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Distance, Services, and the Decoupling of Citizen Perceptions of the State in Rural Africa

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ABSTRACT

In most poor countries, basic services in rural areas are less accessible and of lower quality than those in urban settings. In this paper, we investigate the subnational geography of service delivery and its relationship with citizens' perceptions of their government by analyzing the relationships between service access, satisfaction with services and government, and the distance to urban centers, using data from more than 21,000 survey respondents across 17 African countries. We confirm that access to services and service satisfaction suffer from a spatial gradient. However, distant citizens are less likely than their urban peers to translate service dissatisfaction into discontent with their government; distant citizens have *more* trust in government and *more positive* evaluations of both local and national officials. Our findings suggest that increasing responsiveness and accountability to citizens as a means of improving remote rural services may be less effective than promoters of democratic governance and citizen-centered accountability presume.

INTRODUCTION

Availability, access, and quality of services vary substantially around the world, and are often defining features of a country's level of development and state capacity. There is also huge variation within many countries. In most poor countries, basic services in rural areas are less accessible and of lower quality than those in urban settings. An influential stream of research has concentrated on this urban/rural divide, arguing that development in many countries reflects an urban bias (Lipton 1977, Bates 1981). These arguments have been refined over time to incorporate variations in political systems, a broader conception of rural interests, factors that cross the divide (e.g., ethnic/religious identities), and the increased blurring of urban/rural boundaries (Varshney 1998, Allen 2010). Potter et al. (2007) discuss the multiple "geographies of development" resulting from the interactions of people, places, resources, and institutions across space and time. In this paper, we focus on the subnational geography of service delivery and its relationship with citizens' perceptions of their government. By analyzing the relationships between service access, satisfaction with services and government, and the distance to urban centers for more than 21,000 survey respondents across 17 African countries, we contribute additional nuance to the urban bias literature. At the same time, we extend substantial work linking distance to services with service outcomes (e.g., Blanford et al. 2012, Kadobera et al. 2012) to research on government legitimacy. We explore how citizen satisfaction with, and trust in, government is shaped by service access and distance to urban centers. We find that access to services and service satisfaction do, indeed, suffer from a spatial gradient, but that distant citizens are less likely than their urban peers to translate those shortcomings into discontent with their government.

A number of factors affect rural service delivery (see, for example, Ahmad and Brosio 2009). The following constitute an illustrative sampling. Central-subnational fiscal transfers may favor urban areas over rural ones and/or may be insufficient to support rural service delivery. Rural jurisdictions often face higher costs and cannot benefit from the economies of scale that urban-based services enjoy. They may have a more difficult time attracting and retaining skilled public-sector service providers. They may lack oversight and regulatory capacity and/or authority to support performance. Indeed, in some countries — for example, Madagascar (Brinkerhoff and Keener 2003) and India (Banerjee et al. 2012)—public officials use postings to rural areas as punishment for poor performance. Physical factors such as limited road and transportation networks and dispersed populations can impede access and utilization.

Below, we briefly overview the literature investigating the influence of distance from cities and major towns on services. This research tends to be country and sector specific, with the bulk of studies focused on health services. The weight of the evidence clearly points to a broadly negative spatial gradient in service availability, access, utilization, quality, and outcomes. However, little of this research has paid attention to the impact of spatial factors on how citizens perceive services, their government, and the state.

Citizen perceptions are important for several reasons. Providing security and basic services stands at the core of the social contract that connects citizens and the state. Delivering services demonstrates government willingness and capacity to respond to citizens' needs and demands. To the extent that citizens perceive government as fulfilling its side of the social contract, they are more willing to accept

state authority and legitimacy (Levi et al. 2009). Positive state-society relations are associated with various beneficial outcomes. Among those frequently cited are stability, conflict mitigation, and resilience (OECD 2008). Citizens who see government as providing valued services are more willing to participate actively in service delivery, and/or to pay taxes (Joshi and Moore 2004, Fjeldstad and Moore 2007). In short, basic service provision is at the heart of most conceptualizations of accountable governance.

One plausible claim is thus that if service access and quality decline with increased distance, so will citizens' assessments of government quality and legitimacy. Consistent with standard, aspatial concepts of accountability, this posits a direct and linear relationship between rural residents' experiences with service delivery and their perceptions of the state. However, it is also possible that certain realities of rural residence—such as tendencies toward low expectations in areas of limited statehood, a higher propensity to trust distant leaders, or strong legitimacy for traditional local leaders projected onto other state actors—divorce or temper the relationship between citizens' assessments of government legitimacy from their experiences with government services. As a result, satisfaction with government officials and trust in government may be positive even when services are absent or of poor quality. Put differently, service quality and access might weigh less in assessments of government to the extent that distant citizens expect less from the state.

We explore the relationship between distance, perceived service quality and governance with household survey data on service access, distance to towns and cities, and citizen assessments of government performance. We do so by combining georeferenced data from Afrobarometer respondents from 17 countries with data on the geolocations of thousands of towns and cities across sub-Saharan Africa. We conduct what we believe is the first cross-national analysis of the links between service access, distance, and perceptions of government performance. We seek to shed light on important questions related to service delivery and democratic governance in poor countries: Does access to government services decline with distance from cities? How do citizens assess services as their distance from urban centers grows? And how does distance mediate the relationship between citizens and their governments?

CONNECTING DISTANCE, SERVICE ACCESS, AND CITIZEN PERCEPTIONS

In this section we review the literature on spatial issues that affect service availability, access, utilization, quality, and/or outcomes in the rural areas of developing countries. Second, we look at literature that explores citizen perceptions of service quality and how it bears on perceived performance, trust in government, and legitimacy. We review these literatures with an eye toward unifying them—i.e., exploring how the spatial gradient in services might translate into citizens' assessments of government. As Guagliardo (2004) notes, spatial issues concern both the number and distribution of service providers/facilities available (potentially and actually) to users, along with the distance and time required to reach them (termed *travel impedance,* in the geographic literature).

Researchers in the health sector have investigated spatial issues extensively. Numerous studies of health services utilization and health outcomes have found that distance to facilities is an important determinant (Noor et al. 2006), and impacts on rates of facility-based births and maternal and child

mortality are well documented. Lohela et al. (2012) determine that in Malawi the "odds of facility delivery decreased by 65% for every 10 km increase in distance to closest facility." Analyzing maternal and neonatal health data from South Africa, Tlebere et al. (2007) find that transportation costs and distance from primary care facilities are significant barriers to seeking care and using health services, especially in rural areas. Tanser et al. (2006), also writing about South Africa, report that geographic accessibility of health services has a direct bearing on their utilization. They note that distance to a facility is associated with increasing maternal and infant mortality, decreased vaccination coverage, and decreased contraceptive use. Kadobera et al. (2012) document a similar finding for infant mortality in Tanzania. Blanford et al. (2012), based on data from Niger, find that children living within one hour of a health center had 1.88 times higher odds of complete vaccination by age one, compared with children living farther away.

Studies in other sectors have also exposed a spatial gradient for services. Woods (2000) investigates the link between distance and farmers' use of veterinary services in Zimbabwe, and finds that long travel distances contributed to reduced service uptake, concluding that farmers' transaction costs of contacting and accessing Veterinary Livestock Technician services grow with increased distance. Pozzi and Robinson (2008) model accessibility to livestock marketing services in the horn of Africa, and note a similar relationship between access and distance. In a study of school effectiveness in 14 sub-Saharan African countries, Lee et al. (2005) find that urban schools have higher average achievement than rural ones.

Some studies have sought to assess service quality as a component of their analyses of the impacts of distance. Lee et al.'s (2005) comparative assessment of African schools notes that rural schools tended to have larger class sizes, and to offer education in shifts; both of these qualitative features were associated with lower average student achievement. In the health sector, Malqvist et al.'s (2010) study in a district in Vietnam, which identifies an association between distance and neonatal mortality, suggests that the poorer quality of care in remote facilities was a factor in the association they found. The findings in Lohela et al. (2012) shed additional light on quality and distance: the link between maternal and neonatal mortality rates and distance was confounded by birth complications that led clinics that were unable to handle emergencies to send women to more distant hospitals. In a study of decentralized health and education services in Madagascar, Brinkerhoff and Keener (2003) find that distance and time posed a significant barrier to oversight and technical support visits to clinics and schools located far away from regional health and education offices, particularly in the rainy season. The evidence, therefore, is consistent and clear across countries that service access and quality tend to decline with increasing distance. Less clear, however, is whether or how this service gradient translates into citizen perceptions of government across countries.

