiment to improve accountability in Mali." American Journal of Political Science 60(1):143–157.

Grimmer, Justin, Solomon Messing and Sean Westwood. 2012. "How words and money cultivate a personal vote: The effect of legislator credit claiming on constituent credit allocation." *American Political Science Review* 106(4):703–719.

Grossman, Guy and Kristin Michelitch. 2018. "Information dissemination, competitive pressure, and politician performance between elections: A field experiment in Uganda." *American Political Science Review* 112(2):280–301.

Harding, Robin. 2015. "Attribution and accountability: Voting for roads in Ghana." World Politics 67(4):656–689.

Harding, Robin and David Stasavage. 2013. "What democracy does (and doesn't) do for basic services: School fees, school quality, and African elections." *The Journal of Politics* 76(1):229–245.

Hellwig, Timothy and David Samuels. 2007. "Voting in open economies: The electoral consequences of globalization." *Comparative Political Studies* 40(3):283–306.

Iyer, Lakshmi and Anandi Mani. 2012. "Traveling agents: Political change and bureaucratic turnover in India." Review of Economics and Statistics 94(3):723–739.

Kathyola, Janet. 2010. "The political-administrative interface: The key to good public sector governance and effectiveness in Commonwealth Africa." Commonwealth Parliamentary Association.

Kendall, Chad, Tommaso Nannicini and Francesco Trebbi. 2015. "How do voters respond to information? Evidence from a randomized campaign." *American Economic Review* 105(1):322–53.

Lago-Peñas, Ignacio and Santiago Lago-Peñas. 2010. "Decentralization and electoral accountability." Environment and Planning C: Government and Policy 28(2):318–334.

Lin, Winston and Donald Green. 2016. "Standard operating procedures: A safety net for pre-analysis plans." PS: Political Science & Politics 49(3):495–500.

Malhotra, Neil and Alexander Kuo. 2008. "Attributing blame: The public's response to Hurricane Katrina." The Journal of Politics 70(01):120–135.

Marsh, Michael and James Tilley. 2010. "The attribution of credit and blame to governments and its impact on vote choice." *British Journal of Political Science* 40(1):115–134.

Mwenda, Andrew and Roger Tangri. 2005. "Patronage politics, donor reforms, and regime consolidation in Uganda." *African Affairs* 104(416):449–467.

Niskanen, William. 1971. Bureaucracy and representative government. Aldine-Atherton.

Pande, Rohini, I Dhaliwal, R Dragusanu, C Marshall and B Olken. 2011. "Governance review paper." J-PAL Governance Initiative.

Powell Jr, Bingham and Guy Whitten. 1993. "A cross-national analysis of economic voting: Taking account of the political context." *American Journal of Political Science* 37(2):391–414.

Przeworski, Adam, Susan Stokes and Bernard Manin. 1999. Democracy, accountability, and representation. Vol. 2 Cambridge University Press.

Raffler, Pia. 2018. "Does political oversight of the bureaucracy increase accountability? Field experimental evidence from an electoral autocracy." Working paper. [http://piaraffler.com/wp-content/uploads/2019/06/Raffler-Political-Oversight-June2019.pdf; last accessed 7/29/2019].

Rodden, Jonathan. 2006. *Hamilton's paradox: The promise and peril of fiscal federalism*. Cambridge University Press.

Stephenson, Matthew. 2007. "Bureaucratic decision costs and endogenous agency expertise." The Journal of Law, Economics, & Organization 23(2):469–498.

Tavits, Margit. 2007. "Clarity of responsibility and corruption." American Journal of Political Science 51(1):218–229.

Tilley, James and Sara Hobolt. 2011. "Is the government to blame? An experimental test of how partisanship shapes perceptions of performance and responsibility." *The Journal of Politics* 73(2):316–330.

Weber, Max. 1922. Wirtschaft und Gesellschaft (Economy and society). Mohr Siebeck.

You Gov. 2014. "The VA scandal: Can it reach the President?". [Online; https://today.you gov.com/news/2014/06/04/va-scandal-can-it-reach-president/; last accessed 6/29/2019].

### Online Appendices for Fault Lines: The Effects of Bureaucratic Power on Electoral Accountability

The following appendices are not intended for publication.

$\mathbf{A}$	Formal Model				
	A.1 Full Solution: The Citizen's Voting Decision	A5			
	A.2 Full Solution: The Likelihood Good and Bad Types Are Re-elected	A6			
В	Local Government Institutions in Uganda	<b>A7</b>			
	B.1 District Government (LC5)	A7			
	B.2 Subcounty Government: LC3	A8			
$\mathbf{C}$	Qualitative Data	10			
D	District Selection and Survey Details  A	12			
	D.1 Vignette and Survey Questions	A12			
	D.2 District Selection	A13			
${f E}$	Perception of Outsider Bureaucrats  A	14			
$\mathbf{F}$	Robustness Checks	17			
	F.1 Robustness Checks of Table 2 – Effect of Insider-Outsider Treatment on At-				
	tribution	A17			
	$F.2  Robustness\ Checks\ of\ Table\ 3-Effect\ of\ Attribution\ on\ Electoral\ Accountability.$	A23			
$\mathbf{G}$	Reasoning for Allocation of Responsibility  A	30			
н	Additional Analyses	32			

#### A Formal Model

To see how split responsibility for policy affects electoral accountability, we develop a retrospective voting model with incomplete information, based on the two-period selection model in Fearon (1999).<sup>29</sup> In the original model, an Incumbent politician selects a policy; a unified group of Citizens then observes a noisy signal of this policy choice and decides whether to re-elect the Incumbent or vote for a Challenger. The winner of the election selects the policy in period two. The model can be used to represent any unidimensional policy space, for example the tax rate, level of public goods provision, or degree of rent seeking. We extend the Fearon model by making the policy a function of a contest between two separate actors within the government. While here we call these the Politician and the Bureaucrat, the model could also apply to cases where policy is jointly decided by politicians and the judiciary, or when responsibility is split between two politicians or parties.

In our model, the Politician's and Bureaucrat's policy decisions are represented by  $x_P \geq 0$  and  $x_B \geq 0$ , respectively. Nature randomly draws which policy will be enacted. With probability  $\gamma \in [0,1]$  the Incumbent's policy  $x_P$  is enacted; with probability  $(1-\gamma)$  the Bureaucrat's policy  $x_B$  is enacted.<sup>30</sup> The parameter  $\gamma$  represents the balance of power between the incumbent and the bureaucrat; it is the main parameter of interest in our model. The Citizens observe a policy,  $z \in \mathbb{R}$  in each period that is a noisy signal of the two officials' choices. In expectation, the policy Citizens observe is:

$$z = \gamma(-x_P^2) + (1 - \gamma)(-x_B^2) + \epsilon$$
 (1)

where the error term,  $\epsilon$ , represents the fact that observed policy may also be affected by random shocks;  $\epsilon$  is drawn from some distribution  $f(\cdot)$  that is mean-zero, symmetric, and unimodal at zero.<sup>31</sup> Citizens are therefore uncertain about whose preferences the observed policy represents, but know that when  $\gamma$  is high, the observed policy is more likely to reflect the Politician's preferred option. Citizens get utility of z in each period; they prefer  $x_P = x_B = 0$ .

All Politicians and Bureaucrats are either "good" or "bad" types: a good type shares citizens' preferences and sets  $x_i = 0$ , while a bad type sets  $x_i = \hat{x} > 0$ . These preferences can be inherent to each individual, or may represent the incentives created by their political

<sup>&</sup>lt;sup>29</sup>An alternative approach would be a nested principal-agent model. We prefer the retrospective voting model because it focuses on our main dynamic of interest—citizens' perceptions and voting decisions—rather than the interactions between politicians and bureaucrats.

<sup>&</sup>lt;sup>30</sup>The main comparative statics of the model also hold if the observed policy is a weighted average of  $x_P$  and  $x_B$ .

