

Working Paper No. 161

Do citizens reward good service? Voter responses to basic service provision in southern Africa

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Abstract

Theories of democratic governance posit that citizens should reward politicians for good service and punish them for bad. But does electoral accountability work as theorized, especially in developing country contexts? Studying southern African democracies, where infrastructural investment in basic services has expanded widely but not universally, we find a surprising answer to this question: Voters who receive services are less likely to support the incumbent. We first analyze how changes in local service provision relate to changes in voting returns at the aggregate level and then use geocoded, individual-level survey data to explore the micro-level relationships among service delivery, political attitudes, and voting intentions. We find a negative relationship between change in service provision and change in incumbent vote share. Similarly, at the individual level, those with access to basic services say that they are less likely to vote for the incumbent. We provide some preliminary evidence with respect to likely explanations for this surprising result.

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1. Introduction

Electoral accountability – the notion that citizens use the vote to influence government action – is a central tenet of democratic theory (Downs, 1957; Fearon, 1999). It continues to inform active scholarly and policy debates about the quality of government, including how to devise policies to improve the well-being of poor people in poor countries (Przeworski, Alvarez, Cheibub, & Limongi, 2000; Gerring, Thacker, & Alfaro, 2011). But does democracy work as theorized? Do citizens actually use their vote to hold politicians accountable for delivering, or failing to deliver, much-needed goods and services? Despite the centrality of this question, surprisingly little high-quality empirical evidence has been brought to bear on it, particularly in developing country contexts. In this paper, we contribute a new (and surprising) empirical answer and explore mechanisms that account for our findings.

We test the accountability hypothesis in its purest form: Do dramatic improvements in key basic infrastructural service areas – water provision, sewerage, and refuse collection – lead to increased electoral returns to the incumbent? We consider four southern African democracies and present two primary sets of empirical tests of whether accountability works as commonly assumed or hoped. First, we exploit extensive aggregate-level variation in the degree of change in service delivery coverage between 2001 and 2011 in South Africa, the largest democracy in southern Africa. Combining data from the 1999 and 2009 national elections, 2000 and 2011 local elections, and 2001 and 2011 censuses, we study how variation in the change of provision across these three different services relates to changes in voting for the incumbent party.

Strikingly, our aggregate-level analyses show that changes in access to services are negatively associated with changes in support for the incumbent. We then analyze Afrobarometer data, spatially linked to the census and electoral data, to probe whether our results hold at the individual level. The key findings replicate at the micro level in all four cases: Controlling for a host of covariates and potential confounders, access to services systematically predicts lower support for the incumbent. We then present complementary analyses of Afrobarometer data from Botswana, Namibia, and Lesotho. While our study is not an experiment, we are cautiously confident that our findings are not spurious, and present evidence to that effect.

As our findings cut against conventional expectations, they demand explanation. To investigate what drives our results, we consider a number of theoretically and contextually motivated mechanisms, and find evidence in favour of at least two. First, increases in service delivery appear to heighten citizens' awareness of, and exposure to, corruption. Corruption is a salient political issue in most developing democracies, and so increased exposure to corruption may induce shifts in voting behaviour. Second, we find that increases in service delivery appear to change voter expectations, ratcheting them upward. Once voters are provided with basic services, they may revise their expectations of government provision upward and seek out alternative parties. Finally, we find mixed evidence that our results may be driven by relative deprivation, wherein voters care less about what they have and more about what they have relative to others.

Our study has important implications for a number of literatures in political science and development. First and foremost, we contribute a new empirical answer to the question of whether electoral accountability works as is often assumed. The answer is surprising: Improved service provision is not associated with increased incumbent vote share in any of the four cases examined. Further, we approach this question in a novel and understudied setting – service provision in young democracies in the developing world.

We also contribute to broader debates about the value of democracy as a welfare-maximizing political system; if the very beneficiaries of pro-poor or pro-development policies do not reward the incumbent as expected, this may generate perverse incentives for those in power, a fact that has not gone unnoticed by South Africa's ruling African National Party (ANC) in recent years. Finally, our findings suggest that policy researchers interested in

establishing positive feedback loops between voters and politicians should be cautious about the merits of straightforward accountability.

The paper proceeds as follows. In the next section, we contextualize our study in the broader literature studying democracy, accountability, and service provision and unpack the anticipated implications of electoral accountability for voter behaviour. In Section 3, we introduce our study context and our data. In Section 4, we test the electoral accountability theory using aggregate-level data from South Africa's censuses and elections. In Section 5, we explore micro-level survey data in four southern African democracies. Section 6 presents a brief discussion considering the plausibility of a causal interpretation of our results. Section 7 proposes a number of potential explanations for our findings, and Section 8 concludes.

2. A theory of citizen behaviour under electoral accountability

We focus on the role of citizens in developing democracies. Can they use their power to enhance the overall quality of human well-being? What actions do they take to influence politicians to increase the provision of infrastructure and basic services that are foundational for leading healthy lives? We study a simple but largely untested assumption underlying democratic theory: that citizens will be more likely to reward incumbent politicians with their votes when politicians actually deliver such services.

Testing such an assumption is critical for shedding light on generations of scholarship investigating the material consequences of democratic government as compared with its alternatives (e.g. Lipset, 1959; Przeworski et al., 2000). Recent empirical work on the determinants of service delivery has also focused largely on comparisons between democracies and non-democracies (Brown, 1999; Stasavage, 2005a,b; Lake & Baum, 2001; Haggard & Kaufman, 2008; Ross, 2006).¹ While illuminating, such studies necessarily must put a "black box" around the specific workings of democratic government and largely do not parse out the roles of citizens and politicians. By contrast, our goal is to better understand how democracies work in practice, with a specific focus on the role of citizens in elections.

The concept of "electoral accountability" is rooted in the twin expectations that politicians are concerned about how citizens will vote and that citizens will use their votes to punish/reward politicians for bad/good performance (Svolik, 2013). While the first expectation – that politicians seek re-election – is relatively uncontroversial and easy to observe, the second demands more careful examination. Underpinning this expectation is an assumption about how citizens will behave if they observe government providing the very good that they say they desire. In particular, within societies in which basic services (piped water, sanitation, and electricity) are demanded but not universally provided, can we safely assume that citizens will be more likely to vote for the government that provides them?

Absent strong and conclusive evidence that democracies are outperforming the alternatives in terms of providing basic services to citizens, scholars have sought to better understand where democratic theory might be breaking down in practice. Indeed, in recent years, much research on democratic governance in developing country contexts has focused on the structural and institutional constraints on citizens' abilities to act as effective principals. A prominent explanation from this literature is that "informational asymmetries" are to blame. That is, the lack of availability of quality information about government performance amongst poor voters in poor countries can explain their sometimes surprising voting behaviour (Besley & Burgess, 2001; World Bank, 2003). As a result, a number of recent interventions have sought to increase the quality of accountability through deliberate information campaigns, though with decidedly mixed results (Bruns, Filmer, & Patrinos, 2011; Pande, 2011; Lieberman, Posner, & Tsai, 2014). Gottlieb (2015) highlights that an additional problem may be that voters lack context concerning what to expect from politicians, and

¹ For a comprehensive review of this literature, see Golden and Min (2013).

finds that citizens who are provided information about standards and expectations are more likely to sanction poor performers.

Notwithstanding the important findings from these sets of studies, a central question still remains: Absent informational and other barriers, do citizens behave as democratic theory predicts? Do they actually reward incumbents when they receive services? The closest study to the research we endeavour here is a recent analysis of the relationship between road provision and voting in contemporary Ghana (Harding, 2015), in which the author finds that an improvement in road quality leads to an increase in the incumbent party's vote share. While Harding's contribution is significant, his study considers only one form of government service, in one country. Further, given the substantial positive externalities associated with road access, it is not clear whether the effect is generated through satisfaction with roads per se or with economic returns produced by road infrastructure. It is important to consider this relationship in a range of other contexts, and we attempt to build on Harding's insights, particularly by focusing on visible and attributable goods. In a discussion of how governments are responsive to voters, Harding and Stasavage (2013) follow Mani and Mukand (2007), who argue that governments are more likely to shift resources to outcomes that are less "noisy" or more "attributable" to government. Harding (2015) makes a similar argument about voters' assessments of public goods and finds that Ghanaian voters hold politicians accountable for road investment (a visible and attributable good), but not for education quality (more noisy and less attributable). Relatedly, scholars have raised concerns about the likelihood of electoral accountability when citizens are unsure about whom to credit or to blame for services under conditions of divided governments or diverse coalitions.²

Thus, the weight of theoretical expectations about voter behaviour in the context of incomplete infrastructural service delivery are relatively straightforward: When new services are provided and visible and the party in power is easy to observe, all else equal, voters should be more likely to perceive their own lives as having improved, to credit the government for such improvements, and, most importantly, to favour the incumbent in the electoral arena.

3. Research design, study context, and data

Our research design combines analyses of fine-grained local-level data within one country (South Africa) with a range of analyses of individual-level data in four southern African democracies. At the aggregate level, we first exploit variation in the provision of services within political units over time, focusing on three-quarters of South Africa's municipalities, those that were consistently ruled by the dominant incumbent party during the study period.

Within a first-differences design, we estimate the average association between the change in service delivery (our explanatory variable, for various services) and the change in incumbent vote share (our dependent variable) within political units over time. We implement this at two aggregate levels, the municipality and the ward.³ The first-differences

² See Ashworth (2012) for a review of electoral accountability.

³ South African governance is federal in conception but substantially centralized in practice. The country is divided into nine provinces, each with its own elected parliament and government but with limited fiscal independence from the central state. Below these nine provinces sit 52 districts, and below them 234 municipalities (numbers valid at the time of writing; districts, municipalities, and wards are adjusted through a demarcation process every five years). These municipalities are the primary locus of local government and come in two different forms. Eight metropolitan municipalities administer the eight major cities in South Africa, while 226 local municipalities administer the rest of the country, including smaller cities, towns, and peri-urban and rural areas. The municipalities are further decomposed into geographically defined "wards," of which there are currently 4,277. Each ward serves as a single-member district in which voters elect councillors to represent them in the municipal council. Ward candidates almost always run as the representative of a party, and parties may replace elected councillors with other individuals during their term, reinforcing the overall power of parties.

design absorbs all time-invariant or slow-moving confounders, and we also control for the change in a range of important demographic and socioeconomic covariates. As such, our design rules out a large swath of potential confounders, isolating the effect of change in service delivery when voting behaviour in these units follows similar trends over time.

We complement this aggregate-level analysis with regression and matching analyses of individual-level data from several rounds of Afrobarometer survey data, spatially linked to the aggregate-level data. We then replicate our individual-level results in Botswana, Namibia, and Lesotho. Together, our analyses explore the association between service access (at the individual level and various levels of aggregation) and attitudes toward government and votes for the incumbent.

3.1. South African politics and service delivery

We focus primarily on the case of post-apartheid South Africa. This case is well suited to answer our primary question because we are able to observe, using high-quality data, wide variation in patterns of change in visible and attributable service delivery (water, sanitation, and refuse collection).⁴ During the fall of apartheid, the African National Congress (ANC), led by Nelson Mandela, campaigned on the promise of basic services to the newly enfranchised black majority with the slogan “A better life for all.” South Africans came to expect drastically improved delivery, and the issue has remained salient throughout the post-apartheid era. Since the first multiracial, democratic election in 1994, the state has vastly expanded basic infrastructure and services across the country while still falling far short of universal delivery.

Southern African democracies are generally well suited for testing electoral accountability as they have been ruled by dominant parties, leaving little ambiguity about responsibility for new service provision. In the South African case, the ANC has controlled the national government since 1994. Nonetheless, South Africa's is a competitive electoral system, and there is variation in whom voters choose to support. In particular, there is political heterogeneity at the local level, where roughly one-quarter of municipalities have been controlled by an opposition party.

