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What politicians don't know can hurt you: The effects of information on politicians' spending decisions

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Abstract

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Abstract

Do well-informed politicians make more effective public spending decisions? In experiments with almost all (N=460) elected politicians in Malawi, we tested the effects of information on public spending by providing information about school needs, foreign aid and voting prior to real spending decisions. We show that this intervention reduced inequalities in public spending: treatment group politicians were 30% more likely to spend in schools neglected by donors, and 18% more likely to spend in schools at the highest quartile of need. Treatment effects were often greatest in remote and less populated communities. The effect of some treatments also increased when politicians were told that they were being observed by voters or donors, suggesting that greater transparency increases demand for accurate information. These results provide a novel explanation for inequalities in spending and imply social welfare benefits from improving politicians' access to and demand for information about community needs.

1 Introduction

What explains the distribution of public spending in developing democracies? Dominant explanations focus on variables like the share of pivotal voters, clientelistic networks, co-ethnicity and spending efficiency. Many such explanations assume implicitly that politicians have sufficient ability to assess the needs and politics of citizens in their constituencies.

We challenge this assumption. First, we show that politicians have large gaps in knowledge about their constituencies, particularly in more geographically marginalized areas. In a survey with 460 elected councillors and MPs in Malawi, we document that more than 70% of politicians struggle to answer basic questions about enrollments or foreign aid investments at schools in their constituency. We further document that politicians' knowledge decreases with distance from politicians' hometowns. These information gaps appear to be partly due to the biased and personalized nature of information aggregation by political officials, and we support this claim with interview data from 101 of these politicians and surveys with 2,000 citizens exploring their interactions with politicians.

Next, we show using a field experiment with these same officials that this biased knowledge contributes to the unequal distribution of public spending.[3] The experiment was designed to asses the ways in which information affects distributional decisions in the education sector. We randomly assigned politicians to receive or not receive three pieces of information about schools in their constituencies that we expected to be relevant for distributional decision-making: the number of foreign aid projects at a school, the percentage of votes the incumbent received at the nearest polling station in the last election, and information about school needs. Information about school needs included data about class and teacher overcrowding and insufficient teacher housing. These information treatments were randomly assigned within respondent blocks in a fully-crossed factorial design.

After receiving (or not receiving) one or more of these information treatments, the politicians made real decisions about the allocation of development goods to these same schools. Following the experiment, each politician's constituency was allocated education goods in accordance with the politician's preferences and the outcome of a public lottery.

We find that the information treatments affected spending decisions. Politicians in the school needs treatment were about 18% more likely to select schools at the highest quartile of need. Politicians in the donor information treatment were about 30% more likely to select schools neglected by donors. Politicians in the voting treatment were more likely to select schools where they received more votes, though these effects are small and insignificant. We also show that these information treatments often increased spending in more remote communities. This suggests that information was especially valuable where politician knowledge gaps were greater, and where citizens are disadvantaged in their access to government.

In a separate and orthogonal treatment, we also randomly assigned some politicians to a "transparency" treatment in which their spending decisions would be shared with voters in a radio broadcast and/or to donors in the form of a report. We theorized that greater transparency would increase demand for accurate information by making spending decisions attributable to the politician and increasing the risk that politicians will be sanctions for inefficient policy. Consistent with this logic, politicians were particularly likely to respond to information about school needs when they were assigned to the transparency treatment.

We conclude that information gaps are an important and under-recognized reason why some citizens benefit more from public spending than others. Further, this study suggests that policy interventions to improve information availability and uptake among public officials can improve the effectiveness of public spending, particularly among the most marginalized.

This study especially speaks to three branches of research. The first focuses on distortions in public officials' access to information. Largely relying on survey data from the United States and Europe, a growing body of research documents that public officials have distorted perceptions of constituency preferences and needs (Pereira, 2020; Broockman and Skovron, 2018; Erikson, Luttbeg and Holloway, 1975; Kertzer, 2020; Kalla and Porter, 2021; Gulzar, Hai and Paudel, 2021). Politicians in the United States, for instance, often have preferences which are more extreme than

that of median voters, and believe that the preferences of constituents are more ideologically extreme than they are in practice (Broockman and Skovron, 2018; Hertel-Fernandez, Mildenberger and Stokes, 2019). In Sweden, politicians are more likely to misperceive the policy positions of low status than high status voters, likely due to greater exposure to the opinions of high status voters (Pereira, 2020). While our conclusions are largely consistent with this literature, our study differs in its focus on politicians in a context of high poverty and weak bureaucratic capacity. We argue that in such contexts perceptual biases are especially shaped by inter-personal networks and geographic and social disparities in access to political power. Our study also establishes the real-world relevance of such biases by showing that they can distort public spending.

Additionally, we speak to debates in distributional politics around the ways in which incomplete information impacts spending strategies (Keefer and Vlaicu, 2008; Stokes et al., 2013; Dixit and Londregan, 1996; Diaz-Cayeros, Estévez and Magaloni, 2016; Basurto, Dupas and Robinson, 2020; Garbiras-Díaz, García-Sánchez and Matanock, 2021; Oates, 1999). Dixit and Londregan (1996), for instance, proposed that politicians target core voters in part due to the informational advantages that politicians have in understanding the needs of core voter communities. Likewise, Stokes et al. (2013) argue that politicians rely on brokers and clientelism, in part, because of politicians' high costs of obtaining information about voter preferences and behaviour. We contribute to this literature especially by providing some of the first direct evidence on the ways in which politician knowledge is geographically and politically biased. Especially consistent with this literature is our observation that politicians know more about nearby and supportive constituents. As such, our findings lend support to arguments about the importance of incomplete information in explaining distributional decisions.

Our research is also closely aligned with experimental work on how and when public officials respond to information about citizen needs and demands (Buntaine, Nielson and Skaggs, 2021; Golden, Gulzar and Sonnet, 2020; Grossman, Platas and Rodden, 2018; Hawkins, Wolferts and Nielson, 2018; Todd et al., 2021). These studies have most often found that providing politicians with more information has null or weak effects on their behaviour. Why is this? Our study suggests that part of the answer might have to do with incentives for politicians to demand new information. If politicians specialize in collecting accurate information only when it helps

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them to achieve their immediate priorities or retain a coalition of supporters; we might expect that, in equilibrium, politicians will have little demand for new information from citizens who do not already have the ear of the government. Our findings are mostly consistent with this explanation. We show that politicians tend to have the most knowledge about communities that are near to them and that consumption of information increases especially when we try to manipulate demand for information by making decisions more transparent. We suggest that new information may only weakly affect policy when demand for that information is constant (Downs, 1957).

Consistent with this argument is Rogger and Somani (2019) who study Ethiopian bureaucrats' knowledge of population statistics relevant to their official duties. They show that most officials have large gaps in knowledge and that lowering the costs of information collection improves officials' knowledge. Like in our study, the effects of supplying information appear to be conditioned by respondent demand, as measured by an index of management practices.

This article also extends prior research by the authors (Seim, Jablonski and Ahlbäck, 2020). In this prior work we looked at one treatment arm in this broader set of experiments and showed that information about foreign aid displaces spending in ways that appear to be driven by welfare considerations. Here we extend and build upon this research in several ways: by considering how politicians consume different kinds of information relevant to public spending, by evaluating how transparency conditions the demand for information, and by evaluating the consequences of this information for the geographic distribution of spending.

2 How Information Affects Public Spending

Politicians are not all-knowing. Collecting information about constituents is costly, and the opportunity cost of being well-informed will often be greater than the benefits, particularly in environments where politicians cannot rely on government or party bureaucracies as a cheap source of data. These opportunity costs cause politicians to rely on heuristics from biased sources like social networks, letters from constituents, lobbyists, special interests or parliamentary committees. This reliance on biased sources and incomplete information has long been studied has a cause of systemic inefficiency in policymaking (McCubbins and Schwartz,

1984; Kiewiet and McCubbins, 1991; Lupia and McCubbins, 1994; Downs, 1957), including in Malawi (Basurto, Dupas and Robinson, 2020).

The costs of collecting new information relevant to public spending are especially high. A politician who wishes to efficiently target public spending to maximize vote share, for instance, requires, at minimum, fairly accurate information about the distribution of voter preferences and demands, as well as the likely programmatic consequences of any spending in their constituency. Certainly most politicians have the capacity to collect some information about constituent needs; however the costs of collecting an efficient amount of information is prohibitive. These information constraints will be particularly severe in contexts with weak party and government bureaucratic capacity. Here statistics are often unavailable or hard to access, and bureaucracies often lack the capacity or incentives to accurately assess community needs. Instead, politicians tend to rely on more informal sources of information from citizens, development committees and traditional authorities.

So when should we expect politicians' priors to be especially well-informed? This opportunity cost logic suggests politicians should specialize in information that is cheaply supplied and/or in high demand. For instance, politicians may have greater demand for information about communities that are likely to provide electoral support. Or politicians may find it cheaper to learn about and respond to the needs of communities where they have ethnic or personal networks.

In low capacity environments, the supply of information can be an especially severe constraint on information. Because of low bureaucratic capacity, politicians are more likely to rely on interest groups, citizens and personal networks to supply information. Some communities will have better social, familial, or ethnic connections to public officials. Ethnic, political, or religious groups that are not pivotal electorally may have a hard time getting the attention of politicians. Consistent with this logic, politicians often prioritize citizen demands when the claimant comes from a high status or electorally pivotal group (Gaikwad and Nellis, 2021; Broockman, 2013; McClendon, 2016; Driscoll et al., 2018; Berliner et al., 2021).

2.1 Information and Public Spending in Malawi

Our experiment takes place among elected local councillors (LCs) and members of parliament (MPs) in Malawi. Every five years, LCs and MPs are elected from single-member electoral units. The electoral units for

LCs are called wards and the units for MPs are called constituencies. For simplicity, we refer to both as constituencies. The LCs and MPs who participated in our experiment were elected in 2014, and the experiment took place in 2016.

While Malawi has a multiparty system of government, party organizations tend to be weak and often fail to articulate clear programmatic policies (Lembani, 2008; Patel, 2005; Coppedge, 2021). Most Malawians instead expect politicians to deliver public goods in exchange for electoral support. There are many ways politicians can control the distribution of such resources. At the local level, both MPs and LCs have seats on district legislative bodies called "councils" (MPs cannot vote). Councils have an average budget of approximately US$5 million in 2016, 11% of which is dedicated to education, the sector in which we focus our study. Additionally, MPs each have access to a discretionary constituency development fund (about $40,000 in 2016) which can be used for public goods projects in their constituencies. Finally, most politicians rely on their influence with local and international development organizations to bring donor goods to their constituents (we elaborate on this below).

To explore the ways in which elected officials in Malawi get information relevant to spending decisions, we conducted phone interviews with 101 LCs in Malawi. We asked each to describe where they learn about the needs of their constituents. We summarize responses to this question in Figure 1. Most commonly, councillors get information from Area Development Committees (ADCs) and Village Development Committees (VDCs). ADCs are oversight committees at the chiefdom level and VDCs are analogous committees at the village level. The primary role of these committees is to aggregate community preferences and liaise between communities and governments. Similar development-focused community associations have been established in developing countries around the world (Auerbach, 2017; Bardhan and Mookherjee, 2006). However, the decentralized nature of the VDCs and ADCs in Malawi means there is much variation in their organizational and advocacy capacity.

Another commonly utilized source of information is direct communication from citizens. This information channel relies on a politician's personal connections and the initiative of individual citizens, and is therefore also vulnerable to bias. No councillor mentioned relying on any government or non-governmental statistical data.

We also interviewed five MPs in Malawi about the way they collect

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Figure 1: Sources of Constituency Information for Elected Councillors

When making decisions about development, in what ways do you learn about things your constituents need?
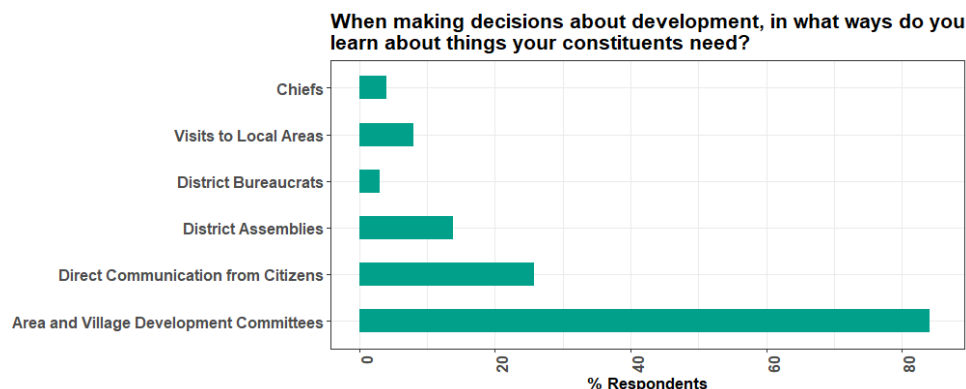
Note: This figure summarizes responses from a survey with a randomly selected sample of 110 of the councillors involved in this study.

information. Most mentioned relying on government bureaucrats, especially the District Education Manager, who is responsible for managing education resources in the district. Others mentioned communication from chiefs, non-governmental organizations (NGOs), or teachers.

One implication of this reliance on personal communication networks is that politicians find it cheaper to collect information about nearby communities. In addition to the time it takes to visit remote areas, many politicians lack easy transportation and are constrained by the costs of public transport.[4] To illustrate this fact, we looked at the frequency with which politicians visited schools that were far and near to their self-reported home town.[5] In an in-person survey of 2,000 citizens we conducted shortly before this study we asked respondents whether their incumbent councillor had visited them in the last six months.[6] In Figure 2 we compare the pro-

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[4]A common councillor complaint is that the government never fulfilled a pledge to provide motorbikes for this purpose.

[5]Distance is measured based on driving distance (or walking distance where roads are not mapped) from the politicians' self-reported home town as calculated by Google's mapping API. This results in some missing data since not all politicians recorded a home town in their constituency.

[6]We surveyed villages in the catchment areas of 164 schools used in this study. See the SI for the full sampling strategy.

portion of respondents that report a visit based on how distant their village was to councillors' self-reported hometowns. The data suggest councillors visited about 41% of citizens within 6 km (the 25th percentile) from the councillor's home village, but they visited only about 21% of citizens who were more than 18 km away (the 75th percentile).

Figure 2: Distance and Councillor Visits
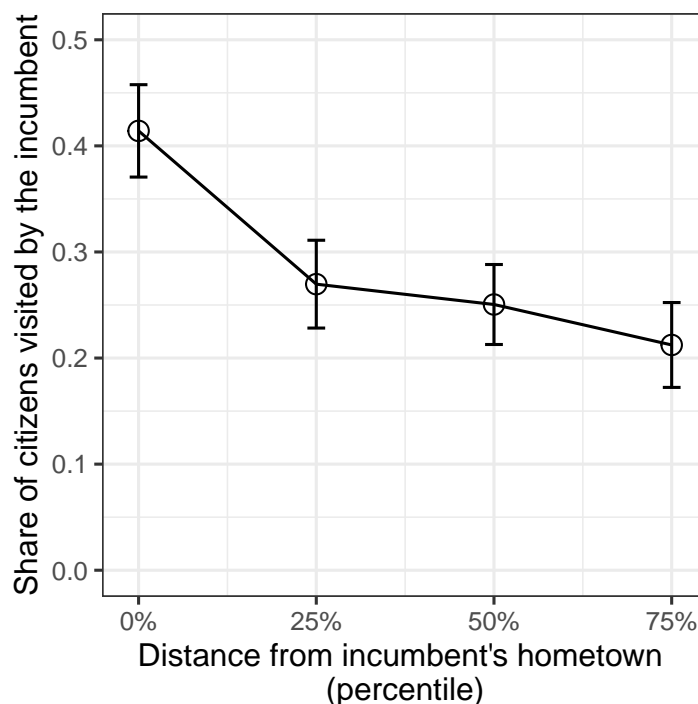
Note: This figure shows the mean number of respondents reporting at least one visit from their incumbent councillor grouped by how far away (in percentiles) they were from the councillor's hometown. Vertical lines show 95% confidence intervals adjusted for village-level clustering. See SI 2.1 for a table of these estimates.

2.2 Hypotheses

We anticipate that politicians respond to information about need, voting, or foreign aid by updating their beliefs in the direction of the information provided. If so, we expect politicians in treatment groups to be more likely

to take need, voting and aid information into account when making spending decisions. Of course the way in which the information treatments affect spending will depend on the type of information provided and a politician's spending goals. Here, we consider several hypotheses about how this information affects public spending.[7]

First, our need information treatment provided details on school, facility and teacher overcrowding. Since most politicians have an interest in welfare maximization, we predicted that this information would cause politicians to be more likely to allocate to schools with higher need.

H1 When politicians receive information about school needs, they will be more likely to allocate to schools in areas with high need.

Our second treatment provided details on the number of foreign aid projects in each school, as well as a categorization of the types of goods provided. The literature on foreign aid suggests two main ways in which foreign aid might impact public spending (Seim, Jablonski and Ahlbäck, 2020; Morrissey, 2015). First, politicians may choose to avoid duplicating the efforts of donors and spend in places ignored by donors (to, for example, help neglected communities). Alternatively, politicians might try to increase public spending in places with foreign aid (if, for example, the marginal return to particular development investments are increasing or if politicians believe that donors know more about a community's needs than they do).

H2 When politicians receive information about foreign aid, they will be *more* likely to allocate to schools that have already benefited from more past aid projects and where donors have provided more categories of goods.

H3 When politicians receive information about foreign aid, they will be *less* likely to allocate to schools that have already benefited from more past aid projects and where donors have provided more categories of goods.

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[7]We summarize the main hypotheses in this section. In the SI we provide tests and discussion of all pre-registered hypotheses.

Our final information treatment provided politicians with information about the voting characteristics in the community around a school. The theoretical literature on distributional politics offers many competing predictions about how voting might affect spending decisions. Informed by the literature on Malawi and our pre-treatment interviews, we expect that voting information will cause politicians to respond by targeting political supporters with greater spending.[8] Other alternatives are possible: information, for instance, might cause politicians to target voters in a non-linear fashion, as might be predicted by swing voter theories. We see little evidence of non-linear effects.

H4 When politicians receive information about voting, they will be more likely to allocate to schools located in areas with higher support for the politicians in the last election.

Our theory of opportunity costs also implies that politicians' response to information should vary with the costs of information collection. When information costs are high, we expect politician's priors to be especially uncertain and biased and – all else equal – information to be more likely to affect behavior. In Malawi, politicians are particularly challenged to learn about more remote communities. Politicians might also have a harder time learning about low population areas since the advocacy capacity of such communities is often lower.[9]

We also consider the mediating effect of political support; though we note that the net effects of political support under our theory are ambiguous. On one hand, it might be more costly to get information from about non-supporters because a politician's social networks in these areas are less dense. On the other hand, politicians might have greater demand for information in high support areas out of a desire to reward political supporters with public spending, which could cause politicians to be more likely to respond to information.

H5 Treatment effects will be greatest where schools are further from

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[8]For instance, in an interview, one District Commissioner said, "Whenever [we] conduct a meeting with the elected officials to identify the area where the development should go, most of them choose the area where he got more votes."

[9]Additionally, the electoral returns to investing in low density areas might be lower. If so, this could lead to ambiguous effects, as noted below.

politician's hometown, in less densely populated areas, or in locations with less political support.

As discussed below, we also took steps to measure politicians' pre-existing knowledge. Following a Bayesian logic, we predicted that politicians who have less accurate knowledge about voting, foreign aid, and school needs will be more likely to respond to the information treatments. We note however that the assumptions required to identify these updating effects are stringent. For one, knowledge might be endogenous to the treatment response: if politicians invest in information when the utility of that information is high, then politicians with poor knowledge will be precisely those politicians least likely to value the information treatments (e.g., see Downs 1957).

We also predicted that the effects of information would vary with the level of transparency of the politician's decision-making. As discussed below, we randomly assigned a transparency treatment in which we told politicians that their decisions would be shared on local radio and/or distributed in a report to all major donors in Malawi. This treatment was intended to clarify both attribution (who was responsible for the spending) and recipient (which school was intended for the goods). We expected this increased clarity would make it easier for citizens to hold politicians accountable for poor spending (e.g., see Jablonski et al. 2021; Martin and Raffler 2021; Ashworth, Bueno de Mesquita and Friedenberg 2017). We predicted that the effect of this increase in accountability would be an increase politicians' demand for and consumption of accurate information about community needs.

H6 Information treatment effects will be greatest when politicians know that their decisions will be shared.

3   Research Design

To study the effects of information on public spending, we conducted a field experiment in 2016 with 125 in-office Members of Parliament (MPs) and 335 in-office Local Councillors (LCs) in Malawi, or 63% and 73% of each theoretical population, respectively. We show a map of sampled constituencies in Figure 3. All research activities were carried out by a team of Malawian research assistants.