<sup>&</sup>lt;sup>31</sup>A normal distribution satisfies these requirements.

parties (for politicians) or their principals (for bureaucrats). For example, if bureaucrats are responsible to higher-level appointed officials, whether they implement citizens' preferences may depend on whether this is also in line with higher-ups' preferences, or whether those higher-ups expect the bureaucrat the collude in corruption or malfeasance. Regardless, the important assumption is that there is variation in type, and that citizens know that this is the case. Any ability of politicians to alter bureaucrats' utility is incorporated into the balance of power  $\gamma$ : if politicians can affect bureaucrats' utility, either directly or by working with higher-level bureaucrats or politicians, this will tend to increase  $\gamma$ .

We assume that citizens have no direct power over the bureaucrat, other than their ability to replace the politician. At the end of period 1, Citizens can choose whether to keep the Incumbent or, at no cost, replace them with a Challenger. The Citizens' prior is that the Incumbent and Challenger are each good with probability  $\alpha \in [0,1]$ , and the Bureaucrat is good with probability  $\beta \in [0,1]$ . In the second period, the Bureaucrat and the Politician in power implement their preferred policy, and payoffs are realized. The Citizens maximize their expected second-period utility by maximizing the probability that the Politician in period 2 is a good type; the Bureaucrat will always remain in office for both periods.

The model makes two main assumptions. First, we assume that the Bureaucrat will always attempt to implement his preferred policy, and the balance of power  $\gamma$  determines the extent to which they can do so. The  $\gamma$  term incorporates the degree to which the Politician can monitor the Bureaucrat; as the Politician's power increases, the ability of a good (bad) Bureaucrat to positively (negatively) affect policy decreases. When  $\gamma=1$ , the Politician has sole control over policy, and the model is identical to the original Fearon model; this is also observationally equivalent to a world where politicians can ensure that bureaucrats share their preferences, for example through monitoring and the power to hire or fire bureaucrats at will.

Second, we assume that Politicians vary in their preferred policy  $x_P$ , but not in their power  $\gamma$ : for Politicians in a particular government (local or national),  $\gamma$  is constant for all potential candidates, and the value of this parameter is common knowledge to all players.<sup>32</sup> This could be because there are structural factors limiting politicians' control of bureaucrats—in Uganda, local politicians cannot unilaterally fire appointed officials—or because all candidates have approximately the same formal training and capacity for monitoring and control. This is in line with the actual pool of candidates in many local elections, especially in developing countries; due to low general education and training levels, there often does not exist a willing and able pool of high-quality candidates who could increase  $\gamma$ , and

 $<sup>^{32}</sup>$ It is likely that  $\gamma$  varies by level of government, even within a country. In general, higher-level officials are likely to be higher capacity and thus have higher values of  $\gamma$ .

so citizens assume that it is fixed.<sup>33</sup>

Recall that the probability that the Bureaucrat is a bad type and sets  $x_B = \hat{x} > 0$  is  $1 - \beta$ . To increase tractability, we assume that citizens use the expected value of  $x_B$ , given  $\beta$ , when they update their belief about the likelihood that the Incumbent is a good type. Citizens therefore assume that the observed policy z is generated using expectation  $x_B$ , and can be written:

$$z = -\gamma x_P^2 - (1 - \gamma)(1 - \beta)\hat{x}^2 + \epsilon \tag{2}$$

Citizens' optimal strategy is to observe the policy outcome, z, and apply Bayes' rule to update their belief that the Incumbent is a good type. The next section shows that this generates a condition in which Citizens will keep the Incumbent when, given  $\epsilon \sim f(\cdot)$ , the probability that the policy was decided by a good type is higher than the probability that it was decided by a bad type.<sup>34</sup> Citizens will therefore keep the incumbent when:

$$f(z + (1 - \beta)(1 - \gamma)\hat{x}^2) \ge f(z + (1 - \beta)(1 - \gamma)\hat{x}^2 + \gamma\hat{x}^2)$$
(3)

Recall that  $f(\epsilon)$  is uni-modal at zero, symmetric, and mean-zero. If z > 0, the condition in Equation 3 will always hold. If z < 0, it will only hold when  $-z - (1 - \beta)(1 - \gamma)\hat{x}^2) \le z + (1 - \beta)(1 - \gamma)\hat{x}^2 + \gamma\hat{x}^2$ . Solving generates a voting threshold for the Citizens; they will keep the Incumbent when

$$z \ge -\hat{x}^2 * [(1 - \beta)(1 - \gamma) + \frac{\gamma}{2}] = k^*.$$
 (4)

We now examine the probability that each type of Politician is re-elected, given Citizens' voting threshold  $k^*$ . Our main comparative static is how  $\gamma$  affects electoral accountability. Accountability is increasing in the probability that a good type is kept in office, or a bad type removed from office. The probability an Incumbent is re-elected is the probability that  $z \geq k^*$ , given  $\epsilon \sim F(\cdot)$  and  $x_P$ . A good Incumbent sets  $x_P = 0$ , and the probability they are re-elected is

$$Pr(-(1-\gamma)(1-\beta)\hat{x}^2 + \epsilon \ge k^*). \tag{5}$$

Simplifying, the probability a good Incumbent is kept is  $1 - F(-\frac{\gamma}{2}\hat{x}^2)$ . Following a similar process for a bad Incumbent, we find that the probability of re-election is  $1 - F(\frac{\gamma}{2}\hat{x}^2)$ .

This brings us to the main comparative static of the model: as  $\gamma$  increases,  $1 - F(-\frac{\gamma}{2}\hat{x}^2)$  increases, while  $1 - F(\frac{\gamma}{2}\hat{x}^2)$  decreases. This means that, as the Politician gains more power

<sup>&</sup>lt;sup>33</sup>See discussion in main paper.

<sup>&</sup>lt;sup>34</sup>Formally, when  $Pr(x_P = 0|z) > Pr(x_P = \hat{x}|z)$ .

<sup>&</sup>lt;sup>35</sup>See below for full derivation of these probabilities.

over the Bureaucrat, electoral accountability improves—the probability that a good type is re-elected increases, while the probability that a bad type is re-elected decreases. When  $\gamma$  is low, electoral accountability is worse. Good types are more likely to be mistakenly removed from office, and bad types are more likely to be kept. As  $\gamma$  approaches zero, the probability that either type is kept converges to one half, and elections can no longer separate good and bad types.

#### A.1 Full Solution: The Citizen's Voting Decision

The previous section said that "Citizens will keep the Incumbent when, given  $\epsilon \sim f(\cdot)$ , the probability that the policy was decided by a good type is higher than the probability that it was decided by a bad type." This section derives this result. Given that they observe some policy z, Citizens will maximize their expected period-2 utility by re-electing the Incumbent if  $Pr(x_P = 0|z) \geq \alpha$ . Given the signal z, a citizen who uses Bayes' rule to update will have a posterior belief of:

$$P(x_P = 0|z) = \frac{P(z|x_P = 0) * P(x_P = 0)}{P(z)}$$
(6)

The three individual components are:

$$P(z|x_P = 0) = f(z + (1 - \beta)(1 - \gamma)\hat{x}^2)$$
(7)

$$P(x_P = 0) = \alpha \tag{8}$$

$$P(z) = \alpha * f(z + (1 - \beta)(1 - \gamma)\hat{x}^2) + (1 - \alpha) * f(z + \gamma\hat{x}^2 + (1 - \beta)(1 - \gamma)\hat{x}^2)$$
(9)

The citizen will therefore keep the incumbent when

$$\alpha * \frac{f(z + (1 - \beta)(1 - \gamma)\hat{x}^2)}{\alpha * f(z + (1 - \beta)(1 - \gamma)\hat{x}^2) + (1 - \alpha) * f(z + \gamma\hat{x}^2 + (1 - \beta)(1 - \gamma)\hat{x}^2)} \ge \alpha$$
 (10)

which simplifies to:

$$f(z + (1 - \beta)(1 - \gamma)\hat{x}^2) \ge f(z + \gamma\hat{x}^2 + (1 - \beta)(1 - \gamma)\hat{x}^2)$$
(11)

This last equation has a natural interpretation: the left-hand side is the probability that the policy was determined by a Good type, and the right-hand side is the probability that the policy was determined by a Bad type. Thus, the Incumbent will be kept when the probability the policy was a generated by a good type is at least as high as the probability that it was generated by a bad type.