A related but smaller stream of literature explores how distance affects citizens' perceptions of services and of government in particular countries, even if distance is often measured rather bluntly. Most of the available evidence points to urban residents with better access reporting greater satisfaction with services, and more confidence in the state, but also higher expectations of government. A recent study of Indian villages documents an urban-rural governance gradient: rural residents received poorer quality services than people living in urban or peri-urban areas, and their perceptions of poor quality and experience in interacting with public officials led them to expect little from the state (Krishna and

Schober 2014). A citizen satisfaction survey in Uganda focusing on health services finds a similar gradient: "the nearer patients were to Kampala, the higher their satisfaction with health services" (MeTA 2014, vi). The survey discovered that rural residents unhappy with services tend not to complain or seek resolution, which the survey analysts attribute to "low or adjusted expectations, the lack of alternatives or a lack of confidence in redress mechanisms" (MeTA 2014, vii). A study in Benin confirms the connection between citizens' perceptions and distance: "rural residents and citizens living within walking distance of a public health facility were more likely to approve of the government's performance" (Houessou 2015, 1). Similarly, in Carter's (2011) research on South Africa, urban residence was strongly associated with holding legitimating views of the government. In contrast, Upreti et al. (2014) find that, although problems with service delivery are related to more negative perceptions of government, travel time to facilities had no effect.

This country-specific work on citizen attitudes suggests that citizens' expectations of government tend to be lower in areas of weak state presence. Such areas of limited statehood may be found in urban centers, but are particularly likely in rural areas; as distance to cities increases, access to public goods and interactions with state actors become less frequent and citizens expect fewer services to be provided by the government (Börzel and Risse 2015). The overall pattern of limited state presence in rural areas is particularly stark when physical barriers, such as rivers, mountains, and dilapidated infrastructure, impede travel between rural areas and cities. As Villareal (2004) demonstrates for rural Mexico, increased distance, travel time, and cost to access government services reduce reliance on them and expectations of their salience. Krasner and Risse (2014; using data from Lee et al. 2014) show that most sub-Saharan African countries contain such areas of limited statehood, where the central government is unable to maintain authority, impose political order, or enforce rules and regulations (see also Migdal 1988). Herbst (2000) explains the persistence of weak, geographically isolated states in sub-Saharan Africa with reference to the high cost and low benefit of projecting state power into sparsely populated hinterlands, and Boone (2003) underscores the role of local production and governance in shaping the incentives for the state to project authority across space.

The links between distance, service access, and assessments of government also have important implications for debates about decentralization and whether local citizens assess local and central governments differently. There is debate over whether, for instance, an improvement in government outputs accrues to the benefit of central officials, local officials, or both; and over whether specific actors or institutions are seen as more or less legitimate. Some scholars argue that attributions based on service provision are most likely based on visibility and perceived control (Mcloughlin 2015, Stel and Ndayiragije 2014, Marvel and Girth 2016). To the extent local officials are more visible to rural residents than are distant national government representatives, we would expect attributions related to service provision to center on subnational government actors. Some also suggest that the performance of, and trust in, local officials lay the foundation for the legitimacy of higher-level officials and government in general. For example, Börzel and Risse (2015) argue that in areas of limited statehood, effective local governance can build trust in higher levels of government even in the absence of hierarchical authority: "the more [local] governance services are provided in an impartial and procedurally fair way, the more they help generate and maintain generalized trust as an enabling condition for the upscaling of governance—even in the absence of functioning state institutions" (p. 8). Similarly, Fjeldstad (2004)

suggests that the extent of citizens' fiscal compliance has its basis in local governments' capacities to provide services. Although they generally found nothing automatic about the effects of perceptions of local officials on the legitimacy of higher-level officials, Stel and Ndayiragije (2014) do identify some instances in which provincial officials with sectoral responsibilities gained approval for improvements in local service delivery.

Our synthesis of the literatures on distance and service access, and on rurality and attitudes toward government, suggests two divergent directions for the relationship between services and perceptions of the state as distance from urban centers increases. On one hand, citizens' assessments of government quality and legitimacy may become more negative as service access and quality decline with increased distance from urban settings. As distance from cities grows, service quality falls, and the challenges of gaining access to those services increase, citizens should hold poorer opinions of government officials and the institutions of government. In particular, satisfaction with, and trust in, local officials should suffer in rural areas with poor services, assuming citizens pin direct responsibility on the most proximate state actors. This hypothesis is consistent with the traditional account of the link between governance quality and accountability that underlies standard models of democracy and legitimacy. On the other hand, it may be that citizens' assessments of government legitimacy are decoupled from (or weakly coupled with) their experiences with service delivery. Where citizens have no or limited experience with the government as a service provider, they might evaluate public officials (and government more generally) on other dimensions. In this case, service quality is unlikely to serve as an engine for government accountability, since citizens simply do not expect services from government. We test these alternative relationships below.