We assume that preferences for basic services are universal, but these preferences and their salience can be easily tested using survey data. In general, in the fifth round of the Afrobarometer surveys, service delivery was the third-most-cited problem for South Africans, after unemployment and housing. Further, among those citizens who reported that they did not have direct access to water in their homes or compounds, more than 10% indicated in responses to open-ended questions that this was one of the three most important problems that government should address.⁵ Service delivery is also ubiquitous in political discourse. Protests focusing specifically on the quality of service delivery occur regularly throughout the country, and politicians have repeatedly campaigned on service delivery issues.

We focus our analyses on black South Africans, who constitute the overwhelming majority (approximately 80%) of the population. This group was most severely excluded from citizenship and service provision during apartheid.⁶ Other race groups in South Africa – notably coloureds and Asians/Indians – also lacked access to basic services to a degree in the early 1990s, but their small numbers and geographic concentration make them less suitable for the types of analyses we undertake here.

⁴ Two other studies (World Bank (2011) and Booysen (2007)) have raised the question of democratic accountability in the specific context of post-apartheid South Africa that we consider here. However, in neither case do the authors systematically investigate the relationship between service delivery and voting behaviour. See also Kroth, Larcinese, and Wehner (2015), which investigates the relationship between black enfranchisement and mass electrification.

⁵ Author analyses of Afrobarometer data.

⁶ The apartheid state classified four racial groups: black African, coloureds, Indians, and whites. These categories are still used by the South African government and remain salient to this day.

Service provision is a responsibility shared by a range of government structures at different levels, in part determined by the service of interest. Education and policing are typically administered nationally, along with electrification (due to dependence on the national grid). All three services we study in this paper – water, sanitation, and refuse – are primarily administered at the local level. Access and quality are largely determined by the particular municipal council, which serves as the front-end “retailer.”⁷ Moreover, while we consider a range of government services, we do not analyze two substantively important services, electrification and education. Electrification has documented knock-on economic effects in local communities (Dinkelman, 2011), which renders testing electoral accountability difficult (we may instead pick up the association between economic development and voting). Electricity theft also occurs throughout South Africa, making it hard to determine from census self-reports whether households actually have government-provided access. It is quite plausible that any measurement error induced by theft would act as a confounder, making inferences hard to draw. More than any other service in South Africa, electricity provision is constrained by both stock and flow delivery.⁸ Finally, the expansion of electrification services has been so extensive – with 2011 mean service coverage at more than 80% and the modal coverage level at approximately 90% – that we have less variation to explore. None of the above problems affect water, sanitation, or refuse collection in a similar way.

We also do not study education, despite its being a major budget priority for the South African government. Education is a much less attributable good, because it is hard for voters to monitor the performance of local teachers and schools (Harding, 2015). Moreover, on the metric collected through the national census – percent of children enrolled in school – there has been very little change over time. Again, these problems do not affect the services we study.

3.2. The logic of service provision

Our research design requires that changes in service delivery over time be independent of time-varying confounding variables. While the first-differences design is advantageous, we should remain cautious, because services are not randomly assigned. The primary challenge to our approach is that service provision may be politicized and targeted strategically. If this were the case, the trends in political behaviour in areas with high changes in service delivery might be very different from low-change areas, generating spurious results. Fortunately, available evidence suggests that this is not a major concern.

Service provision in South Africa is governed by the principles of the *Batho Pele* initiative, launched in 1997 by Mandela’s government, which created relatively transparent formula-based allocations for local financial support. Despite the uniformity of goals, there remains heterogeneity in the roll-out of services to those in need. As most implementation of service delivery is administered by municipal governments, the quality and reach of services is often defined by the capacity of the municipal governments themselves. While parties are able to “deploy” politicians, technocrats, and bureaucrats to some areas, the vast majority of municipal workers are sourced from local communities. The primary input for service delivery is, however, financial disbursements. These are national government allocations from the

⁷ Chapter 7 of the South African Constitution declares that one object of municipalities is “to ensure the provision of services to communities in a sustainable manner” (Sec 152(1).b). The Constitution also stipulates that municipalities must have a developmental focus: They should “give priority to the basic needs of the community” (Sec 153.a). Water services, such as the provision of clean running water to households and sewerage (hooking up homes to pipes and the provision of sanitary public toilets), as well as refuse collection and disposal, are the responsibility of the local government. Moreover, basic levels of these services are provided free of charge to all South Africans.

⁸ The South African government has done an excellent job of expanding the grid to include previously excluded areas, but has failed to increase capacity correspondingly. The result is that the country has been plagued with rolling blackouts (“load shedding”) since 2007. How should voters react to increased hook-ups if electricity flow is highly unpredictable?



treasury, which determine the fiscal resources available to particular local governments, with some funds earmarked for particular portfolios.

There are two central components to disbursements from the national treasury. The first, which represents the bulk of transfers, is known as the “local government equitable share” and is defined by a formula. The formula, reviewed every few years by a committee, typically up-weights the transfers to municipalities with higher numbers of poor households (hence “equitable”). The second is known as “local government conditional allocations,” which comprise smaller transfers of task- or project-specific funds to municipal governments. These conditional transfers are often highlighted as particularly “political,” given that there is more discretion and less transparency in determining their recipients. Typically, however, the conditional component is dwarfed by the equitable share component, suggesting that the national government has limited discretion in this regard.

There is very little reliable research into whether the disbursements from the national government are politically motivated. The most sophisticated analysis of political bias in treasury disbursements is by Kroth (2014), who analyzes disbursements to the provinces (not the municipalities). Kroth finds that there is some distortion in the (provincial) equitable share, specifically around election years; the ANC seemingly directs more funding to less competitive places. This fact makes it all the more remarkable that we will find a negative association between service delivery and intention to vote for the ANC; if the ANC is engaged in any financial targeting, it appears to be targeting the places where it is doing best, rather than places that are trending toward the opposition.

If service delivery is targeted strategically, then baseline ANC vote share should predict changes in service delivery over time. To test this, we regressed ward-level changes in service delivery (2001 to 2011) on a range of baseline covariates and ANC vote share in 1999 (national) and 2000 (local). The results of this exercise, presented in the Appendix (available online), show a precise zero estimate – there is no association between ANC vote share and service delivery changes in our study period. Together with the evidence presented by Kroth (2014), it appears that the ANC has limited discretion to influence the geographic distribution of local service delivery, and when it does, it does so in ways that likely could not account for our negative findings.⁹

3.3. Data

Our first analyses use aggregated voting data drawn from polling-place election returns from the 1999 and 2009 national elections and the 2000 and 2011 local elections.¹⁰ We combine these with aggregate data from the South African censuses of 2001 and 2011, which enumerated household access to various services, as well as a range of social and demographic factors of interest. We aggregate the data to the 2011 municipal (n=234) and ward levels (n=4,277). While the ANC remains hegemonic in South African politics, the party’s electoral performance has varied across time and place.¹¹

⁹ A body of research studying distributive politics in sub-Saharan Africa finds that when targeting occurs, it is usually to groups that are allied to those in power, not to opposition groups. As such, if the ANC is targeting service delivery strategically, it would mostly likely be doing so in such a way as to reward pro-ANC voters, not target areas that are gradually becoming less ANC.

¹⁰ Since 1994, there has been a national and provincial election every five years (1994, 1999, 2004, 2009, 2014), electing South Africa’s national parliament, its provincial parliaments, and its second chamber, the national council of provinces. The electoral system is pure proportional representation, with two ballots, one for the national parliament and one for the provincial parliament. The president serves at the behest of a joint sitting of parliament. Local government elections were first held in 1996 and have been held regularly since then (2000, 2006, 2011). In these elections, which follow a mixed system, voters choose politicians (councillors) and parties that will represent them in their municipal councils.

¹¹ We show in the Appendix the distribution of over-time change in ANC electoral performance (at the ward level) in both the national and local elections. While the ANC has clearly maintained its hegemonic control of



Municipalities and wards are redistricted in South Africa every five years. We constructed our panel data using the 2011 political geography (the current geography at the time of writing) and retroactively fit older data to these new boundaries, using lower-level electoral and census units that fit into the 2011 boundaries.

South African census data is nested within enumeration areas (roughly 60,000-90,000 observations, depending on year). These data were released pre-aggregated to the 2011 ward and municipal levels by the official Statistics Association of South Africa (Stats SA).¹² The election data were made available at the polling-place level (roughly 15,000-22,000 observations, depending on year). The polling-place polygons fit, in almost all cases, cleanly into the 2011 wards, so we aggregate from the polling place up to the 2011 ward and municipal levels. For ease of interpretation, all variables are rescaled to range from 0 to 1.

For the aggregate-level service delivery data, we make a further adjustment such that variables capture only the non-white population, rather than the total population of an area. To do this, we apply the following general formula:

$$ServiceNonWhite_i = \frac{(Service_i - WhiteFrac_i)}{(1 - WhiteFrac_i)}$$

where i indicates an areal unit (municipality or ward), $Service$ is a given service (water, toilets, refuse), and $WhiteFrac$ is the proportion of the population that is white (from 0 to 1). This function assumes that all whites in any area typically have access to services, and so subtracts from the proportion of households covered in the census the proportion that are white. We then subtract the proportion whites from the denominator, too, such that the returned value for unit i is the proportion of non-white households with service coverage.

We make this adjustment because we believe that the assumption holds – virtually all white households in South Africa have access to running water, good sanitation, and regular refuse removal.¹³ We are interested in studying those parts of the service distribution that were actually likely to change during the period under observation; services for white households largely cannot, because they were already being provided.¹⁴

Additionally, it is worth noting that not all changes in service provision are entirely attributable to direct government action. Some services, especially those that reach inside the household (such as installing a flush toilet), are privately provided, and we do not have data that allow us to distinguish the share of government action. Nonetheless, we believe that our data provide a strong basis for testing the core theories of democratic governance. First, if we make the reasonable assumption that the public/private mix of new service provision is relatively evenly distributed across space, we may make unbiased estimates of the effects of new services. Second, the services we consider almost always rely on a degree of

South African politics (both densities centre around zero), there is evidence of a high degree of ward-level change. Further, it should be noted that in the 2014 elections, there were a number of “abstention” campaigns that led to many voters not voting. In coding our dependent variable, ANC vote share, we assign abstentions the same value as non-voters. That is, we do not count abstaining voters who may in fact support the ANC, nor abstaining voters who may be voicing their dislike of the party. Given that our election data are for the period 1999-2009 (prior to the abstention movements) and given the scale of abstentions, we are not particularly concerned about the implications of this for our results.

¹² This is done by converting the enumeration areas to centroid-points and spatially joining them to ward and municipal polygons. We rely on Stats SA’s aggregation of the census data for this study. We do have access to lower-level data for 2011, but the 2001 census was not made publicly available at the EA or small-area layer, which means we cannot reconstruct the data Stats SA releases for 2001.

¹³ Afrobarometer survey analysis and analysis of virtually all-white wards reveal that at a very minimum 90% of white households have access to these basic services, and the reality is likely much closer to 100%.

¹⁴ The statistical significance of our results is not sensitive to this choice, but we feel these variables are more precise measures of the concept of interest.

government-provided infrastructure, whether or not the final point of delivery is publicly provided. Third, given the widespread discourse around the government's failure to provide basic services, we assume that frustrations about lack of services will be directed at the government, and it would not follow from conventional theory that those who managed to attain services on their own would systematically punish the government for this state of affairs. Finally, with respect to the South African case, we are not aware of any evidence of rival parties seeking to attract voters by targeting them with the private provision of local public goods in the manner that Thachil (2014) finds in the case of India.