## A.2 Full Solution: The Likelihood Good and Bad Types Are Reelected

A Good politician sets  $x_P = 0$ , and the probability they are re-elected is the probability that, given  $\gamma$ ,  $\beta$ , and  $f(\epsilon)$ ,

$$z = -(1 - \gamma)(1 - \beta)\hat{x}^2 + \epsilon \ge k^* \tag{12}$$

As  $k^* = -\hat{x}^2 * ((1-\beta)(1-\gamma) + \frac{\gamma}{2})$ , we can therefore write the probability that the Good politician is kept as:

$$Pr(-(1-\beta)(1-\gamma)\hat{x}^2 + \epsilon \ge -\hat{x}^2 * ((1-\beta)(1-\gamma) + \frac{\gamma}{2}))$$
 (13)

$$Pr(\epsilon \ge \hat{x}^2[(1-\beta)(1-\gamma) - (1-\beta)(1-\gamma) - \frac{\gamma}{2}])$$
 (14)

$$=1-Pr(\epsilon \le -\frac{\gamma}{2}\hat{x}^2) \tag{15}$$

$$=1-F(-\frac{\gamma}{2}\hat{x}^{2})\tag{16}$$

Let  $A_G = -\frac{\gamma}{2}\hat{x}^2$ . As  $\gamma$  increases,  $A_G$  decreases. This implies that  $F(A_G)$  also decreases, and so  $1 - F(A_G)$  increases. Therefore, as power shifts towards the Incumbent, the likelihood that a Good type is re-elected increases.

We can follow a similar process for a "Bad" Incumbent, who is kept when

$$Pr(-\gamma \hat{x}^2 - (1-\beta)(1-\gamma)\hat{x}^2 + \epsilon \ge k^*)$$
 (17)

$$= Pr(\epsilon \ge (\gamma - \frac{\gamma}{2})\hat{x}^2) \tag{18}$$

$$=1-F(\frac{\gamma}{2}\hat{x}^2)\tag{19}$$

Let  $A_B = \frac{\gamma}{2}\hat{x}^2$ . Now as  $\gamma$  increases,  $A_B$  increases and so  $F(A_B)$  also increases. This means that as  $\gamma$  increases  $1 - F(A_B)$  decreases: when the Incumbent has more power, the likelihood a Bad type is re-elected decreases.

#### B Local Government Institutions in Uganda

Uganda is heavily decentralized, with five levels of local jurisdictions: the district (Local Council 5), the county (Local Council 4), the subcounty (Local Council 3), the parish (Local Council 2), and the village (Local Council 1). In practice, only the district, subcounty, and village have formal government bodies. The village government consists of one directly elected village chairperson and does not have its own budget or administrative staff, so we focus our discussion on the district and the subcounty. At each level, government consists of a political wing – the Local Council – and a bureaucratic wing. Local Councils (LCs) are the highest political authority in their area of jurisdiction.

Level	Units
Central Government	
Local Council V: Districts	112
Local Council IV: Counties	249
Local Council III: Subcounties	1,403
Local Council II: Parishes	7,431
Local Council I: Villages	57,842

Source: Ugandan Electoral Commission, 2016.

#### B.1 District Government (LC5)

The district government has two wings, one political, one technical. The first is an elected Local Council, consisting of two representatives (one male and one female) from each subcounty, special councilors representing women, youths, and persons with disabilities, and the LC5 Chairperson, the highest elected political leader in the district. All council members are directly elected in partisan first-past-the-post elections. The term is five years, there are no term limits. The second is the administrative offices, led by the head district bureaucrat – the Chief Administrative Officer, or CAO. The CAO oversees the district technical staff (including water, health, and education staff, engineers, and planners) and is appointed by the central government.

District-level officials have a range of powers and responsibilities in their area. In particular, they have authority to (and in many cases are required to) do the following:

- Make local policy and regulate the delivery of services;
- Formulate development plans based on local priorities;

- Receive, raise, manage and allocate revenue through approval and execution of budgets;
- Monitor implementation of national and district programs;
- Appoint statutory commissions, boards and committees.

Until 2005, the main source of local revenue was the Graduated Personal Tax (GPT), a small cash tax levied primarily on adult men. Highly unpopular, it was abolished prior to the 2006 elections, making district governments much more reliant on the central government for their budgets. In its 2010 Annual Report, the Local Government Finance Commission notes that central government grants represented 90% of local government budgets, with 85.9% of these funds coming in the form of conditional grants, which are tied to specific spending objectives. This implies very limited discretion for Local Governments on budget decisions. Interviews with district and subcounty officials in Northern Uganda suggest that these funds mostly go towards administrative expenses, with little going to actual program implementation. In particular, there is little flexibility to address any local needs that arise.

#### B.2 Subcounty Government: LC3

While the subcounty government has a much smaller staff than the district, the overall structure is largely the same, as summarized in Section 3. The subcounty government consists of an elected LC3 council and chairperson, as well as an appointed bureaucrat, the subcounty chief, who reports both to the council and to the district CAO and oversees a small technical staff. As in the district government, the balance between the bureaucratic and political arms of the government is supposed to be one of checks and balances. Civil servants effectively control finances and are the sole account signatories. Politicians are not handling money, but are tasked with monitoring its use.

The subcounty is also the lowest level of the LC system to have an official budget. While a small portion of this money comes from locally-collected taxes and fees (including market fees, land use fees, and permits), most funds are transfers from the district or central government. Two of the key tasks of the subcounty government are (i) to undertake development planning each year, gathering information from constituent villages and parishes and creating a prioritized development program that is passed on to the district, and (ii) to provide basic services such as boreholes, maintenance of feeder road, and latrines. Subcounty councilors are also involved in dispute resolution.

Table B1: Distribution of Subcounty Populations

Percentile	Population	
25%	13,153	
50%	20,003	
75%	31,276	
95%	49,954	
Mean	24,878	
Standard Deviation	24,586	
N	1,388	

Data source: Ugandan National Census, 2014.

# C Qualitative Data

Below are excerpts from qualitative interviews conducted by one of the authors with local council (LC3) members—local politicians—in eight subcounties across four Ugandan districts in May 2016.

### Interview ID: DI3

"It has been very tough since they brought in the new chief. With the old chief we used to have meetings, but the new one just says 'There is no money', also for monitoring. This makes it very difficult for councilors to be involved. [...] The chief does not give us the budget, there is no transparency. It is quite very difficult for us to monitor. For us, as parish councilors, they take you like you are not important. If you ask for detailed info, they hide it."

#### Interview ID: CI2

"Here at the subcounty it's hard to get [budget and expenditure] documents from the technical personnel, they keep telling us it's above us and that we should do things as per our level."

#### Interview ID: CII1

"The technical people know that nothing can move without money, so they use their financial power to control everything. The main problem is that the council and committees don't meet [formal meetings require budget allocations for allowances]. Yet that is where you track progress. When the council is not meeting we can't know how much money has come."

What about ledger books and bank statements – can you access those?

"[Laughter.] You cannot get them! If you start inquiring so much they say 'do you want to do my job?!' There are things that are hidden. Technocrats don't want us to see the bank statements because it shows how much local revenue was collected, which they use for their ends. The information remains sheltered among technocrats, all the way from the district. They don't want us to see it. The district technocrats protect their people. They may also get their money from there."

#### Interview ID: CI1

How are things in this subcounty?

"We have technocrats who take their own decisions. We had planned for the council to construct a road, but the technocrats diverted that money to buy land for a school. They informed the councilor only later and told them the district would support the road [instead]. Hence, the council approved the divergence of the money.

Since the councilors are not in the know, the technocrats just do shoddy work and the councilors face the problems. We suspect that the technocrats and the contractors are conniving and eat a lot of money.