Before the experiment, we conducted 32 semi-structured interviews with LCs, MPs, District Commissioners, and Area Development Committees, as well as four focus group discussions with Malawian citizens. These interviews and focus group discussions asked questions about decision-making, transparency, accountability, and relationships across government stakeholders and donors. We also conducted a survey among 2,000 citizens and teachers across 164 schools in 60 of the 462 wards in Malawi. The survey asked questions about local school conditions and perceptions of government and donor performance. Finally, we conducted phone interviews with 101 LCs to further evaluate the mechanisms of these effects.

In partnership with a UK-based NGO (Tearfund), we offered participants the opportunity to choose schools in their constituency to be eligible to receive school supplies. In face-to-face interactions with trained Malawian RAs, each politician was presented with a map that included three schools from their constituency. The three schools that appeared on the map were randomly selected from a comprehensive list of primary schools in the politician's constituency.[10] The politician was then asked to determine which of the three schools should receive an education good. Specifically, the survey asked "When you are ready, please tell me which school you would like to choose to receive a set of [*school supply*]. Please take your time in making this decision." The maps, an example of which is shown in Figure 4 below, were shown to the politician on portable tablets, and could be studied by him or her in detail before each allocation decision was made.[11]

Each politician repeated this process three times, so they consecutively selected three schools out of nine to receive development goods. Each decision involved the allocation of a different kind of good–either solar lamps, teacher supply kits, or English dictionaries. The order of goods being allocated was randomly assigned. The goods being allocated in the experiment were chosen in consultation with teachers and civil society members, and are goods that are highly desired and needed in most communities.

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[10]The ordering of maps and the ordering of school names listed on the map were likewise random.

[11]This design draws on methods used in the choice experiment literature to model consumer preferences; see Clark et al. (2014). We show example maps for all treatments in the SI.

Figure 3: Sampled Constituencies

A. Constituencies   B. Wards

Constituency Boundaries
Sampled Constituencies

Ward Boundaries
Sampled Wards
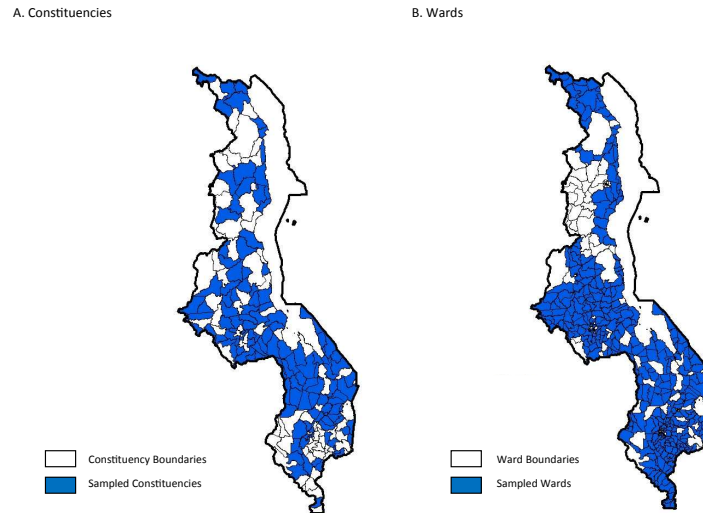
Significantly, these were not hypothetical decisions. Following the experiment, the three schools chosen by each politicians were entered into a public lottery. Approximately 20% of the selected schools were chosen in this lottery to receive goods. The details of the lottery were provided to each politician before they made the allocation decision, making the decision costly and meaningful. Our discussions with project stakeholders, as well as repeated follow-up requests by the participating LCs and MPs, indicated that the allocated goods were valued by both politicians and schools.[12] The funds for these goods were provided by our research grants and did not come from any existing education budget.

The experiment we conduct mimics the way elected politicians make decisions about NGO-funded projects. Politicians are often expected to

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[12]As further evidence on this point, about 30% of the politicians enrolled in the experiment followed up to inquire about the status of and results of the lottery. Many also participated in the lottery allocation process and/or showed up when the goods were being delivered.

make such decisions as part of their official duties. Within the education budget for the local councils (discussed above in Section 2.1), a majority of the funds originally come from foreign aid and allocation authority for these funds is delegated to the Council. For example, an average of approximately $200,000 within each district is allocated to individual schools through the School Improvement Grants (SIG) program, funded by USAID but allocated and managed by district councils.[13] Moreover, in interviews we conducted, almost all politicians mentioned working with NGOs. In fact, when asked to cite an example of a development project the elected politician brought to his or her constituency, most mentioned a project that was implemented (and funded) in partnership with an NGO, rather than one implemented directly by the government.

To evaluate how information influenced the politicians' spending decisions, we randomly assigned three different pieces of information about school characteristics at the map level: need information, aid information, and voting information.[14] These information treatments are summarized in Table 1. We used a factorial treatment assignment, so each map has between zero and three pieces of information. These treatments were assigned within respondent-level blocks, and all of our estimates are within-respondent and within-map effects.

3.1 Need Information Treatment

Our goal with the need information treatment was to provide politicians with information relevant to the needs in each school. For this we rely on official school-level statistics from the Education Management Information System at the Malawi Ministry of Education Science and Technology. These data are from 2014 and encompass over 99% of all schools in Malawi. They are collected approximately biannually by district education offices. Independent assessment exercises on these data suggest a high level of reliability (Bernbaum and Moses, 2011).

Though not an exhaustive assessment of school need, these data allow us to measure three highly visible characteristics of need. First, we

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[13]Data on 2016-2017 SIG allocations collected from the District Education Manager in each district.

[14]These three dimensions of information were identified as salient for distributional decision-making in pre-experiment interviews with LCs, MPs, District Commissioners, and Area Development Committees.

Table 1: Information Treatments

Treatment	Information Provided	N. Treated	N. Control
Need Information	For each school, shows the ranking of school needs, the number of students per classroom, the number of students per teacher, and the number of temporary and permanent classrooms.	622 Maps	630 Maps
Aid Information	Shows the number and type of aid projects supported by international donors at each school in the past 5 years.	628 Maps	624 Maps
Voting Information	Shows the percentage of votes received by the incumbent in the polling station nearest to the school.	641 Maps	611 Maps

measure structural overcrowding using the ratio of students per classroom. Structural overcrowding is among the more severe problems facing schools in Malawi: on average, primary school classrooms have 138 students each, though some have more than 300. Second, we measure teacher overcrowding using the number of students per teacher. Due to chronic problems of low or unpaid salaries, teachers in Malawi are often heavily over-committed and underpaid. Primary school teachers are expected to teach 75 students on average, though some have more than 200. (The global average is 23 students per teacher World Bank (2017).) Third, we measure the quality of existing classrooms by looking at the ratio of temporary classrooms to permanent classrooms. The quality of temporary classrooms vary in Malawi, but they are often of extremely poor quality—sometimes a lean-to or a borrowed residence.

These measures generally align with the priorities of teachers themselves. In our survey of teachers, we asked head teachers to name, in order of priority, the important needs of the school. The highest priority issues by far (named by over 60% of head teachers and citizens) were over-

crowding in classrooms or teacher houses. Teachers also frequently mentioned needing more staff, various facility improvements including electricity, and learning materials.[15] Additionally, in our interviews with politicians about their development decisions in the education sector, they most frequently mentioned enrollment levels, the number of classrooms, and the number of teachers houses. That said, there are some need-based characteristics that these data do not capture: for instance, several politicians also mentioned that they use measures of school quality and achievement, such as the passing rate, or that they simply examine the "look of the infrastructure," or "just see the nature of the school".

In our need information treatment, we provide information on each of these measures separately. In addition, we create an overall index, *School Need*, which is equal to the sum of the z-scores of the three measures of school need.[16] We use this measure to provide respondents with a constituency-specific ranking of the needs in each school as illustrated in Figure 4.

3.2 Aid Information Treatment

To collect information on foreign aid used for the aid information treatment, we focused the data collection on international donors active in the education sector, following consultations with local stakeholders. We asked each donor to provide detailed data on their project activities since 2011, including the type of intervention and the name and location of the recipient school(s). Donors were also asked to cross-validate our list of active donors in the sector, and to suggest organizations that were not on the list.[17] As we discuss below, the politicians in our experiment had little

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[15]We provide further data on this point in the SI.

[16]$SchoolNeed = \frac{x-\mu_1}{\sigma_1} + \frac{x-\mu_2}{\sigma_2} + \frac{x-\mu_3}{\sigma_3}$ where μ_i and σ_i indicate the within-constituency means and standard deviations of students per teacher, students per classroom, and proportion of temporary classrooms for all available primary schools in Malawi.

[17]The organizations from which data were obtained include Department for International Development (DFID), Deutche Gesellschaft fur Internationale Zusammenarbeit (GIZ), German Development Cooperation (KFW), Norweigan Embassy, Save the Children, United States Agency for International Development (USAID), United Nations Children's Fund (UNICEF), United Nations Development Programme (UNDP), Volunteer Service Overseas (VSO), World Food Programme (WFP), and the World Bank. Organizations that were identified as active in the education sector, but that failed to respond to our queries, include Japan International Cooperation Agency (JICA), OXFAM, United Nations

Figure 4: Example Map with School Need Information

Schools in Your Constituency

A — MWENJE SCHOOL
This school has LOWER NEEDS THAN most in this constituency because
- There are 54 students in each classroom
- There are 70 student per teacher
- 0 out of 8 classrooms are temporary

B — KAPELEMERA SCHOOL
This school has MUCH HIGHER NEEDS THAN most in this constituency because
- There are 47 students in each classroom
- There are 105 student per teacher
- 6 out of 8 classrooms are temporary

C — MUZIMERO SCHOOL
This school has LOWER NEEDS THAN most in this constituency because
- There are 23 students in each classroom
- There are 52 student per teacher
- 4 out of 8 classrooms are temporary

Map_Three

or no knowledge about most of these foreign aid projects, and were not involved in their allocation.[18]

In total, 3,151 primary schools received 4,566 foreign aid projects from this set of donors between 2011 and 2016. The number of foreign aid projects in each school varied from 0 to 4. Seventy-three (73%) of our treatment maps contained variation across schools in the number of foreign aid projects.

In our treatment messages we use these data to provide respondents with information on the number of foreign aid projects and the types of

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Population Fund (UNFPA), and World Vision.

[18]Almost all education projects were off-budget and implemented by donors or NGO implementing partners. Government ministries were consulted on some projects; however, we could find no evidence that council authorities or parliamentary representatives in benefiting constituencies had influence or insight into the process of allocating these projects.

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development goods associated with the foreign aid projects. We classified the goods into capacity building, construction, health services, food provision, community support, gender issues, and teacher training. Some aid projects encapsulate several types. Since politicians might care both about the number of foreign aid projects and the scale of donors' involvement in a school, we consider both the number of projects and good types in our analysis below (as pre-specified).

3.3 Voting Information

In order to measure the political characteristics of communities, we collected polling station level data on the votes received by all candidates for LC and MP seats. A large proportion (68%) of the schools in our sample were also polling stations, allowing us to directly measure political support in those communities. For those schools in our sample which were not used as polling stations (32%), we measure political support by using the geographically nearest polling station to the school.

In our treatment messaged, we use these data to provide politicians with information on the percentage of votes they received at or near each school on a map.

3.4 Transparency Treatment

Prior to providing any of these information treatments, we randomly assigned some politicians to receive a transparency treatment.[19] We told a random sample of politicians that his/her school choices would either be announced on local radio or in a report that would be distributed to major donors. To ensure that politicians understood the treatment, they were played a sample radio broadcast and/or shown a sample report to donors during the interview and all politicians in the treatment group read the report in full and/or listened to the full broadcast. We provide examples of these broadcasts and reports in the SI.[20]

The transparency treatment was assigned factorially, so politicians received either the radio message, the donor message, both or no message. In our main analysis, we combine the two transparency treatment arms to

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[19]Treatment was assigned within paired blocks. Blocking was done on respondent partisanship, percent votes and the number of schools in a constituency.

[20]A few months after the study, we delivered this report to all major donors in Malawi and coordinated this radio broadcast on a widely distributed local radio.

maximize power to identify treatment interactions (as pre-specified). In the SI, we show estimates disaggregating the two transparency treatment arms. Effects are weaker but consistent with the results reported below.

4   Assessing Politician Knowledge

In this section we establish that politicians have incomplete knowledge of their constituencies and that this knowledge is biased in systematic ways.

To measure politician knowledge, we concluded the experiment with an additional (fourth) map and quizzed incumbents about the characteristics of a separate and randomly selected group of three schools in their constituency. These questions asked politicians to select schools based on the number of donor projects, the percent votes, or the number of classrooms or students. Since we only ask about three schools, the information provided by this quiz is necessarily incomplete. It nonetheless offers credible insights into what politicians know about their constituencies.

We show the results of this quiz in Figure 5 below. On average, MPs got 31% of questions correct and local councillors got 32% of questions correct. The level of knowledge, however, varies quite a bit across issue areas. Knowledge of school characteristics was relatively high: politicians could correctly identify over half (56%) of the the schools based on enrollment and classroom numbers. Knowledge of donor activities was low: Only 22% could identify which school had the most foreign aid projects and less than 5% could name even one major donor who had invested at this school. Knowledge of voting was mixed: While 33% could identify the least supportive school, only 16% could accurately identify the share of votes they received at this school.[21]

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[21]It is probable that knowledge of voting would have been higher nearer to the 2014 election. In a pilot study among councillors in 2015, 40% were able to identify a school based on the percentage of votes. Knowledge of school characteristics in this pilot was similar.

Figure 5: School Knowledge Questions
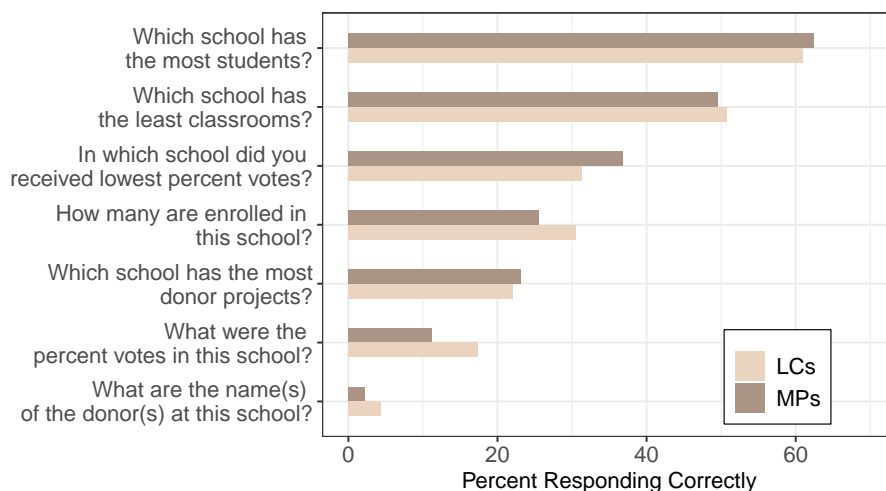
Note: The x-axis shows the proportion of politicians responding correctly to questions about the characteristics of three randomly selected schools in their constituencies. All questions are multiple choice except for the question on the name of the donor.

We next consider how politician knowledge varies by school. To do this, we create a variable measuring the proportion of questions that a politician got correct for each of the three schools in the knowledge quiz. We then estimate how the proportion of correct answers varies by school characteristic.[22] The results of this exercise are shown in Table 2. The results suggest that political support and distance are particularly strong predictors of knowledge. A one standard deviation in distance from a politicians hometown decreases the proportion of correct answers by 4-6%. A one standard deviation increase in votes for an incumbent increases the proportion of correct answers to voting questions by 9%. Surprisingly, however, politicians appear to know less about the characteristics of schools in areas where they received more votes. We see no evidence that politicians

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[22]Not all schools included in the quiz are included in this sample. While the schools included in the quiz were randomly assigned, we did not ask questions about each of the schools on the map, making the effective sample unrepresentative.

know more about populous or less impoverished areas.

Table 2: Correlates of School Knowledge

	All Questions	School Questions	Voting Questions
	(1)	(2)	(3)
Distance from Hometown	−0.037**	−0.046**	−0.058*
	(0.017)	(0.022)	(0.033)
Incumbent Percent	0.006	−0.043**	0.088***
	(0.014)	(0.018)	(0.027)
Pop Density at School	0.012	0.006	−0.046
	(0.016)	(0.021)	(0.032)
School Need Index	0.028**	0.021	0.070***
	(0.011)	(0.014)	(0.023)
School Enrollment	−0.030	−0.046	−0.132**
	(0.025)	(0.032)	(0.052)
Num. Permanent Classrooms	0.007	0.0004	0.176***
	(0.025)	(0.032)	(0.053)
Poverty at School	−0.007	0.005	0.013
	(0.016)	(0.020)	(0.032)
Observations	899	779	469
R^2	0.363	0.430	0.775

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

All models include respondent fixed effects. All independent variables are standardized using z-scores for easier interpretation. School questions include questions about school characteristics and donors. Voting questions include questions about voting percentages.

This effect of distance makes sense in light of the way that Malawian politicians get information about their constituencies. As discussed above, most politicians rely on development committees and personal networks to learn about constituency needs. This will tend to disenfranchise villages in more remote areas: politicians frequently have difficulty in visiting villages and village development committees in remote areas.

5 Estimation

We are interested in the odds that a school is selected in each of a respondent's three choice sets (maps), and seek to estimate how these odds differ conditional on the characteristics of the school and the treatment assignment. We estimate these odds using a conditional logit (fixed effects) estimator conditioned on each choice set. Formally, let Y_{nsi} indicate whether politician *n* chooses school *i* in choice set *s*. Let z_{is} be the variables specific to a school *i*, such as whether previous donor projects have been carried out there. We can represent the probability of selecting a given school in a set *s* conditional on z_{is} using the conditional logit specification in equation 1.

$$P(Y_{nsi} = 1 \mid z_{is}) = \frac{e^{\beta z_{is}}}{\sum_{j=1}^{J} e^{\beta z_{js}}} \text{ for } j = 1, 2, 3 \tag{1}$$

We are primarily interested in evaluating how the effects of z_{is} vary with the treatment assignment. Let $t_s \in [0, 1]$ be our randomly assigned treatment of information at the map level. Our treatment equals one if map *s* has been assigned to a treatment group and zero if it is in a control group. To estimate the effects of treatment, we interact t_s with z_{is} as in equation 2:

$$P(Y_{nsi} = 1) = \phi(\beta_1 z_i + \beta_2 t_s z_i + \gamma X_{is} + e_{nsi}) \tag{2}$$

Where ϕ is the conditional logit estimator in equation 1. X_i is a vector of control variables which are specific to a school, or an interaction of respondent and school-specific variables. Our primary interest is in β_2 which tells us the difference in the effects of z_i in the treatment group relative to the control group. We cluster our errors at the respondent level. Note that since this is a within choice set estimate, t_s is invariant and does not have a coefficient estimate. We use two-tailed hypothesis tests throughout.[23]

We are also interested in how the information treatments interact with other variables, such as the transparency treatment. We estimate these conditional effects in a similar fashion using a triple interaction term. That is, for each conditioning variable w_i, we estimate the following equation

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[23]This is conservative since most of our hypotheses are directional.

and then analytically calculate the treatment effect and standard error conditional on w_i.

$$P(Y_{nsi} = 1) = \phi(\beta_1 z_i + \beta_2 w_i + \beta_3 t_s z_i + \beta_4 t_s w_i + \beta_5 z_i w_i + \beta_6 t_s z_i w_i + \gamma X_{is} + e_{nsi})$$
(3)

We include estimates both with and without control variables for all our models. Our pre-specified control variables, which vary at the school level, include *Log Permanent Classrooms, Log Temporary Classrooms, Log Teacher Houses Permanent, Log Teacher Houses Temporary, Opposition Percent Votes (for MP and LC), Log Enrollment, Number of Aid Projects, Family Attends School, Incumbent Percent at Polling Station*, and *School Need Index*. Summary statistics and coding details for these variables are provided in the SI.[24]

6 Results

6.1 Odds of School Selection in Control Groups

We begin by considering how politicians make decisions absent any information. The estimates in Figure 6 show the effect of each of our independent variables on the odds that a school is selected by a politician.

The results suggest that politicians took both need and politics into account when making spending decisions, but also suggest some limits on politicians' ability to assess constituency needs. A school that is in the highest quartile of need is about 18% more likely to be selected than a school that is in the lowest quartile of need. However the effects of need differ significantly for schools that are closer or further from a politician's hometown (1 sd +/- the mean). School needs do not have any effect on spending for schools that are far from a politician. However when schools are near to a politician, schools in the highest quartile of need are 44% more likely to be selected.

We also see strong effects of voting and social connections on allocation decisions. A one standard deviation increase in a school's percentage

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[24]Missing data in control variables are imputed as specified in the pre-analysis plan using the mean value for the lowest level of aggregation available (map, constituency, or district).

of votes increases the odds of selection by 16%. Likewise, a school attended by a politician's family is 80% more likely to be selected. We also see that politicians are less likely to select schools that are further away from their hometown. Each standard deviation increase in the distance from a politician's hometown decreases the odds of selection by about 11%.