Table 1: Aggregate-level variables

Variable	t_1	t_2	Source	Definition
Water	2001	2011	Census	The proportion of households that have piped water into their home or yard (adjusted)
Toilets	2001	2011	Census	The proportion of households that have fully or partially flushing toilets (adjusted)
Refuse	2001	2011	Census	The proportion of households that have refuse collected weekly (adjusted)
Local ANC vote share	2000	2011	Electoral Commission	The proportion of total votes in area cast for ANC (local elections)
National ANC vote share	1999	2009	Electoral Commission	The proportion of total votes in area cast for ANC (national elections)

The set of key aggregate-level measures are presented in Table 1. Our final data set is a two-wave panel, with t_1 in the early 2000s (1999-2001) and t_2 around 2010 (2009-2011). To these key variables we add a number of economic and demographic covariates from the census data. This ensures that our results are not being driven by a number of plausible confounders, including unemployment levels, income levels, population size, gender proportions, the formality of dwellings, and racial proportions for the main demographic groups (black, coloured, Indian, and white), several of which drive the formula-based budget allocations.¹⁵

We complement our aggregate analyses with five rounds of the nationally representative Afrobarometer survey data, which, when spatially linked to the data described above, allow us to study whether census service coverage data is associated with individual-level attitudes and vote intentions. All but the first round of Afrobarometer asked individuals about their household's access to at least one service, and so we are able to analyze whether self-reported access to services predicts voting intentions in similar ways to the aggregate data.

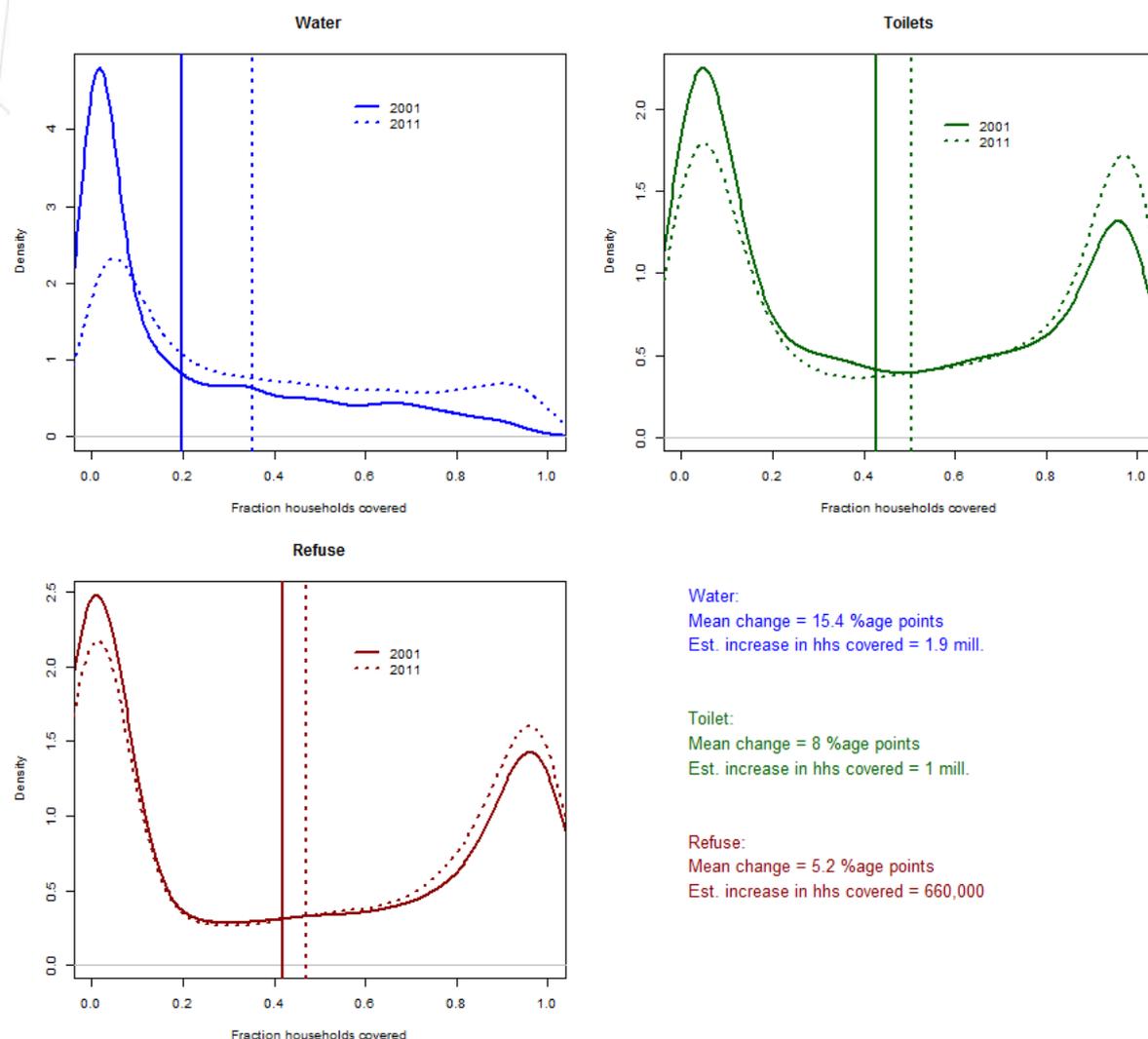
We find substantial variation in terms of how service delivery has changed from 2001 to 2011. Figure 1 shows the relative distribution of these services (for non-white households) in 2001 and 2011. Water delivery has improved most dramatically: The national coverage of non-white households increased by 15.4 percentage points between 2001 and 2011, meaning that at least 1.9 million more homes were provided access to piped water in those 10 years. Sewerage and refuse show more modest improvements, with increases of 8 and 5.2 percentage points, respectively, implying new access for at least 1 million and 660,000

¹⁵ One may note that our national election data, which measures a change from 1999 to 2009, are collected before our census data, 2001-2011. While this is slightly unconventional in that the "effect" precedes the "cause," we see the data as proxies of latent or underlying processes, rather than perfect measures. That is, as long as the change 1999-2009 is a good proxy for the latent change in ANC vote sentiment in the 2001-2011 period, we should not be concerned. We see no reason not to believe this. Of course, this issue does not apply to our local election data.

households.¹⁶ Note that the graphs in Figure 1 depict shifts in coverage percentage at the ward level – so even a small increase in the number of wards with 90% coverage may represent a dramatic increase in the number of people who have access to services.

To show the degree of variation over geographic space, we present maps of the change in service coverage from 2001 to 2011 in figures 2, 3, and 4. They illustrate that while service delivery in the country has on the whole improved, there are a few areas in which it has worsened, notably in rural parts of South Africa.

Figure 1: Levels of South African service provision: 2001 and 2011



Note: Each panel presents the distribution of coverage of non-white households for a given service, at the ward level, in 2001 (solid lines) and 2011 (dashed lines). The vertical lines are the year means (2001 is solid, 2011 dashed). The bottom right panel presents some key figures from the graphs. First, the percentage changes for each service. Second, the estimated number of new non-white households that have received services since 2001. This was estimated in a very simple fashion by taking the average number of households per ward (averaged over 2001 and 2011), multiplying this by the average change in coverage, and multiplying the result by 4,277, the number of wards in 2011. Note that in 2001 there were roughly 12 million households in South Africa, and in 2011 roughly 15 million.

¹⁶ In fact, these numbers are almost certainly underestimates. Over the last 10 years, South Africa's population has grown dramatically, and households have become smaller, implying that household growth has been high. As a result, reported numbers are probably low-end estimates of the new numbers of households covered.

Figure 2: Changes in fraction of households with service delivery 2001-2011: Water

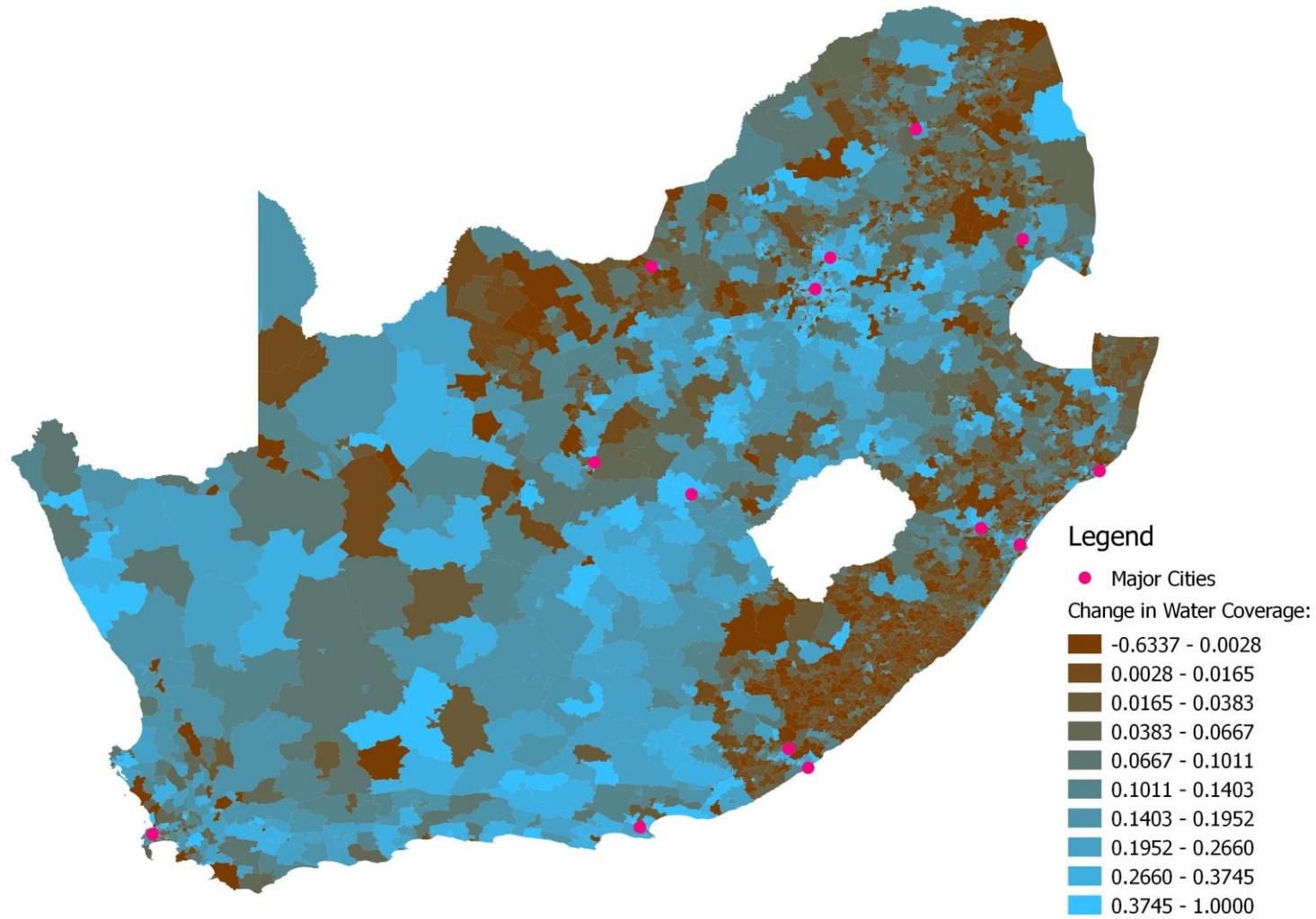


Figure 3: Changes in fraction of households with service delivery 2001-2011: Toilets