The land was bought at 4 million but they do not have any evidence how much money was actually spent because the technocrats do not share the documents. They just give us block figures, but no details. 'I'm not ready, I'm not ready' is what they say when we ask for council minutes."

 $[\dots]$ 

"We have less influence on budget formulation because the technical people say that the government has guidelines on what the budget is supposed to look and if we don't follow them the district will get the penalty. They are the technical people so they know the rules. The technocrats write the budget, including the location of projects such as roads, boreholes etc. When we complain they say the direction comes from the district. Yet we are on the ground and know best so we should be consulted.

Initially, we had powers of deciding which villages get boreholes. We still send priorities, but they often don't follow them and don't even inform us. After we've decided we go to the villages and inform them "we have lobbied for a borehole for you". And then they see other villages get boreholes! This makes us look very bad. It'd be better if all those decisions were just taken at the district, instead of giving out the mandate and then not following it. We are just wasting our time!

There is nothing we can do at the local level! We have lost confidence. We have complained many times about the [subcounty] chief to the CAO [head bureaucrat at the district] yet he says: 'there is nowhere I can transfer the chief, no one wants him.'"

#### Interview ID: BII1

What are some of the challenges you face in this subcounty, besides lack of funds?

"Relationships between councilors and technocrats are not good. As councilors, we bring the views from the villages to the technocrats so that they implement. When technocrats fail to implement our resolutions without any reason then that means there is an issue." How easy is it to get financial information?

"It's not easy. They dodge, dodge you. You only get it if you persist. But you may get it when it is useless – they delay until the information is old. It is intentional.

We have local revenue here. Councilors get their allowances from that. We can also use that money for programs. So we want to get that information [about local revenue]. The sources for local revenue are many. But they don't want to share the report. I am suspecting that the chairperson and the chief know. The money is not coming directly into the treasury.

The technocrats want their things in the corner, corner [hidden]. So if they see someone [a politician] who is very strict and wants something worked on immediately, they don't like it."

## D District Selection and Survey Details

## D.1 Vignette and Survey Questions

This section reports the full text of the vignette experiment used in the citizen and officials survey. For enumeration the vignette was translated into the dominant local language.

### Vignette Text:

Let me give you an imaginary example about a subcounty in a nearby district. In that subcounty, the feeder roads are [not being/well] maintained and [are in very bad condition - people cannot pass, and the sick cannot get to the health centre in time/people can get to town and the health centre easily]. Both the LC3 chairperson and the subcounty chief have some power over roads. Both have been in office all term. [The subcounty chief comes from another district, the LC3 chairperson is from that same district/Both are from that same district.]

IN YOUR OPINION, who is more at fault that the roads are not maintained – the subcounty chief, who is from [that same/another] district, or the LC3 chairperson, who is from that same district?

Now, recall that in this example the roads in the subcounty are poor. While the LC3 Chairman, who is from that same district, and the Subcounty Chief], who is from [that same/another] district, both have power over roads, in this case it is primarily the [LC3 Chairperson/Chief] who deserves [credit/blame] for the quality of the roads. How do you

think this situation will affect the next election, if at all? The LC3 Chair loses a lot of votes, the LC3 Chair loses some votes, there is no effect on voting, the LC3 Chair gains some votes,

or the LC3 Chair gains a lot of votes.

## Text of module testing perceptions of insider and outsider bureaucrats Now I

will read you a number of statements about a Subcounty Chief who is from [that same district where he works/another district than where he works]. We are not talking about this subcounty but in general. For each statement, please tell me how much you agree or disagree – strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree.

- ... will use any opportunity to give jobs and development projects to his people, instead of thinking of the entire subcounty.
- ... will work hard to use limited resources efficiently.
- ... has strong social ties with people in the community.
- ... will have good information about what citizens in the subcounty need.
- ... has a lot of power over what happens in the subcounty.
- ... will work hard to lobby the district for more resources to the subcounty.
- ... will feel ashamed if he or she does not work hard to meet citizens' needs.
- ... will listen to and respect the local citizens.
- ... would embezzle subcounty money if he had the chance.
- ... will be neutral and objective in how he allocates resources and deals with citizens.

#### D.2 District Selection

For the Officials survey, districts were selected for regional spread, the absence of large interventions aimed at improving accountability, and relatively high performance with regard to budget reporting.<sup>36</sup> Within study districts, nearly all rural subcounties were included in the sample, excluding a handful for logistical reasons, such as location on a remote island. For the Citizen survey, although districts cover the Northern, Western, and Central region of the country, they are ultimately a convenience sample. Districts were selected on the basis of presence of implementing partners for the field experiment in which this survey experiment was embedded.<sup>37</sup>

 $<sup>^{36}</sup>$ Sample districts for the Officials survey include Butambala, Lwengo, Kalungu, Bukomansimbi, Mityana, Kyankwanzi, Lyantonde, Sironko, Namayingo, Iganga, Kaliro, Buyende, Mayuge, Butaleja, Serere, Kumi, Ngora, Kitgum, Otuke, Mitooma, Ibanda, Buhweju, Kibaale, Kabale, and Ntoroko.

<sup>&</sup>lt;sup>37</sup>Sample districts for the Citizen survey include Apac, Kitgum, Agago, Mubende, Nakaseke, and Kibaale.

## E Perception of Outsider Bureaucrats

To assess perceptions of insider and outsider bureaucrats, we asked a random subset of the citizen sample five questions about the quality and influence of a hypothetical local bureaucrat, who was either an insider or outsider. To avoid survey fatigue, respondents were randomly selected to receive one of two possible sets of five questions; each question was answered on a 6-point agree/disagree scale. Three questions related to the perceived influence of the hypothetical bureaucrat: whether the hypothetical bureaucrat is expected to have power over the subcounty (HasPwr), to have good social ties with locals (SocTies), and to have good information about citizens' needs (HasInfo).

The remaining variables relate to quality, or type: whether the hypothetical bureaucrat is expected to be likely to engage in patronage (Patron, entering negatively), to work hard (WorkHrd), to lobby hard for the subcounty (Lobby), to feel shame for doing his job poorly (Shame), to listen to local citizens (Listens), to embezzle funds (Embez, entering negatively), and to be neutral and objective when making decisions (Neutral). To increase power, we use the responses from both the Credit and Blame treatments for the perceptions analysis, but add an indicator variable for the Blame treatment to the analysis.

Figure 2 summarizes the results. Compared to a hypothetical insider bureaucrat, outsiders are viewed as less powerful and – mostly – as of lower quality.

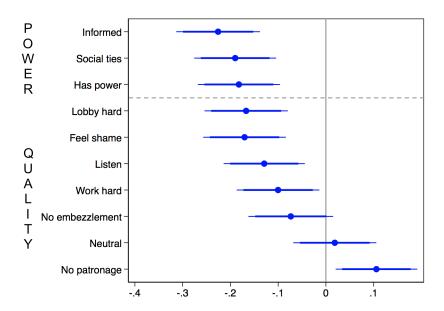


Figure 2: Perception of Outsider Bureaucrats

Displaying average treatment effects of a hypothetical bureaucrat coming from another district, as compared to coming from the same district, on perceived power and quality among citizens. Outcome variables are agreements/disagreements with statements about the hypothetical bureaucrat, measures on a six-point scale. Showing 95% (bold) and 90% (thin) confidence intervals.

The differences in assessments of insider and outsider bureaucrats are significant in eight of the ten questions. Of those eight questions, the insider is perceived as better than the outsider in seven. Respondents do not appear to perceive significant differences in the likelihood that insiders or outsiders will embezzle funds or be neutral in how they do their job. Differences in perceptions are starkest in the three measures relating to perceived power.