Figure 6: The Effects of School Characteristics on School Selection
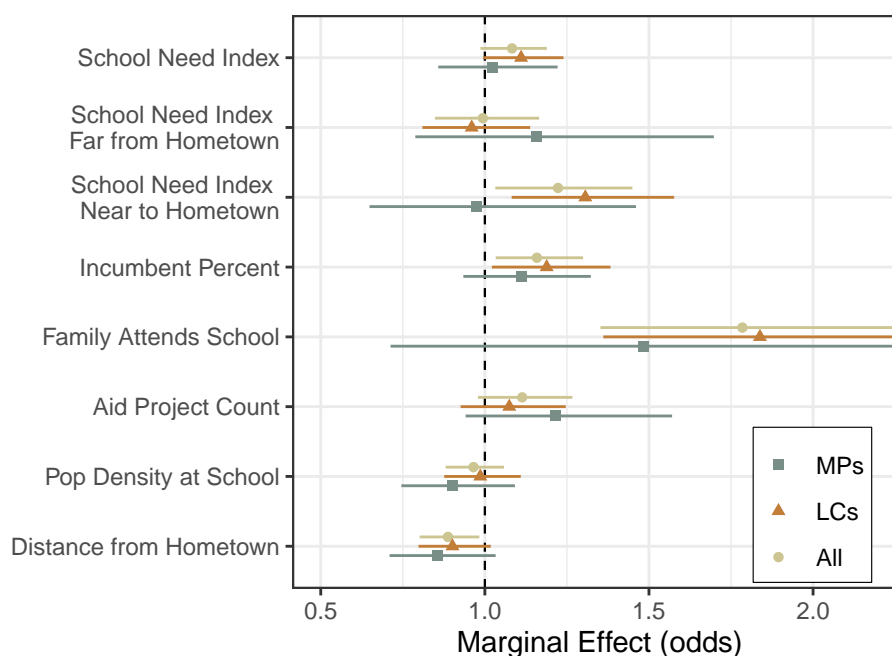
Note: This figure shows the coefficients of separate conditional logistic regressions of school selection on each variable. The sample is limited to maps that do not contain treatment information related to each school characteristic. 95% confidence intervals are shown in the horizontal lines. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. See SI 2.2 for tables of these estimates.

6.2 The Effects of Need Information

We next consider how the effects of school selection vary when politicians learn more about schools from being part of our information treat-

ment. We first look at the need information treatment. For this treatment, we hypothesized that politicians would be more likely to allocate to high need schools in the treatment group versus the control group. We also predicted that these effects would be greater when politicians are in the transparency treatment group and when politicians know less about school needs in their constituency. As discussed above, we measure school needs using an index, which we call *School Need Index*.

Our results are broadly consistent with these hypotheses. In Figure 7 and Table 3 we show the effects of this school needs index varies across treatment and control groups. The effect of school need is nearly three times higher in the treatment group relative to the control group ($p = 0.098$). We see larger and more significant treatment effects when politicians are assigned to the transparency condition ($p = 0.01$).[25] We do not see evidence that less knowledgeable politicians (that is, politicians with a fewer proportion of correct quiz questions about schools) were more likely to respond to the treatment.

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[25]In the SI we show effects for the two transparency arms separately. While effect estimates are positive for both arms, we see larger treatment effects for the donor treatment. We do not see significant positive effects for the radio transparency treatment.

Figure 7: The Effects of Need Information on School Selection
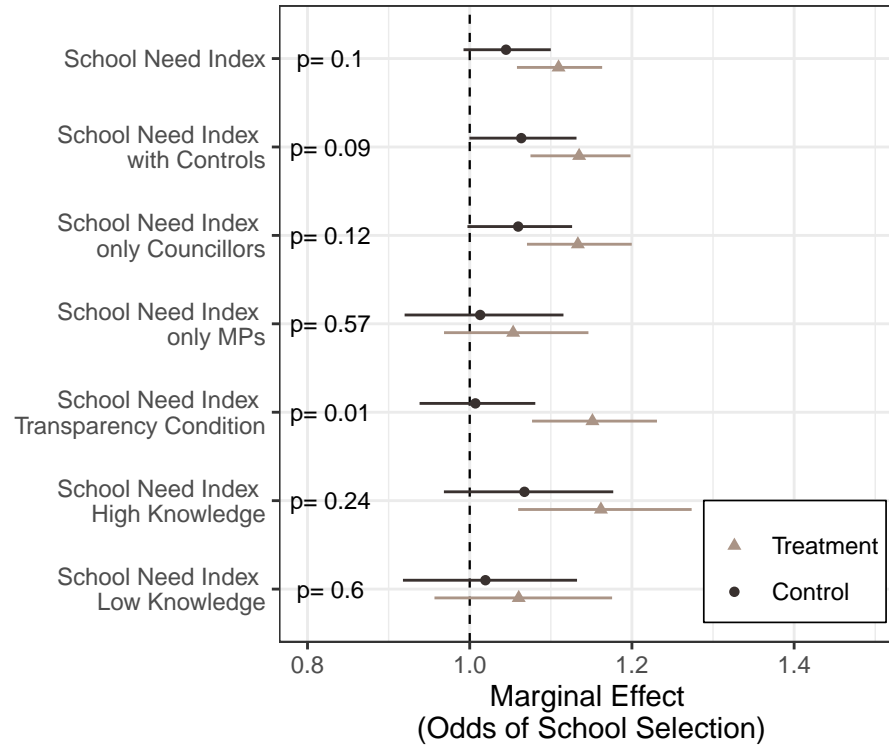
Note: This figure shows the coefficients of separate conditional logit regressions of school selection on baseline variables by treatment status with 95% confidence intervals. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. On the left side we include p-values for whether the observed difference between treatment and control is inconsistent with the null hypothesis. High knowledge indicates respondents who got all questions of school needs correct. Low knowledge indicates respondents who got no questions on school needs correct. See SI 2.3 for tables of these estimates.

Table 3: The Effect of School Need Information

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Need Treatment*				
School Need Index	0.060*	0.069*	0.067	0.039
	(0.037)	(0.038)	(0.044)	(0.067)
School Need Index	0.044*	0.069**	0.058*	0.013
	(0.026)	(0.031)	(0.031)	(0.047)
Observations	3,738	3,738	2,634	1,104
R^2	0.005	0.020	0.008	0.001

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

6.3 The Effects of Foreign Aid Information

We next consider the effects of the aid information treatment. We hypothesized this treatment would cause politicians to be more or less likely to select schools with more foreign aid projects, or more types of aid goods. Our estimates in Figure 8 and Table 4 are consisted with politicians choosing to allocate to schools which are ignored by donors.

On average, receiving information about foreign aid projects decreases the odds of a school with one foreign aid project being selected by 0.26 ($p = 0.055$). (On average, schools have 0.9 aid projects.) We also see an insignificant and smaller effect size among MPs compared to LCs.[26]

We also evaluate whether the odds of school selection vary depending upon how many types of goods have been delivered by donors to a school (Aid Good Types). The estimates suggest that when politicians learn from the aid information treatment that there are three categories of goods being delivered by donors at a school (the average is 2.6), the odds of that school being selected decrease by 0.42 ($p = 0.02$) on average.

Consistent with our expectations, the effects of the foreign aid treatment are greater for politicians that are less knowledgeable about aid in

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[26]This may be due to the fact that LCs value this information more. We find, for instance, that 81% of LCs claim they find the information useful compared to 64% of MPs. However, these differences should be interpreted with caution due to the small sample of MPs.

their constituency (as measured by our knowledge quiz). We see some evidence of larger treatment effects in the transparency treatment group and for schools that are far from the politician's hometown; though we cannot reject the null of no interaction effect.

One potential reason for the weaker effects of transparency here is that voters are less likely to pressure politicians to consider foreign aid due to the low knowledge among citizens themselves about the source and allocation of aid (Baldwin and Winters, 2020).Thus transparency may be less likely to shift demand for information about aid.

Figure 8: The Effects of Aid Information on School Selection
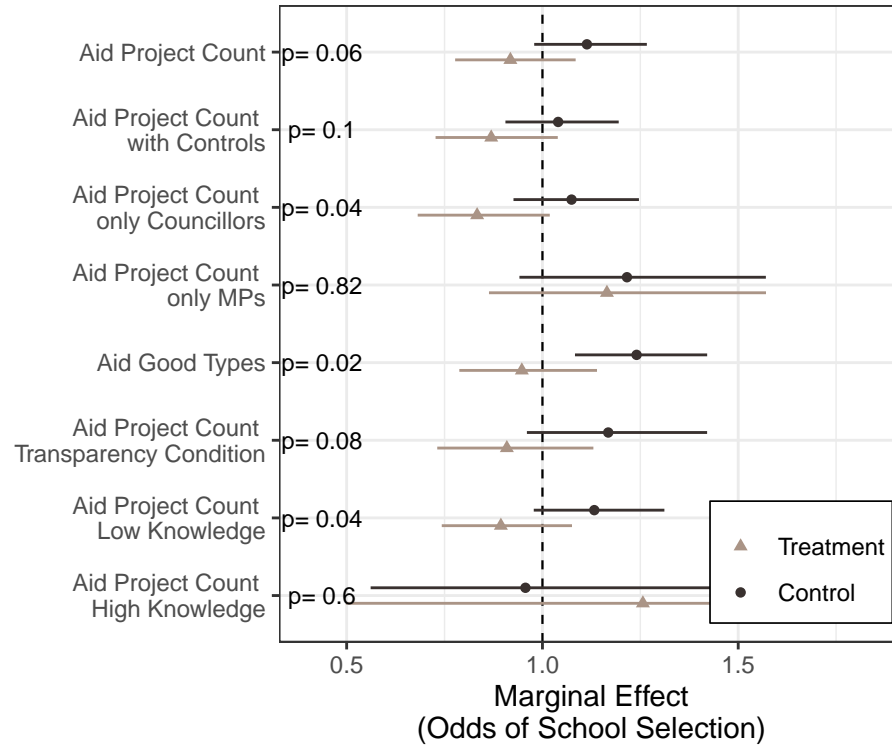
Note: This figure shows the coefficients of separate conditional logit regressions of school selection on baseline variables by treatment status with 95% confidence intervals. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. On the left side we include p-values for whether the observed difference between treatment and control is inconsistent with the null hypothesis. See SI 2.4 for tables of these estimates.

Table 4: The Effect of Foreign Aid Information

	All Surveys	with Controls	Alt. Coding	Councillors	MPs
	(1)	(2)	(3)	(4)	(5)
Aid Treatment*					
Aid Project Count	−0.193*	−0.187*		−0.254**	−0.043
	(0.110)	(0.115)		(0.131)	(0.206)
Aid Project Count	0.108	−0.197		0.072	0.195
	(0.068)	(0.120)		(0.080)	(0.126)
Aid Treatment*					
Aid Good Types			−0.270**		
			(0.118)		
Aid Good Types		0.301**	0.216***		
		(0.118)	(0.073)		
Observations	3,738	3,738	3,738	2,634	1,104
R^2	0.001	0.021	0.003	0.001	0.003

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

6.4 The Effects of Voting Information

Finally in Figure 9 and Table 5 we consider the effects of the voting information treatment. We see little evidence that these treatments changed the way that politicians allocated goods to schools. We also do not see significant effects in any pre-registered sub-group. We can only speculate as to why this might be. One possibility is that knowledge about voting is more efficient in the sense that politicians who demand information about voting can get it at relatively low cost. Demand for voting information may also have been low due to the rapidly changing electoral environment at this time in Malawi.[27] It's also possible that some of we interpret as political targeting is, in fact, measuring social connections between politicians and some communities.

In the SI, we consider a number of sub-group interactions in an attempt to distinguish between these explanations. Among other things, we evaluate whether treatment effects differ when politicians anticipate contesting elections or when they have more experience in the constituency. We do not see significant treatment effects in any subgroup.

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[27]Because 2014 was the first time councillors had been elected in many years, it was a very different electoral environment than the one they faced in 2019.

Figure 9: The Effects of Voting Information on School Selection
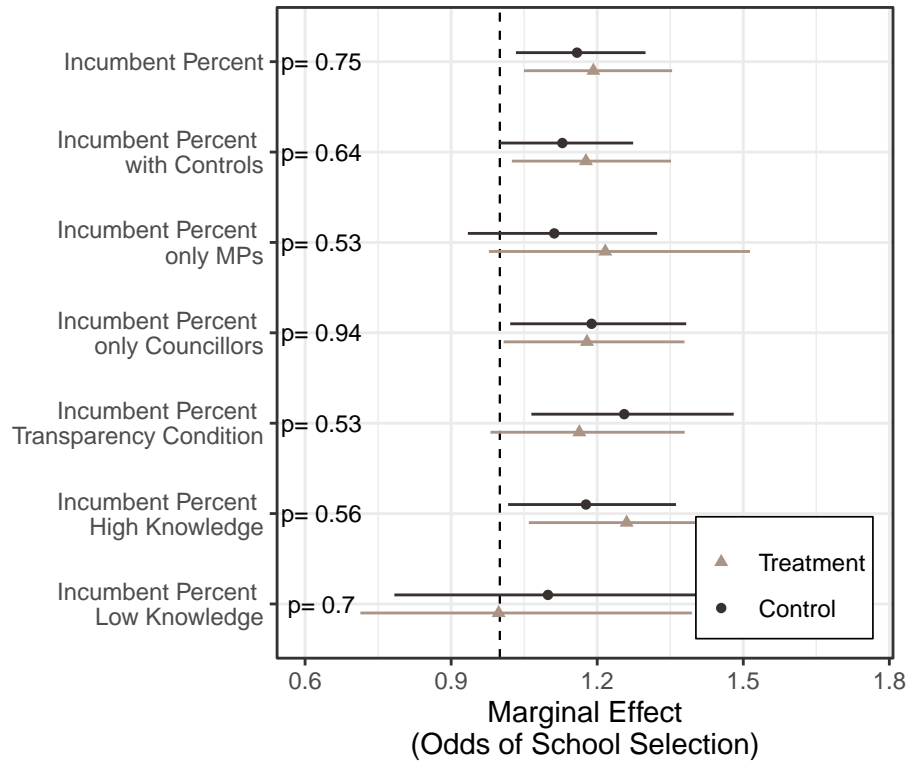
Note: This figure shows the coefficients of separate conditional logit regressions of school selection on baseline variables by treatment status with 95% confidence intervals. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. On the left side we include p-values for whether the observed difference between treatment and control is inconsistent with the null hypothesis. See SI 2.5 for tables of these estimates.

Table 5: The Effect of Political Information

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Voting Treatment*				
Incumbent Percent	0.029	0.038	-0.008	0.090
	(0.088)	(0.089)	(0.111)	(0.146)
Incumbent Percent	0.147**	0.115*	0.173**	0.106
	(0.063)	(0.067)	(0.081)	(0.102)
Observations	3,728	3,728	2,624	1,104
R^2	0.004	0.021	0.004	0.004

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

7   Distributional Consequences

We next consider how these information treatments affected the geographic distribution of spending. We anticipated that the information treatments would cause politicians to be more responsive to communities that might otherwise struggle to participate in political forums or receive visits from politicians: areas far away from the politician's home town; areas with lower population density; and areas where the politician received fewer votes.

To estimate how the effects of treatment vary across distance, population density, and incumbent votes, we use a triple interaction term as discussed in Section 5. The results in Figure 10 are mixed yet broadly consistent with our predictions. The effects of need information are substantially larger in communities that are further from an incumbent's hometown or in areas with low population density. In communities that are at the 70th percentile of distance, a standard deviation increase in need increases the odds of school selection by an estimated 10 percentage points in treatment versus control. In nearby communities, we estimate that conditional treatment effects are near zero. We do not see any evidence that treatment effects are larger in communities that voted for the incumbent. This weak finding is consistent with our observation that political support can both increase the demand for and decrease the costs of information.

The conditional effects of the aid information treatment are mixed. While the treatment is no more likely to shift spending to near or far schools, we do see a larger effect of treatment in low versus high density communities. These weaker conditional treatments may be due to limited awareness of donor spending relative to other information provided in the experiment.

We do not see evidence that population density or distance conditions the effects of the voting information treatment.

Figure 10: Heterogenous Effects of Information on School Selection
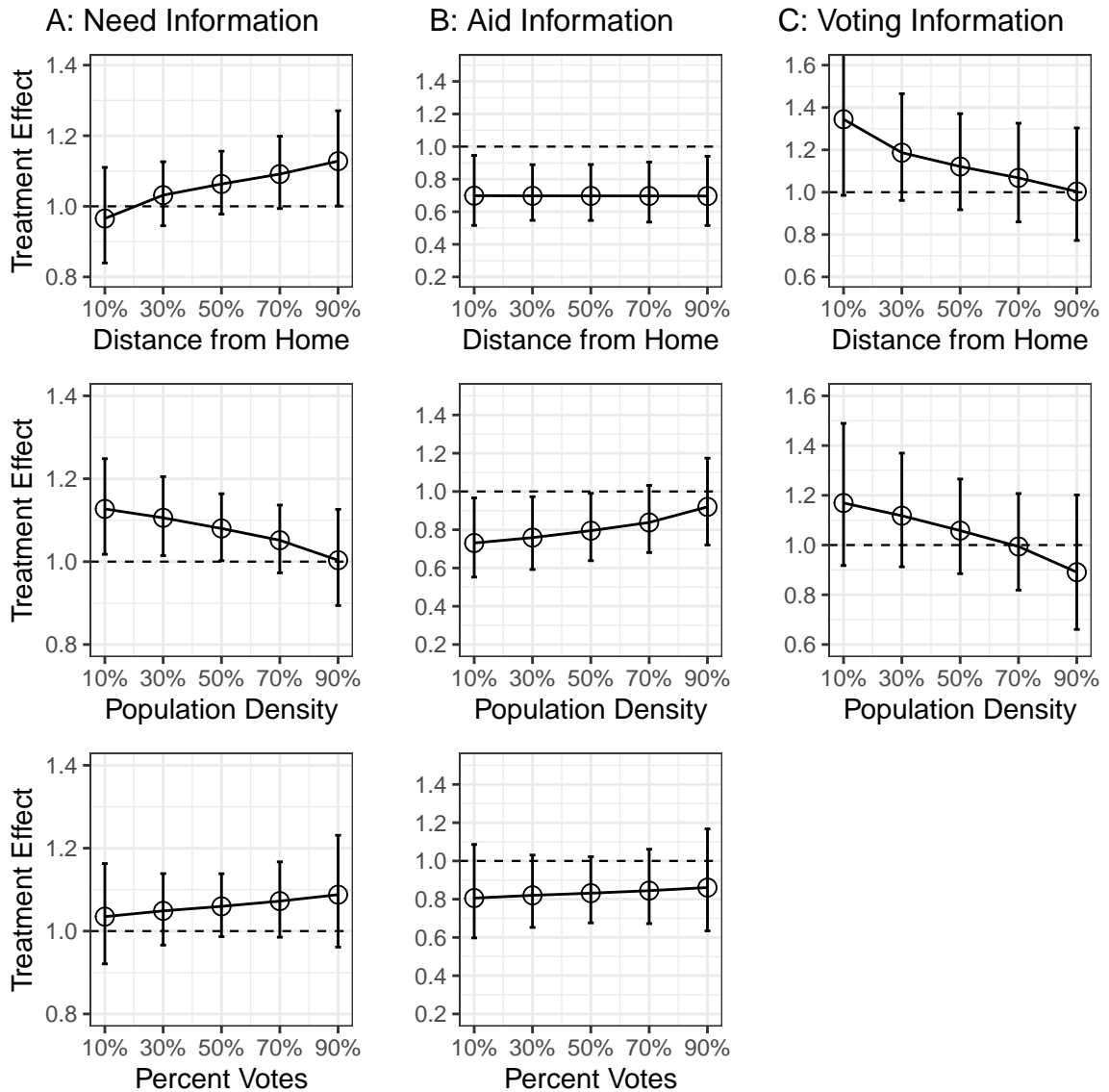
Note: This figure shows heterogenous effects of each information treatment on school selection (in odds). In columns A-C we show the effects for need information, aid information and voting information. In rows 1-3 we show how these effects vary by the school's distance from incumbent's hometown, population density at the school, and the percent of votes for the incumbent at the nearest polling station to the school. All variables are shown in percentiles. See SI 2.6 for tables of these estimates.

8 Interpretation and Robustness

In this section we consider some alternative reasons why politicians might respond to information. One possibility is that our estimates are influenced by social desirability or experimenter demand effects. While we emphasized that there were "no restrictions" on incumbent's choice and that the goods would be allocated via a public lottery, some incumbents still may have believed that a donor, constituents, or research team expected them to make a particular decision. Relatedly, responses might be influenced by Hawthorne effects: that is, politicians might have made different decisions because they knew their decisions were being recorded.