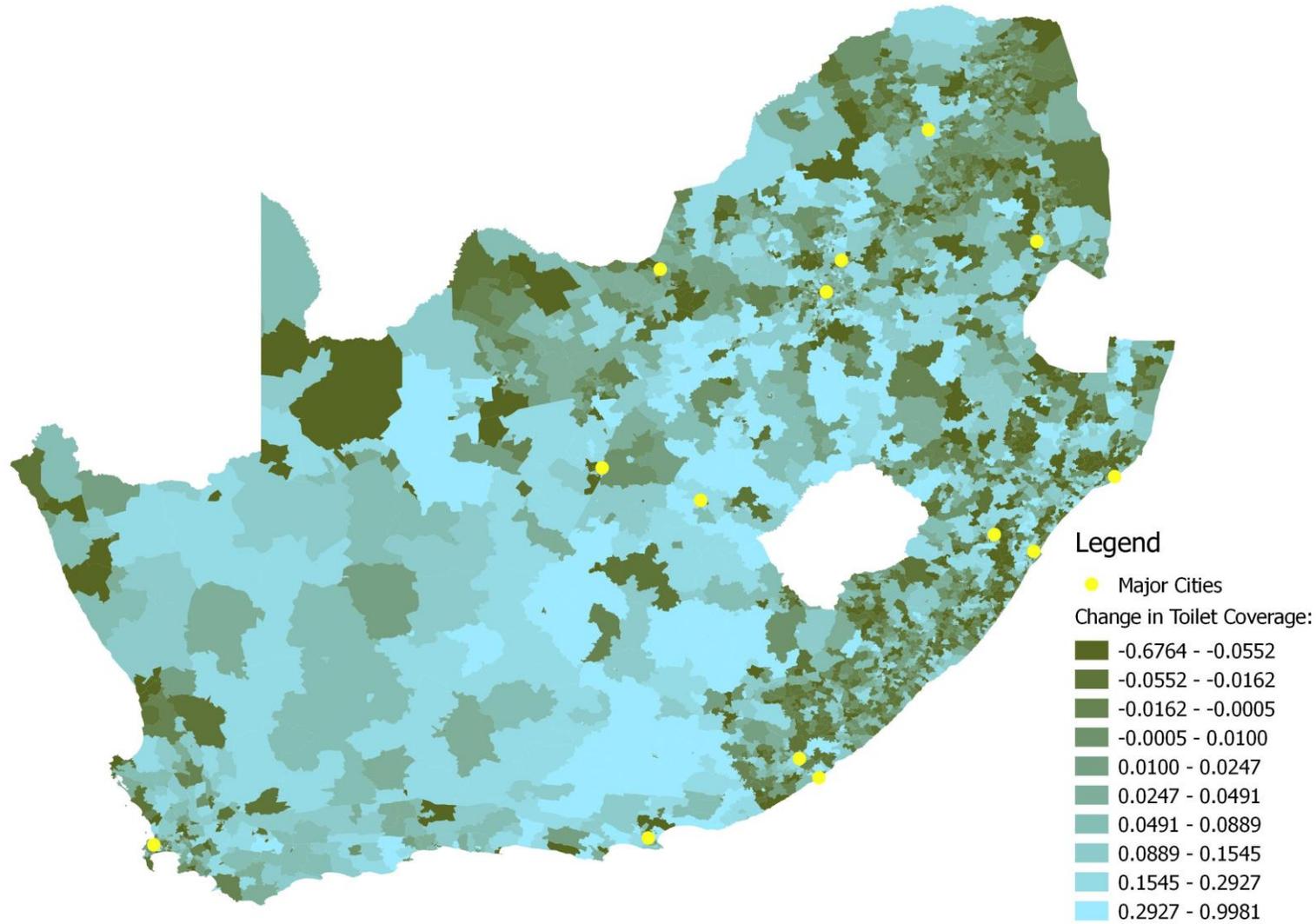
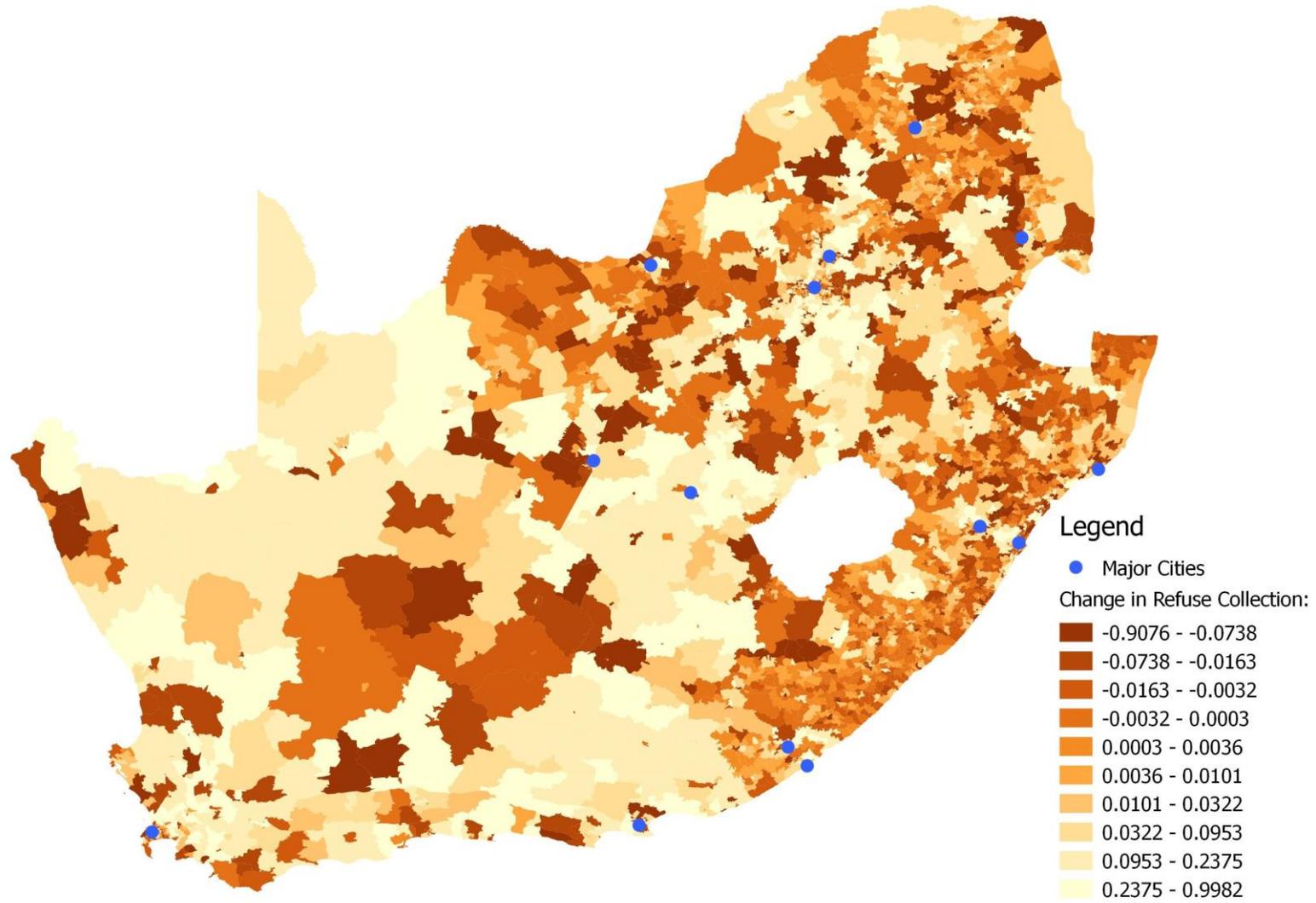
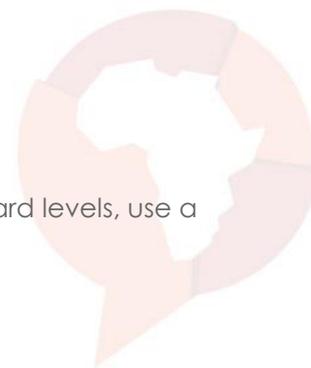


Figure 4: Changes in fraction of households with service delivery 2001-2011: Refuse





4. Aggregate-level analyses

Our aggregate-level analyses, which we conduct at the municipal and ward levels, use a first-differences regression, specified as follows, for municipality or ward i :

$$\Delta y_i = \alpha + \beta \Delta x_i + \delta \Delta w_i + \varepsilon_j$$

Our outcome of interest is y_i , the incumbent (ANC) vote share; α is the intercept; x_i is the service in question; w_i is a matrix of covariates; and Δ indicates a change over two periods. ε_j is the error term, always estimated at the j level, that is, one level above the unit i (either districts or municipalities). β is the coefficient of interest, an estimate of the correspondence between changes in service provision and changes in ANC vote share.

With only two time periods, the specifications simply regress a single change on a single change, plus some error terms, and time-period fixed effects fall away in the two-period first-differences setting. Finally, we limit the analyses to those wards and municipalities in which the ANC was the municipal incumbent for the entire period.¹⁷ We define incumbency as the ANC having the majority of seats in the municipal council over the period 2000-2011.¹⁸

To interpret the coefficient β as causal, we must assume that Δy_i and Δw_i are not jointly determined by a time-varying confounder that has been omitted from the regression. By taking the first difference of all the variables, the regression is robust to time-invariant confounders at the municipal or ward level. This test is superior to conventional cross-sectional regressions in that a number of plausible confounders are excluded. On top of this, we are also careful to include a number of time-varying covariates that could be driving our results, such as employment and income levels. While the design is not assumption-free, we think our test is likely valid, and in Section 6 we include a brief discussion of some potential confounding stories.

We visualize the ward-level results in Figure 5. The 12 panels depict the covariate adjusted marginal association between changes in service delivery and changes in vote share, along with the 95% confidence interval. The top two rows show the marginal effects for the municipal-level analysis, first for local vote share and then for national. The bottom two rows show the same, but for the ward-level analysis. Each column is a separate service: The first column is water, the second toilets, and the third refuse. Full tables presenting the regression results that underpin these plots are available in the Appendix.¹⁹ Strikingly, as shown in Figure 5, we find that the greater the improvement in service provision, the worse the ANC performs

¹⁷ Results of pooled analyses (all wards/municipalities) and opposition-incumbent analyses are presented in the Appendix, and are consistent with our main results.

¹⁸ Building this measure was non-trivial, because municipalities change boundaries over time. We dealt with this as follows. First, for 2000 and for 2006, we found all municipalities whose boundaries had stayed constant until 2011. For these cases, we did not need to make any changes. For the municipalities that had changed, we first reconciled the 2000 and 2006 municipalities with the 2011 municipalities. Fortunately, the number of municipalities has decreased over the years, which means that, for the most part, multiple 2000 and 2006 municipalities are contained within single 2011 boundaries. We established which 2000 and 2006 municipalities belong to which 2011 municipalities and then took the mean of the seat share for all old municipalities and the sum of seats occupied by the ANC and total seats. This created a set of 2011 municipal-level variables that measure the total number of seats occupied by the ANC in 2000 and in 2006, the total number of available seats, and the average (over old municipalities) of seat shares.

¹⁹ Note that all the variables are scaled to range from 0 to 1, so interpreting the coefficients and the marginal effects plots is straightforward. A change from 0 to 1 in the independent variable (service coverage) would result in a change in ANC vote share of magnitude $\hat{\beta}$ in the table, meaning that the magnitude of the coefficients can be directly compared.

electorally, both at the local and national levels. It also seems from our sample that voters are more sensitive to changes in water service than changes in refuse and sewerage service.

To understand the substantive implications of these findings, consider the change in water provision at the ward level. Our estimated coefficient for this variable, at the ward level, is -0.118, or a decrease of 11.8 percentage points when water coverage moves from 0 to 1. The mean change in water provision from 2001 to 2011 at the ward level was an increase of roughly 0.15, or 15% coverage. A change of this magnitude would result in a decrease of 11.8×0.15 , roughly 1.77 percentage points of incumbent vote share.