D	ב ב	Social	Good	Has	Quality	$N_{\rm o}$	Work	Quality	Feel	1	No Em-	Mosstrol
Dependent variable:	Fower	$\operatorname{Ties}$	$_{ m Info}$	Power	1	$\operatorname{Patro}$	Hard	2	$\operatorname{Shame}$	LISUEIIS	$_{ m bezzle}$	Iveutrai
	(1)	(2)	(3)	(4)	(2)	(9)	(7)	(8)	(6)	(10)	(11)	(12)
Outsider bureaucrat	-0.20**	-0.19**	-0.23**	-0.18**	0.00	0.11*	-0.10*	-0.11**	-0.17**	-0.13**	-0.07	0.03
	(0.035)	(0.044)	(0.045)	(0.044)	(0.027)	(0.044)	(0.044)	(0.028)	(0.044)	(0.043)	(0.045)	(0.044)
Info: Politician responsible	-0.14**	-0.16*	-0.09	-0.13*	-0.01	0.08	-0.11	-0.02	0.04	-0.07	0.07	0.00
	(0.050)	(0.062)	(0.063)	(0.062)	(0.038)	(0.062)	(0.063)	(0.040)	(0.062)	(0.061)	(0.064)	(0.063)
Assigned to bad roads	-0.30**	-0.36**	-0.25**	-0.28**	-0.02	0.26**	-0.31**	-0.24**	-0.17**	-0.29**	-0.20**	-0.30**
	(0.050)	(0.063)	(0.064)	(0.063)	(0.038)	(0.062)	(0.063)	(0.040)	(0.063)	(0.062)	(0.064)	(0.063)
Pol. responsible*Bad roads	0.16*	0.11	0.16	0.16	0.03	-0.07	0.14	0.12*	0.11	0.20*	0.07	0.10
	(0.070)	(0.088)	(0.089)	(0.088)	(0.054)	(0.087)	(0.088)	(0.056)	(0.088)	(0.087)	(0.090)	(0.089)
Constant	0.24**	0.29**	0.19**	0.25**	0.01	-0.19**	0.22**	0.14**	0.08	0.19**	0.08	0.12*
	(0.040)	(0.049)	(0.050)	(0.049)	(0.030)	(0.049)	(0.050)	(0.032)	(0.050)	(0.049)	(0.051)	(0.050)
Observations	2,102	2,043	2,039	2,045	2,087	2,041	2,000	2,120	2,074	2,080	1,973	2,013
R-squared	0.053	0.056	0.026	0.033	0.002	0.044	0.050	0.044	0.019	0.031	0.028	0.030

Notes: Z-score indices (in bold) and their standardized components. Standard errors in parentheses. \*\* p < 0.01, \* p < 0.05.

Table E1: Perception of Bureaucrats Based on Insider Status

## F Robustness Checks

# F.1 Robustness Checks of Table 2 - Effect of Insider-Outsider Treatment on Attribution

Table F1: Blame and Bureaucrat's Identity - Indifferent Responses Treated as Missing Values

Dependent variable:	Perceive	e politician as	primarily res	ponsible
Sample:	Citizens	All Officials	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)
Outsider bureaucrat	0.060**	0.039*	0.016	0.153**
	(0.012)	(0.017)	(0.016)	(0.052)
Assigned to bad roads	0.013	-0.083**	-0.073**	-0.106*
	(0.012)	(0.017)	(0.016)	(0.052)
Constant	0.680**	0.803**	0.868**	0.450**
	(0.010)	(0.014)	(0.014)	(0.045)
Observations	6,066	2,410	2,032	378
R-squared	0.010	0.036	0.044	0.116

Notes: Replication of Table 2 (OLS). The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery, now assigning missing values to indifferent respondents. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F2: Blame and Bureaucrat's Identity - Probit

Dependent variable:	Perceive pol	litician as pri	marily respons	sible
Sample:	Citizens	All Officials	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)
Outsider bureaucrat	0.207**	0.136*	0.067	0.429**
	(0.033)	(0.058)	(0.069)	(0.140)
Assigned to bad roads	0.054	-0.291**	-0.318**	-0.288*
	(0.033)	59)	(0.070)	(0.140)
Constant	0.352**	0.710**	0.933**	-0.267
	(0.048)	(0.141)	(0.163)	(0.329)
Observations	6,251	2,410	2,032	378
Pseudo R-squared	0.009	0.035	0.052	0.091

Notes: Probit estimation of Table 2. The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F3: Blame and Bureaucrat's Identity - No Covariates

Dependent variable:	Perceive pol	itician as prii	marily respons	sible
Sample:	Citizens	All Officials	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)
Outsider bureaucrat	0.072**	0.039*	0.017	0.149**
	(0.012)	(0.017)	(0.016)	(0.052)
Assigned to bad roads	0.019	-0.084**	-0.073**	-0.111*
	(0.012)	(0.017)	(0.016)	(0.052)
Constant	0.651**	0.803**	0.867**	0.455**
	(0.010)	(0.014)	(0.014)	(0.045)
Observations	6,251	2,410	2,032	378
R-squared	0.010	0.035	0.042	0.098

Notes: Replication Table 2 without covariates (OLS). The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. The specification includes district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F4: Blame and Bureaucrat's Identity - Missing Covariates Not Imputed

Dependent variable:	Perceive pol	litician as prii	marily respons	sible
Sample:	Citizens	All Officials	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)
Outsider bureaucrat	0.073**	0.041*	0.016	0.163**
	(0.012)	(0.017)	(0.016)	(0.053)
Assigned to bad roads	0.020	-0.085**	-0.073**	-0.117*
	(0.012)	(0.017)	(0.016)	(0.053)
Constant	0.650**	0.805**	0.868**	0.452**
	(0.010)	(0.014)	(0.014)	(0.045)
Observations	6,214	2,400	2,032	368
R-squared	0.011	0.038	0.044	0.125

Notes: Replication Table 2 with listwise deletion instead of imputation of missing covariates (OLS). The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. The specification includes district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F5: Blame and Bureaucrat's Identity - Subcounty Fixed Effects

Dependent variable:	Perceive pol	itician as prii	marily respons	sible
Sample:	Citizens	All Officials	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)
Outsider bureaucrat	0.070**	0.034	0.021	0.270**
	(0.012)	(0.018)	(0.017)	(0.077)
Assigned to bad roads	0.019	-0.078**	-0.065**	-0.155*
	(0.012)	(0.018)	(0.017)	(0.078)
Constant	0.651**	0.807**	0.861**	0.410**
	(0.010)	(0.015)	(0.014)	(0.059)
Observations	6,251	2,370	2,032	338
R-squared	0.030	0.115	0.138	0.690

Notes: Replication Table 2 with subcounty fixed effects. The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F6: Blame and Bureaucrat's Identity - Citizen Sample Restricted to Men

Dependent variable: Sample:	Perceive politicia All citizens	n as primarily responsible  Men only
bampie.	(1)	(2)
	(1)	(2)
Outsider bureaucrat	0.072**	0.094*
	(0.012)	(0.040)
Assigned to bad roads	0.019	-0.060
	(0.012)	(0.040)
Constant	0.650**	0.727**
	(0.010)	(0.034)
Observations	$6,\!251$	510
R-squared	0.011	0.022

Notes: OLS. The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

# F.2 Robustness Checks of Table 3 – Effect of Attribution on Electoral Accountability

Table F7: Expected Change in Future Votes - Binary Outcome

DV: Condition:	I	Expected vot Bad road		]	Expected vote Good roa	0
Sample:	Citizens (1)	Politicians (2)	Bureaucrats (3)	Citizen (4)	Politicians (5)	Bureaucrats (6)
Info: Politician responsible	0.144**	0.074**	0.099	0.212**	0.346**	0.242**
Prior: Politician responsible	(0.028) $0.083**$	(0.016) $-0.005$	$(0.056) \\ 0.064$	(0.030) $0.082**$	$(0.026) \\ 0.016$	$(0.055) \\ 0.032$
Constant	(0.031) $0.602**$	(0.020) $0.899**$	(0.055) $0.779**$	(0.032) $0.484**$	(0.035) $0.504**$	(0.058) $0.634**$
	(0.030)	(0.020)	(0.042)	(0.031)	(0.035)	(0.045)
Observations R-squared	$982 \\ 0.040$	1,013 $0.039$	$193 \\ 0.163$	$999 \\ 0.064$	$1,057 \\ 0.236$	$224 \\ 0.257$