It is important to note that social desirability bias, Hawthorne effects, or experimenter demand effects would not, strictly speaking, challenge the generalizability of these findings. The intention of our study is to mimic fairly typical interactions between NGOs and politicians. We think it likely that any donor demand effects in our study would be similar to the influence exerted by donors in real development allocation decision contexts. Nonetheless, the lessons we draw do depend on mechanism, so we took a number of steps to further evaluate these alternatives.

While difficult to rule out entirely, these are likely inadequate explanations of our findings. First, politicians' behavior seems inconsistent with social desirability. For instance, politicians spend more on family members and political supporters (and often justify their decisions accordingly). Additionally, the way politicians responded to the aid information treatment especially seem inconsistent with social desirability bias. Donors are most often concerned about the potential for aid to displace spending, and often implement budgetary rules to avoid the kind of displacement we observe. If politicians were responding to donor demands, it seems unlikely that they would choose a displacement strategy. Second, we think experimenter demand effects are unlikely. Because our implementation was done through an NGO and our team identified themselves (honestly) as representatives of the NGO, it seems unlikely that politicians would seek to align their behavior with research expectations. Finally, these explanations are inconsistent with politicians' significant investment of time and resources, including participating in school deliveries, attending the lottery, and following up with our research team. Even if the politicians were concerned about donor or research team preferences, it is unlikely such concerns would override politicians' concerns for constituents.

We also explore the implications of these arguments in our data. First, we examined the open-ended explanations provided by the respondent for indications of social desirability bias. When asked to justify their decisions, only five politicians specifically mention Tearfund and only six mention "you" (as in the researcher). Instead many politicians refer specifically to the information provided in the course of the experiment. For instance, 174 politicians outright said that they were choosing a school *because* it had not been supported by donors or other development projects. So qualitative evidence seems to instead support our preferred explanation that politicians are consuming information with the goal of making a more effective spending decision. Second, in the presence of social desirability bias, we would expect that politicians who interact more with donors to be especially concerned about the repercussions of their choices. We see no identifiable difference in treatment response among those more or less likely to interact with donors. Similarly, we fail to see any significant differences in any treatment effects among those respondents who had heard of or interacted with our partner Tearfund.

9   Conclusions

In this study we establish that politicians have meaningful gaps in knowledge about their constituencies. We also show that providing information to politicians changes spending decisions in a way that appears to be welfare enhancing.

We further argue that these information gaps contribute to the marginalization of some kinds of communities. In support of this claim, we first show that citizens have a harder time interacting with the government when they are in remote communities, and that such communities are less likely to be visited by politicians. We also show that politicians have less knowledge of community needs in more distant communities. Finally, we show that treatment effects are sometimes larger in communities that are more distant from a politician or where population density is low.

However this study also suggests that merely providing missing information will often be insufficient to change behaviour. Politicians are especially likely to respond to need information when they know that decisions are transparent. We explain this fact using the framework of opportunity costs: Incorporating new information into spending decisions is costly, and will remain so even when the costs of collecting that information are low.

However when politicians know that their decisions are being observed, their demand for making informed decisions about needs will increase.

From a policy perspective, the results suggest that programs to increase administrative capacity and knowledge could have large welfare benefits, particularly for communities which have been marginalized in their access to government. However, this study also suggests that we need to be cautious about interventions that only provision information without considering politician demands for that information. Improving public spending will usually require not only building administrative capacity and knowledge in governments, but also making sure that citizens and other oversight institutions have the knowledge and capacity to use this information to hold politicians accountable. When citizens lack such capacity, politicians will have less incentive to demand and consume new knowledge.

Conflicts of Interest

The authors declare no conflicts of interest.

References

Ashworth, Scott, Ethan Bueno de Mesquita and Amanda Friedenberg. 2017. *On the Incumbency Advantage*.

Auerbach, Adam Michael. 2017. "Neighborhood associations and the urban poor: India's slum development committees." *World Development* 96:119–135.

Baldwin, Kate and Matthew S Winters. 2020. "How do different forms of foreign aid affect government legitimacy? Evidence from an informational experiment in Uganda." *Studies in Comparative International Development* 55:160–183.

Bardhan, Pranab and Dilip Mookherjee. 2006. *Decentralization and local governance in developing countries: A comparative perspective*. Mit Press.

Basurto, Maria Pia, Pascaline Dupas and Jonathan Robinson. 2020. "Decentralization and efficiency of subsidy targeting: Evidence from chiefs in rural Malawi." *Journal of public economics* 185:104047.

Berliner, Daniel, Benjamin E Bagozzi, Brian Palmer-Rubin and Aaron Erlich. 2021. "The political logic of government disclosure: evidence from information requests in Mexico." *The Journal of Politics* 83(1):229–245.

Bernbaum, Marcia and Kurt Moses. 2011. "EQUIP2 Lessons Learned in Education: A Guide to Education Project Design, Evaluation, and Implementation Based on Experiences from EQUIP2 Projects in Malawi, Uganda, and Zambia Education Management Information Systems." `https://www.fhi360.org/sites/default/files/media/documents/EQUIP2%20LL%20EMIS%20AAR.pdf` (Accessed Dec. 2017).

Broockman, David E. 2013. "Black politicians are more intrinsically motivated to advance blacks' interests: A field experiment manipulating political incentives." *American Journal of Political Science* 57(3):521–536.

Broockman, David E and Christopher Skovron. 2018. "Bias in perceptions of public opinion among political elites." *American Political Science Review* 112(3):542–563.

Buntaine, Mark T, Daniel L Nielson and Jacob T Skaggs. 2021. "Escaping the disengagement dilemma: Two field experiments on motivating citizens to report on public services." *British Journal of Political Science* 51(2):685–705.

Clark, Michael D, Domino Determann, Stavros Petrou, Domenico Moro and Esther W de Bekker-Grob. 2014. "Discrete Choice Experiments in Health Economics: A Review of the Literature." *Pharmacoeconomics* 32(9):883–902.

Coppedge, Michael et al. 2021. "V-Dem Dataset v11.1.".

Diaz-Cayeros, Alberto, Federico Estévez and Beatriz Magaloni. 2016. *The political logic of poverty relief: Electoral strategies and social policy in Mexico*. Cambridge University Press.

Dixit, Avinash and John Londregan. 1996. "The Determinants of Success of Special Interests in Redistributive Politics." *The Journal of Politics* 58(4):1132–1155.

Downs, Anthony. 1957. "An economic theory of political action in a democracy." *Journal of political economy* 65(2):135–150.

Driscoll, Amanda, Gabriel Cepaluni, Feliciano de Sá Guimarães and Paolo Spada. 2018. "Prejudice, strategic discrimination, and the electoral connection: Evidence from a pair of field experiments in Brazil." *American Journal of Political Science* 62(4):781–795.

Erikson, Robert S, Norman R Luttbeg and William V Holloway. 1975. "Knowing one's district: How legislators predict referendum voting." *American Journal of Political Science* pp. 231–246.

Gaikwad, Nikhar and Gareth Nellis. 2021. "Do politicians discriminate against internal migrants? Evidence from nationwide field experiments in India." *American Journal of Political Science* 65(4):790–806.

Garbiras-Díaz, Natalia, Miguel García-Sánchez and Aila Matanock. 2021. "Do Citizens' Preferences Matter? Shaping Elite Attitudes towards Peace Agreements.".

Golden, Miriam, Saad Gulzar and Luke Sonnet. 2020. "'Press 1 for Roads': Constituency Service with New Communication Technology.".

Grossman, Guy, Melina R Platas and Jonathan Rodden. 2018. "Crowdsourcing accountability: ICT for service delivery." *World Development* 112:74–87.

Gulzar, Saad, Zuhad Hai and Binod Kumar Paudel. 2021. "Information, candidate selection, and the quality of representation: evidence from Nepal." *The Journal of Politics* 83(4):1511–1528.

Hawkins, Darren, Aubriana Wolferts and Daniel L Nielson. 2018. "International Diffusion of Development Knowledge: A Field Experiment on Officials' Responses to Impact Evidence in Peru.".

Hertel-Fernandez, Alexander, Matto Mildenberger and Leah C Stokes. 2019. "Legislative staff and representation in Congress." *American Political Science Review* 113(1):1–18.

Jablonski, Ryan S, Mark T Buntaine, Daniel L Nielson and Paula M Pickering. 2021. "Individualized text messages about public services fail to

sway voters: evidence from a field experiment on Ugandan elections." *Journal of Experimental Political Science* pp. 1–13.

Kalla, Joshua L and Ethan Porter. 2021. "Correcting bias in perceptions of public opinion among American elected officials: results from two field experiments." *British Journal of Political Science* 51(4):1792–1800.

Keefer, Philip and Razvan Vlaicu. 2008. "Democracy, Credibility, and Clientelism." *The Journal of Law, Economics, and Organization* 24(2):371–406.

Kertzer, Joshua D. 2020. "Re-Assessing Elite-Public Gaps in Political Behavior." *American Journal of Political Science* .

Kiewiet, D Roderick and Mathew D McCubbins. 1991. *The logic of delegation*. University of Chicago Press.

Lembani, Samson. 2008. Political Parties in Malawi: Minimising Electoral Fortunes. In *Towards the Consolidation of Malawi's Democracy*. Konrad-Adenauer-Stiftung pp. 39–48.

Lupia, Arthur and Mathew D McCubbins. 1994. "Who controls? Information and the structure of legislative decision making." *Legislative Studies Quarterly* pp. 361–384.

Martin, Lucy and Pia J Raffler. 2021. "Fault lines: the effects of bureaucratic power on electoral accountability." *American Journal of Political Science* 65(1):210–224.

McClendon, Gwyneth H. 2016. "Race and Responsiveness: An Experiment with South African Politicians." *Journal of Experimental Political Science* 3(1):60–74.

McCubbins, Mathew D and Thomas Schwartz. 1984. "Congressional oversight overlooked: Police patrols versus fire alarms." *American journal of political science* pp. 165–179.

Morrissey, Oliver. 2015. "Aid and government fiscal behavior: Assessing recent evidence." *World Development* 69:98–105.

Oates, Wallace E. 1999. "An essay on fiscal federalism." *Journal of economic literature* 37(3):1120–1149.

Patel, Nandini. 2005. "Political parties: development and change in Malawi.".

Pereira, Miguel M. 2020. "Understanding and Reducing Biases in Elite Beliefs About the Electorate." *American Political Science Review* pp. 1–17.

Rogger, Daniel and Ravi Somani. 2019. "Hierarchy and information." *World Bank Policy Research Working Paper* (8644).

Seim, Brigitte, Ryan Jablonski and Johan Ahlbäck. 2020. "How information about foreign aid affects public spending decisions: Evidence from a field experiment in Malawi." *Journal of Development Economics* 146:102522.

Stokes, Susan C., Thad Dunning, Marcelo Nazareno and Valeria Brusco. 2013. *Brokers, Voters, Clientelism: The Puzzle of Distributive Politics*. Cambridge: Cambridge University Press.

Todd, Jason Douglas, Edmund Malesky, Anh Tran and Quoc Anh Le. 2021. "Testing Legislator Responsiveness to Citizens and Firms in Single-Party Regimes: A Field Experiment in the Vietnamese National Assembly." *Journal of Politics* 83(4):1573–1588.

World Bank. 2017. *World Development Indicators*. Accessed June 2017.
URL: *http://data.worldbank.org/data-catalog/world-development-indicators (Accessed June 2017)*

Supporting Information: What politicians don't know can hurt you:
The effects of information on politicians' spending decisions.

March 1, 2022

Contents

1 Overview

This supplementary information (SI) is intended to provide additional information useful for understanding the experiment and the results in the main text. In this respect, see especially the following sections:

1. Section 2 provides tables for all the estimates plotted in the main text.

2. Section 3 provides additional tests that might aid in understanding the results of the study, including multiple comparison tests, assessments of experimenter demand effects, compliance checks and interactions across treatment arms.

3. Section 4 provides statistics on sample representativeness, attrition, variable correlations, and variable distributions and coding details.

4. Section 5 provides an overview of the survey of citizens and teachers referenced in the main text.

5. Section 6 provides a detailed description of the randomization process, example maps, details on the goods used in the experiment, and example transparency treatments.

6. Section 7 provides a discussion of the ethics of this experiment and the steps we took to ensure the protection of all research participants.

7. Section 11 provides an example of the full survey provided to research participants.

Additionally, this SI serves as a compendium of all the tests of the information treatment arms which were pre-specified in our pre-analysis plan (PAP). This pre-analysis plan was filed with EGAP on January 23, 2018 prior to any analysis being undertaken. You can see the full anonymized pre-analysis plan in Section 10. Additionally, in Section 8 we summarize all of the pre-specified hypothesis tests and where the tests can be found. Finally, we discuss deviations from the PAP in Section 9.

2 Tables Showing Estimates from Main Text Figures

In the main manuscript, we show most treatment effect estimates in coefficient plots. In this section we show estimates in Table form for all these plots.

2.1 Figure 2

Table S1: Estimates from Main Text Figure 2

	Linear Effect	0-25 perc.	25-50 perc.	50-75 perc.	75-100 perc.
	(1)	(2)	(3)	(4)	(5)
Log Distance from Hometown	−0.095***				
	(0.022)				
Intercept	0.513***	0.414***	0.270***	0.250***	0.212***
	(0.058)	(0.039)	(0.042)	(0.037)	(0.029)
Observations	1,856	495	445	511	405
R^2	0.027	−0.000	0.000	0.000	0.000

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

2.2 Figure 6

Table S2: Estimates from Figure 6 (School Need Index)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
School Need Index	0.080*	0.121*	0.105*	0.024
	(0.047)	(0.061)	(0.057)	(0.085)
Observations	1,878	1,878	1,311	567
R^2	0.002	0.022	0.003	0.0001

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

Table S3: Estimates from Figure 6 (School Need Index*Distance)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
School Need Index*Log Distance from Hometown	−0.104*	−0.104*	−0.154**	0.086
	(0.063)	(0.063)	(0.071)	(0.141)
School Need Index	0.098*	0.098*	0.113*	0.059
	(0.057)	(0.057)	(0.066)	(0.116)
Log Distance from Hometown	−0.112	−0.112	−0.060	−0.230
	(0.067)	(0.067)	(0.079)	(0.131)
Observations	1,397	1,397	1,018	379
R^2	0.006	0.006	0.008	0.010

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

Table S4: Estimates from Figure 6 (Incumbent Votes)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Incumbent Percent	0.147**	0.131**	0.173**	0.106
	(0.063)	(0.071)	(0.081)	(0.102)
Observations	1,818	1,818	1,275	543
R^2	0.003	0.020	0.004	0.002

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

Table S5: Estimates from Figure 6 (Family Attends School)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Family Attends School	0.579***	0.466***	0.609***	0.395
	(0.140)	(0.145)	(0.151)	(0.379)
Observations	3,738	3,738	2,634	1,104
R^2	0.004	0.020	0.006	0.001

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

Table S6: Estimates from Figure 6 (Aid Project Count)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Aid Project Count	0.108	−0.280*	0.072	0.195
	(0.068)	(0.142)	(0.080)	(0.126)
Observations	2,331	2,331	1,626	705
R^2	0.001	0.023	0.0005	0.003

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

Table S7: Estimates from Figure 6 (Population Density)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Pop Density at School	−0.035	0.116	−0.014	−0.103
	(0.049)	(0.304)	(0.058)	(0.124)
Observations	3,619	3,619	2,622	997
R^2	0.0002	0.022	0.00002	0.001

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

2.3 Figure 7

Table S8: Estimates from Main Text Figure 7 (part 1)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Need Treatment* School Need Index	0.060*	0.069*	0.067	0.039
	(0.037)	(0.038)	(0.044)	(0.067)
School Need Index	0.044*	0.069**	0.058*	0.013
	(0.026)	(0.031)	(0.031)	(0.047)
Aid Good Types		0.423*		
		(0.224)		
Aid Project Count		−0.476		
		(0.302)		
Family Attends School		0.468***		
		(0.145)		
Incumbent Percent		0.634***		
		(0.229)		
Log Enrollment		0.120***		
		(0.042)		
Log Permanent Classrooms		−0.069		
		(0.113)		
Log Permanent Houses		0.059		
		(0.060)		
Log Teachers		0.025		
		(0.098)		
Log Temporary Classrooms		−0.100		
		(0.068)		
Log Temporary Houses		0.042		
		(0.062)		
Log Turnout		−0.198**		
		(0.081)		
Opposition Percent (LC)		−0.206		
		(0.268)		
Percent Votes (MP)		0.097		
		(0.233)		
Pop Density at School		−0.003		
		(0.003)		
Observations	3,738	3,738	2,634	1,104
R^2	0.005	0.020	0.008	0.001

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

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Table S9: Estimates from Main Text Figure 7 (part 2)

	Knowledge Interactions	Transparency Interactions
	(1)	(2)
Need Treatment*Knowledge of Schools*School Need Index	−0.045	
	(0.126)	
Need Treatment*School Need Index*Transparency Treatment		0.163**
		(0.074)
Need Treatment*School Need Index	0.085	−0.029
	(0.071)	(0.054)
Knowledge of Schools*School Need Index	−0.046	
	(0.090)	
School Need Index*Transparency Treatment		−0.082
		(0.053)
School Need Index	0.065	0.089**
	(0.049)	(0.039)
Observations	3,738	3,738
R^2	0.006	0.006

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

2.4 Figure 8

Table S10: Estimates from Main Text Figure 8 (part 1)

	All Surveys	with Controls	Alternate Coding	Councillors	MPs
	(1)	(2)	(3)	(4)	(5)
Aid Treatment*Aid Project Count	−0.193*	−0.187*		−0.254**	−0.043
	(0.110)	(0.115)		(0.131)	(0.206)
Aid Project Count	0.108	−0.197		0.072	0.195
	(0.068)	(0.120)		(0.080)	(0.126)
Aid Treatment*Aid Good Types			−0.270**		
			(0.118)		
Aid Good Types		0.301**	0.216***		
		(0.118)	(0.073)		
Aid Project Count		0.464***			
		(0.145)			
Family Attends School		0.613***			
		(0.229)			
Incumbent Percent		0.115***			
		(0.042)			
Log Enrollment		−0.052			
		(0.113)			
Log Permanent Classrooms		0.061			
		(0.060)			
Log Permanent Houses		0.029			
		(0.098)			
Log Teachers		−0.096			
		(0.068)			
Log Temporary Classrooms		0.044			
		(0.062)			
Log Temporary Houses		−0.203**			
		(0.081)			
Log Turnout		−0.191			
		(0.267)			
Opposition Percent (LC)		0.099			
		(0.233)			
Percent Votes (MP)		−0.003			
		(0.003)			
Pop Density at School		0.107***			
		(0.023)			
Observations	3,738	3,738	3,738	2,634	1,104
R^2	0.001	0.021	0.003	0.001	0.003

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

Table S11: Estimates from Main Text Figure 8 (part 2)

	Knowledge Interactions	Transparency Interactions
	(1)	(2)
Aid Treatment*Knowledge of Donors*Aid Project Count	0.509	
	(0.575)	
Aid Treatment*Aid Project Count*Transparency Treatment		−0.122
		(0.223)
Aid Treatment*Aid Project Count	−0.237**	−0.128
	(0.121)	(0.165)
Knowledge of Donors*Aid Project Count	−0.169	
	(0.336)	
Aid Project Count*Transparency Treatment		0.100
		(0.136)
Aid Project Count	0.124*	0.056
	(0.076)	(0.098)
Observations	3,738	3,738
R^2	0.001	0.001

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

2.5 Figure 9

Table S12: Estimates from Main Text Figure 9 (part 1)

	All Surveys	with Controls	Councillors	MPs
	(1)	(2)	(3)	(4)
Voting Treatment*Incumbent Percent	0.029	0.038	−0.008	0.090
	(0.088)	(0.089)	(0.111)	(0.146)
Incumbent Percent	0.147**	0.115*	0.173**	0.106
	(0.063)	(0.067)	(0.081)	(0.102)
Aid Good Types		0.304***		
		(0.118)		
Aid Project Count		−0.270**		
		(0.112)		
Family Attends School		0.469***		
		(0.145)		
Log Enrollment		0.120***		
		(0.042)		
Log Permanent Classrooms		−0.048		
		(0.114)		
Log Permanent Houses		0.061		
		(0.060)		
Log Teachers		0.022		
		(0.098)		
Log Temporary Classrooms		−0.102		
		(0.068)		
Log Temporary Houses		0.043		
		(0.062)		
Log Turnout		−0.226***		
		(0.085)		
Opposition Percent (LC)		−0.184		
		(0.267)		
Percent Votes (MP)		0.104		
		(0.233)		
Pop Density at School		−0.003		
		(0.003)		
School Need Index		0.109***		
		(0.023)		
Observations	3,728	3,728	2,624	1,104
R^2	0.004	0.021	0.004	0.004

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

Table S13: Estimates from Main Text Figure 9 (part 2)