4.1. Paired case analyses

Our findings can be nicely illustrated with reference to the contrasting service delivery and voting dynamics within three pairs of otherwise relatively “similar” municipalities.²⁰ In 2001, all six were very poor (with more than 65% of individuals reporting being unemployed), more than 90% black, and in all cases governed by the ANC, who earned more than 50% of the vote in local and national elections. Yet in each comparison, the ANC performed more poorly at the polls in the better-performing municipality.

Consider first Mogalakwena and Fetakgomo, largely Sotho-speaking municipalities in Limpopo province. In Mogalakwena, the percentage of households with water access increased from 8.5% to 20.2% during the 2001-2011 period, while in Fetakgomo, water coverage improved from just 1.9% to 5.5%. Both flush toilet and refuse removal coverage also improved in Mogalakwena, while only refuse removal improved in Fetakgomo. Nonetheless, in Mogalakwena, ANC vote share declined in the local elections from 83.1% to 81.5%, while in Fetakgomo, the ANC made big gains, from 73.9% to 82.5%.²¹

In Mpumalanga, within Gert Sibande district to the south, lie the Zulu-majority municipalities of Dipaleseng and Mkhondo. Water coverage increased by more than 18 percentage points in the former, by less than 13 percentage points in the latter. Refuse collection also increased in Dipaleseng by almost 18 percentage points, but in Mkhondo by just 2 percentage points. Likewise, the percentage of households with flush toilets increased by more than 22 percentage points, to 75.3%, in Dipaleseng, compared to an increase of only 13 percentage points, to 42.2% percent coverage, in Mkhondo. Although gains in coverage were much stronger in Dipaleseng, and ANC local vote share was almost identical in 2000 between the two municipalities (67.7% in Dipaleseng vs. 66.5% in Mkhondo), by 2011, the Dipaleseng vote share dropped to 57.3%, while in Mkhondo the ANC gained votes, up to 71.6% of the total. Similarly, for the national elections, the ANC lost ground in Dipaleseng between 1999 and 2009 but gained vote share in worse-performing Mkhondo.

Finally, in the Eastern Cape, we can tell a similar story in the neighbouring municipalities of Lukhanji and Intiska Yethu, both located in the poor, largely Xhosa-speaking Chris Hani district. ANC vote share went down in Lukhanji and up in Intiska Yethu, even as service coverage improved substantially in all three sectors in Lukhanji while low levels of provision persisted in Intiska Yethu.

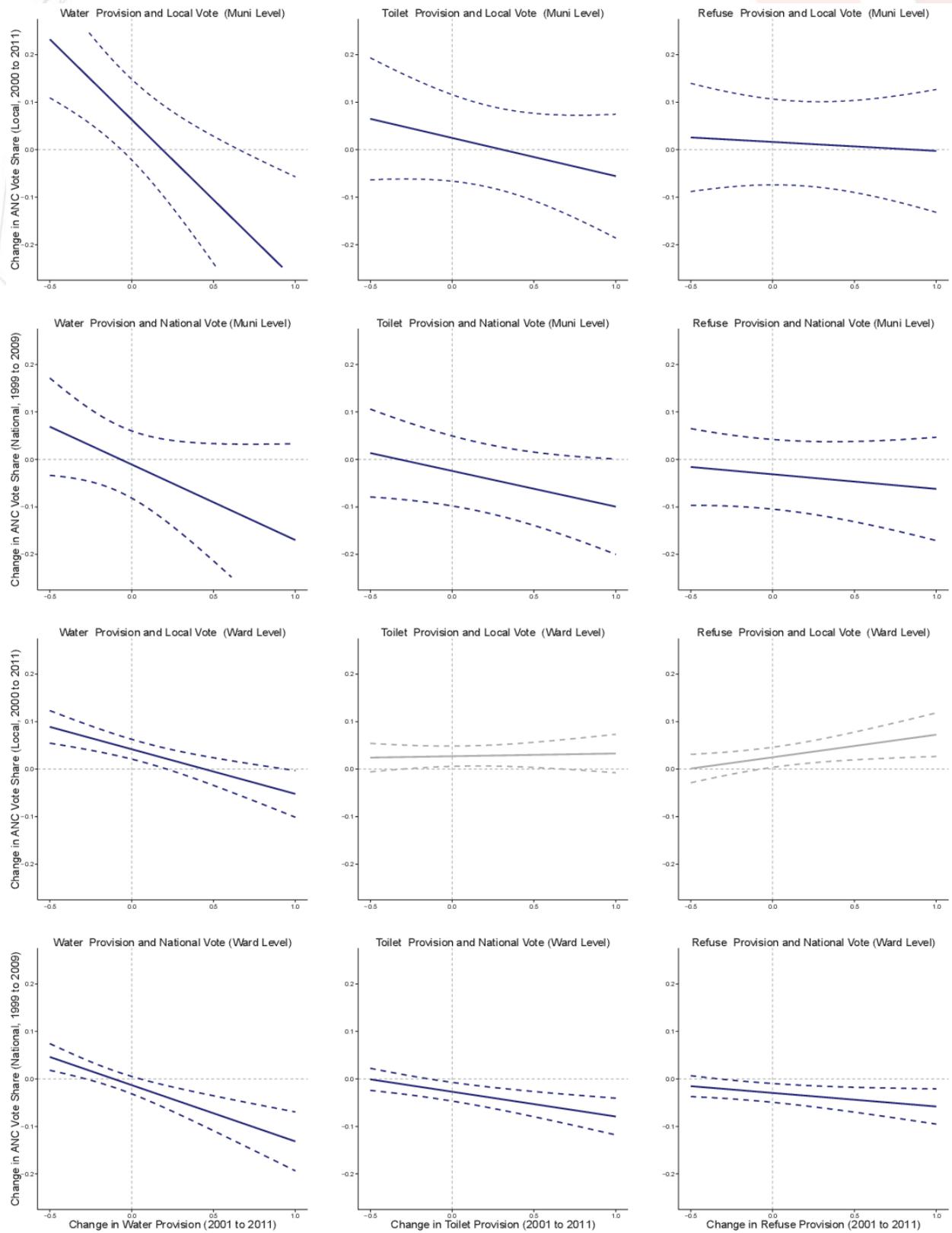
Across three culturally distinctive provinces, one can find the same story that we find in our aggregate analyses: The incumbent ANC lost electoral ground in the very places where it seemed to have been most successful in delivering services.

²⁰ In no cases are any two municipalities close to being “identical” at baseline (we can attain far better matches at the ward level), but we believe it is useful to discuss our results at the municipal level because it is largely at this municipal level that decisions about service delivery are made and implemented, and votes are aggregated and discussed.

²¹ ANC vote share for the national election experienced slow, steady declines in both municipalities between 1999 and 2009.



Figure 5: Marginal effect plots of service delivery change (percentage of households covered) on ANC vote share change



Note: These 12 panels visualize the covariate adjusted marginal association between changes in service delivery and changes in vote share. The top two rows show the marginal effects for the municipal-level analysis, first for the local vote share change and then for national vote share. The bottom two rows show the same for the ward-level analysis. Each column is a separate service: The first column is for water, the second for toilets, and the third for refuse.



5. Individual-level analyses

The analyses and discussion above suggest that the ANC, the incumbent party in South Africa, has not been rewarded with additional votes in places where largely government-provided service provision has increased. Rather, we have shown that, at various levels of aggregation, the electorate does not respond positively to service delivery. One might wonder whether our results are driven by some ecological fallacy. The question thus becomes: Do individual voters also respond in this manner?

5.1. Analyses of black South African attitudes

For the case of South Africa, we use Afrobarometer data, spatially joined to our aggregate data, to assess this question. We conduct our analyses in a pooled cross-sectional fashion, including various time and area fixed effects, along with a rich set of covariates, to absorb as much variation and potential confounding as possible. We are able to join individual-level data²² from several rounds with the geocoded service delivery data analysed in the previous section, which allows us to analyze the relationship between service delivery patterns (at the individual, enumeration area, ward, and municipal levels) and individual attitudes, perceptions, and behavioural intentions.

We initially focus on five outcome variables: evaluations of the specific service being provided, self-ratings of quality of life, rating of the local elected council, rating of the president, and a dummy variable indicating intention to vote for the (incumbent) ANC in the event of a hypothetical future election. Consistent with the analyses and goals described above, we limit our analyses to black respondents living in ANC-controlled municipalities. We adopt a simple ordinary least squares (OLS) approach.²³

Although the Afrobarometer data are well suited for addressing our central questions, the design of the study poses certain limitations. Despite the availability of five rounds of data, it is non-trivial to diagnose over-time changes in public opinions and voting intentions (as we were able to do in the aggregate analyses presented above). The Afrobarometer survey is not a panel – different individuals are sampled each round – and some municipalities are added and some dropped over time. Moreover, because random sampling for the survey is conducted only at the district level, and sample sizes at the municipal-level are quite small, we cannot assemble an areal panel (ward or municipal) to analyze changes in opinion at that level.

Key results, highly consistent with what we found in the aggregate-level analyses, are presented in figures 6 and 7. In Figure 6, we report our analyses of the effects on our set of outcomes of self-reported service delivery data at the household level, as well as enumerator-reported area infrastructure in the area of each respondent. In certain rounds, Afrobarometer asked respondents about their access to services. Enumerators were also asked to assess whether they could see certain visible signs of service access (piped-water system or sewage system) in the respondent's enumeration area. The results of those analyses demonstrate that individuals who have access to water or toilets in their household/compound area or who have piped water or sewerage in their enumeration area are more likely to favourably rate government provision of those services, when compared with individuals who lack services. Moreover, they generally rate their own quality of life as being better. We interpret these findings as strong evidence that there is not an informational problem at hand: Citizens are aware of the services they are receiving, and, consciously or not, they attribute those services in part to government action.

And yet, individuals with access to services are no different from those without access in terms of their ratings of their local council and of the president – in all cases, the estimated

²² Afrobarometer furnished us with data that contain census Enumeration Area codes, which we used for the spatial joins. The presentation of our analyses do not in any way compromise the anonymity of respondents.

²³ We obtain substantively similar results when estimating these relationships with logistic regression for the binary vote choice outcome.

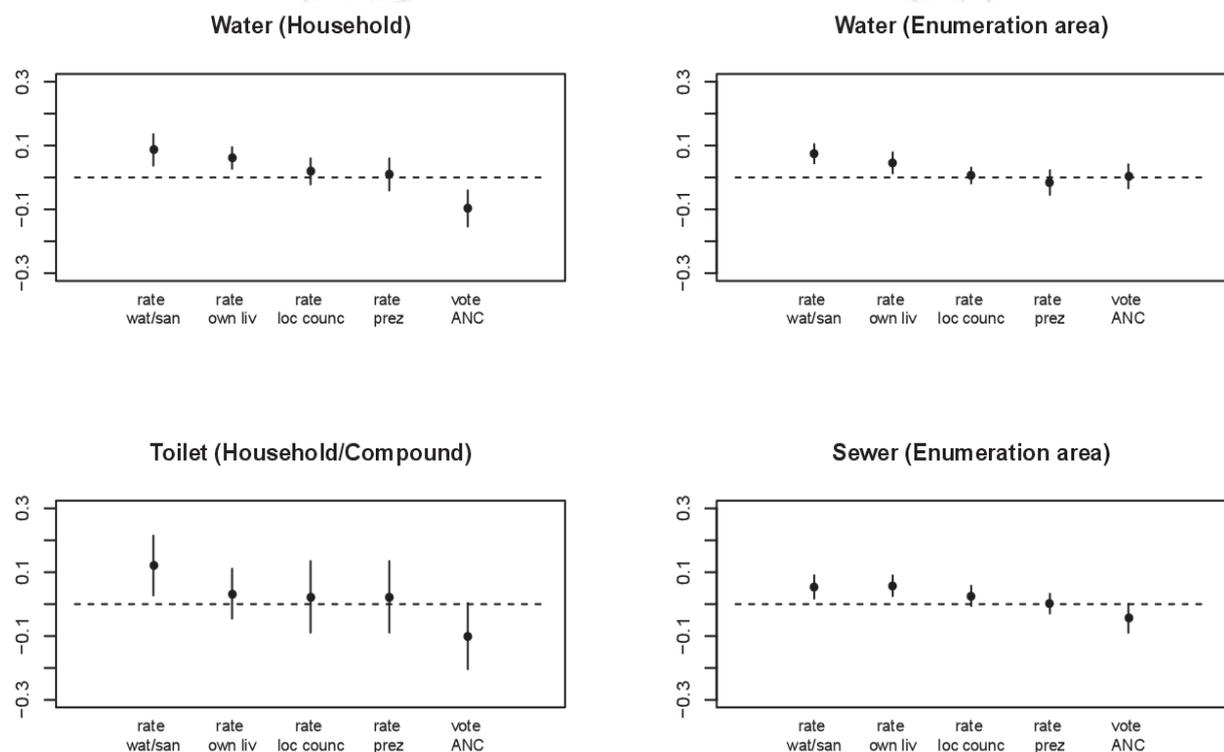


effect is very close to zero. Finally, when considering the likelihood of voting for the incumbent ANC if an election were held “tomorrow,” in three of the four estimates, we find that those with services are much less likely to vote ANC (and in the fourth estimate, with respect to water access in the enumeration area, there is no difference).