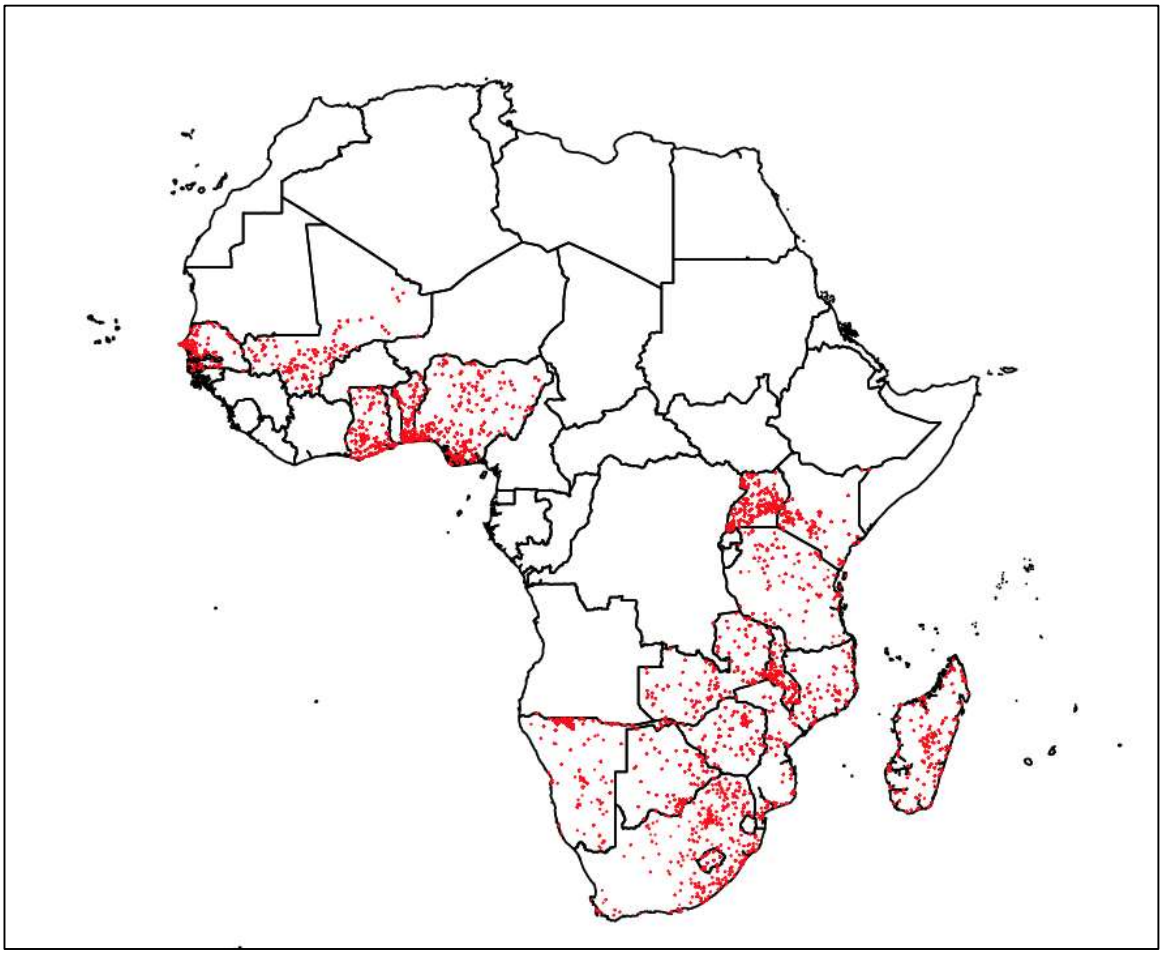
EMPIRICAL STRATEGY AND DATA

Assessing the two competing arguments outlined above would ideally employ information on distance to services, objective indicators on the quality of those services, and perceptions of government legitimacy for both decentralized and national governments along with a research design that isolates the impact of geography from individuals' self-selection into locations. However, studying the relationship between physical geography and the gradient of governance confronts a host of challenges. First, limited data exist that link citizen preferences and attitudes toward government with their physical location. It has only recently become common to geotag the location of survey respondents, and some of the biggest, multi-country efforts on this front, such as the Demographic and Health Surveys, do not ask questions bearing on governance. Second, distinguishing the causal effects of political geography on citizen attitudes is difficult since people can (to varying degrees) self-select their locations. Indeed, even very basic demographic controls that are typically included in standard survey research empirical models are, in part, a function of geography. Individuals in rural areas are, on average, poorer, less educated, and less healthy than urban residents. This challenge—distinguishing the extent to which the place makes the person versus the person self-selects into the place—is fundamental for empirical research on political and economic geography.

In the absence of an ideal experimental design and data, we relied on Round 3 of the Afrobarometer survey, conducted in 2005. To our knowledge, the Round 3 data set has the best, most

detailed georeferencing of respondents of any cross-national, governance-related survey. In the Round 3 data, respondents were geolocated to the nearest town or village.[1] The map below the location of the respondents. In order to measure distance from urban settings, we combined those respondent locations with the exact location of all 1,632 urban areas with populations greater than 5,000 in the Afrobarometer sample of countries, using an open source file available from the Geonames project.[2] This calculation allowed for the measurement of each respondent from their nearest city in kilometers.[3] Across the entire wave, the median respondent lived 15 kilometers from a city, the average respondent lived about 26 kilometers from a city, and about 4 percent of respondents lived more than 90 kilometers from a city. The resulting data set contains information on the location, distance to city, service access, and attitudes of 21,360 respondents in 17 countries.[4]

Map: The Location of Afrobarometer Round 3 Respondents



[1] While the Afrobarometer has geolocated respondents in later rounds, it has either released only quite aggregated locations or not released locations at all.

[2] http://download.geonames.org/export/dump/readme.txt , accessed 16 February 2016. There are 1,632 locations for our sample of countries.

[3] Computations were done using geodetic distances in the "geonear" package in Stata 14.

[4] Afrobarometer did not collect geolocations for 2005 respondents in Cape Verde, so we excluded it from the analysis.

As described in greater detail below, we estimated a series of multivariate models in which (1) access to services, (2) satisfaction with services, and (3) trust in and satisfaction with public officials and government alternately served as the dependent variables. In most cases, we estimated simple logistic regressions, with distance to urban areas and its square as the key independent variables and country fixed effects; the results, therefore, were driven by within-country variation.[5] As shown in Annexes A and B, our results are quite robust to more sophisticated modeling approaches that explicitly incorporate the multilevel nature of our data (including two-level, mixed-effects logistic regression) and inclusion of a set of individual-level control variables.[6] Although country-level variation in the gradient of governance is an interesting topic in its own right, we leave exploration of country-level fixed and random effects for further research. To facilitate interpretation of the results, we focus our discussion on graphic presentation of predicted probabilities and relegate tabular results to the two annexes. We describe specific measures included in the analysis below.

Service access

Unfortunately, respondents were not asked how far they had to travel to access services, but as part of each survey, enumerators were responsible for answering a series of questions such as: "Were the following services present in the primary sampling unit/enumeration area: Piped water system that most houses could access?" This question was asked of a large number of services.[7] To conserve space, we present results for a selected set of services below that are reflective of the broad patterns.[8] The results are also robust to a shorter series of questions on the difficulty of accessing services that were directly asked of respondents.[9]

Service satisfaction

While the survey covered issues of service access in considerable detail, it asked fewer questions bearing on citizen satisfaction with those services. Thus we relied on three questions bearing directly on how satisfied citizens were with the government's handling of services, including basic health services, education, and water.[10] We collapsed the four response options into an indicator measure of satisfaction.[11]

[5] The squared term allows for the reasonable possibility that the posited relationships decay in space.

[6] We were wary of saturating the models with individual-level controls given that many individual-level characteristics are themselves a function of economic geography.

[7] Services for which these data are available across countries are: post office, school, police station, electricity grid, piped water, sewage system, health clinic, recreation facilities, community buildings, and market stalls.

[8] Analyses for other services are available from the authors upon request.

[9] This alternative set of questions followed this example: "Based on your experience, how easy or difficult is it to obtain the following services? Or do you never try and get these services from government: An identity document (such as a birth certificate, driver's license, passport or voter card)?" This was also asked with reference to "household services (like piped water, electricity or telephone)," help from the police, primary school placement, and obtaining medical treatment.

[10] The precise question wording followed this blueprint: "How well or badly would you say the current government is handling the following matters, or haven't you heard enough about them to say: Improving basic health services?"

[11] The original options were: very badly, fairly badly, fairly well, very well.

Government legitimacy and performance of public officials

The survey asked a series of questions bearing on the legitimacy of government institutions as well as assessments of specific officials. We were particularly interested in how citizens assessed both national and local governments. While the former typically have a larger set of responsibilities and certainly collect the lion's share of taxes across sub-Saharan Africa, the latter are "closer" to rural citizens. A large body of work on decentralization suggests that local citizens might feel more empowered vis-à-vis local councils (see Brinkerhoff with Azfar 2010). With these issues in mind, we focus on performance assessments of the president/prime minister, who is the most important representative of the distant national government; and local councilors, who represent the most proximate officials for many rural citizens. Respondents were asked about their satisfaction with the performance of both officials over the past 12 months. For our purposes, we dichotomized the answers.[12]

"Legitimacy" is obviously a difficult, latent concept to measure, with an extensive literature (Levi et al. 2009, Sacks 2011). The best options for our analysis came from a set of questions bearing on "trust" in assorted government institutions.[13] Since the president/prime minister and specific local councilors are individuals rather than institutions, we focused on trust in "the governing party" as a proxy for the key national institution and the "local council" as the key local one. These results are robust to a wide range of different approaches to measuring the dependent variable, including other specific survey questions and constructed indices of satisfaction with and trust in government institutions.