Notes: OLS. The dependent variable expected vote loss takes value 1 if respondents expect a politician to lose some or a lot of votes, 0 otherwise. Conversely, the dependent variable expected vote gain takes value 1 if respondents expect a politician to gain some or a lot of votes, 0 otherwise. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. In fo is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Our theory predicts that the coefficients on Info and Prior should be positive in all columns. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F8: Expected Change in Future Votes - Ordered Probit

DV:			Net expected cl	nange in vote	S	
		Bad roads			Good roads	
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.431**	-0.608**	-0.576*	0.552**	1.132**	1.077**
	(0.085)	(0.136)	(0.275)	(0.081)	(0.090)	(0.244)
Prior: Politician responsible	-0.220*	-0.046	-0.366	0.219*	0.055	0.197
	(0.093)	(0.165)	(0.274)	(0.086)	(0.118)	(0.235)
Observations	982	1,013	193	999	1,057	224
Pseudo R-squared	0.025	0.075	0.185	0.037	0.150	0.219

Notes: Ordered Probit. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. *Prior* is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F9: Expected Change in Future Votes - Likert Scale (OLS)

DV:		Expect	ed change in vote	es (5-point I	Likert scale)	
		Bad road	S	·	Good road	ds
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.373**	-0.368**	-0.407*	0.614**	1.083**	0.676**
	(0.076)	(0.052)	(0.162)	(0.084)	(0.080)	(0.170)
Prior: Politician responsible	-0.278**	-0.097	-0.235	0.206*	0.018	0.077
	(0.085)	(0.066)	(0.161)	(0.091)	(0.111)	(0.178)
Constant	-0.652**	-1.285**	-1.023**	0.198*	0.327**	0.737**
	(0.081)	(0.065)	(0.123)	(0.087)	(0.109)	(0.139)
Observations	982	1,013	193	999	1,057	224
R-squared	0.041	0.075	0.185	0.070	0.229	0.241

Notes: OLS. The dependent variable is a five-point Likert scale, taking value 1 if a respondent expects the politician to loose a lot of votes, 5 if expected to gain a lot of votes. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F10: Expected Change in Future Votes - Likert Scale (Ordered Probit)

DV:		Expect	ed change in vot	es (5-point I	Likert scale)	
		Bad road	S		Good road	ds
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.326**	-0.693**	-0.542**	0.506**	0.962**	0.688**
	(0.072)	(0.083)	(0.189)	(0.070)	(0.076)	(0.174)
Prior: Politician responsible	-0.274**	-0.153	-0.302	0.167*	0.051	0.080
	(0.079)	(0.102)	(0.191)	(0.074)	(0.102)	(0.176)
Observations	982	1,013	193	999	1,057	224
Pseudo R-squared	0.016	0.064	0.104	0.024	0.096	0.103

Notes: Ordered probit. The dependent variable is a five-point Likert scale, taking value 1 if a respondent expects the politician to loose a lot of votes, 5 if expected to gain a lot of votes. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F11: Expected Change in Future Votes - No Covariates

DV:			Net expected	change in	n vot	ses	
		Bad road	S			Good road	ls
Sample:	Citizens	Politicians	Bureaucrats	Citiz	ens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	)	(5)	(6)
Info: Politician responsible	-0.238**	-0.107**	-0.181*	0.363	1**	0.625**	0.410**
	(0.047)	(0.026)	(0.087)	(0.0)	52)	(0.046)	(0.098)
Prior: Politician responsible	-0.120*	-0.016	-0.098	0.12	8*	-0.008	0.029
	(0.052)	(0.033)	(0.087)	(0.0)	56)	(0.064)	(0.101)
Constant	-0.375**	-0.826**	-0.656**	0.13	8*	0.167**	0.397**
	(0.050)	(0.033)	(0.067)	(0.0]	54)	(0.063)	(0.079)
Observations	982	1,013	193	99	9	1,057	224
R-squared	0.036	0.032	0.147	0.06	62	0.216	0.220

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F12: Expected Change in Future Votes - No Covariates and No District Fixed Effects

DV:	Net expected change in votes					
		Bad road	S	Good roads		
Sample:	Citizens (1)	Politicians (2)	Bureaucrats (3)	Citizens (4)	Politicians (5)	Bureaucrats (6)
Info: Politician responsible	-0.239**	-0.102**	-0.128	0.360**	0.631**	0.455**
•	(0.047)	(0.026)	(0.082)	(0.052)	(0.047)	(0.095)
Prior: Politician responsible	-0.117*	-0.018	-0.096	0.131*	-0.033	0.041
	(0.052)	(0.032)	(0.082)	(0.056)	(0.065)	(0.096)
Constant	-0.376**	-0.827**	-0.681**	0.137*	0.185**	0.371**
	(0.049)	(0.033)	(0.064)	(0.054)	(0.064)	(0.078)
Observations	982	1,013	193	999	1,057	224
R-squared	0.031	0.015	0.020	0.049	0.145	0.094

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F13: Expected Change in Future Votes - Missing Covariates Not Imputed

DV:	Net expected change in votes						
		Bad road	S		Good road	ds	
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats	
	(1)	(2)	(3)	(4)	(5)	(6)	
Info: Politician responsible	-0.241**	-0.106**	-0.170	0.359**	0.625**	0.367**	
	(0.047)	(0.026)	(0.090)	(0.053)	(0.046)	(0.096)	
Prior: Politician responsible	-0.118*	-0.018	-0.109	0.133*	-0.011	0.029	
	(0.053)	(0.033)	(0.090)	(0.057)	(0.064)	(0.101)	
Constant	-0.374**	-0.825**	-0.654**	0.134*	0.169**	0.422**	
	(0.050)	(0.033)	(0.068)	(0.055)	(0.063)	(0.079)	
Observations	975	1,013	189	993	1,057	217	
R-squared	0.037	0.033	0.156	0.062	0.217	0.273	

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes district fixed effects and demeaned covariates. In this specification, missing covariates are not imputed. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F14: Expected Change in Future Votes - Subcounty Fixed Effects

DV:	Net expected change in votes					
		Bad road	S		Good road	ds
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.262**	-0.107**	-0.178	0.351**	0.623**	0.513**
	(0.049)	(0.029)	(0.168)	(0.055)	(0.050)	(0.155)
Prior: Politician responsible	-0.114*	-0.043	-0.021	0.120*	-0.022	0.072
	(0.054)	(0.038)	(0.172)	(0.060)	(0.073)	(0.207)
Constant	-0.367**	-0.804**	-0.672**	0.148**	0.179*	0.335**
	(0.051)	(0.037)	(0.112)	(0.057)	(0.071)	(0.120)
Observations	982	1,013	173	999	1,057	201
R-squared	0.111	0.207	0.877	0.123	0.379	0.887

Notes: Replication of Table 3 with subcounty fixed effects (OLS). The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table F15: Expected Change in Future Votes - Sample Restricted to Men

DV:	Net expected change in votes					
	Bad r	oads	Good roads			
Sample:	All citizens	Men only	All citizens	Men only		
	(1)	(2)	(3)	(4)		
Info: Politician responsible	-0.238**	-0.223	0.361**	0.227		
	(0.047)	(0.167)	(0.052)	(0.243)		
Prior: Politician responsible	-0.120*	-0.105	0.138*	0.063		
	(0.052)	(0.196)	(0.056)	(0.278)		
Constant	-0.376**	-0.566*	0.132*	0.455		
	(0.050)	(0.265)	(0.054)	(0.356)		
Observations	982	86	999	66		
R-squared	0.037	0.072	0.063	0.096		

Notes: The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change n votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

# G Reasoning for Allocation of Responsibility

To assess the extent to which perceived lower power or quality of outsider bureaucrats are driving our results, we run a horserace between the power index and the first quality index, for which we have measures for the same subset of respondents.<sup>38</sup> Table G1 summarizes the results.