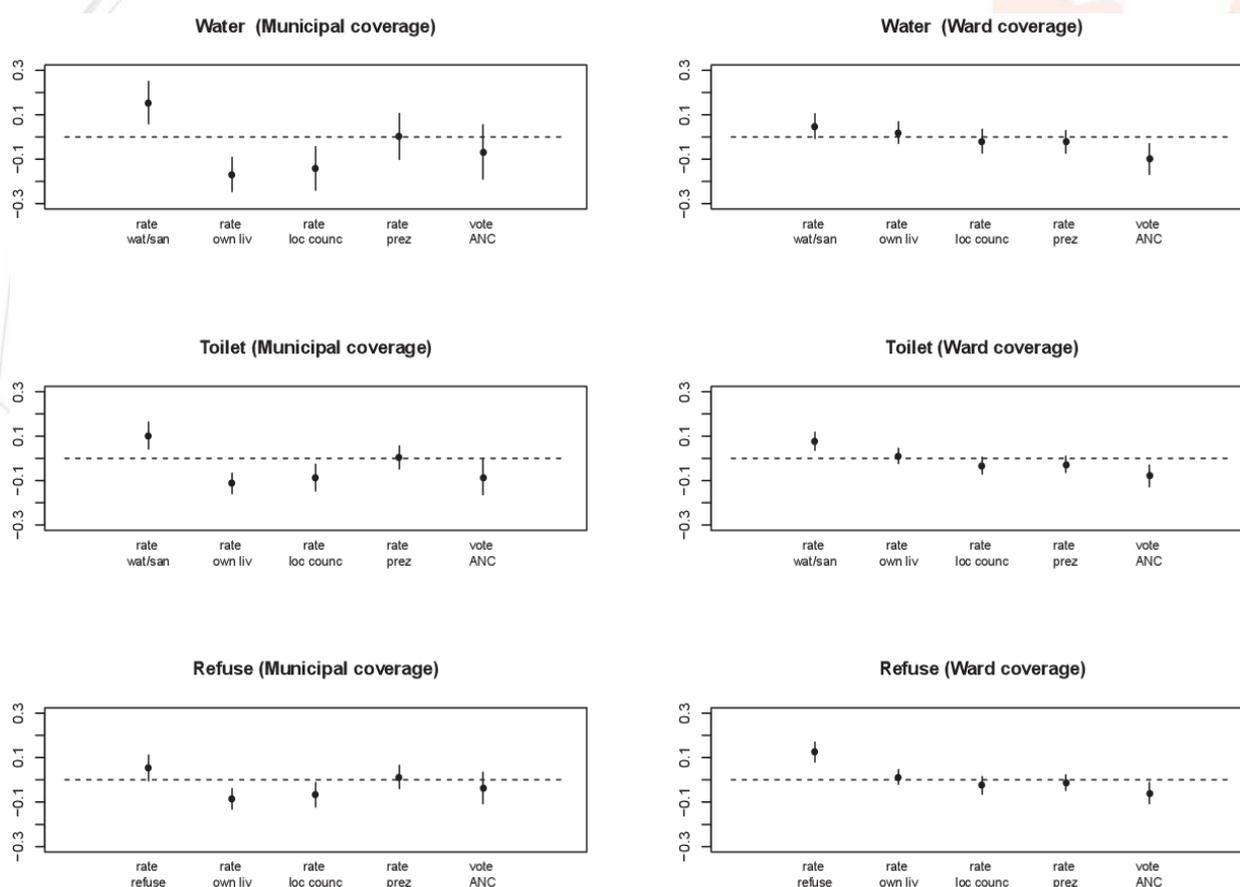
As reported in Figure 7, for all three services analysed in the aggregate-level analyses (at both municipality and ward levels), we find some important similarities as well as some potentially revealing differences. We continue to find that higher levels of municipal coverage for individual *i*'s municipality and ward predicts higher individual ratings of the respective government services. Also in line with the findings reported above, increased service coverage at both levels predicts a lowered likelihood of voting for the ANC (albeit not statistically significant in the cases of water and refuse coverage at the municipal level) and either lower ratings of the local council and the president or no effect.

And yet, interestingly, those individuals living in municipalities with higher levels of service delivery are more likely to report substantially lower satisfaction with their individual living conditions. We do not observe this relationship with respect to ward-level data, which provides a more proximate portrait of the infrastructural environment in which the respondent resides. When viewed in combination with our analysis of the individual-level service data, we interpret these findings as potentially consistent with a “relative deprivation” effect, which we discuss further in the next section.

Figure 6: Household/enumeration-area service delivery and citizen attitudes and intentions



Note: Each panel presents coefficient estimates of the listed service delivery item from OLS regressions, calculated with survey round and municipality fixed effects. Afrobarometer survey items listed on the X-axes are the outcome variables from separate regressions. Lines represent 95% confidence intervals. All standard errors are calculated by clustering data at the municipality level. Individual-level controls include gender, age, education level, dummy variables for home language (Xhosa or Zulu, with others as the omitted category), and a dummy variable for urban residence, and at the municipal level, we control for log of population. Note that data about own water were only contained in rounds 4 and 5, and data about own toilets were only contained in Round 5.

Figure 7: Local-level service coverage and citizen attitudes and intentions

Note: Each panel presents coefficient estimates of the listed service delivery item from OLS regressions, calculated with survey round fixed effects. Afrobarometer survey items listed on the X-axes are the outcome variables from separate regressions. Lines represent 95% confidence intervals. Standard errors are calculated by clustering data at the level of listed service provision data (municipality or ward). Individual-level controls include gender, age, education level, dummy variables for home language (Xhosa or Zulu, with others as the omitted category), and a dummy variable for urban residence. At the municipal level, we control for log of municipal population; at the ward level, we control for log of ward population and district-level fixed effects.

To demonstrate that our results are not driven by specific modelling assumptions, we re-estimated the effects of individual-level service access using matching within our sample of individual respondents (Ho, Imai, King, & Stuart, 2007). That is, we coded "treatment" as access to a particular service and pre-processed our data to identify respondents who are similar in all observable characteristics that could simultaneously predict treatment and outcomes.²⁴ Although pre-processing comes at a substantial cost in terms of loss of sample size, the matching approach demonstrates again that individual-level access to services is

²⁴ In the Appendix we show the results of pre-processing our data based on exact matching on a number of key covariates: municipality, survey round, and dummy variables for having completed secondary school, whether the respondent is living in an urban area, has a cash-paying job, or speaks Zulu at home. As demonstrated in the Appendix, we achieve substantial improvements in balance, with no substantively or statistically significant differences remaining across treated and untreated groups. The fact that we achieve improved balance even for variables on which we did not explicitly match lends credibility to the assumption behind our subsequent analyses that these groups are extremely similar except in terms of treatment assignment condition.

associated with substantially better ratings of government services but also substantial decreases in likelihood of voting for the ANC.²⁵

5.2. General patterns in southern Africa

Can we generalize our findings to the rest of democratic southern Africa? Botswana, Namibia, and Lesotho are all similar to South Africa in important ways: They are characterized by substantial within-country variation in service delivery, improvements in delivery in recent years, a dominant but slowly declining liberation party in power, and relatively solid democratic institutions and rule. While fine-grained voting and service delivery data are not currently available to us for Botswana, Namibia, or Lesotho, we are able to test the extent to which our findings apply at the individual level using data from Afrobarometer.

To the extent possible, we replicate our individual-level analyses, though given the relatively small population sizes and absence of regional data, we do not control for regional fixed effects or cluster standard errors at a regional level. Exactly as before, we estimate a series of regressions of individual ratings of government water and sanitation services, individuals' self-ratings of their own living conditions, ratings of their local government officials, ratings of the president, and finally their stated inclination to vote for the ruling party in the next election.

As summarized in Table 2 and elaborated in a series of more detailed tables in the Appendix, we find strikingly similar relationships in all three countries to what we found in the South African case. When individuals have access to water or toilet services in their own homes, or when water or sewerage infrastructure is available in the enumeration area, they are more likely than those without such services to rate government water and sewerage services as being good. However, as we move across the columns from left to right, that is, from evaluation of services to support for incumbents, we see that the effects shift from positive to negative. In particular, we find that service provision is associated with a negative effect on incumbent party support in eight of the 10 estimates, four of which are significant at the 95% level. As in South Africa, citizens in other southern African democracies appear not to reward the party in power for good service.

6. Discussion of results and causal interpretation

How do these empirical results fit together with respect to our core hypothesis concerning the relationship between government service delivery and voter responses? Do voters reward politicians for good service? Our empirical findings contradict the basic premises of theories of electoral accountability. At both the aggregate and individual levels, across four cases, we find almost no evidence of any positive association between access to service delivery and intentions to vote for the incumbent party. This is particularly surprising in light of the fact that both our aggregate- and individual-level measures of service provision are associated with self-reports of access to, and quality of, services. In short, people who get services are more likely to say they are satisfied with these services, but when it comes time to voting, they are less likely to vote for the government that delivered.

While we believe our analyses credibly test the electoral accountability hypothesis, it is hard to know whether our results should be interpreted as causal. Our findings, both aggregate and micro, could possibly be confounded by factors that simultaneously affect changes or levels of service provision and changes/levels of voting-relevant attitudes and behaviours.

For example, our results could be confounded if the purposeful strategy of South Africa's ANC was to target service delivery in areas of growing discontent with its government, such that where we see increased service provision, we find declining support for the government that was not itself a response to service delivery. This seems implausible, particularly in light of the discussion presented in Section 3.1. Moreover, given the consistency of our results at the

²⁵ We find that the probability of voting ANC is reduced by 16.6 percentage points for those with water and by 18.2 percentage points for those with toilets.