ANALYSIS AND RESULTS

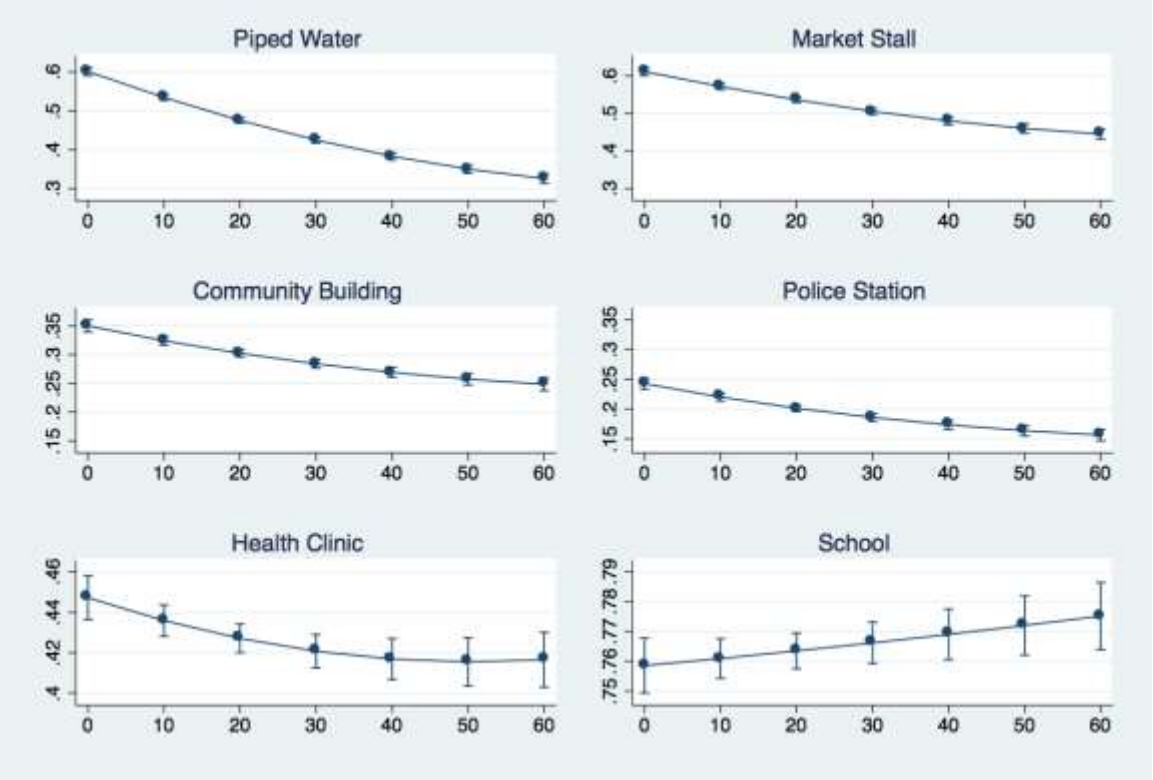
We turn first to service access. Figure 1 presents results from a series of models in which the dependent variable was a categorical measure of whether or not a service was available in the respondent's enumeration area.[14] Figure 1 uses the results from Table A.1 (see Annex A) to simulate the effect of distance on access across a range of 60 kilometers from an urban center. We present the results for six common public services—one each on the presence of piped water, market stalls, a community building, a police station, a health clinic, and a school. In five out of six cases the results showed a substantive, statistically significant negative relationship with distance.

[12] The questions followed the form: "Do you approve or disapprove of the way the following people have performed their jobs over the past twelve months, or haven't you heard enough about them to say: Your Assembly Man/Woman/Local Government Councilor?"

[13] The questions followed the form of: "How much do you trust each of the following, or haven't you heard enough about them to say: Your Elected Local Government Council?"

[14] For regression results on which Figure 1 is based, see Table A.1 in Annex A.

Figure 1: Predicted Probability of Access Across Distance (km)



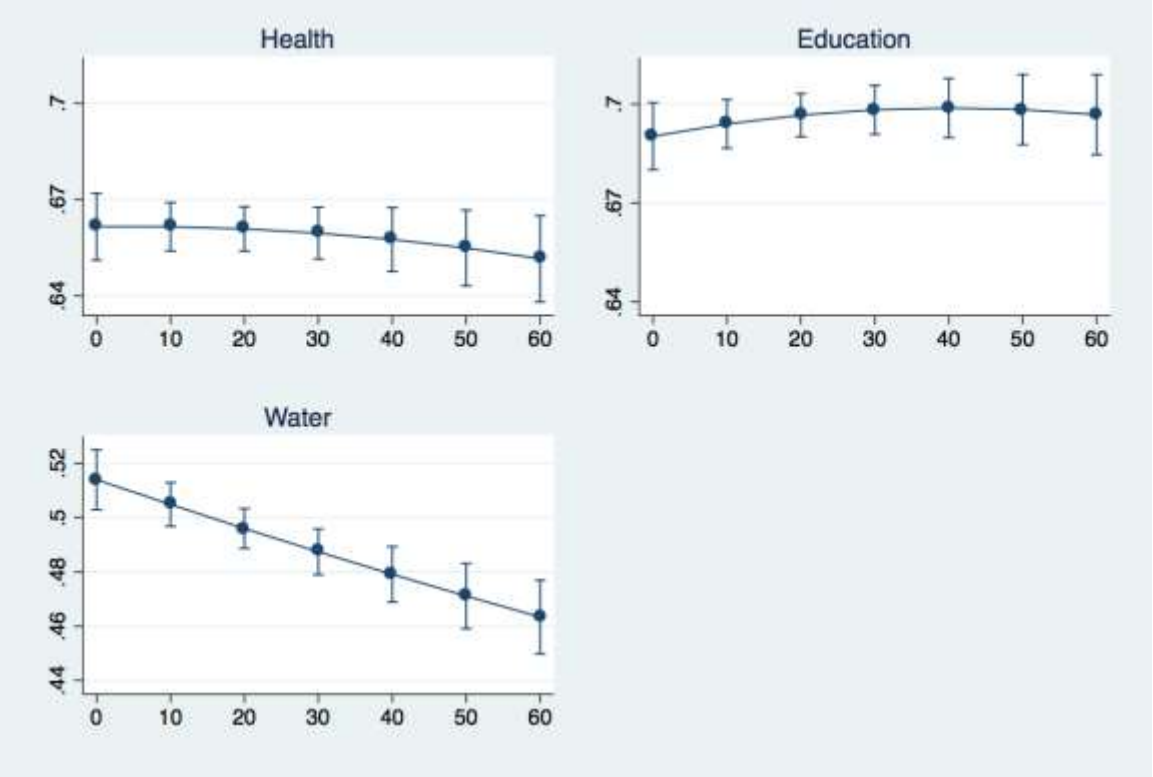
Note: The *x*-axis is distance in kilometers; the *y*-axis is the predicted probability of having access to a service in a respondent's enumeration area. The scale on the *y*-axis is different in the top, middle and lower panels, as well as for the two lowest panels. These predicted probabilities were derived from the results in Table A.1 (Annex A).

The strongest relationship was with water, where the models showed access to piped water falling by 27 percentage points (45 percent of the base rate of access in urban settings) across 60 kilometers. The predicted probability of having access to a market stall declined by 16 percentage points across 60 kilometers (26 percent of the base rate), while the predicted probability of having access to a community building and police station fell by about 10 percentage points across that distance (29 and 36 percent, respectively, off the base rates in cities). A small negative effect was evident in the predicted probability of there being a health clinic in an enumeration area, which fell by 3 percentage points across 60 kilometers. The only null was for access to schools, where distance to urban centers had no significant relationship with the presence of a school in an enumeration area.

We suspect that these latter two findings—the small effect on access to a clinic and the null on schools—reflect the tendency for urban enumeration areas to be smaller and for the catchment areas of clinics and schools to include citizens from multiple enumeration areas. They may also reflect effects of campaigns such as Education for All, which have improved enrollment rates in rural areas (UNESCO 2010). These models are representative of similar (unreported) models that we created, which also showed access to the physical infrastructure of the state generally declining with distance from cities. These results were not sensitive to the particular questions we used as dependent variables. In other words, whether we relied on indices of access or various questions that asked respondents about the

difficulty of accessing services, getting officials documents, getting help from police, and the like, access to the state generally declined with distance.