	Knowledge Interactions	Transparency Interactions
	(1)	(2)
Voting Treatment*Knowledge of Politics*Incumbent Percent	−0.165	
	(0.311)	
Voting Treatment*Incumbent Percent*Transparency Treatment		−0.214
		(0.178)
Voting Treatment*Incumbent Percent	0.069	0.138
	(0.115)	(0.129)
Knowledge of Politics*Incumbent Percent	−0.069	
	(0.226)	
Incumbent Percent*Transparency Treatment		0.159
		(0.127)
Incumbent Percent	0.163**	0.069
	(0.082)	(0.089)
Observations	3,728	3,728
R^2	0.004	0.004

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

2.6 Figure 10

Table S14: Estimates from Main Text Figure 10 (Need Interactions)

	Distance Interactions	Density Interactions	Voting Interactions
	(1)	(2)	(3)
Need Treatment*Log Distance from Hometown*School Need Index	0.240		
	(0.166)		
Need Treatment*Incumbent Percent*School Need Index			0.019
			(0.038)
Need Treatment*Pop Density*School Need Index		−0.121	
		(0.090)	
Need Treatment*School Need Index	−0.241	0.048	0.059
	(0.205)	(0.040)	(0.037)
Need Treatment*Log Distance from Hometown	−0.086		
	(0.331)		
Need Treatment*Pop Density		−0.043	
		(0.207)	
Need Treatment*Incumbent Percent			−0.111
			(0.089)
Log Distance from Hometown*School Need Index	−0.260**		
	(0.125)		
Pop Density*School Need Index		0.201***	
		(0.068)	
Incumbent Percent*School Need Index			−0.019
			(0.027)
School Need Index	0.368**	0.073**	0.046*
	(0.155)	(0.029)	(0.026)
Incumbent Percent			0.221***
			(0.063)
Log Distance from Hometown	−0.440*		
	(0.237)		
Pop Density		−0.093	
		(0.146)	
Observations	2,816	3,619	3,728
R^2	0.010	0.009	0.009

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

Table S15: Estimates from Main Text Figure 10 (Aid Interactions)

	Distance Interactions	Density Interactions	Voting Interactions
	(1)	(2)	(3)
Aid Treatment*Log Distance from Hometown*Aid Project Count	−0.004		
	(0.299)		
Aid Treatment*Incumbent Percent*Aid Project Count			0.025
			(0.083)
Aid Treatment*Pop Density*Aid Project Count		0.240	
		(0.189)	
Aid Treatment*Aid Project Count	−0.355	−0.173	−0.184*
	(0.380)	(0.115)	(0.111)
Aid Treatment*Log Distance from Hometown	−0.737**		
	(0.333)		
Aid Treatment*Pop Density		−0.085	
		(0.214)	
Aid Treatment*Incumbent Percent			0.027
			(0.092)
Log Distance from Hometown*Aid Project Count	−0.158		
	(0.199)		
Pop Density*Aid Project Count		−0.020	
		(0.113)	
Incumbent Percent*Aid Project Count			0.043
			(0.051)
Aid Project Count	0.334	0.127*	0.117*
	(0.249)	(0.070)	(0.068)
Incumbent Percent			0.152***
			(0.056)
Log Distance from Hometown	−0.146		
	(0.224)		
Pop Density		−0.088	
		(0.127)	
Observations	2,816	3,619	3,728
R^2	0.008	0.002	0.005

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

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Table S16: Estimates from Main Text Figure 10 (Voting Interactions)

	Distance Interactions	Density Interactions
	(1)	(2)
Voting Treatment*Log Distance from Hometown*Incumbent Percent	−0.452	
	(0.330)	
Voting Treatment*Pop Density*Incumbent Percent		−0.284
		(0.218)
Voting Treatment*Incumbent Percent	0.683*	−0.011
	(0.424)	(0.103)
Voting Treatment*Log Distance from Hometown	0.555	
	(0.347)	
Voting Treatment*Pop Density		−0.186
		(0.205)
Log Distance from Hometown*Incumbent Percent	0.064	
	(0.224)	
Pop Density*Incumbent Percent		0.127
		(0.157)
Incumbent Percent	0.011	0.182***
	(0.289)	(0.074)
Log Distance from Hometown	−0.648**	
	(0.249)	
Pop Density		−0.037
		(0.144)
Observations	2,806	3,609
R^2	0.008	0.005

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

3 Additional Analysis

3.1 Multiple Comparisons Adjustments

In the main manuscript, we report uncorrected p-values for each of our hypotheses about the effects of information. It is possible that these over-state the overall evidence in favor of our hypotheses since they they do not consider the multiplicity of hypotheses associated with each treatment arm. Here we show how our estimates differ after correcting for the false-discovery rate.

In our pre-analysis plan we proposed three families of hypotheses about the main effects of need information, foreign aid information, and political information. In our pre-analysis plan we also proposed additional hypothesis families which explore the ways in which the treatment might interact with different sub-groups. Since these are mostly intended to decompose the main treatment effects in order to evaluate mechanism, these violate the assumptions of a standard false discovery rate correction and we do not include corrections for these families of hypotheses.

Following our pre-analysis plan, we adjust for the false discovery rate within each pre-registered family of hypotheses using the Benjamini-Hochberg correction; which generally has greater power relative to comparable methods (Benjamini and Hochberg, 1995). For comparison, we also show estimates using the more conservative Bonferroni adjustment.

First, in Table S17 we show adjusted estimates for the need information treatment. In our pre-analysis plan, we proposed three main hypotheses of the effects of need information [1]. These hypotheses are listed in Table S17 as we originally formulated them in the pre-analysis plan. After adjusting for the multiplicity of hypotheses, the adjusted p-values for the main effects are above typical levels of statistical significance (column 3-4); though we can still reject the null with some confidence in the transparency condition for our main H1 hypothesis ($p = 0.03$) (columns 6-7).

Second, in Table S18 we show adjusted estimates for the aid information treatment. In our pre-analysis plan, we only proposed one main hypothesis for the average effect of the aid information treatment (H1). However we also proposed that treatment effects might differ depending upon the frequency of donor interaction and the characteristics of the school (H2-H4).[2] Since H2-H4 are intended to decompose the main treatment effect, a standard multiple comparison correction is not appropriate or informative.[3] However, to remain as consistent as possible to our pre-specified approach, we instead adjust our p-values for the average effect of treatment (H1) and the effect of treatment in each of the three hypothesized sub-groups: high (+1 sd) frequency of donor interaction, low (-1 sd) proportion

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[1]These hypotheses are referred to as HB1-HB3 in the pre-analysis plan.

[2]These hypotheses are referred to as HD1-HD5 in the pre-analysis plan. Note that HD1 and HD3 refer to the same estimate with different hypothesized signs. Since we rely on two-tailed tests throughout, we can combine these two hypotheses in this table.

[3]Note that H2-H4 are not hypotheses about the treatment, but rather hypotheses about whether treatment effects differ across sub-groups.

of votes, and low (-1 sd) need. We show adjusted p-values both for the effects of treatment on the number of aid categories at a school (columns 2-4) and for the number of past aid projects (columns 5-7). The adjusted p-value estimates for H1 remain below or near conventional significance levels ($p = 0.04$ and $p = 0.11$).

Finally, in Table S19 we show adjusted estimates for the political support information treatment. In our pre-analysis plan, we proposed two main hypotheses of the effects of political information [4]. After adjusting for the multiplicity of hypotheses, the adjusted p-values for the main effects are above typical levels of statistical significance.

Table S17: Multiple Comparison Adjustment, School Need Information

Hypothesis	Unadjusted	BH	Bonferroni	Unadjusted Transparency Condition	BH Transparency Condition	Bonferroni Transparency Condition
H1. Politicians will be more likely to allocate to schools in areas with high need.	0.0990	0.2969	0.2969	0.0094	0.0282	0.0282
H2. Politicians will be more likely to allocate to schools located in areas with higher support in the last election.	0.2102	0.3153	0.6306	0.2585	0.3877	0.7754
H3. Politicians will be less likely to allocate to schools located in their home community or where family members attend.	0.9097	0.9097	1.0000	0.6467	0.6467	1.0000

Table S18: Multiple Comparison Adjustment, Foreign Aid Information

Hypothesis	Unadjusted Aid Categories	BH Aid Categories	Bonferroni Aid Categories	Unadjusted Past Projects	BH Past Projects	Bonferroni Past Projects
H1. Politicians will be more likely to allocate to schools that have already benefitted from more past aid projects and where donors have provided more categories of goods.	0.0192	0.0385	0.0769	0.0548	0.1096	0.2191
H2. Treatment effect will be greater when politicians interact frequently with donors.	0.1826	0.1826	0.7304	0.3478	0.3478	1.0000
H3. Treatment effect will be greater where the politician did not receive a high proportion of votes.	0.0123	0.0385	0.0493	0.0517	0.1096	0.2067
H4. Treatment effect will be greater where schools are less needy.	0.0552	0.0737	0.2210	0.0950	0.1266	0.3798

Table S19: Multiple Comparison Adjustment, Political Support Information

Hypothesis	Unadjusted	BH	Bonferroni	Unadjusted Transparency Condition	BH Transparency Condition	Bonferroni Transparency Condition
H1. Politicians will be more likely to allocate to schools located in areas with higher support for the politicians in the last election.	0.7458	0.7458	1.0000	0.5282	0.7332	1.0000
H2. Politicians will be less likely to allocate to schools in areas with high need	0.6133	0.7458	1.0000	0.7332	0.7332	1.0000

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[4]These hypotheses are referred to as HC1-HC2 in the pre-analysis plan.

3.2 Assessing Experimenter Demand and Social Desirability

As discussed in the main text, one might worry that politicians are responding to the information provided in this experiment because of social desirability. In particular, politicians may believe that donors in general or our research partner, Tearfund, in particular expects them to respond to the information in a certain way. While we cannot completely rule out this possibility, one way to explore such effects is to see if responses to the treatment vary when politicians interact more with donors, or with Tearfund.

We conduct this analysis in Tables S20, S21, and S22. Overall we see little evidence of heterogenous treatment effects. Politicians who have worked with Tearfund or worked more frequently with other donors are not significantly more likely to respond to the information treatments.

Table S20: Treatment Effects Conditional on Donor Interaction and Tearfund Knowledge

	All Surveys	All Surveys	All Surveys
	(1)	(2)	(3)
Need Treatment* School Need Index* Frequency of Donor Interaction	−0.017		
	(0.035)		
Need Treatment* School Need Index* Heard of Tearfund		0.039	
		(0.075)	
Need Treatment* School Need Index* Worked with Tearfund			0.071
			(0.101)
Need Treatment* School Need Index	0.078	0.036	0.050
	(0.049)	(0.058)	(0.040)
School Need Index* Frequency of Donor Interaction	0.004		
	(0.024)		
School Need Index* Heard of Tearfund		−0.037	
		(0.053)	
School Need Index* Worked with Tearfund			−0.015
			(0.067)
School Need Index	0.037	0.066	0.047
	(0.035)	(0.041)	(0.029)
Observations	3,729	3,738	3,738
R^2	0.005	0.005	0.005

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

Table S21: Treatment Effects Conditional on Donor Interaction and Tearfund Knowledge

	All Surveys	All Surveys	All Surveys
	(1)	(2)	(3)
Aid Treatment* Aid Project Count* Frequency of Donor Interaction	0.090		
	(0.104)		
Aid Treatment* Aid Project Count* Heard of Tearfund		−0.032	
		(0.224)	
Aid Treatment* Aid Project Count* Worked with Tearfund			−0.180
			(0.315)
Aid Treatment* Aid Project Count	−0.281**	−0.174	−0.157
	(0.152)	(0.171)	(0.120)
Aid Project Count* Frequency of Donor Interaction	−0.064		
	(0.064)		
Aid Project Count* Heard of Tearfund		−0.111	
		(0.138)	
Aid Project Count* Worked with Tearfund			−0.121
			(0.206)
Aid Project Count	0.171*	0.172*	0.122*
	(0.097)	(0.105)	(0.072)
Observations	3,729	3,738	3,738
R^2	0.001	0.001	0.001

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

Table S22: Treatment Effects Conditional on Donor Interaction and Tearfund Knowledge

	All Surveys	All Surveys	All Surveys
	(1)	(2)	(3)
Voting Treatment* Incumbent Percent* Frequency of Donor Interaction	−0.006		
	(0.087)		
Voting Treatment* Incumbent Percent* Heard of Tearfund		−0.231	
		(0.179)	
Voting Treatment* Incumbent Percent* Worked with Tearfund			−0.132
			(0.233)
Voting Treatment* Incumbent Percent	0.029	0.160	0.052
	(0.125)	(0.135)	(0.097)
Incumbent Percent* Frequency of Donor Interaction	−0.039		
	(0.063)		
Incumbent Percent* Heard of Tearfund		0.088	
		(0.128)	
Incumbent Percent* Worked with Tearfund			0.073
			(0.166)
Incumbent Percent	0.189**	0.097	0.134**
	(0.092)	(0.097)	(0.070)
Observations	3,719	3,728	3,728
R^2	0.004	0.004	0.004

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

3.3 Compliance and Validation

We took steps to validate that respondents correctly interpreted the treatment instruments, and we pre-specified several variables that we would use to test whether issues of compliance introduce bias into our estimates. First, we conducted a test of whether respondents could correctly interpret the maps we provided. Prior to participating in our experiment, respondent's were given an example map and asked to interpret the information provided. If they could not interpret the information, respondents were given detailed instructions to make sure they could correctly interpret the maps. Only 4% failed to understand the map on the first try. Of these, 76% were LCs, who tend to have lower levels of education than MPs. Second, we asked our RAs to record (1) whether respondents requested other schools than those shown on the maps, (2) whether respondents disputed whether particular schools were in their constituency, and (3) whether the respondent requested goods other than those Tearfund was provisioning.

In Table S23, S24 and S25 we show how our treatment effects differ across these measures. While there is some evidence of stronger treatment effects among those who understood the maps (especially in Table S24), we cannot reject the null of no difference between compliers and non-compliers.

Table S23: Treatment Effects by Compliance

| | 1 | 2 | 3 | 4 |
	(1)	(2)	(3)	(4)
Aid Treatment* Aid Project Count* Misunderstood Maps (Q1.22)	−0.351			
	(0.337)			
Aid Treatment* Aid Project Count* Requested Other School (Q1.71)		0.450		
		(0.661)		
Aid Treatment* Aid Project Count* Disputed Map (Q1.72)			0.035	
			(0.292)	
Aid Treatment* Aid Project Count* Requested Other Goods (Q1.73)				−0.846
				(0.771)
Aid Treatment* Aid Project Count	−0.142	−0.200*	−0.194	−0.164
	(0.124)	(0.117)	(0.128)	(0.116)
Aid Project Count* Misunderstood Maps (Q1.22)	0.027			
	(0.197)			
Aid Project Count* Requested Other School (Q1.71)		−0.542		
		(0.419)		
Aid Project Count* Disputed Map (Q1.72)			−0.043	
			(0.180)	
Aid Project Count* Requested Other Goods (Q1.73)				0.962**
				(0.477)
Aid Project Count	−0.195	−0.193	−0.189	−0.198
	(0.122)	(0.120)	(0.124)	(0.120)
Observations	3,738	3,738	3,738	3,738
R^2	0.021	0.021	0.021	0.022

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

Table S24: Treatment Effects by Compliance

| | 1 | 2 | 3 | 4 |
	(1)	(2)	(3)	(4)
Need Treatment* School Need Index* Misunderstood Maps (Q1.22)	−0.130			
	(0.114)			
Need Treatment* School Need Index* Requested Other School (Q1.71)		−0.007		
		(0.237)		
Need Treatment* School Need Index* Disputed Map (Q1.72)			−0.148	
			(0.105)	
Need Treatment* School Need Index* Requested Other Goods (Q1.73)				−0.075
				(0.204)
Need Treatment* School Need Index	0.086**	0.070*	0.092**	0.072*
	(0.041)	(0.038)	(0.041)	(0.038)
School Need Index* Misunderstood Maps (Q1.22)	0.188**			
	(0.084)			
School Need Index* Requested Other School (Q1.71)		0.009		
		(0.147)		
School Need Index* Disputed Map (Q1.72)			0.102	
			(0.079)	
School Need Index* Requested Other Goods (Q1.73)				0.116
				(0.152)
School Need Index	0.046	0.070**	0.057*	0.066**
	(0.032)	(0.031)	(0.032)	(0.031)
Observations	3,738	3,738	3,738	3,738
R^2	0.023	0.021	0.022	0.021

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

Table S25: Treatment Effects by Compliance

	1	2	3	4
	(1)	(2)	(3)	(4)
Voting Treatment* Incumbent Percent* Misunderstood Maps (Q1.22)	−0.258			
	(0.298)			
Voting Treatment* Incumbent Percent* Requested Other School (Q1.71)		0.212		
		(0.500)		
Voting Treatment* Incumbent Percent* Disputed Map (Q1.72)			0.202	
			(0.285)	
Voting Treatment* Incumbent Percent* Requested Other Goods (Q1.73)				−0.621
				(0.536)
Voting Treatment* Incumbent Percent	0.063	0.036	0.015	0.058
	(0.095)	(0.091)	(0.095)	(0.091)
Incumbent Percent* Misunderstood Maps (Q1.22)	−0.033			
	(0.206)			
Incumbent Percent* Requested Other School (Q1.71)		−0.593**		
		(0.386)		
Incumbent Percent* Disputed Map (Q1.72)			−0.199	
			(0.197)	
Incumbent Percent* Requested Other Goods (Q1.73)				0.253
				(0.402)
Incumbent Percent	5.453	6.877	5.081	5.600
	(16.077)	(16.040)	(16.032)	(16.053)
Observations	3,728	3,728	3,728	3,728
R^2	0.021	0.022	0.021	0.021

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

3.4 Transparency Treatment Interactions

In our pre-analysis plan, we predicted similar treatment effects from the donor and radio transparency treatment arms and to maximize power we analyse these two treatment arms together in the main text. One exception is that we anticipated that the effects of donor information would be greater in the donor transparency group (PAP HI1). In this section we evaluate this HI1 hypothesis and consider whether there are substantial differences in effects across the two arms.

In Tables S26, S27, S28 we interact each of the information treatments with each transparency treatment arm. We find no evidence that any transparency treatment conditions the effect of aid information (inconsistent with HI1).

In Table S27 we do find evidence of a larger need information treatment in the donor transparency condition relative to the radio transparency condition. This suggests that politicians in the experiment may have been more sensitive to donor oversight than citizen oversight. While we did not anticipate this effect, this is potentially an interesting finding in its own right. While many scholars have noted the role that donors play in shaping the composition of public spending (e.g., see Gibson, Hoffman and Jablonski 2015 and Morrissey 2015), few have noted the role that donor oversight might play in altering the geographic distribution of spending.

Table S26: Interaction of Aid Information Treatment with Transparency Treatments

	Any Treatment	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)	(4)
Aid Project Count	0.056	0.094	0.089	0.056
	(0.098)	(0.078)	(0.080)	(0.098)
Aid Treatment*Aid Project Count	−0.128	−0.219*	−0.162	−0.128
	(0.165)	(0.129)	(0.134)	(0.165)
Aid Project Count*Transparency Treatment	0.100			
	(0.136)			
Aid Treatment*Aid Project Count*Transparency Treatment	−0.122			
	(0.223)			
Aid Project Count*Donor Transparency		0.053		0.101
		(0.157)		(0.171)
Aid Project Count*Aid Treatment*Donor Transparency		0.090		−0.102
		(0.251)		(0.282)
Aid Project Count*Radio Transparency			0.065	0.107
			(0.150)	(0.164)
Aid Treatment*Aid Project Count*Radio Transparency			−0.103	−0.237
			(0.239)	(0.266)
Aid Project Count*Radio Transparency*Donor Transparency				−0.264
				(0.580)
Aid Treatment*Aid Project Count*Radio Transparency*Donor Transparency				1.032
				(0.793)
Observations	3,738	3,738	3,738	3,738
R^2	0.001	0.001	0.001	0.002

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

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Table S27: Interaction of Need Information Treatment with Transparency Treatments

	Any Treatment	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)	(4)
School Need Index	0.089**	0.064**	0.053*	0.089**
	(0.039)	(0.031)	(0.031)	(0.039)
Need Treatment*School Need Index	−0.029	0.016	0.054	−0.029
	(0.054)	(0.044)	(0.043)	(0.054)
School Need Index*Transparency Treatment	−0.082			
	(0.053)			
Need Treatment*School Need Index*Transparency Treatment	0.163**			
	(0.074)			
School Need Index*Donor Transparency		−0.067		−0.094
		(0.057)		(0.063)
School Need Index*Need Treatment*Donor Transparency		0.148*		0.232**
		(0.081)		(0.091)
School Need Index*Radio Transparency			−0.035	−0.070
			(0.058)	(0.066)
Need Treatment*School Need Index*Radio Transparency			0.023	0.127
			(0.081)	(0.091)
School Need Index*Radio Transparency*Donor Transparency				0.090
				(0.170)
Need Treatment*School Need Index*Radio Transparency*Donor Transparency				−0.385***
				(0.231)
Observations	3,738	3,738	3,738	3,738
R^2	0.006	0.006	0.005	0.007

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table S28: Interaction of Voting Information Treatment with Transparency Treatments

	Any Treatment	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)	(4)
Incumbent Percent	0.069	0.119*	0.119*	0.069
	(0.089)	(0.074)	(0.073)	(0.089)
Voting Treatment*Incumbent Percent	0.138	0.067	0.066	0.138
	(0.129)	(0.104)	(0.104)	(0.129)
Incumbent Percent*Transparency Treatment	0.159			
	(0.127)			
Voting Treatment*Incumbent Percent*Transparency Treatment	−0.214			
	(0.178)			
Incumbent Percent*Donor Transparency		0.107		0.156
		(0.143)		(0.156)
Incumbent Percent*Voting Treatment*Donor Transparency		−0.141		−0.213
		(0.197)		(0.218)
Incumbent Percent*Radio Transparency			0.111	0.161
			(0.146)	(0.160)
Voting Treatment*Incumbent Percent*Radio Transparency			−0.143	−0.217
			(0.200)	(0.222)
Incumbent Percent*Radio Transparency*Donor Transparency				−0.153
				(0.455)
Voting Treatment*Incumbent Percent*Radio Transparency*Donor Transparency				0.227
				(0.594)
Observations	3,728	3,728	3,728	3,728
R^2	0.004	0.004	0.004	0.004

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

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3.5 Interactions between Information Treatments

In our pre-analysis plan, we anticipated that the information treatments might cause politicians to substitute one form of targeting for another. We specifically hypothesized that need information might cause politicians to target fewer schools where they received more votes. Conversely, we predicted that voting information might cause politicians to target fewer needy schools. In Tables S29, S30 and S31 below we consider interactions between all school characteristics and all information treatment arms. We see little evidence of interaction or substitution effects. One exception is that in Table S30 we see evidence that politicians who see the aid information treatment and the need information are especially likely to avoid spending on schools with existing foreign aid project. One possibly explanation is that need and aid information are mutually reinforcing: because donors often target larger and more populous schools, providing information on school needs can reinforce incentives for politicians to target more marginalized communities.