Table 2: Estimated effects of service delivery on citizen attitudes in other southern African democracies

	Rate water/san	Rate own living	Rate local	Rate president	Vote rule party
<u>Botswana</u>					
Own water	0.100*** (0.018)	0.130*** (0.017)	0.014 (0.021)	-0.028 (0.019)	-0.082** (0.033)
EA water	0.044*** (0.012)	0.014 (0.012)	0.027* (0.014)	0.003 (0.014)	-0.042 (0.028)
Own toilet	0.075** (0.031)	0.185*** (0.027)	0.036 (0.037)	-0.040 (0.035)	-0.127** (0.057)
EA sewer	0.046*** (0.009)	0.038*** (0.009)	0.015 (0.011)	-0.013 (0.010)	0.022 (0.020)
<u>Namibia</u>					
Own water	0.143*** (0.018)	0.143*** (0.018)	0.010 (0.017)	0.026* (0.015)	-0.033 (0.028)
EA water	0.035*** (0.010)	-0.010 (0.010)	-0.016 (0.011)	-0.004 (0.008)	-0.049*** (0.019)
Own toilet	0.137*** (0.030)	0.167*** (0.030)	-0.011 (0.028)	0.059** (0.025)	-0.011 (0.047)
EA sewer	0.072*** (0.014)	0.053*** (0.013)	0.014 (0.014)	0.006 (0.011)	-0.014 (0.025)
<u>Lesotho</u>					
EA water	0.102*** (0.012)	0.018** (0.009)	0.003 (0.014)	-0.016 (0.012)	-0.062** (0.030)
EA sewer	0.057*** (0.020)	0.009 (0.015)	-0.010 (0.028)	0.0003 (0.021)	0.110* (0.057)

*** $p < .01$; ** $p < .05$; * $p < .1$

Note: Cells report OLS regression estimates, with standard errors in parentheses. Each cell is from a separate country-level regression, and full tables are reported in the Appendix.

individual level, in which we control for municipality fixed effects, we do not believe it would be possible for the government to target services so narrowly in favour of possible discontents that this could be picked up in our analyses. Crucially, our results are also not confounded by differential baselines of service delivery. That is, the first-differences regressions absorb all time-invariant confounders, including differing levels of baseline service delivery. To further probe this, we conducted a robustness test in which we trimmed the data to exclude wards in the top quartile of baseline service delivery, and the results hold. Similarly, we conducted robustness tests in which we dropped politically unique provinces such as the Western Cape and KwaZulu-Natal, and again our results remain essentially unchanged.

One final candidate confounder is that service delivery is largely a function of unobserved individual skill in demanding and obtaining services. If this were the case, those who receive services may be truly different from those who do not, even prior to receipt of services. It is not obvious to us why such individuals, having received services, would be more likely to vote against the ANC. By controlling on observables, we have tried to guard against such differences. In sum, we feel relatively confident that our results are not driven by confounders but address the fundamental relationship between service provision and voting behaviour.

7. Explaining the weakness of electoral accountability

While it is one thing to find that service delivery has no observable effect on attitudes or behaviours toward the incumbent, we find a fairly strong negative association between

service provision and incumbent voting. This demands further explanation. In this section, we outline and offer tentative tests of a range of plausible mechanisms. We consider two core sets of explanations, those that focus on voter preferences and perceptions and those that focus on strategic behaviour by voters and parties. Ultimately we find preliminary evidence for two key mechanisms: first, that citizens who receive services are more likely to change their preferences and expectations for what they want from government, which in turn leads to dissatisfaction with the incumbent party; and second, that the process of receiving new services puts citizens in closer contact with the workings of government, which leads them to perceive more corruption, which turns them away from the incumbent. Again, for reasons of data availability, we focus our analysis in this section on South Africa.

7.1. Preferences and perceptions

As we discussed at the outset, the core model of democratic accountability posits that citizens desire services and are happy (or satisfied) if they receive them. In turn, they will decide that they have identified a competent government that can provide for their needs and will ultimately vote to re-elect the incumbent. If, however, voters do not receive services, they will search for an alternative government. The results we have presented directly contradict this model. As such, it is necessary to specify a subtler, and more dynamic, model of citizen preferences and perceptions.

7.1.1. Relative deprivation

One possible shortcoming of the core model of democratic accountability is that it does not calibrate preferences in a relational manner. Individuals' overall satisfaction with government may be strongly conditioned by a sense of relative deprivation and privilege, which in turn tends to be affected by what others around them are receiving (Stewart, 2006; Ravallion & Lokshin, 2010). For example, it is possible that our aggregate results reflect intensified dissatisfaction among those without services in areas that are enjoying higher levels of service provision. In a similar vein, perhaps voters reward the incumbent for infrastructural investment in services only when such services are excludable and when they are members of the group with access. That is, if almost everyone in the community enjoys services, the level of provision becomes "normalized," and individual citizens may be less likely to reward the incumbent government.

We find two pieces of evidence that initially support such a proposition. First, we find that reported quality of life declines with increased service delivery at aggregate levels. This seems to suggest that individuals' perceptions of their own well-being are depressed by community-level service provision, a finding consistent with a relational theory. Second, we find that de-meaning our ward-level analysis by municipality (that is, comparing wards with other wards in the same municipality) actually returns a positive estimate of the relationship between service delivery changes and incumbent voting. We take this to mean that more services can lead to more votes (as electoral accountability would predict), but only when comparing change in service provision in neighbouring places that compete for the same resources.

However, if relative deprivation were truly driving the results, we would expect to observe a negative effect from service coverage levels on likelihood of ANC voting among those who lack services. In fact, as reported in Table 3, we find that while higher levels of ward-level service coverage are associated with lower self-ratings of living conditions compared to others, voting patterns trend in the opposite direction: Amongst those without household services, better ward-level water coverage and toilet coverage are associated with a higher likelihood of voting for the incumbent ANC.

In short, we find mixed evidence with respect to a relative deprivation mechanism driving citizens away from the ANC.

7.1.2. Disappointment

Another plausible correction to the core model would be an accounting of quality and satisfaction. The South African news media frequently report on problems of service delivery beyond the provision of basic infrastructure, focusing on quality and flows. Citizens who receive services may find that the services are actually of poorer quality than anticipated. This may lead to disappointment and resentment – a resentment that is more intense than that expressed by voters who did not receive any services.

If disappointment explains our results, we should expect that, at the individual level, among those who receive services, those with the best-quality services would be more likely to vote for the incumbent, and vice versa. In fact, the evidence available to us contradicts this prediction. We considered the subset of citizens who had indicated that their household had direct access to water service, and we analysed their responses to the question, “Over the past year, how often, if ever, have you or anyone in your family gone without enough clean water for home use?” We interpreted the responses to this question, for those who do have access to water facilities, as a reasonable (and perhaps the only available) indicator of quality of water services. Although the vast majority (81%) reported no shortages, the remaining 19% reported various levels of shortages.

Table 3: The effects of ward-level service delivery coverage among those without household services

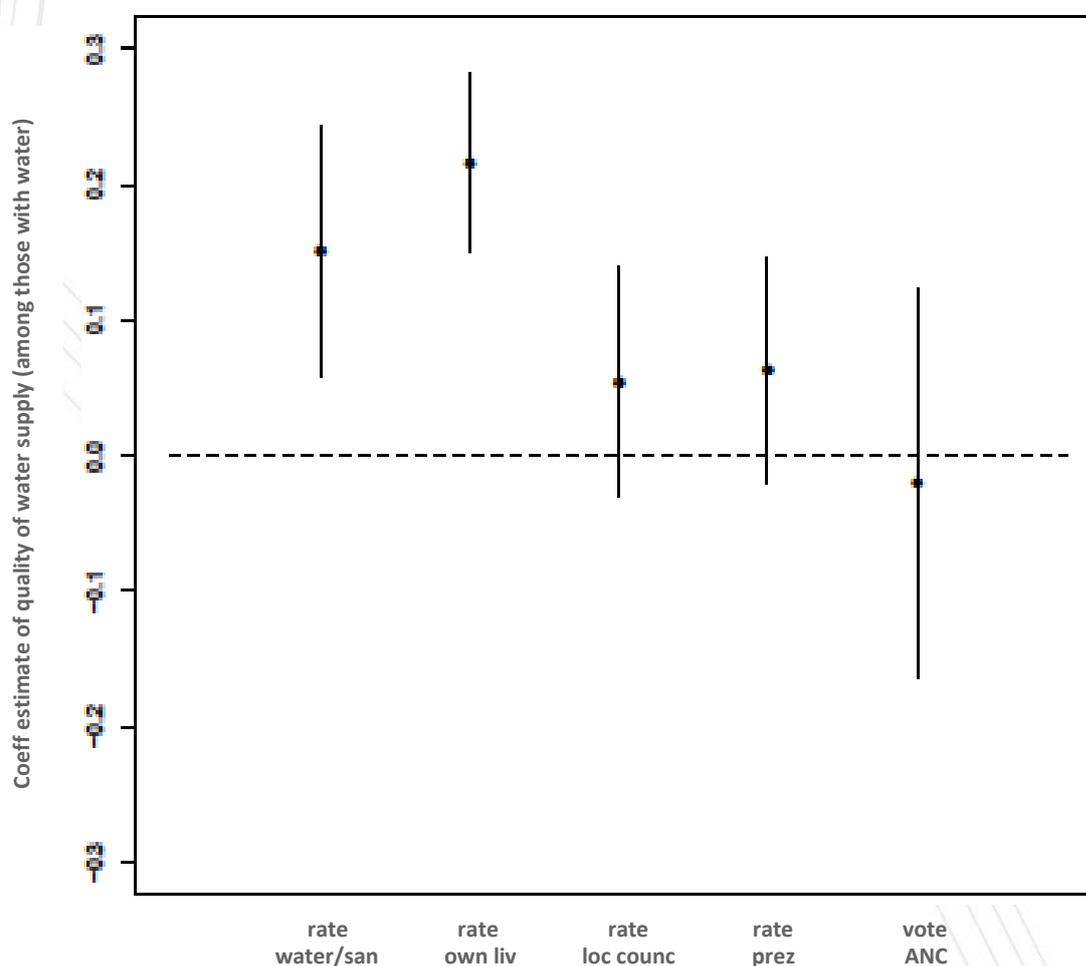
	Own living Model 1	Own living Model 2	ANC vote Model 3	Living comp others Model 4	ANC vote Model 5	Living comp others Model 6
Home water nonwhite	-0.159 (0.155)		-0.102 (0.151)		0.186 (0.206)	
All flush nonwhite		-0.302** (0.121)		-0.239** (0.122)		0.152 (0.135)
Whitefrac	0.420 (0.648)	1.278* (0.652)	0.282 (0.475)	0.914* (0.480)	-0.535 (0.624)	-0.654 (0.521)
Urban	0.018 (0.054)	0.041 (0.059)	-0.024 (0.047)	-0.011 (0.044)	0.020 (0.068)	0.055 (0.055)
Female	0.006 (0.026)	0.031 (0.031)	0.024 (0.022)	0.043 (0.027)	0.028 (0.033)	0.035 (0.040)
Cashjob	0.074 (0.049)	0.114** (0.051)	0.069* (0.038)	0.105*** (0.039)	-0.043 (0.067)	-0.007 (0.052)
Educ	0.243** (0.117)	0.200 (0.137)	0.245*** (0.090)	0.328*** (0.110)	-0.033 (0.163)	-0.016 (0.194)
Age	-0.0005 (0.001)	0.0004 (0.001)	-0.001 (0.001)	0.0003 (0.001)	0.001 (0.001)	0.003* (0.002)
Constant	0.371*** (0.086)	0.379*** (0.107)	0.429*** (0.064)	0.393*** (0.084)	0.689*** (0.115)	0.566*** (0.140)
N	462	370	452	360	464	370
R-squared	0.031	0.068	0.050	0.110	0.009	0.023

*** $p < .01$; ** $p < .05$; * $p < .1$

As we show in Figure 8, those with more consistent water supply do rate the quality of government provision of water services and their own living conditions more highly than those with shortages. Moreover, they provide higher ratings of their local councils and the president (though not statistically significant at the 5% level). Yet we find essentially no

impact of quality on the likelihood of supporting the ANC – the point estimate is even slightly negative, though not statistically distinguishable from zero.