Figure 2: Predicted Satisfaction with Services Across Distance

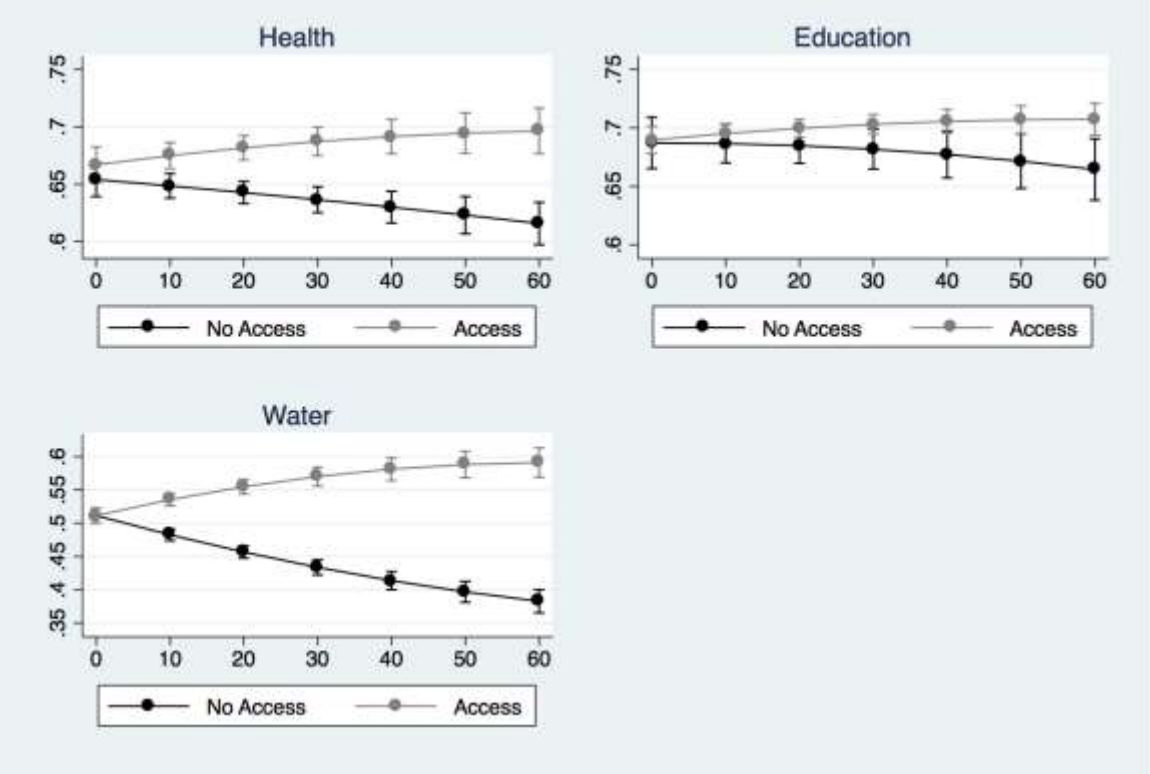


Note: The *y*-axis is the predicted probability of being satisfied with government provision of the relevant service. The scale on the *y*-axis is different in the top and lower panels. These predicted probabilities were derived from the results in Table A.2 (Annex A).

If service access is worse overall in rural areas, is that reflected in poorer assessments of service quality? As Figures 2 and 3 plus Table A.2 (Annex A) make clear, the answer is a qualified "yes."[15] As before, we estimated logit models with our distance measure, its square, and country dummies. We present the predicted probability of the average respondent being satisfied across a range of 60 kilometers from a city. Figure 2 shows that the probability of being satisfied with health and education is basically flat across distance, while satisfaction with water falls with increased distance from cities.

[15] The original options were: very badly, fairly badly, fairly well, very well. We collapsed the four response options into an indicator measure of satisfaction.

Figure 3: Predicted Service Satisfaction Conditional on Distance and Access



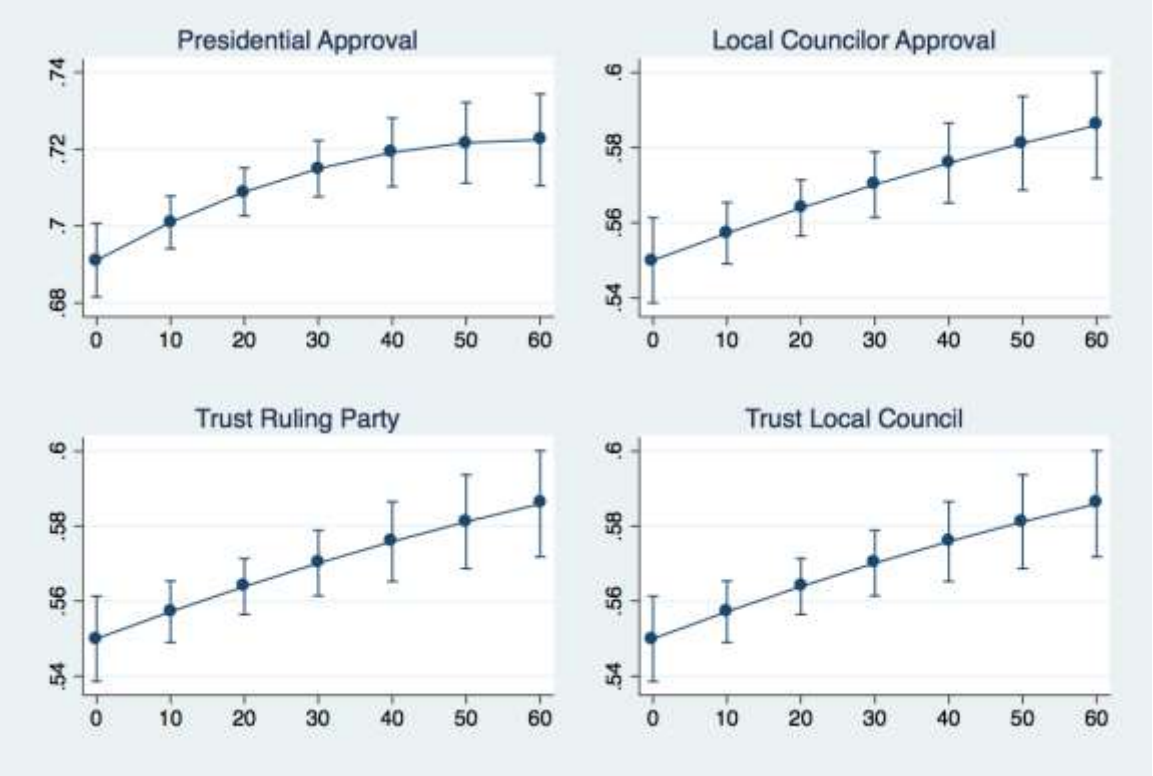
Note: The *y*-axis is the predicted probability of being satisfied with the relevant government service. The scale on the *y*-axis is different in the top and lower panels. These predicted probabilities are derived from the results in Table A.2 (Annex A).

Figure 3 helps parse these results. It shows that the impact of distance on service satisfaction is strongly mediated by whether or not citizens living far from urban centers have access to services available in their enumeration area. In these models we have simply interacted our earlier access variable with the distance measure.[16] Figure 3 shows that service satisfaction decreased with distance from cities for citizens who did not have access to those services locally (the downward sloped lines). The predicted probability of being satisfied falls by between 4 and 15 percentage points of the baseline probability across the range of distance. It is perhaps encouraging that when distant citizens did have access to health and education services, they were just as satisfied (and in the case of water, actually more satisfied!) with those services as urbanites. This finding would seem to conflict, at least partially, with the widespread perception that even when services are provided in rural areas, they tend to be delivered poorly.[17]

[16] The tabular results appear in columns 4-6 of Table A.2 (Annex A).

[17] The tables in Annex B show that these results are robust to the introduction of additional individual-level covariates.