Table G1: Determinants of Perceived Politician Responsibility

	(1)	(2)	(3)
Perceived bureaucrat power (index)	-0.026*	-0.028*	
	(0.013)	(0.013)	
Perceived bureaucrat quality (index 1)	-0.024		-0.029
	(0.017)		(0.017)
Assigned to bad roads	0.020	0.019	0.026
	(0.021)	(0.021)	(0.020)
Outsider bureaucrat	0.111**	0.111**	0.116**
	(0.020)	(0.020)	(0.020)
Info: Politician responsible	-0.010	-0.010	-0.009
	(0.020)	(0.020)	(0.020)
Constant	0.631**	0.631**	0.626**
	(0.021)	(0.021)	(0.021)
N	2,024	2,024	2,024
$\mathbb{R}^2$	0.026	0.025	0.024

Notes: OLS. The dependent variable is an indicator variable for whether the respondent deems the hypothetical politician as primarily responsible for the quality of services in the subcounty, measured prior to exposure to any treatments. Perceived bureaucrat power is an average z-score index consisting of how likely a respondent considers it that the hypothetical bureaucrat (i) has power, (ii) has strong social ties, and (iii) is well informed. Perceived bureaucrat quality is an average z-score index consisting of how likely a respondent considers it that the hypothetical bureaucrat (i) work hard and (ii) does not engage in patronage. All index components are measured on a 6-point Likert scale. All specifications include district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

<sup>&</sup>lt;sup>38</sup>Since respondents were randomly assigned to receive either the power and quality 1 module or the quality 2 module, we cannot run this analysis with the second quality index.

A pilot survey provides additional evidence that citizens attribute responsibility to bureaucrats when they are perceived as powerful. In the survey, we asked 377 small business owners in peri-urban areas to explain why they thought the politician or bureaucrat was more to blame for poor roads. Of those who blamed the bureaucrat, 74% explained their response in terms of the bureaucrat's power or connections to high-level government.<sup>39</sup> Table G2 presents the full results for this question.

Why is it the Chief's fault? (n=141)					
%	Response				
35%	Is in charge of implementation & oversight of government projects				
24%	Is the boss/formally in charge of subcounty				
15%	Is part of government/is connected to higher-level government				
9%	Has power over finances				
8%	Is a professional/is neutral/is not part of politics				
4%	Has more information about the subcounty				
1%	Is from another district				
1%	Because the LC3 is powerless				
1%	Is well educated				
1%	He does it on purpose				

Why	Why is it the LC3's fault? (n=236)				
%	Response				
39%	He/she is elected				
17%	Comes from the same area				
17%	Has more information about what citizens need				
14%	LC3s make promises during campaigns				
5%	They are supposed to monitor government projects				
4%	Has more power/is the head of the subcounty				
2%	Should pass on information/lobby the district or MPs				
1%	Is easier to access				

Table G2: Open-ended responses for why the bureaucrat or politician is to blame, citizens (pilot)

<sup>&</sup>lt;sup>39</sup>The modal explanation for blaming the politician was that she "is elected".

# **H** Additional Analyses

Table H1: Heterogeneous Effects by Ethnicity (Table 2)

DV:	Politician Pr	rimarily Responsible
	Citizens	Politicians
Outsider bureaucrat	0.078**	0.049
	(0.022)	(0.038)
Outsider x Main ethnic group	-0.007	-0.040
	(0.026)	(0.042)
Main ethnic group	0.024	0.011
	(0.020)	(0.031)
Assigned to bad roads	0.020	-0.073**
	(0.012)	(0.016)
Constant	0.632**	0.859**
	(0.017)	(0.029)
Observations	6,080	2,032
R-squared	0.011	0.045
10-5quareu	0.011	0.040

Notes: OLS. The dependent variable is an indicator for whether the respondent's prior is that the politician is primarily responsible for the quality of roads. Outsider is an indicator for whether the hypothetical local bureaucrat was described as coming from another district as opposed to being posted in his home district. Main ethnic group indicates whether the respondent belongs to the modal ethnic group in the subcounty. The specification includes demeaned covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H2: Heterogeneous Effects by Ethnicity (Table 3)

DV:	Net expected change in votes					
	Bad	roads	Good roads			
Sample:	Citizens	Politicians	Citizens	Politicians		
	(1)	(2)	(3)	(4)		
Info: Politician responsible	-0.286**	-0.181**	0.249*	0.781**		
	(0.087)	(0.063)	(0.099)	(0.110)		
Info x Main ethnic group	0.070	0.091	0.151	-0.189		
	(0.103)	(0.070)	(0.118)	(0.122)		
Main ethnic group	-0.072	-0.061	-0.051	0.123		
	(0.082)	(0.051)	(0.092)	(0.091)		
Prior: Politician responsible	-0.118*	-0.014	0.122*	-0.007		
	(0.053)	(0.034)	(0.057)	(0.064)		
Constant	-0.327**	-0.779**	0.183*	0.063		
	(0.078)	(0.053)	(0.084)	(0.100)		
Observations	962	1,013	975	1,057		
R-squared	0.038	0.035	0.062	0.219		

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible.  $Main\ ethnic\ group$  indicates that the respondent belongs to the modal ethnic group in the subcounty. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H3: Expected Change in Future Votes - Including Interaction Term

DV:	Net expected change in votes						
	Bad roads			Good roads			
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats	
	(1)	(2)	(3)	(4)	(5)	(6)	
Info: Politician responsible	-0.231**	-0.112	-0.074	0.409**	0.384**	0.332*	
	(0.088)	(0.060)	(0.114)	(0.092)	(0.116)	(0.130)	
Info x Prior: Politician responsible	-0.009	0.006	-0.241	-0.041	0.287*	0.161	
	(0.105)	(0.067)	(0.182)	(0.113)	(0.127)	(0.204)	
Prior: Politician responsible	-0.115	-0.021	0.001	0.177*	-0.156	-0.033	
	(0.074)	(0.049)	(0.120)	(0.084)	(0.091)	(0.143)	
Constant	-0.379**	-0.823**	-0.700**	0.104	0.291**	0.429**	
	(0.062)	(0.045)	(0.074)	(0.069)	(0.083)	(0.090)	
Observations	982	1,013	193	999	1,057	224	
R-squared	0.037	0.033	0.166	0.064	0.221	0.257	

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H4: Expected Change in Future Votes - Including Interaction Term

DV:	Net expected change in votes					
	Bad roads			Good roads		
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats
	(1)	(2)	(3)	(4)	(5)	(6)
Info: Politician responsible	-0.243**	-0.105**	-0.315*	0.326**	0.671**	0.493**
	(0.056)	(0.029)	(0.140)	(0.065)	(0.050)	(0.151)
Prior: Bureaucrat responsible	0.116	0.021	-0.001	-0.198*	0.156	0.033
	(0.074)	(0.049)	(0.120)	(0.083)	(0.091)	(0.143)
Info x Prior	0.017	-0.006	0.241	0.104	-0.287*	-0.161
	(0.104)	(0.067)	(0.182)	(0.112)	(0.127)	(0.204)
Constant	-0.495**	-0.844**	-0.698**	0.290**	0.135**	0.396**
	(0.040)	(0.021)	(0.092)	(0.046)	(0.035)	(0.105)
Observations	982	1,013	193	999	1,057	224
R-squared	0.037	0.033	0.166	0.065	0.221	0.257

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected.  $Prior_Bur$  is an indicator variable for whether the respondent's initial belief was that the *bureaucrat* was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H5: Expected Change in Future Votes - Split by Priors (Citizen Sample)

DV:	Net expected change in votes						
	Bad	roads	Good	roads			
Prior:	Pol responsible	Bur responsible	Pol responsible	Bur responsible			
	(1)	(2)	(3)	(4)			
Info: Politician responsible	-0.241**	-0.231*	0.312**	0.392**			
	(0.055)	(0.096)	(0.064)	(0.096)			
Constant	-0.498**	-0.382**	0.300**	0.119			
	(0.039)	(0.067)	(0.045)	(0.072)			
Observations	683	281	647	327			
R-squared	0.040	0.032	0.060	0.065			