Table S29: Information Treatment Interactions with School Need Index

	(1)	(2)
School Need Index	0.041	0.040
	(0.036)	(0.030)
Need Treatment*School Need Index	0.049	0.102**
	(0.052)	(0.048)
Voting Treatment*School Need Index	0.006	
	(0.052)	
Aid Treatment*School Need Index		0.015
		(0.060)
Need Treatment*Voting Treatment*School Need Index	0.020	
	(0.073)	
Need Treatment*Aid Treatment*School Need Index		−0.088
		(0.079)
Observations	3,738	3,738
R^2	0.005	0.006

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

Table S30: Information Treatment Interactions with Aid Projects

	(1)	(2)
Aid Project Count	0.016	0.137
	(0.088)	(0.111)
Need Treatment*Aid Project Count	0.226	
	(0.139)	
Aid Treatment*Aid Project Count	0.198	−0.077
	(0.175)	(0.154)
Voting Treatment*Aid Project Count		−0.047
		(0.140)
Need Treatment*Aid Treatment*Aid Project Count	−0.680***	
	(0.233)	
Aid Treatment*Voting Treatment*Aid Project Count		−0.411*
		(0.238)
Observations	3,738	3,738
R^2	0.003	0.003

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

Table S31: Information Treatment Interactions with Percent Votes

	(1)	(2)
Incumbent Percent	0.195**	0.120
	(0.089)	(0.089)
Need Treatment*Incumbent Percent	−0.097	
	(0.126)	
Voting Treatment*Incumbent Percent	0.050	0.046
	(0.126)	(0.114)
Aid Treatment*Incumbent Percent		0.054
		(0.126)
Need Treatment*Voting Treatment*Incumbent Percent	−0.038	
	(0.177)	
Voting Treatment*Aid Treatment*Incumbent Percent		−0.016
		(0.191)
Observations	3,728	3,728
R^2	0.004	0.004

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

3.6 Other Heterogenous Treatment Effects

In our pre-analysis plan, we anticipated that some treatment effects would be conditioned by gender, plans to contest upcoming elections, time living in the constituency, and perceptions of the usefulness of the information in the experiment. We estimate each of these heterogenous treatment effects in Figures S1, S2 and S3.

The effects of treatment do not differ meaningfully across most of these sub-groups. We see some evidence of stronger treatment effects among politicians that have lived longer in their constituency; though we only interviewed 18 politicians who had lived in their constituency less than 10 years; so our power to identify effects by tenure is quite limited. We face similar challenges in identifying heterogenous effects by gender since only 11% of our respondents were female.

We do see some evidence of stronger treatment effects among politicians who found the information useful (particularly for the aid information treatment). This is consistent with information updating; however it is important to note that this conditional effect is not necessarily well identified. We asked about information usefulness after the treatment, and it's plausible that beliefs about information usefulness are endogenous to treatment assignment.

Figure S1: Heterogenous effects of the need information treatment

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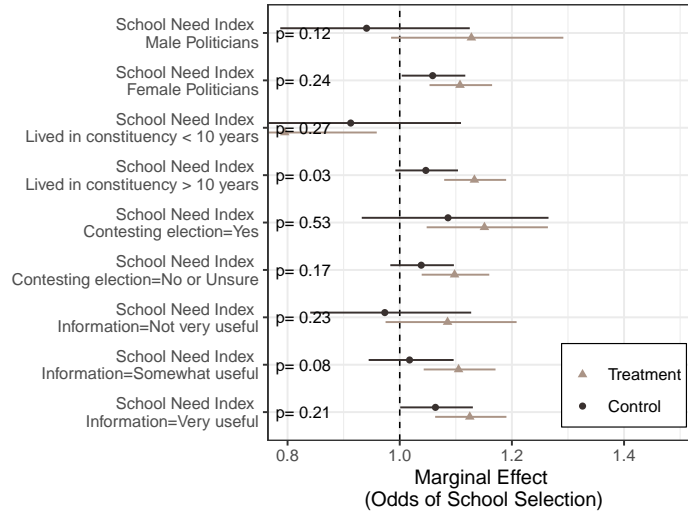
Figure S2: Heterogenous effects of the aid information treatment
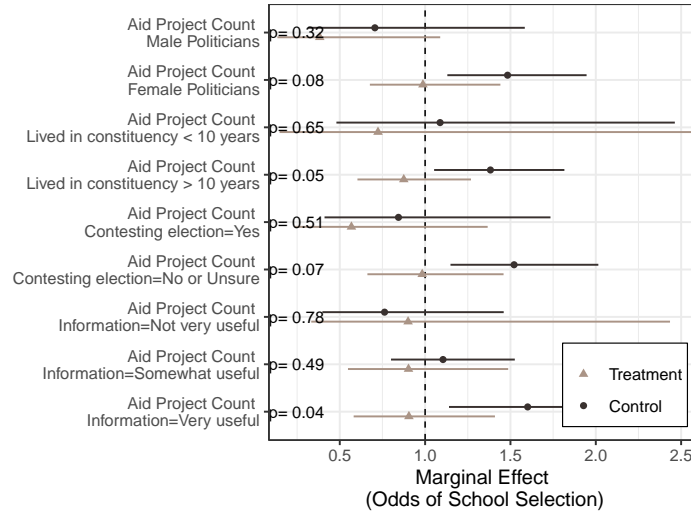
Figure S3: Heterogenous effects of the voting information treatment
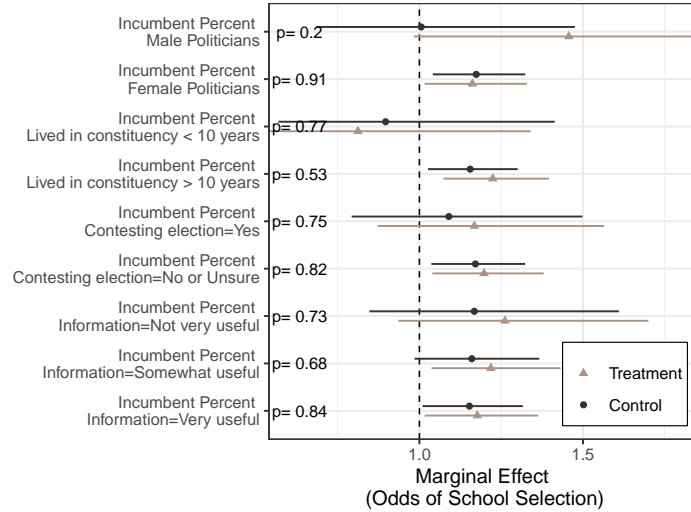
4 Summary Data

4.1 Statistics on Sample vs. Theoretical Population

Out of 462 LCs, 335 were included in our sample. Out of 193 MPs, 125 were included in our sample. Politicians were excluded largely due to missing data on key variables (e.g., due to by-elections) or because there were not enough schools to make the treatment protocol feasible. Additionally, a few MPs were excluded because they were travelling or otherwise unavailable. No politicians refused to participate.

Our sample is reasonably representative of the country as a whole. In Tables S32 and S33 below, we show variable means for included and excluded wards and constituencies with standard deviations in parentheses.

Across both groups, population characteristics (turnout and number of registered voters) are well balanced. Since we were forced to exclude some smaller wards, our LC sample includes, on average, more schools and lower average enrollment. We generally see good balance on political characteristics of MPs and LCs. It is perhaps noteworthy that we sampled fewer ruling party (DPP) MPs. This is likely due to the fact that ruling party MPs are more likely to travel on a regular basis and were therefore harder to contact.

Table S32: Local Councillor Sample Statistics

Variable	In_Sample	Out_of_Sample	Difference
Mean School Enrollment	938.859 (411.212)	1566.974 (964.155)	-628.115 (152.893)
Mean Number of Teachers	13.26 (5.631)	20.948 (12.028)	-7.688 (1.937)

Mean Student to Teacher Ratio	72.946 (18.749)	77.365 (26.933)	-4.42 (4.787)
Number of Aid Projects	11.03 (10.836)	4.681 (7.567)	6.349 (1.928)
Number of Schools	12.94 (6.226)	6.447 (5.295)	6.493 (1.192)
Turnout	0.699 (0.086)	0.678 (0.129)	0.021 (0.023)
Incumbent Victory Margin	0.259 (0.193)	0.172 (0.148)	0.088 (0.035)
Registered Voters	18090.91 (7642.809)	15736.553 (14056.628)	2354.357 (2333.846)
Incumbent Percent	0.49 (0.143)	0.436 (0.12)	0.054 (0.027)
DPP Incumbent	0.334 (0.471)	0.468 (0.504)	-0.134 (0.101)
UDF Incumbent	0.036 (0.186)	0.021 (0.146)	0.015 (0.034)
MCP Incumbent	0.232 (0.422)	0.234 (0.428)	-0.002 (0.088)
PP Incumbent	0.104 (0.306)	0.043 (0.204)	0.062 (0.054)
Independent Incumbent	0.069 (0.253)	0.064 (0.247)	0.005 (0.052)
Average School Population Density	11.356 (15.838)	39.7 (63.663)	-28.344 (9.569)

Table S33: MP Sample Statistics

Variable	In_Sample	Out_of_Sample	Difference
Mean School Enrollment	969.651 (504.939)	1102.685 (620.353)	-133.034 (68.338)
Mean Number of Teachers	13.555 (6.912)	15.429 (7.581)	-1.873 (0.877)
Mean Student to Teacher Ratio	75.296 (20.946)	70.169 (17.857)	5.127 (2.352)
Number of Aid Projects	11.612 (11.687)	7.81 (8.097)	3.802 (1.215)
Number of Schools	26.504 (9.905)	26.139 (10.983)	0.365 (1.264)
Turnout	0.693 (0.074)	0.703 (0.119)	-0.01 (0.012)
Incumbent Victory Margin	0.249 (0.186)	0.245 (0.196)	0.004 (0.023)
Registered Voters	17802.822 (7651.631)	17838.409 (10372.318)	-35.587 (1101.202)
Incumbent Percent	0.484 (0.138)	0.479 (0.149)	0.005 (0.017)
DPP Incumbent	0.277 (0.448)	0.482 (0.502)	-0.204 (0.057)
UDF Incumbent	0.041 (0.199)	0.022 (0.147)	0.019 (0.021)
MCP Incumbent	0.263 (0.44)	0.175 (0.382)	0.088 (0.05)
PP Incumbent	0.099 (0.3)	0.095 (0.294)	0.004 (0.036)
Independent Incumbent	0.05 (0.218)	0.102 (0.304)	-0.053 (0.032)
Average School Population Density	13.572 (30.928)	17.263 (23.345)	-3.692 (3.311)

4.2 Summary Statistics for All Variables

Table S34: Summary Statistics, LCs

Variable	Mean	SD	Details
Log Population	10.527	0.464	Log Constituency/Ward Population (World-Pop)
Log Area	9.899	0.9	Log Constituency/Ward Area in Square Km (WorldPop)
Log Enrollment	6.12	1.544	Log Number of Students in School +1 (Malawi Dept of Education)
Log Teachers	2.467	0.545	Log Number of Teachers in School +1 (Malawi Dept of Education)
ChildrenAttend=Yes	0.797	0.402	Whether incumbent's or family member's children attend school in the constituency=Yes (survey)
ChildrenAttend=No	0.203	0.402	Whether incumbent's or family member's children attend school in the constituency=No (survey)
ChildrenAttend=Don't Know	0	0	Whether incumbent's or family member's children attend school in the constituency=Don't Know (survey)
Incumbent's Children Attends School	0.042	0.201	Whether incumbent's children attends this school (survey)
Incumbent's Relatives Attend School	0.059	0.235	Whether incumbent's family member's children attends this school (survey)
Family Attends School	0.077	0.266	Whether incumbent's children or family member's children attends this school (survey)
Incumbent Understood Maps	0.848	0.359	Whether incumbent correctly indicated a response in a test map (survey)
Log Temporary Classrooms	0.395	0.644	Log Number of Temporary Classrooms in School +1 (Malawi Dept of Education)
Log Permanent Classrooms	1.859	0.714	Log Number of Permanent Classrooms in School +1 (Malawi Dept of Education)

Log Temporary Houses	0.418	0.662	Log Number of Temporary Teacher Houses in School +1 (Malawi Dept of Education)
Log Permanent Houses	1.097	0.742	Log Number of Permanent Teacher Houses in School +1 (Malawi Dept of Education)
Choice=Dictionary	0.324	0.468	Allocation decision on this map was about dictionaries (survey)
Choice=Teacher Bags	0.332	0.471	Allocation decision on this map was about teacher bags (survey)
Choice=Solar Lamps	0.344	0.475	Allocation decision on this map was about solar lamps (survey)
Opposition Votes at Poll. Station (LC)	315.423	296.674	Votes at Polling Station for Leading Opposition Candidate in Councillor Election (Malawi Electoral Commission)
Opposition Percent at Poll. Station (LC)	0.238	0.156	Percent Votes at Polling Station for Leading Opposition Candidate in Councillor Election (Malawi Electoral Commission)
Opposition Votes at Poll. Station (MP)	342.646	348.945	Votes at Polling Station for Leading Opposition Candidate in MP Election (Malawi Electoral Commission)
Percent Votes at Poll. Station (MP)	0.253	0.179	Percent Votes at Polling Station for Leading Opposition Candidate in MP Election (Malawi Electoral Commission)
Victory Margin at Poll. Station (MP)	0.18	0.337	Victory Margin at Polling Station for incumbent MP (Malawi Electoral Commission)
Pop Density at School	9.774	16.663	Population per Hectacre (World Pop Project)
Turnout at Poll. Station	1349.688	943.132	Turnout at Polling Station
Log Votes at Poll. Station	7.011	0.643	Log Votes at Polling Station
Gender	0.895	0.307	Gender of respondent, male=1 and female=0 (survey)
Education Plan=Yes	0.678	0.467	Incumbent's council has an education plan=Yes (survey)
Education Plan=No	0.315	0.465	Incumbent's council has an education plan=No (survey)
Education Plan=Don't Know	0.007	0.082	Incumbent's council has an education plan=Don't Know (survey)
IncumbentTribe=Chewa	0.356	0.479	Incumbent is from Chewa tribe (survey)
IncumbentTribe=Lomwe	0.177	0.382	Incumbent is from Lomwe tribe (survey)
IncumbentTribe=Ngoni	0.104	0.306	Incumbent is from Ngoni tribe (survey)
IncumbentTribe=Other	0.104	0.306	Incumbent is from Other tribe (survey)
IncumbentTribe=Sena	0.053	0.225	Incumbent is from Sena tribe (survey)
IncumbentTribe=Tumbuka	0.067	0.25	Incumbent is from Tumbuka tribe (survey)
IncumbentTribe=Yao	0.138	0.345	Incumbent is from Yao tribe (survey)
ConstituencyTribe=Chewa	0.356	0.479	Constituency is predominantly from Chewa tribe (survey)
ConstituencyTribe=Lomwe	0.177	0.382	Constituency is predominately from Lomwe tribe (survey)
ConstituencyTribe=Ngoni	0.104	0.306	Constituency is predominately from Ngoni tribe (survey)
ConstituencyTribe=Other	0.104	0.306	Constituency is predominately from Other tribe (survey)
ConstituencyTribe=Sena	0.053	0.225	Constituency is predominately from Sena tribe (survey)
ConstituencyTribe=Tumbuka	0.067	0.25	Constituency is predominately from Tumbuka tribe (survey)
ConstituencyTribe=Yao	0.138	0.345	Constituency is predominately from Yao tribe (survey)
Contest=Yes	0.769	0.422	Plan to contest election=Yes (survey)
Contest=No	0.035	0.184	Plan to contest election=No (survey)
Contest=Don't Know	0.003	0.058	Plan to contest election=Don't Know (survey)
Contest=Undecided	0.193	0.395	Plan to contest election=Undecided (survey)
Victory Margin in Ward	0.262	0.193	Victory margin of ward incumbent (Malawi Electoral Commission)
Incumbent Percent Votes in Ward	0.492	0.143	Percent votes for ward incumbent (Malawi Electoral Commission)
Opposition Percent Votes in Ward	0.23	0.074	Percent votes for leading opposition candidate in ward (Malawi Electoral Commission)
Turnout Percent in Ward	0.699	0.072	Turnout % in the ward (Malawi Electoral Commission)
Registered Voters in Ward	18658.799	7679.371	Registered voters in the ward (Malawi Electoral Commission)
Victory Margin in Constituency	-0.002	0.196	Victory margin of constituency incumbent (Malawi Electoral Commission)
Percent Votes in Constituency	0.152	0.169	Percent votes for constituency incumbent (Malawi Electoral Commission)

Opposition Votes in Constituency	0.151	0.168	Percent votes for leading oppositoin candidate in constituency (Malawi Electoral Commission)
Votes in Constituency	26929.83	14800.579	Total votes in the constituency (Malawi Electoral Commission)
HighestEd=Certificate	0.304	0.46	Incumbent's highest education level=Certificate (survey)
HighestEd=Degree	0.025	0.156	Incumbent's highest education level=Degree (survey)
HighestEd=Diploma	0.1	0.3	Incumbent's highest education level=Diploma (survey)
HighestEd=PhD	0	0	Incumbent's highest education level=PhD (survey)
HighestEd=Primary	0.012	0.111	Incumbent's highest education level=Primary (survey)
HighestEd=Secondary	0.559	0.497	Incumbent's highest education level=Secondary (survey)
Income1	0.356	0.479	Incumbent household income 100,000-200,000 kwacha/month (survey)
Income2	0.311	0.463	Incumbent household income 200,000-400,000 kwacha/month (survey)
Income3	0.124	0.329	Incumbent household income 400,000-1,000,000 kwacha/month (survey)
Income4	0.019	0.138	Incumbent household income 1,000,000-5,000,000 kwacha/month (survey)
Income5	0	0	Over 5,000,000 kwacha/month (survey)
Income6	0.19	0.393	Under 100,000 kwacha/month (survey)
IncomeDeclined	0	0	Incumbent declined to declare income (survey)
LengthResidence1	0.007	0.082	Incumbent resided in constituency less than 5 years (survey)
LengthResidence2	0.031	0.172	Incumbent resided in constituency 5-10 years (survey)
LengthResidence3	0.212	0.409	Incumbent resided in constituency more than 10 years (survey)
LengthResidence4	0.739	0.439	Incumbent resided in constituency all their life (survey)
Length of Residence	2.703	0.559	0-3 index of how long incumbent resided in constituency (<5 yrs, 5-10 yrs, >10yrs or entire life) (survey)
LengthResidenceDontKnow	0.008	0.089	Incumbent doesn't know how long s/he resided in constituency (survey)
Age	42.659	9.334	Incumbent age (survey)
Married=OneWife	0.879	0.327	Incumbent is married with one wife (survey)
Married=Divorced	0	0	Incumbent is divorced (survey)
Married=Single	0	0	Incumbent is single (survey)
Married=Widowed	0.02	0.141	Incumbent is widowed (survey)
Married=DontKnow	0.003	0.058	Incumbent doesn't know marriage status (survey)
Married=Multiple	0.063	0.244	Incumbent is married with multiple wives (survey)
VoteAFORD	0	0	Incumbent would vote for AFORD party (survey)
VoteDPP	0.379	0.485	Incumbent would vote for DPP party (survey)
VoteIndependent	0.003	0.058	Incumbent would vote for Independent party (survey)
VoteMCP	0.337	0.473	Incumbent would vote for MCP party (survey)
VoteDeclined	0.138	0.345	Incumbent declined to declare party vote (survey)
VotePP	0.045	0.208	Incumbent would vote for PP party (survey)
VoteUDF	0.098	0.297	Incumbent would vote for UDF party (survey)
Log School Count	2.54	0.431	Log number of primary schools in ward/constituency (Ministry of Education)
Pop Density	0.628	0.907	Average number of persons per grid cell in ward/constituency (WorldPop)
Incumbent Percent at Poll. Station	0.492	0.215	Percent votes at polling station for incumbent (Malawi Electoral Commission)
Incumbent Votes at Poll. Station	660.757	548.564	Votes at polling station for incumbent (Malawi Electoral Commission)
CouncilorPartyAFORD	0.003	0.058	Councilor ran under AFORD party (Malawi Electoral Commission)
CouncilorPartyOther	0.007	0.082	Councilor ran under CCP, NASAF or UIP party (Malawi Electoral Commission)
CouncilorPartyDPP	0.358	0.48	Councilor ran under DPP party (Malawi Electoral Commission)
CouncilorPartyIndependent	0.066	0.248	Councilor ran as independent (Malawi Electoral Commission)