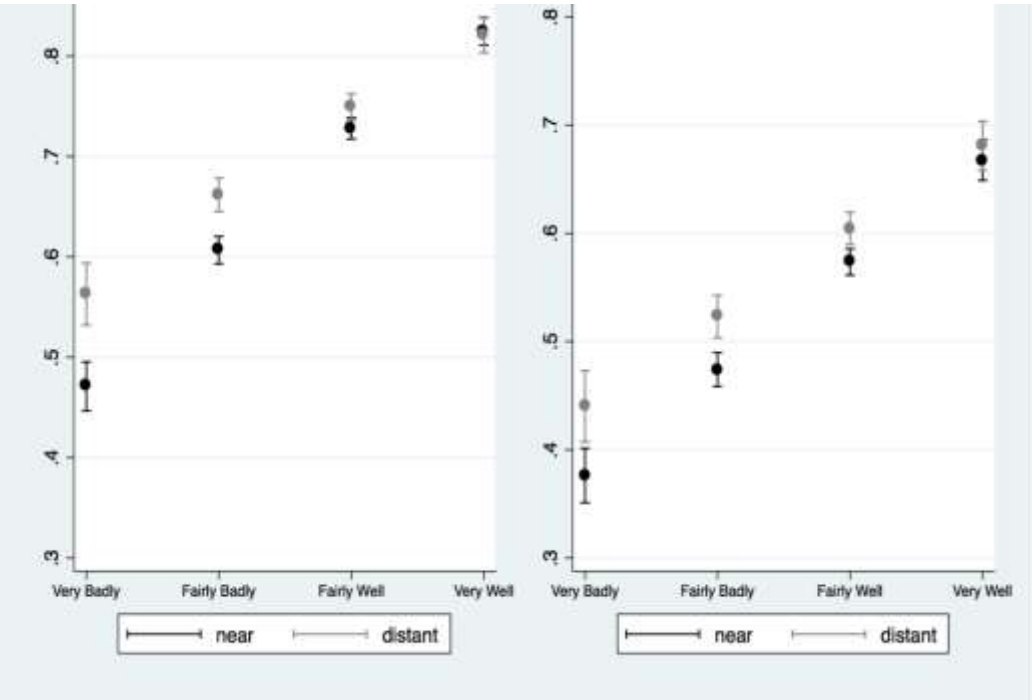
Figure 4: Government Approval, Trust, and Distance



Note: The *y*-axis is the predicted probability of being satisfied with the relevant government official or trusting the referenced institution. The scale on the *y*-axis is different for the presidential approval panel. These predicted probabilities were derived from the results in Table A.3 (Annex A).

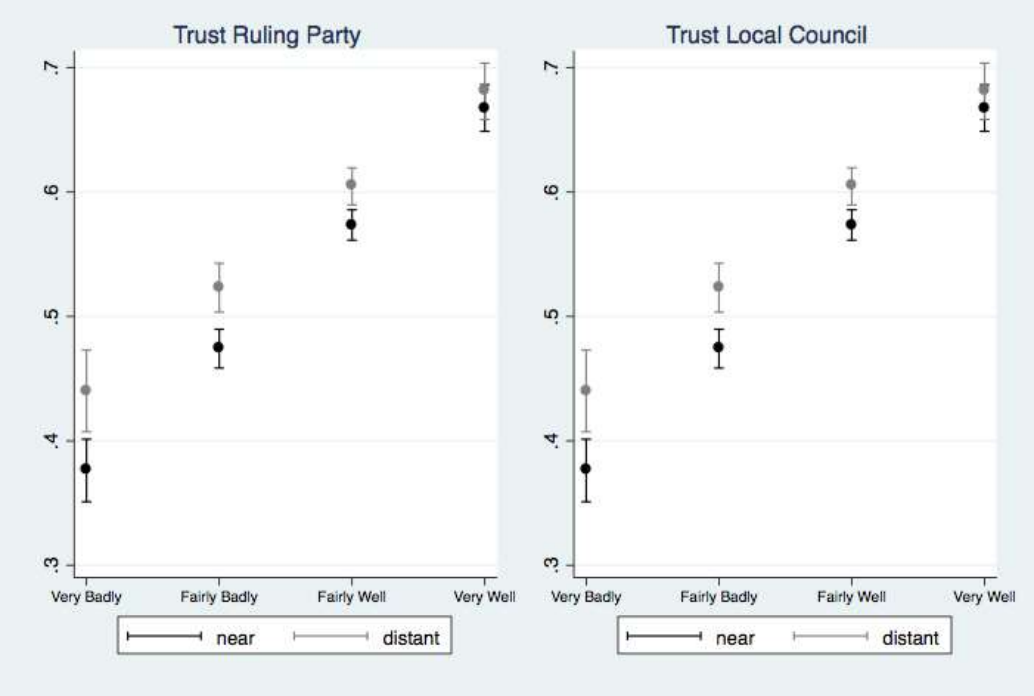
Finally, Table A.3 (see Annex A) and Figures 4 and 5 turn to how distance conditions citizens' attitudes toward government. Figure 4 shows the results for citizen approval of presidents/prime ministers and local councilors (top panel) and trust in the national ruling party and local council (bottom panel). Interestingly, the figures show a consistent pro-government bias among rural respondents. As distance from urban centers grows, respondents are more likely to approve of public officials and more likely to trust national and local institutions (this holds across a broad range of institutions not reported here). Relative to the theoretical debate discussed above, however, Figure 5 does indeed show that remote residents, i.e., those who were least likely to have access to services, weighted services less intensely in their evaluations of individual officials and the institutions of government than their counterparts in urban areas who had better access. In the corresponding models, we simply interact citizens' service assessments with distance. As the predicted probabilities in Figure 5 show, the positive rural bias toward government emerges largely from the fact that those remote residents who rated government services as "very" or "fairly" bad were more likely to approve of presidents and local councilors and trust the national ruling party and local councils. These gaps close as service assessments improve; distant rural and proximate urban residents were equally approving and trusting when they assessed services as being very good.

Figure 5a: Approval, Distance, and Service Assessment



Note: The *y*-axis is the predicted probability of being satisfied with the relevant government official or trusting the referenced institution. The scale on the *y*-axis is different in the two panels. These predicted probabilities were derived from the results in Table A.3 (Annex A).

Figure 5b: Trust, Distance and Service Assessment



Note: The *y*-axis is the predicted probability of being satisfied with the relevant government official or trusting the referenced institution. These predicted probabilities were derived from the results in Table A.3 (Annex A).

DISCUSSION

In line with prior studies, our findings confirm that access to government services does indeed decline with increased remoteness. We also find that citizen satisfaction with services declines as distance from urban centers grows. However, where distant citizens have access to services, they assess them just as positively as their urban counterparts. Intriguingly, our data and analysis reveal that distant citizens are less likely to translate poor services into negative assessments of government officials and institutions. Instead, we find that distant citizens have *more* trust in government and *more positive* evaluations of government officials, whether those officials be local or national. Service assessments do matter for attitudes toward government in both urban and rural Africa, but service access and quality play a smaller role for rural citizens. Indeed, absence (or distance, in this case) appears to "make the heart grow fonder." Our findings are consistent with the argument that citizens' experience with poor services and lack of access reduce their satisfaction, but that the relationship attenuates as citizens have less exposure to, and lower expectations of, government. In this section, we lay out implications from our interpretations of these results.

Low expectations of public services in rural areas

That service satisfaction matters less for remote citizens' perceptions of the state may reflect that citizens have learned how to manage their lives without expecting support from government. Because they have less access to services, their expectations of what the state can and should deliver are likely to be lower than in urban areas with better access (Villareal 2004). These lower expectations mean that rural residents are willing to give government a break, for a number of reasons.

First, the higher levels of trust in government, even when service delivery is perceived as very or fairly bad, may reflect rural citizens' assessments of state capacity. Particularly in remote regions where state penetration is weak, expectations of governments' contributions to services might be lower, or at least different from, where the state is better able to exercise authority (Mcloughlin 2015, Börzel and Risse 2015). In Burundi, Stel and Ndayiragije (2014) found that citizens did not expect the government to provide services directly but held it responsible for how other actors, such as nongovernmental organizations and international donors, implemented water and sanitation programs. When such programs were well-implemented, it enhanced service users' impressions of the state, which they credited with bringing in the implementing agencies.

Second, rural denizens may be concerned that complaints about bad services would result in available services (even poorly delivered ones) being withdrawn; Brinkerhoff and Keener's (2003) informants in rural Madagascar reported this reason for their reluctance to criticize poor services. Service users may reason that it is prudent to stay on the good side of public officials no matter the extent and quality of services that the government delivers (more on this topic below).