Notes: OLS, sample restricted to citizens. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Columns (1) and (3) report results for the subset of respondents whose prior was that the hypothetical politician was primarily responsible for the quality of roads in the subcounty, for good and bad roads, respectively. Columns (2) and (4) report results for the subset of respondents whose prior was that the hypothetical bureaucrat was primarily responsible instead. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. All specifications include demeaned controls and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H6: Expected Change in Future Votes - Including Interaction Between Info and Outsider

DV:	Net expected change in votes						
	Bad roads			Good roads			
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats	
	(1)	(2)	(3)	(4)	(5)	(6)	
	العالمة والماد	المادة و م	0.110	المادة و م	مادماد ماد مادماد مادماد مادماد	مادماد م	
Info: Politician responsible	-0.264**	-0.136**	0.110	0.349**	0.565**	0.479**	
	(0.068)	(0.038)	(0.128)	(0.073)	(0.065)	(0.137)	
Outsider bureaucrat	-0.041	-0.021	0.275*	-0.099	-0.046	0.091	
	(0.067)	(0.038)	(0.120)	(0.076)	(0.066)	(0.139)	
Info x Outsider bureaucrat	0.051	0.056	-0.533**	0.024	0.123	-0.156	
	(0.094)	(0.053)	(0.180)	(0.104)	(0.093)	(0.198)	
Prior: Politician responsible	-0.118*	-0.018	-0.099	0.143*	-0.008	0.044	
	(0.052)	(0.034)	(0.087)	(0.057)	(0.064)	(0.103)	
Constant	-0.356**	-0.814**	-0.805**	0.176**	0.188**	0.346**	
	(0.059)	(0.038)	(0.089)	(0.065)	(0.070)	(0.106)	
Observations	982	1,013	193	999	1,057	224	
R-squared	0.037	0.035	0.201	0.066	0.219	0.257	

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Outsider is an indicator for whether the bureaucrat is originally from another district. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H7: Expected Change in Future Votes - Including Interaction Between Prior and Outsider

DV:	Net expected change in votes						
	Bad roads			Good roads			
Sample:	Citizens	Politicians	Bureaucrats	Citizens	Politicians	Bureaucrats	
	(1)	(2)	(3)	(4)	(5)	(6)	
Prior: Politician responsible	-0.067	-0.049	-0.063	0.070	-0.103	0.062	
	(0.072)	(0.046)	(0.137)	(0.077)	(0.091)	(0.150)	
Outsider bureaucrat	0.063	-0.045	0.077	-0.192*	-0.137	0.030	
	(0.088)	(0.060)	(0.121)	(0.092)	(0.116)	(0.132)	
Prior x Outsider bureaucrat	-0.110	0.066	-0.092	0.158	0.182	-0.034	
	(0.105)	(0.066)	(0.188)	(0.113)	(0.127)	(0.205)	
Info: Politician responsible	-0.238**	-0.106**	-0.164	0.359**	0.627**	0.404**	
	(0.047)	(0.026)	(0.089)	(0.052)	(0.046)	(0.098)	
Constant	-0.403**	-0.805**	-0.696**	0.217**	0.238**	0.381**	
	(0.063)	(0.043)	(0.091)	(0.068)	(0.086)	(0.098)	
Observations	982	1,013	193	999	1,057	224	
R-squared	0.038	0.034	0.159	0.068	0.219	0.255	

Notes: OLS. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change in votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Outsider is an indicator for whether the bureaucrat is originally from another district. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H8: Share of Respondents Considering the Politician as Primarily Responsible

Sample	Bad roads	Good roads	p-value
Citizens	70.53	68.67	0.111
Politicians	80.28	87.52	0.000
Bureaucrats	41.62	53.04	0.026

*Notes:* The dependent variable is an indicator variable for whether the respondent's initial belief was that the politician was responsible. The p-value results from a two-sided t-test of a difference in means.

Table H9: Blame and Bureaucrat's Identity - Interacted with Quality of Roads

Dependent variable:	Perceive politician as primarily responsible					
Sample:	Citizens	All Officials	Politicians	Bureaucrats		
	(1)	(2)	(3)	(4)		
Outsider bureaucrat	0.061**	0.010	-0.023	0.205**		
A 2 1 4 - 1 - 1 - 1 1 -	(0.016)	(0.024)	(0.023)	(0.075)		
Assigned to bad roads	0.007 $(0.016)$	-0.112** (0.024)	-0.113** (0.023)	-0.056 $(0.074)$		
Outsider x Assigned to bad roads	0.023	0.058	0.079*	-0.102		
Constant	(0.023) $0.656**$ $(0.012)$	(0.033) $0.818**$ $(0.017)$	(0.032) $0.887**$ $(0.016)$	(0.107) $0.424**$ $(0.052)$		
Observations R-squared	6,251 0.011	2,410 0.037	2,032 0.047	378 0.119		

Notes: Replication of Table 2 (OLS). The dependent variable is a dummy for whether the respondent's prior is that the politician is primarily responsible for the quality of service delivery. The independent variable is whether the local bureaucrat was described as coming from another district (Outsider) as opposed to being posted in his home district. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H10: Any Expected Change in Future Votes

DV:	Net expected change in votes				
Sample:	Citizens	Politicians	Bureaucrats		
	(1)	(2)	(3)		
Info: Politician responsible	0.063**	0.063**	0.085*		
	(0.020)	(0.014)	(0.037)		
Assigned to bad roads	0.007	0.072**	0.028		
	(0.020)	(0.015)	(0.037)		
Info x Assigned to bad roads	-0.012	-0.020	-0.053		
	(0.028)	(0.020)	(0.054)		
Prior: Politician responsible	0.038*	-0.003	0.010		
	(0.015)	(0.013)	(0.028)		
Constant	0.827**	0.880**	0.875**		
	(0.018)	(0.015)	(0.028)		
Observations	1,981	2,070	417		
R-squared	0.019	0.079	0.090		

Notes: OLS. The dependent variable takes value 1 if a respondent expects a politician to either lose or gain votes, 0 otherwise. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible. The specification includes covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.

Table H11: Expected Change in Future Votes – Heterogeneous Treatment Effects by Citizen Education and Wealth

DV:	Net expected change in votes			tes
	Bad roads		Good	roads
	(1)	(2)	(3)	(4)
Info: Politician responsible	-0.294**	-0.279**	0.396**	0.482**
	(0.067)	(0.067)	(0.073)	(0.075)
Info x High education	0.112		-0.072	
	(0.094)		(0.105)	
High education	-0.027		0.035	
	(0.070)		(0.079)	
Info x High wealth		0.080		-0.225*
		(0.094)		(0.104)
High wealth		-0.047		0.216**
		(0.072)		(0.080)
Prior: Politician responsible	-0.114*	-0.115*	0.138*	0.137*
	(0.052)	(0.052)	(0.056)	(0.056)
Constant	-0.366**	-0.354**	0.118	0.019
	(0.061)	(0.060)	(0.067)	(0.070)
Observations	982	982	999	999
R-squared	0.038	0.037	0.064	0.069
		0.031		0.003
Coefficient (Info $+$ Info $x$ High education)	-0.182		0.324	
P-value (Info + Info x High education)	0.006		0.000	
Coefficient (Info $+$ Info $x$ High wealth)		-0.199		0.256
P-value (Info + Info x High wealth)		0.003		0.000

Notes: OLS. The sample consists of citizens. The dependent variable takes the value -1 if a respondent expects a politician to lose votes, 0 if no change n votes is expected, and 1 if a vote gain is expected. Prior is an indicator variable for whether the respondent's initial belief was that the politician was responsible. Info is an indicator for whether the respondent was subsequently assigned to be told that the politician was actually responsible.  $High\ education$  indicates that a respondent has completed more than the sample median number of years of formal education,  $high\ wealth$  indicates that a respondent's wealth index is above the sample median. The bottom panel shows the the linear combinations of the respective coefficients, as well as the corresponding p-values and can be interpreted as the average treatment effect of information on respondents with education and wealth levels above the median. All specification include demeaned covariates and district fixed effects. Standard errors in parentheses. \*\* p<0.01, \* p<0.05.