CouncilorPartyMCP	0.333	0.471	Councilor ran under MCP party (Malawi Electoral Commission)
CouncilorPartyPP	0.117	0.321	Councilor ran under PP party (Malawi Electoral Commission)
CouncilorPartyUDF	0.116	0.32	Councilor ran under UDF party (Malawi Electoral Commission)
MPPartyAFORD	0.014	0.116	MP ran under AFORD party (Malawi Electoral Commission)
MPPartyOther	0.054	0.227	MP ran under CCP, NASAF or UIP party (Malawi Electoral Commission)
MPPartyDPP	0.137	0.344	MP ran under DPP party (Malawi Electoral Commission)
MPPartyIndependent	0.285	0.451	MP ran as independent (Malawi Electoral Commission)
MPPartyMCP	0.107	0.309	MP ran under MCP party (Malawi Electoral Commission)
MPPartyPP	0.175	0.38	MP ran under PP party (Malawi Electoral Commission)
MPPartyUDF	0.192	0.394	MP ran under UDF party (Malawi Electoral Commission)
MPPartyPPM	0.037	0.19	MP ran under PPM party (Malawi Electoral Commission)
Aid Treatment	0.382	0.486	Equals one if a map was assigned the aid information treatment and zero otherwise
Need Treatment	0.5	0.5	Equals one if a map was assigned the school need information treatment and zero otherwise
Voting Treatment	0.514	0.5	Equals one if a map was assigned the percent votes information treatment and zero otherwise
Knowledge of Schools	0.477	0.303	Average score in school knowledge questions (survey)
Knowledge of Politics	0.242	0.294	Average score in political knowledge questions (survey)
Knowledge of Donors	0.122	0.223	Average score in donor knowledge questions (survey)
Aid Good Types	0.699	0.668	A count of the number of types of aid projects delivered by donors at this school (donors)
Information Usefulness	1.533	0.688	A 0 to 2 scale indicating how useful the information was to the respondent (survey)
Learning from Experiment	0.285	0.451	Whether the respondent indicated that they learned something from the experimental interaction (survey)
Frequency of Donor Interaction	0.794	1.005	A 0 to five scale indicating how frequently incumbents interact with donors (survey)
Student to Teacher Ratio	73.066	33.54	Number of students per teacher in a school (Ministry of Education EMIS Statistics)
Student to Classroom Ratio	135.682	255.765	Number of students per class in a school (Ministry of Education EMIS Statistics)
Temporary Classroom Ratio	0.492	0.928	Number of temporary to permanent classrooms in a school (Ministry of Education EMIS Statistics)
School Need Index (ward)	-0.015	1.806	Index of school need within the ward (Ministry of Education)
School Need Index (constituency)	-0.013	1.871	Index of school need within the constituency (Ministry of Education)
School Need Index	-0.015	1.806	Index of school need within the constituency or ward (Ministry of Education)
Aid Project Count	0.521	0.477	Number of aid projects at school (various donors)
Test Question Classes	0.511	0.5	Whether the respondent could correctly identify a school with the least number of permanent classes
Test Question Votes	0.312	0.463	Whether the respondent could correctly identify a school with the least percentage of votes for the incumbent
Test Question Enrollment	0.613	0.487	Whether the respondent could correctly identify a school with the highest number of students
Test Question Projects	0.211	0.408	Whether the respondent could correctly identify a school with the most donor projects
Test Question Enrollment Specific	0.304	0.46	Whether the respondent could correctly identify the range of enrollment at a chosen school
Test Question Votes Specific	0.172	0.377	Whether the respondent could correctly identify the range of percent votes at a chosen school
Test Question Aid Projects Specific	0.033	0.173	Whether the respondent could correctly identify one or more donors with projects on a map

Table S35: Summary Statistics, MPs

| Variable	Mean	SD	Details
Log Population	11.253	0.391	Log Constituency/Ward Population (World-Pop)
Log Area	10.702	0.719	Log Constituency/Ward Area in Square Km (WorldPop)
Log Enrollment	6.158	1.475	Log Number of Students in School +1 (Malawi Dept of Education)
Log Teachers	2.443	0.536	Log Number of Teachers in School +1 (Malawi Dept of Education)
ChildrenAttend=Yes	0.605	0.489	Whether incumbent's or family member's children attend school in the constituency=Yes (survey)
ChildrenAttend=No	0.386	0.487	Whether incumbent's or family member's children attend school in the constituency=No (survey)
ChildrenAttend=Don't Know	0.008	0.09	Whether incumbent's or family member's children attend school in the constituency=Don't Know (survey)
Incumbent's Children Attends School	0.004	0.06	Whether incumbent's children attends this school (survey)
Incumbent's Relatives Attend School	0.026	0.16	Whether incumbent's family member's children attends this school (survey)
Family Attends School	0.028	0.165	Whether incumbent's children or family member's children attends this school (survey)
Incumbent Understood Maps	0.886	0.317	Whether incumbent correctly indicated a response in a test map (survey)
Log Temporary Classrooms	0.389	0.638	Log Number of Temporary Classrooms in School +1 (Malawi Dept of Education)
Log Permanent Classrooms	1.849	0.684	Log Number of Permanent Classrooms in School +1 (Malawi Dept of Education)
Log Temporary Houses	0.41	0.646	Log Number of Temporary Teacher Houses in School +1 (Malawi Dept of Education)
Log Permanent Houses	1.121	0.727	Log Number of Permanent Teacher Houses in School +1 (Malawi Dept of Education)
Choice=Dictionary	0.335	0.472	Allocation decision on this map was about dictionaries (survey)
Choice=Teacher Bags	0.332	0.471	Allocation decision on this map was about teacher bags (survey)
Choice=Solar Lamps	0.332	0.471	Allocation decision on this map was about solar lamps (survey)
Opposition Votes at Poll. Station (LC)	301.567	273.787	Votes at Polling Station for Leading Opposition Candidate in Councillor Election (Malawi Electoral Commission)
Opposition Percent at Poll. Station (LC)	0.242	0.16	Percent Votes at Polling Station for Leading Opposition Candidate in Councillor Election (Malawi Electoral Commission)
Opposition Votes at Poll. Station (MP)	324.02	307.036	Votes at Polling Station for Leading Opposition Candidate in MP Election (Malawi Electoral Commission)
Percent Votes at Poll. Station (MP)	0.263	0.187	Percent Votes at Polling Station for Leading Opposition Candidate in MP Election (Malawi Electoral Commission)
Victory Margin at Poll. Station (MP)	0.151	0.343	Victory Margin at Polling Station for incumbent MP (Malawi Electoral Commission)
Pop Density at School	9.511	24.496	Population per Hectacre (World Pop Project)
Turnout at Poll. Station	1258.848	751.421	Turnout at Polling Station
Log Votes at Poll. Station	6.981	0.573	Log Votes at Polling Station
Gender	0.886	0.317	Gender of respondent, male=1 and female=0 (survey)
Education Plan=Yes	0.878	0.327	Incumbent's council has an education plan=Yes (survey)
Education Plan=No	0.114	0.317	Incumbent's council has an education plan=No (survey)
Education Plan=Don't Know	0.008	0.09	Incumbent's council has an education plan=Don't Know (survey)
IncumbentTribe=Chewa	0.4	0.49	Incumbent is from Chewa tribe (survey)
IncumbentTribe=Lomwe	0.146	0.353	Incumbent is from Lomwe tribe (survey)
IncumbentTribe=Ngoni	0.114	0.317	Incumbent is from Ngoni tribe (survey)
IncumbentTribe=Other	0.068	0.251	Incumbent is from Other tribe (survey)
IncumbentTribe=Sena	0.041	0.197	Incumbent is from Sena tribe (survey)
IncumbentTribe=Tumbuka	0.089	0.285	Incumbent is from Tumbuka tribe (survey)
IncumbentTribe=Yao	0.143	0.35	Incumbent is from Yao tribe (survey)
ConstituencyTribe=Chewa	0.4	0.49	Constituency is predominately from Chewa tribe (survey)

ConstituencyTribe=Lomwe	0.146	0.353	Constituency is predominately from Lomwe tribe (survey)
ConstituencyTribe=Ngoni	0.114	0.317	Constituency is predominately from Ngoni tribe (survey)
ConstituencyTribe=Other	0.068	0.251	Constituency is predominately from Other tribe (survey)
ConstituencyTribe=Sena	0.041	0.197	Constituency is predominately from Sena tribe (survey)
ConstituencyTribe=Tumbuka	0.089	0.285	Constituency is predominately from Tumbuka tribe (survey)
ConstituencyTribe=Yao	0.143	0.35	Constituency is predominately from Yao tribe (survey)
Contest=Yes	0.87	0.336	Plan to contest election=Yes (survey)
Contest=No	0.024	0.154	Plan to contest election=No (survey)
Contest=Don't Know	0	0	Plan to contest election=Don't Know (survey)
Contest=Undecided	0.105	0.307	Plan to contest election=Undecided (survey)
Victory Margin in Ward	0.252	0.187	Victory margin of ward incumbent (Malawi Electoral Commission)
Incumbent Percent Votes in Ward	0.485	0.136	Percent votes for ward incumbent (Malawi Electoral Commission)
Opposition Percent Votes in Ward	0.235	0.073	Percent votes for leading opposition candidate in ward (Malawi Electoral Commission)
Turnout Percent in Ward	0.697	0.075	Turnout % in the ward (Malawi Electoral Commission)
Registered Voters in Ward	18935.659	7862.07	Registered voters in the ward (Malawi Electoral Commission)
Victory Margin in Constituency	-0.007	0.199	Victory margin of constituency incumbent (Malawi Electoral Commission)
Percent Votes in Constituency	0.16	0.179	Percent votes for constituency incumbent (Malawi Electoral Commission)
Opposition Votes in Constituency	0.165	0.177	Percent votes for leading oppositoin candidate in constituency (Malawi Electoral Commission)
Votes in Constituency	25406.419	16061.353	Total votes in the constituency (Malawi Electoral Commission)
HighestEd=Certificate	0.114	0.317	Incumbent's highest education level=Certificate (survey)
HighestEd=Degree	0.27	0.444	Incumbent's highest education level=Degree (survey)
HighestEd=Diploma	0.354	0.478	Incumbent's highest education level=Diploma (survey)
HighestEd=PhD	0.049	0.215	Incumbent's highest education level=PhD (survey)
HighestEd=Primary	0	0	Incumbent's highest education level=Primary (survey)
HighestEd=Secondary	0.089	0.285	Incumbent's highest education level=Secondary (survey)
Income1	0.041	0.197	Incumbent household income 100,000-200,000 kwacha/month (survey)
Income2	0.105	0.307	Incumbent household income 200,000-400,000 kwacha/month (survey)
Income3	0.284	0.451	Incumbent household income 400,000-1,000,000 kwacha/month (survey)
Income4	0.489	0.5	Incumbent household income 1,000,000-5,000,000 kwacha/month (survey)
Income5	0.065	0.246	Over 5,000,000 kwacha/month (survey)
Income6	0.008	0.09	Under 100,000 kwacha/month (survey)
IncomeDeclined	0.008	0.09	Incumbent declined to declare income (survey)
LengthResidence1	0.016	0.126	Incumbent resided in constituency less than 5 years (survey)
LengthResidence2	0.032	0.177	Incumbent resided in constituency 5-10 years (survey)
LengthResidence3	0.178	0.383	Incumbent resided in constituency more than 10 years (survey)
LengthResidence4	0.757	0.429	Incumbent resided in constituency all their life (survey)
Length of Residence	2.703	0.611	0-3 index of how long incumbent resided in constituency (<5 yrs, 5-10 yrs, >10yrs or entire life) (survey)
LengthResidenceDontKnow	0.016	0.126	Incumbent doesn't know how long s/he resided in constituency (survey)
Age	48.197	8.259	Incumbent age (survey)
Married=OneWife	0.903	0.296	Incumbent is married with one wife (survey)
Married=Divorced	0	0	Incumbent is divorced (survey)
Married=Single	0	0	Incumbent is single (survey)
Married=Widowed	0.024	0.154	Incumbent is widowed (survey)

Married=DontKnow	0	0	Incumbent doesn't know marriage status (survey)
Married=Multiple	0.016	0.126	Incumbent is married with multiple wives (survey)
VoteAFORD	0.008	0.09	Incumbent would vote for AFORD party (survey)
VoteDPP	0.254	0.436	Incumbent would vote for DPP party (survey)
VoteIndependent	0.043	0.203	Incumbent would vote for Independent party (survey)
VoteMCP	0.3	0.458	Incumbent would vote for MCP party (survey)
VoteDeclined	0.184	0.387	Incumbent declined to declare party vote (survey)
VotePP	0.097	0.296	Incumbent would vote for PP party (survey)
VoteUDF	0.114	0.317	Incumbent would vote for UDF party (survey)
Log School Count	3.247	0.407	Log number of primary schools in ward/constituency (Ministry of Education)
Pop Density	0.551	0.791	Average number of persons per grid cell in ward/constituency (WorldPop)
Incumbent Percent at Poll. Station	0.416	0.215	Percent votes at polling station for incumbent (Malawi Electoral Commission)
Incumbent Votes at Poll. Station	521.128	404.864	Votes at polling station for incumbent (Malawi Electoral Commission)
CouncilorPartyAFORD	0	0	Councilor ran under AFORD party (Malawi Electoral Commission)
CouncilorPartyOther	0.002	0.042	Councilor ran under CCP, NASAF or UIP party (Malawi Electoral Commission)
CouncilorPartyDPP	0.319	0.466	Councilor ran under DPP party (Malawi Electoral Commission)
CouncilorPartyIndependent	0.047	0.211	Councilor ran as independent (Malawi Electoral Commission)
CouncilorPartyMCP	0.35	0.477	Councilor ran under MCP party (Malawi Electoral Commission)
CouncilorPartyPP	0.128	0.334	Councilor ran under PP party (Malawi Electoral Commission)
CouncilorPartyUDF	0.155	0.362	Councilor ran under UDF party (Malawi Electoral Commission)
MPPartyAFORD	0.008	0.09	MP ran under AFORD party (Malawi Electoral Commission)
MPPartyOther	0.065	0.246	MP ran under CCP, NASAF or UIP party (Malawi Electoral Commission)
MPPartyDPP	0.154	0.361	MP ran under DPP party (Malawi Electoral Commission)
MPPartyIndependent	0.295	0.456	MP ran as independent (Malawi Electoral Commission)
MPPartyMCP	0.124	0.33	MP ran under MCP party (Malawi Electoral Commission)
MPPartyPP	0.151	0.359	MP ran under PP party (Malawi Electoral Commission)
MPPartyUDF	0.162	0.369	MP ran under UDF party (Malawi Electoral Commission)
MPPartyPPM	0.041	0.197	MP ran under PPM party (Malawi Electoral Commission)
Aid Treatment	0.359	0.48	Equals one if a map was assigned the aid information treatment and zero otherwise
Need Treatment	0.489	0.5	Equals one if a map was assigned the school need information treatment and zero otherwise
Voting Treatment	0.508	0.5	Equals one if a map was assigned the percent votes information treatment and zero otherwise
Knowledge of Schools	0.456	0.259	Average score in school knowledge questions (survey)
Knowledge of Politics	0.243	0.302	Average score in political knowledge questions (survey)
Knowledge of Donors	0.127	0.227	Average score in donor knowledge questions (survey)
Aid Good Types	0.783	0.688	A count of the number of types of aid projects delivered by donors at this school (donors)
Information Usefulness	1.745	0.568	A 0 to 2 scale indicating how useful the information was to the respondent (survey)
Learning from Experiment	0.48	0.5	Whether the respondent indicated that they learned something from the experimental interaction (survey)
Frequency of Donor Interaction	1.376	1.175	A 0 to five scale indicating how frequently incumbents interact with donors (survey)
Student to Teacher Ratio	75.016	33.599	Number of students per teacher in a school (Ministry of Education EMIS Statistics)
Student to Classroom Ratio	126.507	155.569	Number of students per class in a school (Ministry of Education EMIS Statistics)

Temporary Classroom Ratio	0.493	1.043	Number of temporary to permanent classrooms in a school (Ministry of Education EMIS Statistics)
School Need Index (ward)	-0.085	1.781	Index of school need within the ward (Ministry of Education)
School Need Index (constituency)	-0.059	1.831	Index of school need within the constituency (Ministry of Education)
School Need Index	-0.059	1.831	Index of school need within the constituency or ward (Ministry of Education)
Aid Project Count	0.558	0.479	Number of aid projects at school (various donors)
Test Question Classes	0.489	0.5	Whether the respondent could correctly identify a school with the least number of permanent classes
Test Question Votes	0.373	0.484	Whether the respondent could correctly identify a school with the least percentage of votes for the incumbent
Test Question Enrollment	0.624	0.485	Whether the respondent could correctly identify a school with the highest number of students
Test Question Projects	0.232	0.423	Whether the respondent could correctly identify a school with the most donor projects
Test Question Enrollment Specific	0.254	0.436	Whether the respondent could correctly identify the range of enrollment at a chosen school
Test Question Votes Specific	0.114	0.317	Whether the respondent could correctly identify the range of percent votes at a chosen school
Test Question Aid Projects Specific	0.022	0.13	Whether the respondent could correctly identify one or more donors with projects on a map

4.3 Variable Correlation Matrix

Figure S4: Correlation Matrix
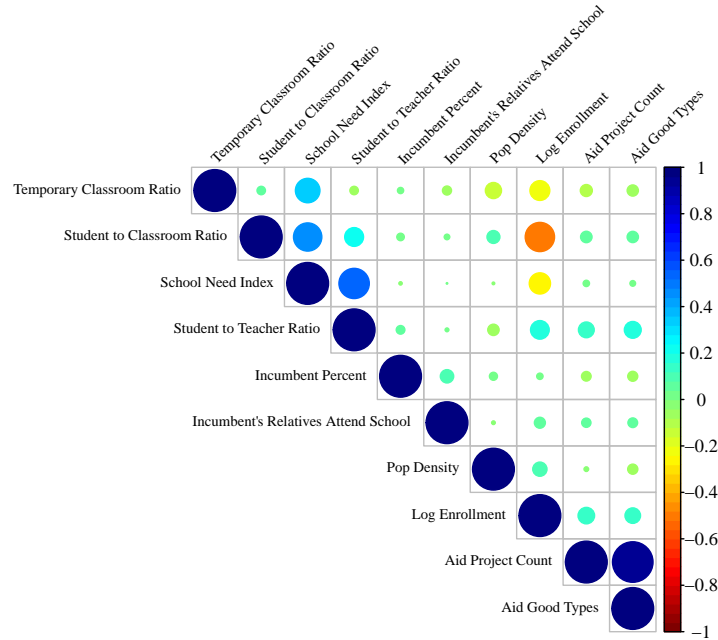
4.4 Attrition Statistics

In order to participate in the experiment, politicians had to be active in office and accurate data had to be available on all information treatments. By these criteria, 353 LCs and 187 MPs which were eligible for participation in the experiment. Of these, we were able to contact 335 LCs and 125 MPs. Subjects were excluded primarily because they were out of town at the time of the study. Since the information treatments were blocked on respondent, attrition is

unrelated to treatment by design. However attrition also raises concerns about generalizability. In Tables S36 and S37 we show that there is little systematic difference between included and excluded subjects. Additionally in Table S38 we conduct a regression of available covariates on attrition. An F-Test easily fails to reject the null that these variables help explain patterns of attrition. We conclude that our subject pool is not biased to any large extent by attrition.