Finally, if better provision of public services is associated with increases in other government activities that citizens would prefer to avoid (e.g., tax collection, forestry permitting), they may not see a net benefit from the greater state presence that improved service delivery would require. Some of the

literature we cite above supports this interpretation (e.g., Krishna and Schober 2014, MeTA 2014, Börzel and Risse 2015).

As for the links between expectations and perceptions of local and national officials, our findings show that in both urban and rural areas, national leaders would gain more approval from improving services and raising citizen satisfaction than would local officials (Figure 5a). Indeed, our models predict presidents and prime ministers to be about 15 percentage points more popular than local councilors when service assessments were positive. This suggests that national leaders may have greater incentives than local councilors to invest in improving services. However, these incentives may not translate into increased investments in remote areas, as we discuss next.

Strong trust in government in spite of poor service delivery

Our analysis shows trust curves that look remarkably similar for national and local governments (Figure 5b). Somewhat surprisingly, rural (and urban) citizens confer almost identical trust premiums on local and national officials at all levels of satisfaction (even though approval was lower for local officials). Rural residents are less sensitive to poor services than their urban counterparts. This finding suggests that trust in local officials is not strongly rooted in approval of performance or satisfaction with services. For example, in Burundi, Stel and Ndayiragije (2014, 11) found that improved perceptions of local officials resulted not from improvements in service quality but "from the fact that 'people from the administration no longer demand money or beer before they address an issue,'" underscoring the very low expectations citizens held of these actors.

If improvements are made and expectations are met, however, citizens often shift quickly to hopes for betterment in other aspects of service provision (Housseou 2015). Although access may be an initial priority, cost and quality concerns often emerge soon after access is improved (Brinkerhoff et al. 2012, Mcloughlin 2015). If relatively high-quality services, readily available at a reasonable cost, become taken for granted—as in many higher-income countries—maintaining quality is likely to play a bigger role in citizens' trust in the state.

Such investments in rural areas may be unlikely. As Figures 5a and 5b show, both urban and remote citizens hold positive views of public officials, and poor services are less likely to translate into negative assessments of officials in distant locales. Thus, performance pressures from either urban or rural residents appear relatively mild. Further, given that investments are more costly in rural areas (due to transport costs for materials and staff, management and oversight, and so on), officials may not be inclined to invest. They may lack the necessary resources, and they could potentially realize similar (and cheaper) gains in approval from urban investments. To the extent that rural investments might raise expectations, officials may also hesitate to risk losing approval and legitimacy premiums in rural areas.

From a development policy perspective, our results are encouraging insofar as they suggest that, when rural citizens have access to services, they judge them as relatively good/equally satisfactory as compared to urban residents' assessments (Figure 3). More discouraging, however, rural governments may suffer from an incentives gap that could lead to underinvestment. While our findings offer some reassurance that such disincentives could be overcome, this should be moderated by the reality that in

many developing countries, local governments have insufficient resources and limited authority. This situation creates a governance trap that we explore in more detail in the next section.

Citizen demand and service provision

Our results call into question a key assumption in the democratic governance policy community that citizen demand is a critical driver for governments to provide better services. In our study, citizens in remote, rural locations whose satisfaction with services was low nonetheless demonstrated higher levels of trust in public officials than urban residents. One explanation is grounded in the neopatrimonialism that exists alongside the formal democratic institutions in many developing countries. As we noted above, citizens may favor good relations with public officials over complaining about poor services. In neopatrimonial societies, citizens' relationships with powerful patrons, both near and distant, may be more salient than interactions that rest upon a presumption of rights to services (Brinkerhoff and Goldsmith 2004). Remote citizens perceive government capacity to deliver services to be weak, so quality of services matters less to them in their judgments of government legitimacy than the promise of a connection to a powerful actor, however tenuous in the case of the president or prime minister, although possibly more likely with a local official.

Addressing accountability deficits has been shown to be key to improving services, and an extensive literature on the topic has emerged, given a major boost by the World Bank's 2004 World Development Report (World Bank 2004). A strong thread in this literature sees citizens, either directly or through intermediaries, as exerting pressure on governments and service providers by articulating demand and monitoring service delivery. In particular, local officials are thought to be vulnerable to pressure from underserved citizens to improve services. Our findings, however, suggest that increasing responsiveness and accountability to citizens as a means of improving remote rural services may face more limits than promoters of democratic governance and citizen-centered accountability presume.[18] Citizen demands for accountability of their distant governments are unlikely to fuel to a significant extent the expansion of services to rural Africa, absent other pressures and incentives.

Conclusion

By leveraging the geolocations of 21,000 Afrobarometer survey respondents and thousands of urban centers across 17 African countries, we have shown that distant citizens are less likely to have access to government services, are dissatisfied with those government services when they are difficult to access, but also are more tolerant of national and local governments that do a poor job of delivering services. We make three contributions. First, we place the growing body of work on distance and service outcomes under a governance lens. A substantial policy literature finds that citizens' distance to health clinics and schools is associated with poorer outcomes. Less clear has been how that distance and the corresponding poor outcomes translate into attitudes toward government. By showing that rural residents tend to assess government officials and institutions more positively than urban ones, particularly when services are poor, we illuminate how physical distance mediates political accountability. Second, we test a richer notion of political geography than one usually sees in the urban bias literature. By exploiting the

[18] Other studies have also raised questions about the extent to which citizens seek to reward or punish public officials based on satisfaction with services. See, for example, de Kadt and Lieberman (2015).

capacity to measure physical distance between respondents and urban centers, we more precisely estimate the gradient of governance. Third, we show the promise of recording geolocations in governance surveys and combining them with a growing stock of physical locations and standard tools of geospatial analysis to reveal insights into the distinctly political features of geography. Research on political and economic geography has been booming for well over a decade, but survey-based research has been somewhat slow to exploit the opportunities that the explosion in geospatial data and tools offers.

Yet even as we demonstrate ways in which physical distance conditions citizens' attitudes toward government, several limitations point to important areas for future work. First, while we have focused on the distance between citizens and towns, it could be that other distances also matter. The challenge is both theoretical and empirical. Theoretically, research on urban bias has not, for the most part, been clear whether the salient distance is to any urban center, the capital of the national government, or perhaps even to the capital of regional or district governments. The urban-bias arguments that emphasize the importance of collective action in cities seem to suggest that any urban agglomeration is relevant. However, more explicitly political arguments would seem to suggest that political capitals are the key urban centers. To the best of our knowledge, little analytical effort has been applied to the question of whether subnational political capitals might trigger a distinctly subnational form of urban bias. As an empirical matter, testing such notions in our sample would require the geolocations of all decentralized governments in the Afrobarometer set of countries, which would call for substantial work.

Second, given that distant citizens are less likely to have access to government-provided services and that state capacity more generally seems to decline with increased distance from urban settings, it is important that researchers and policy makers gain a better understanding of the alternative mechanisms through which rural citizens solve problems. Rather than relying on the state, many distant citizens rely on nonstate actors—chiefs/tribes, foreign donors, nongovernmental organizations, and private service providers—for basic services. Recent work linking strong precolonial tribal hierarchies to better contemporary governance and development outcomes (Osafo-Kwaako and Robinson 2013, Bandyopadhay and Green 2012, Michalopoulos and Papaioannou 2013) and the capacity of contemporary chiefs to promote better service outcomes (Baldwin 2016) provides a beginning point for thinking about the role of tribes and traditional governance regimes. Still, systematic research is lacking on why some tribal leaders function as "development brokers" while others govern rapaciously. Even less is known about whether and how local citizens are able to hold nonstate actors accountable, even though these are important service providers for many citizens in rural Africa.

Third and finally, our research is both observational and correlational in nature. We are very far from having causally identified the way in which distance affects citizens, governments, and the relationship between the two. Physical distance between citizens and capital cities or urban centers is obviously not subject to experimental manipulation, but additional research would benefit from more rigorous attention to causal identification. One could, for instance, combine a panel survey with geolocated physical manifestations of state effort—schools, clinics, government buildings, etc.—and focus on how newly built projects and corresponding changes in the distance between citizens and their government shape attitudes toward governance. Another possibility would be to focus on how distance to district capitals changes, exogenously perhaps, with redistricting (district proliferation is a common

phenomenon in many developing countries; see Grossman and Lewis 2014), to see whether and how citizens change their perceptions of the state.