Figure 8: Household water service quality and citizen attitudes and intentions



Note: Each point presents coefficient estimates of consistency of water supply from OLS regressions, calculated with survey round and municipality fixed effects. Sample restricted to black respondents indicating a water tap inside the household or compound. Afrobarometer survey items listed on the X-axes are the outcome variables from separate regressions. Lines represent 95% confidence intervals. All standard errors are calculated by clustering data at the municipality level. Individual-level controls include gender, age, education level, and dummy variables for home language (Xhosa or Zulu, with others as missing) and urban residence; and at the municipal level, we control for log of population. Note that data about own water were only contained in rounds 4 and 5, and data about own toilets were only contained in Round 5.

7.1.3. Perceived corruption

Separate from the quality of services delivered, perhaps voters are disappointed with the process of delivery. The actual receipt of government services entails closer contact with government officials and government contractors. During the process of service installation, citizens may observe, or at least perceive, that politicians and those working for government are privately enriching themselves, either by legal or illegal means. Indeed, author interviews conducted in June 2015 with local councillors in South Africa revealed that councillors themselves are often the ones who make decisions about which firms will receive the government contracts (known as “tenders”) to deliver the services, and these decisions are frequently made based on personal connections and/or in exchange for private favours. When observed by constituents, this may lead to heightened discontent with the party in

power. In the South African context, this explanation seems particularly plausible. While it is difficult to accurately judge the level of corruption that actually prevails in South Africa relative to other lower- and middle-income countries, corruption is a central issue in the media and in political discourse (from both the incumbent and the opposition).

In fact, we find evidence consistent with this mechanism. Table 4 shows that those with access to water and toilets within their household do tend to perceive higher rates of corruption than those without. And while perceived corruption negatively predicts ANC vote intentions, the strength of the association is attenuated when we include service provision variables in our models. This suggests that perceptions of corruption may indeed be a channel through which service-receiving citizens become disenchanted with the party in power.

Table 4: Service provision and perceptions of corruption

	Corruption Model 1	ANC vote Model 2	ANC vote Model 3
Own toilet/water	0.049*** (0.012)		-0.051* (0.029)
Corrupt		-0.146** (0.061)	-0.130** (0.063)
Urban	-0.006 (0.015)	-0.012 (0.035)	0.017 (0.032)
Female	-0.017 (0.011)	-0.014 (0.022)	-0.013 (0.022)
Cashjob	-0.016 (0.028)	-0.002 (0.030)	0.009 (0.030)
Educ	-0.057 (0.057)	-0.257*** (0.091)	-0.214** (0.086)
Age	-0.0005 (0.0005)	0.002* (0.001)	0.002** (0.001)
Constant	0.535*** (0.040)	0.858*** (0.076)	0.867*** (0.077)
N	1269	1271	1269
R-squared	0.018	0.021	0.025

*** $p < .01$; ** $p < .05$; * $p < .1$

Afrobarometer Round 5 results

7.2. Strategies and updating

Whereas the mechanisms outlined above highlight the role of alternative citizen reactions to the actual delivery of services, another possibility is that democratic accountability is really mediated through the strategic behaviour of citizens, voters, and parties in a dynamic democratic environment. Again, while the “naive” view focuses on reward and punishment by voters based on the record of incumbents (retrospective voting), it may be the case that citizens are looking to the future, or that opposition parties are most active in areas where service delivery is strongest.

7.2.1. Voter strategies and changing expectations

Perhaps the patterns we observe are a function of the fact that voters view the ANC as a party whose primary programmatic platform is to provide basic services? If that is the case,



those who have received services may feel that they no longer need the ANC to deliver. In turn, such individuals might become less likely to vote for the ANC. On the flipside, those without services may “double down” and vote for the ANC in hopes that they, too, might receive services in the future.

If this mechanism were at work, we should find that those who have received services express different preferences for government action. In particular, they should be less likely to demand basic service provision, and in turn those preferences ought to be good predictors of support for the incumbent. We find exactly this: Those who have water access are less likely to list water as a government priority. Among those black citizens in ANC areas without any home water service, 10.8% said that water should be a top priority for government, whereas just 5.2% of those with home water said this should be a top priority. We also find that demand for water services is a good predictor of ANC vote intentions (reported in the Appendix). We take this to be suggestive evidence that this mechanism is at work. More specifically, the results suggest that voters are not using information about service provision to weed out “good” politicians or parties from “bad.” Rather, they are using this information to calibrate their expectations of the party’s programmatic platforms. Once the party in power has invested in services, voters may no longer value this core program, and will not be motivated to vote for it.

8. Conclusion

Our motivation for this study was to test a core assumption underlying most theories of electoral accountability. Specifically, a powerful normative justification for democratic government is that voters can hold politicians responsible for service delivery. And by rewarding good service, democracy should have positive effects on human development. Our analysis of four of Africa’s most robust democracies, with a focus on South Africa, demonstrates a pattern that cuts exactly against this grain: Voters who receive services may in fact be more likely to punish, and those who receive fewer services are more likely to stick with, the incumbent. We find consistent patterns at several levels of analysis, using a variety of data sources and estimation techniques, providing one of the clearest portraits yet of how citizens in a major young democracy think and behave.

Yet the broader normative implication of whether these findings are “good” or “bad” news for the welfare-enhancing effects of democratic governance depends on the mechanism that explains this pattern, and how the incumbent and opposition parties react to evidence of declining incumbent support. One dismal prediction is that parties in power could infer that service delivery is counterproductive for returning to power. If incumbents are punished for relative deprivation, they might choose to keep everyone deprived. But we find only mixed support for that account. On the other hand, if the mechanism is “changing expectations,” it could be the case that incumbent parties will work even harder to meet those demands in a timely manner in order to maintain and build electoral support. And if corruption is attenuating the effect of electoral gains from service delivery, perhaps parties in power will work harder to control such behaviour. Additional research will be needed to more definitively address the questions of why voters have behaved in the manner we find, and with what consequences for government action.

Finally, it is worth asking whether the southern African context is exceptional and whether we should expect similar or different outcomes in other countries. Other young democracies across the world share many of the region’s characteristics: dominant ruling parties, societies marked by profound economic inequality often overlapping with racial and ethnic difference, and highly piecemeal provision of public services and infrastructure. Whether or not citizens in other countries react to the delivery of services in the same manner is a pressing question that should be addressed in future research.



References

- Ashworth, S. (2012). Electoral accountability: Recent theoretical and empirical work. *Annual Review of Political Science*, 15, 183-201.
- Besley, T., & Burgess, R. (2001). Political agency, government responsiveness and the role of the media. *European Economic Review*, 45(4-6), 629-640. URL: <http://www.sciencedirect.com/science/article/pii/S0014292101001337>
- Booyesen, S. (2007). With the ballot and the brick: The politics of attaining service delivery. *Progress in Development Studies*, 7(Feb 2004), 21-32.
- Brown, D. S. (1999). Reading, writing, and regime type: Democracy's impact on primary school enrollment. *Political Research Quarterly*, 52(4), 681-707. URL: <http://www.jstor.org/stable/449181>
- Bruns, B., Filmer, D., & Patrinos, H. A. (2011). Making schools work: New evidence on accountability reforms. Washington, DC: World Bank Publications.
- Dinkelman, T. (2011). The effects of rural electrification on employment: New evidence from South Africa. *American Economic Review*, 101, 3078-3108.
- Downs, A. (1957). An economic theory of democracy. *Journal of Political Economy*, 65(2).
- Fearon, J. D. (1999). Electoral accountability and the control of politicians: Selecting good types versus sanctioning poor performance. In A. Przeworski, S. C. Stokes, & B. Manin (Eds.), *Democracy, Accountability, and Representation* (pages 55-61). New York: Cambridge University Press.
- Gerring, J., Thacker, S. C., & Alfaro, R. (2011). Democracy and human development. *Journal of Politics*, 74(1), 1-17. URL: <http://dx.doi.org/10.1017/S0022381611001113>
- Golden, M., & Min, B. (2013). Distributive politics around the world. *Annual Review of Political Science*, 16, 73-99.
- Gottlieb, J. (2015). Greater expectations: A field experiment to improve accountability in Mali. *American Journal of Political Science*, 00:1-15. URL: <http://dx.doi.org/10.1111/ajps.12186>
- Haggard, S., & Kaufman, R. R. (2008). *Development, democracy, and welfare states: Latin America, East Asia, and Eastern Europe*. Princeton, NJ: Princeton University Press.
- Harding, R. (2015). Attribution and accountability: Voting for roads in Ghana. *World Politics* (forthcoming).
- Harding, R., & Stasavage, D. (2013). What democracy does (and doesn't do) for basic services: School fees, school inputs, and African elections. *Journal of Politics*, 76(1), 229-245. URL: <http://journals.cambridge.org/abstract/S0022381613001254>
- Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2007). Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference. *Political Analysis*, 15(3), 199-236.
- Kroth, V. (2014). Essays in political economy: Elections, public finance and service delivery in South Africa. PhD thesis. London School of Economics and Political Science.
- Kroth, V., Larcinese, V., & Wehner, J. (2015). A better life for all? Democratization and electrification in post-apartheid South Africa. Working paper.
- Lake, D. A., & Baum, M. A. (2001). The invisible hand of democracy. *Comparative Political Studies*, 34(6), 587-621. URL: <http://cps.sagepub.com/cgi/content/abstract/34/6/587>
- Lieberman, E. S., Posner, D. N., & Tsai, L. L. (2014). Does information lead to more active citizenship? Evidence from an education intervention in rural Kenya. *World Development*, 60, 69-83. URL: <http://www.sciencedirect.com/science/article/pii/S0305750X14000801>
- Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy. *American Political Science Review*, 53(1), 69-105.



- Mani, A., & Mukand, S. (2007). Democracy, visibility and public good provision. *Journal of Development Economics*, 83(2), 506-529. URL: <http://www.sciencedirect.com/science/article/pii/S0304387806000642>
- Pande, R. (2011). Can informed voters enforce better governance? Experiments in low-income democracies. *Annual Review of Economics*, 3(1), 215-237.
- Przeworski, A., Alvarez, M. E., Cheibub, J. A., & Limongi, F. (2000). *Democracy and development: Political institutions and material well-being in the world, 1950-1990*. New York: Cambridge University Press.
- Ravallion, M., & Lokshin, M. (2010). Who cares about relative deprivation? *Journal of Economic Behavior and Organization*, 73, 171-185.
- Ross, M. (2006). Is democracy good for the poor? *American Journal of Political Science*, 50(4), 860-874.
- Stasavage, D. (2005a). Democracy and education spending in Africa. *American Journal of Political Science*, 49(2), 343-358. URL: <http://www.jstor.org/stable/3647681>
- Stasavage, D. (2005b). The role of democracy in Uganda's move to universal primary education. *Journal of Modern African Studies*, 43(1), 53-73. URL: <http://www.jstor.org/stable/3876259>
- Stewart, Q. T. (2006). Reinvigorating relative deprivation: A new measure for a classic concept. *Social Science Research*, 35, 779-802.
- Svolik, M. W. (2013). Learning to love democracy: Electoral accountability and the success of democracy. *American Journal of Political Science*, 57, 685-702.
- Thachil, T. (2014). Elite parties and poor voters: Theory and evidence from India. *American Political Science Review*, 108(2), 454-477. URL: <http://www.journals.cambridge.org/abstract/S0003055414000069>
- World Bank. (2003). World development report 2004: Making services work for poor people. URL: <http://elibrary.worldbank.org/content/book/9780821354681>
- World Bank. (2011). Accountability in public services in South Africa. Technical report. Washington D.C.

Appendix

The Appendix can be found at:

https://www.dropbox.com/s/80v4qgfgyx2mwmv/Long_route_appendix.pdf?dl=0.





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