The physical geography of government looms large in citizens' lives throughout the world. Poor parents in the United States who live far from schools and do not have a car face hurdles in attending a parent-teacher consultation or a school board meeting. Those barriers are even starker for the world's poorest and rural citizens, who live in countries where the state is weak and its reach is limited to distant urban centers. We have made a small step in understanding how physical distance shapes citizen-state relations in such places, but there is much to learn. Extending this research is crucial to crafting policy solutions that overcome the challenges of remoteness.

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ANNEX A. TABULAR RESULTS

Table A.1: Access to Services and Distance

	Piped Water	Market Stall	Comm. Building	Police Station	Health Clinic	School
Distance	0.966***	0.981***	0.987***	0.985***	0.994***	1.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002
Distance^2	1.000***	1.000***	1.000***	1.000***	1.000***	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000	(0.000)
Pseudo R-sq	0.154	0.060	0.101	0.106	0.087	0.130
AIC	21308.8	23562.0	20595.9	16402.3	22476.3	17283.3
N	21024	21038	20566	20935	20776	21147

Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.
* p<0.05, **<.01, ***<.001

Table A.2: Satisfaction with Services, Access, and Distance

	Health	Education	Water	Health	Education	Water
Distance	1.000	1.002	0.996***	0.997	1.000	1.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)
Distance^2	1.000	1.000**	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Access				1.064	1.013	2.108***
				(0.056)	(0.068)	(0.107)
Access X Distance				1.007**	1.003	1.000
				(0.003)	(0.003)	(0.002)
Access X Distance^2				1.000	1.000	1.000
				(0.000)	(0.000)	(0.000)
pseudo R-sq	0.058	0.095	0.065	0.061	0.096	0.083
AIC	25418.0	23308.2	26928.4	21285.0	23060.5	22401.4
N	20947	20824	20751	20379	20622	20428

Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.
* p<0.05, **<.01, ***<.001

Table A.3: Distance, Service Satisfaction, and Attitudes Toward Government

	Presidential Approval	Local Councilor Approval	Trust Ruling Party	Trust Local Council	Presidential Approval	Local Councilor Approval	Trust Ruling Party	Trust Local Council
Distance	1.006***	1.003**	1.010***	1.008***	1.019***	1.012*	1.025***	1.015**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.006)	(0.006)	(0.006)	(0.006)
Distance^2	1.000***	1.000	1.000***	1.000***	1.000*	1.000	1.000***	1.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Service Satisfaction					1.932***	1.557***	1.733***	1.441***
					(0.063)	(0.048)	(0.053)	(0.043)
Service Satisfaction X Distance					0.997*	0.998	0.996**	0.998
					(0.002)	(0.001)	(0.001)	(0.001)
Service Satisfaction X Distance^2					1.000	1.000	1.000*	1.000
					(0.000)	(0.000)	(0.000)	(0.000)
Pseudo R-sq	0.152	0.081	0.107	0.086	0.189	0.100	0.132	0.099
AIC	18120.1	20837.1	21194.7	21278.8	17058.8	20054.1	20200	20571.1
N	20393	19309	20328	19873	20020	18969	19949	19486

Log-odds with standard errors in parentheses.

Country dummies excluded for presentational purposes.

* p<0.05, **<.01, ***<.001

ANNEX B. SUPPLEMENTARY ROBUSTNESS CHECKS

Table B.1: Results with Additional Controls (refer to Table A.1)

	Piped Water	Market Stall	Comm. Building	Police Station	Health Clinic	School
Distance	0.971***	0.983***	0.990***	0.988***	0.996**	1.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Distance^2	1.000***	1.000***	1.000***	1.000***	1.000***	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SES	1.366***	1.090***	1.126***	1.152***	1.066***	1.020
	(0.019)	(0.013)	(0.016)	(0.017)	(0.013)	(0.015)
gender	1.205***	1.101**	1.101**	1.129**	1.112**	1.053
	(0.042)	(0.035)	(0.041)	(0.045)	(0.036)	(0.041)
age	0.999	1.002	1.002	0.997	1.003*	1.004*
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
education	1.212***	1.112***	1.091***	1.127***	1.114***	1.063***
	(0.014)	(0.011)	(0.013)	(0.014)	(0.012)	(0.013)
Pseudo R-sq	0.209	0.071	0.113	0.126	0.096	0.133
AIC	19291.583	22524.723	19618.566	15518.415	21521.543	16741.310
N	20387	20398	19941	20301	20142	20493

Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.
* p<0.05, **<.01, ***<.001

Table B.2: Results with Additional Controls (refer to Table A.2)

	Health	Education	Water	Health	Education	Water
Distance	1.002	1.004**	0.999	1.000	1.000	1.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)
Distance^2	1.000**	1.000***	1.000	1.000	1.000	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Access				1.014	1.013	2.108***
				(0.055)	(0.068)	(0.107)
Access X Distance				1.007**	1.003	1.000
				(0.003)	(0.003)	(0.002)
Access X Distance^2				1.000	1.000	1.000
				(0.000)	(0.000)	(0.000)
SES	1.189***	1.177***	1.327***	1.184***		
	(0.015)	(0.016)	(0.017)	(0.015)		
gender	1.017	1.003	1.061	1.006		
	(0.034)	(0.035)	(0.034)	(0.034)		
age	0.998	0.998	1.001	0.998		
	(0.001)	(0.001)	(0.001)	(0.001)		
education	0.987	0.946***	0.992	0.987		
	(0.011)	(0.011)	(0.010)	(0.011)		
pseudo R-sq	0.070	0.104	0.065	0.072	0.096	0.083
AIC	20943.257	19249.232	26928.4	20373.614	23060.5	22401.4
N	20307	20200	20751	19789	20622	20428

Log-odds with standard errors in parentheses. Country dummies excluded for presentational purposes.
* p<0.05, **<.01, ***<.001

Table B.3: Results with Additional Controls (refer to Table A.3)

	Presidential Approval	Local Councilor Approval	Trust Ruling Party	Trust Local Council
Distance	1.007***	1.003*	1.009***	1.007***
	(0.001)	(0.001)	(0.001)	(0.001)
Distance^2	1.000***	1.000	1.000***	1.000***
	(0.000)	(0.000)	(0.000)	(0.000)
SES	1.195***	1.121***	1.108***	1.092***
	(0.017)	(0.014)	(0.014)	(0.014)
gender	1.084*	1.044	1.016	1.043
	(0.040)	(0.035)	(0.035)	(0.035)
age	1.003*	1.003**	1.005***	1.003*
	(0.001)	(0.001)	(0.001)	(0.001)
education	0.915***	0.915***	0.865***	0.851***
	(0.011)	(0.010)	(0.010)	(0.009)
Pseudo R-sq	0.161	0.086	0.117	0.098
AIC	17414.555	20153.237	20314.628	20373.451
N	19806	18788	19723	19287

Log-odds with standard errors in parentheses.

Country dummies excluded for presentational purposes.

* p<0.05, **<.01, ***<.001

Table B.4: Descriptive Data

Variable	Observations	Mean	StDev
Distance	21,147	25.789	31.507
SES (PCA)	20,493	-0.077	1.536
Gender	20,493	0.5	0.5
Age	20,493	36.442	14.698
Education	20,493	5.094	1.996
Presidential Approval	20,393	0.697	0.46
Local Council Approval	19,309	0.558	0.497
Trust Ruling Party	20,328	0.584	0.493
Trust Local Councilor	19,873	0.566	0.496
Health Satisfaction	20,379	0.655	0.475
Education Satisfaction	20,622	0.686	0.464
Water Satisfaction	20,428	0.492	0.5
Piped Water Access	21,024	0.489	0.5
Market Stall Access	21,038	0.55	0.498
Community Building	20,566	0.282	0.45
Police Station	20,935	0.223	0.416
Health Clinic Access	20,776	0.469	0.499
School Access	21,147	0.783	0.412