Table S36: Summary Statistics by Survey Attrition Status, LCs

Variable	NotAttritted	Attritted	Difference
Aid Good Types	0.699 (0.668)	0.708 (0.637)	0.009 (0.155)
Aid Project Count	0.521 (0.477)	0.535 (0.45)	0.013 (0.109)
CouncilorPartyAFORD	0.003 (0.058)	0 (0)	-0.003 (0.003)
CouncilorPartyDPP	0.358 (0.48)	0.283 (0.452)	-0.076 (0.11)
CouncilorPartyIndependent	0.066 (0.248)	0.13 (0.338)	0.065 (0.081)
CouncilorPartyMCP	0.333 (0.471)	0.283 (0.452)	-0.051 (0.11)
CouncilorPartyOther	0.007 (0.082)	0 (0)	-0.007 (0.004)
CouncilorPartyPP	0.117 (0.321)	0.065 (0.248)	-0.052 (0.061)
CouncilorPartyUDF	0.116 (0.32)	0.239 (0.428)	0.123 (0.102)
Frequency of Donor Interaction	0.794 (1.005)	1.145 (0.937)	0.351 (0.228)
Incumbent Percent at Poll. Station	0.492 (0.215)	0.452 (0.21)	-0.039 (0.051)
Incumbent Percent Votes in Ward	0.492 (0.143)	0.462 (0.125)	-0.029 (0.031)
Incumbent Votes at Poll. Station	660.757 (548.564)	676.362 (456.007)	15.605 (111.582)
Log Area	9.899 (0.9)	9.906 (0.831)	0.008 (0.202)
Log Enrollment	6.12 (1.544)	6.061 (1.805)	-0.059 (0.434)
Log Permanent Classrooms	1.859 (0.714)	1.899 (0.731)	0.04 (0.177)
Log Permanent Houses	1.097 (0.742)	1.196 (0.718)	0.099 (0.174)
Log Population	10.527 (0.464)	10.552 (0.378)	0.025 (0.093)
Log School Count	2.54 (0.431)	2.403 (0.363)	-0.137 (0.089)
Log Teachers	2.467 (0.545)	2.442 (0.595)	-0.025 (0.143)
Log Temporary Classrooms	0.395 (0.644)	0.254 (0.525)	-0.141 (0.129)
Log Temporary Houses	0.418 (0.662)	0.293 (0.571)	-0.126 (0.139)
Log Votes at Poll. Station	7.011 (0.643)	7.194 (0.581)	0.183 (0.141)
MPPartyAFORD	0.014 (0.116)	0 (0)	-0.014 (0.006)
MPPartyDPP	0.137 (0.344)	0.239 (0.428)	0.102 (0.103)
MPPartyIndependent	0.285 (0.451)	0.326 (0.47)	0.042 (0.114)
MPPartyMCP	0.107 (0.309)	0.087 (0.283)	-0.02 (0.069)
MPPartyOther	0.054 (0.227)	0.065 (0.248)	0.011 (0.06)
MPPartyPP	0.175 (0.38)	0.109 (0.312)	-0.066 (0.076)
MPPartyPPM	0.037 (0.19)	0.043 (0.205)	0.006 (0.049)
MPPartyUDF	0.192 (0.394)	0.13 (0.338)	-0.061 (0.083)
Opposition Percent at Poll. Station (LC)	0.238 (0.156)	0.253 (0.162)	0.015 (0.039)
Percent Votes at Poll. Station (MP)	0.253 (0.179)	0.261 (0.176)	0.008 (0.043)
Percent Votes in Constituency	0.152 (0.169)	0.158 (0.198)	0.006 (0.048)
Pop Density	0.628 (0.907)	0.645 (0.651)	0.017 (0.161)
Pop Density at School	9.774 (16.663)	8.045 (7.871)	-1.728 (2.066)
School Need Index	-0.015 (1.806)	-0.138 (1.835)	-0.124 (0.444)
School Need Index (constituency)	-0.013 (1.871)	-0.047 (1.991)	-0.034 (0.48)
School Need Index (ward)	-0.015 (1.806)	-0.138 (1.835)	-0.124 (0.444)
Victory Margin at Poll. Station (MP)	0.18 (0.337)	0.194 (0.35)	0.014 (0.084)
Victory Margin in Constituency	-0.002 (0.196)	-0.002 (0.272)	0.001 (0.065)
Victory Margin in Ward	0.262 (0.193)	0.21 (0.153)	-0.052 (0.038)
School Need Index (ward)	-0.015 (1.806)	-0.138 (1.835)	-0.124 (0.444)
Victory Margin at Poll. Station (MP)	0.18 (0.337)	0.194 (0.35)	0.014 (0.084)
Victory Margin in Constituency	-0.002 (0.196)	-0.002 (0.272)	0.001 (0.065)
Victory Margin in Ward	0.262 (0.193)	0.21 (0.153)	-0.052 (0.038)

Table S37: Summary Statistics by Survey Attrition Status, MPs

Variable	NotAttritted	Attritted	Difference
Aid Good Types	0.783 (0.688)	0.607 (0.591)	-0.176 (0.097)
Aid Project Count	0.558 (0.479)	0.481 (0.43)	-0.077 (0.069)
CouncilorPartyAFORD	0 (0)	0.007 (0.085)	0.007 (0.011)
CouncilorPartyDPP	0.319 (0.466)	0.426 (0.495)	0.107 (0.075)
CouncilorPartyIndependent	0.047 (0.211)	0.13 (0.337)	0.084 (0.047)
CouncilorPartyMCP	0.35 (0.477)	0.234 (0.424)	-0.116 (0.069)
CouncilorPartyOther	0.002 (0.042)	0.024 (0.152)	0.022 (0.02)
CouncilorPartyPP	0.128 (0.334)	0.145 (0.352)	0.017 (0.054)
CouncilorPartyUDF	0.155 (0.362)	0.034 (0.182)	-0.121 (0.04)
Frequency of Donor Interaction	1.376 (1.175)	1.293 (0.508)	-0.083 (0.123)

Incumbent Percent at Poll. Station	0.416 (0.215)	0.45 (0.225)	0.034 (0.034)
Incumbent Percent Votes in Ward	0.485 (0.136)	0.486 (0.151)	0 (0.023)
Incumbent Votes at Poll. Station	521.128 (404.864)	634.404 (560.264)	113.276 (79.838)
Log Area	10.7 (0.722)	10.521 (0.832)	-0.179 (0.124)
Log Enrollment	6.158 (1.475)	6.034 (1.645)	-0.125 (0.247)
Log Permanent Classrooms	1.849 (0.684)	1.846 (0.774)	-0.003 (0.116)
Log Permanent Houses	1.121 (0.727)	1.087 (0.731)	-0.034 (0.113)
Log Population	11.254 (0.392)	11.225 (0.452)	-0.029 (0.067)
Log School Count	3.247 (0.407)	3.235 (0.47)	-0.012 (0.07)
Log Teachers	2.443 (0.536)	2.466 (0.586)	0.024 (0.089)
Log Temporary Classrooms	0.389 (0.638)	0.412 (0.659)	0.023 (0.101)
Log Temporary Houses	0.41 (0.646)	0.469 (0.699)	0.06 (0.106)
Log Votes at Poll. Station	6.981 (0.573)	7.066 (0.676)	0.085 (0.1)
MPPartyAFORD	0.008 (0.09)	0.016 (0.127)	0.008 (0.018)
MPPartyDPP	0.154 (0.361)	0.098 (0.297)	-0.056 (0.05)
MPPartyIndependent	0.295 (0.456)	0.326 (0.469)	0.031 (0.072)
MPPartyMCP	0.124 (0.33)	0.103 (0.305)	-0.021 (0.049)
MPPartyOther	0.065 (0.246)	0.049 (0.216)	-0.016 (0.035)
MPPartyPP	0.151 (0.359)	0.179 (0.384)	0.028 (0.058)
MPPartyPPM	0.041 (0.197)	0.033 (0.178)	-0.008 (0.029)
MPPartyUDF	0.162 (0.369)	0.196 (0.397)	0.033 (0.06)
Opposition Percent at Poll. Station (LC)	0.242 (0.16)	0.235 (0.141)	-0.007 (0.023)
Percent Votes at Poll. Station (MP)	0.263 (0.187)	0.263 (0.182)	0 (0.029)
Percent Votes in Constituency	0.16 (0.179)	0.152 (0.17)	-0.008 (0.027)
Pop Density	0.554 (0.797)	0.704 (1.028)	0.15 (0.149)
Pop Density at School	9.565 (24.497)	12.627 (23.117)	3.062 (3.663)
School Need Index	-0.059 (1.831)	0.035 (1.876)	0.095 (0.289)
School Need Index (constituency)	-0.059 (1.831)	0.035 (1.876)	0.095 (0.289)
School Need Index (ward)	-0.085 (1.781)	0.065 (1.834)	0.15 (0.282)
Victory Margin at Poll. Station (MP)	0.151 (0.343)	0.187 (0.355)	0.036 (0.054)
Victory Margin in Constituency	-0.007 (0.199)	0.002 (0.195)	0.009 (0.031)
Victory Margin in Ward	0.252 (0.187)	0.258 (0.194)	0.006 (0.03)
School Need Index (ward)	-0.015 (1.806)	-0.138 (1.835)	-0.124 (0.444)
Victory Margin at Poll. Station (MP)	0.18 (0.337)	0.194 (0.35)	0.014 (0.084)
Victory Margin in Constituency	-0.002 (0.196)	-0.002 (0.272)	0.001 (0.065)
Victory Margin in Ward	0.262 (0.193)	0.21 (0.153)	-0.052 (0.038)

Table S38: The Effect of Covariates on Survey Attrition

	MP Survey	Councillor Survey
	(1)	(2)
Aid Good Types	−0.423*	−0.059
	(0.246)	(0.082)
Aid Project Count	0.570	0.074
	(0.357)	(0.115)
CouncilorPartyAFORD	2.172	−0.101
	(1.550)	(0.263)
CouncilorPartyDPP	0.129	−0.061
	(0.156)	(0.045)
CouncilorPartyIndependent	0.501**	−0.036
	(0.222)	(0.062)
CouncilorPartyMCP	−0.007	−0.012
	(0.157)	(0.047)
CouncilorPartyOther	0.823*	−0.093
	(0.471)	(0.171)
CouncilorPartyPP	0.113	−0.064
	(0.196)	(0.055)
CouncilorPartyUDF		
Frequency of Donor Interaction	0.003	0.017
	(0.039)	(0.013)
Incumbent Percent at Poll. Station	−1.693	0.106
	(2.310)	(0.237)
Incumbent Percent Votes in Ward	0.020	0.468
	(1.149)	(0.401)
Incumbent Votes at Poll. Station	0.0002	−0.0001
	(0.0004)	(0.0001)
Log Area	−0.003	0.032
	(0.099)	(0.027)

Log Enrollment	−0.111	−0.070**
	(0.119)	(0.033)
Log Permanent Classrooms	0.097	0.101
	(0.282)	(0.086)
Log Permanent Houses	−0.100	0.016
	(0.153)	(0.044)
Log Population	0.035	0.011
	(0.165)	(0.049)
Log School Count	−0.101	−0.067
	(0.154)	(0.046)
Log Teachers	0.030	−0.078
	(0.214)	(0.065)
Log Temporary Classrooms	−0.018	−0.008
	(0.203)	(0.059)
Log Temporary Houses	0.211	−0.038
	(0.146)	(0.047)
Log Votes at Poll. Station	−0.046	0.159**
	(0.263)	(0.063)
MPPartyAFORD	−0.411	−0.045
	(0.499)	(0.137)
MPPartyDPP	−0.093	0.046
	(0.144)	(0.045)
MPPartyIndependent	−0.019	0.045
	(0.117)	(0.039)
MPPartyMCP	−0.011	0.013
	(0.140)	(0.048)
MPPartyOther	−0.154	−0.013
	(0.179)	(0.061)
MPPartyPP	−0.001	−0.002
	(0.130)	(0.042)
MPPartyPPM	−0.039	−0.018
	(0.213)	(0.070)
MPPartyUDF		
Opposition Percent at Poll. Station (LC)	−0.440	−0.362
	(0.771)	(0.271)
Percent Votes at Poll. Station (MP)	2.033	0.240
	(2.326)	(0.183)
Percent Votes in Constituency	−0.023	0.014
	(0.261)	(0.090)
Pop Density		
Pop Density at School	0.0001	−0.002
	(0.004)	(0.001)
School Need Index	−0.205	−0.059
	(0.197)	(0.041)
School Need Index (constituency)		0.015
		(0.025)
School Need Index (ward)	0.251	
	(0.196)	
Victory Margin at Poll. Station (MP)	1.772	0.135
	(2.255)	(0.096)
Victory Margin in Constituency	0.078	0.004
	(0.243)	(0.077)
Victory Margin in Ward	−0.106	−0.588**
	(0.925)	(0.298)
School Need Index (ward)	0.897	−0.951*
	(2.073)	(0.497)
Observations	187	353
R^2	0.212	0.096
F Statistic	1.050 (df = 38; 148)	0.879 (df = 38; 314)

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

5   Teacher and Citizen Survey

This survey was designed to assess the views of recipient teachers and citizens about foreign aid and relationships with councillors. We utilized a hierarchical sampling procedure in order to select the schools to be included in this survey. We began with the sample of 333 wards which were involved in piloting activities. From these, we then randomly selected 60 wards, stratified by region, to be involved in the survey.

Within these 60 wards, we selected three schools to be involved in each survey. At each of these schools we interviewed the head teacher and/or the assistant head teacher. Within the community surrounding each school, we used a random walk procedure to sample potential voters in the area. A team of two Malawian enumerators first located the school and recorded its GPS coordinates. Then, they spun a bottle and walked in the direction of the bottle opening. They sampled the male head of household at the first house, skipped two houses, and then sampled the female head of household at the next (fourth) house. They then continued until they had sampled six heads of households in that direction, at which point they returned to the school and repeated the process in a different direction, sampling a female head of household first the second time. There were almost no instances of participants refusing to participate, but where this occurred or where the head of household was not home, the house was skipped and the sampling procedure simply ignored this house in the random walk pattern.

This process resulted in a total intended sample of 13 people per school at three schools in 60 wards, or 2340 people. Because of logistical issues, the total actual sample was closer to 2000. All participants gave verbal consent to participate and were given between MK200 ($0.25) and MK1000 ($1.25) as a token of appreciation for their time (amount was greater for head teachers and greater at baseline).

5.1 Teacher Perceptions of High Priority Needs

Below we summarize responses from teachers about high priority issues in their schools.
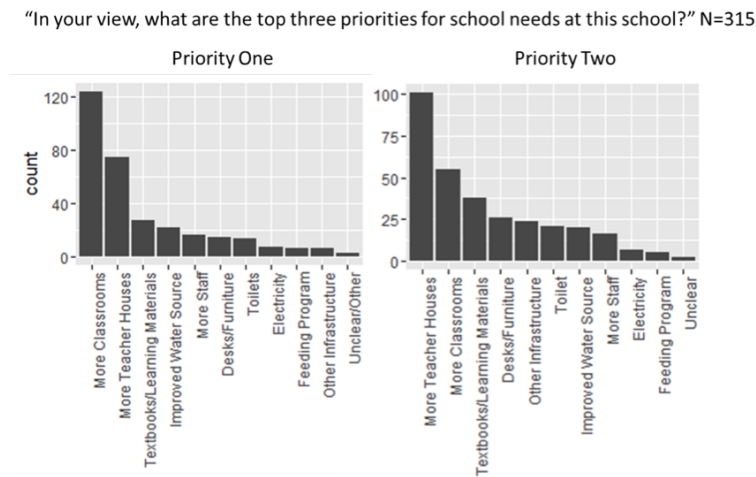

Figure S5: Head Teacher Prioritization of School Needs

NOTE: Head teachers were asked an open-ended question about the top three priorities in their school. We categorized their responses into 11 categories. The frequency of each category is shown on the y-axis. Each category is shown on the x-axis.

6 Experimental Protocol

6.1 Treatment Overview and Randomization

The experimental design included three information treatment arms which were administered to respondents via the maps following a full factorial design. The information treatments involved providing the respondent information about school need, political support, and foreign aid projects at a given school. For political support we used the vote-share of the MP/LC at the nearest polling station in the previous election in 2014. To measure school-level need we used official data on student per classroom, teacher-to-student ratio and permanent-to-temporary classroom ratio. We also categorized schools into high, low or average needs relative to other schools in the same constituency/ward based on their scores in these indices. The table below outlines the treatment conditions for each information treatment.

	Treatment	Control
Political Support Information	Information on the map designates the level of support for the MP or LC at the nearest polling station to the school	Political support information is not provided
School Need Information	Information on the map designates the level of need at the school	School need information is not provided
Aid Information	Information on the map designates the number and type of foreign aid projects supported by international donors at the school	Foreign aid project information is not provided

The randomisation proceeded so that each sampled politician was first assigned into one transparency treatment arm. The transparency treatments were blocked on partisanship, the number of schools in a ward, and incumbent vote percentage. Each politician was then randomly three information treatments within respondent blocks.

All treatments were assigned factorially. Altogether, therefore, there were 32 different possible combinations of transparency and information treatments. Table S39 below provides an overview of the number of individual maps that received each combinations.

Table S39: Number of maps receiving different combinations of transparency and information treatments

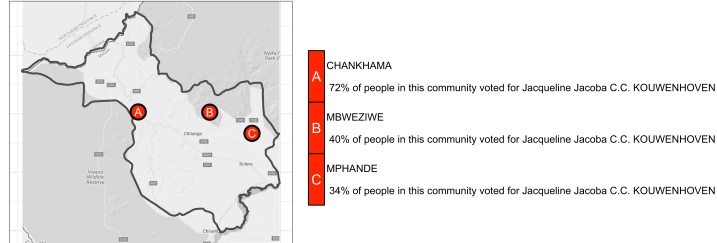|		Transparency Treatments				
		Control	Donor Audit	Radio	Donor Audit + Radio	Total
Information Treatments	Control	43	36	35	38	152
	Political Support (PS)	32	47	43	43	165
	School Need (SN)	36	38	41	35	150
	Aid	35	38	40	49	162
	PS + SN	47	40	37	40	164
	PS + Aid	33	44	40	34	151
	SN + Aid	36	42	35	34	147
	PS + SN + Aid	27	45	47	42	161
	Total	289	330	318	315	1252

6.2   Example Maps

All information treatments were presented in legends on the side of the map. In line with the factorial design, each map displayed either one of the individual information treatments, a combination of several information treatments, or no information treatment at all (full control). Due to the factorial design, these treatments were orthogonal to each other, enabling independent analysis of each information treatment separately. Figures S6 through S13 provide examples of maps containing each of the possible combinations of information treatment.

Figure S6: Map containing political support information treatment

Schools in Your Constituency

A **CHANKHAMA**
72% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN

B **MBWEZIWE**
40% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN

C **MPHANDE**
34% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN

Map_Three

Figure S7: Map containing school need information treatment

Schools in Your Constituency

A **CHISANSU SCHOOL**
This school has MUCH HIGHER NEEDS THAN most in this constituency because
- There are 77 students in each classroom
- There are 69 student per teacher
- 4 out of 8 classrooms are temporary

B **CHUBA SCHOOL**
This school has LOWER NEEDS THAN most in this constituency because
- There are 33 students in each classroom
- There are 41 student per teacher
- 5 out of 9 classrooms are temporary

C **MUGHONA SCHOOL**
This school has HIGHER NEEDS THAN most in this constituency because
- There are 32 students in each classroom
- There are 48 student per teacher
- 6 out of 8 classrooms are temporary

Figure S8: Map containing aid information treatment

Schools in Your Constituency

A **KAFUNDA**
Donors have 0 project(s) at this school

B **CHAMPHUMPHI PRIMARY SCHOOL**
Donors have 1 project(s) at this school
helping with Teacher Training

C **MALINYETE PRIMARY SCHOOL**
Donors have 1 project(s) at this school
helping with Capacity Building, Community Support and Gender Issues

Figure S9: Map containing political support information and school need information treatments

Schools in Your Constituency

CHANYA SCHOOL (A)
59% of people in this community voted for Chizamsoka Oliver MULWAFU

This school has HIGHER NEEDS THAN most in this constituency because
- There are 49 students in each classroom
- There are 49 student per teacher
- 0 out of 8 classrooms are temporary

NGALI FP SCHOOL (B)
42% of people in this community voted for Chizamsoka Oliver MULWAFU

This school has MUCH LOWER NEEDS THAN most in this constituency because
- There are 10 students in each classroom
- There are 20 student per teacher
- 3 out of 7 classrooms are temporary

MWANDAMBO SCHOOL (C)
56% of people in this community voted for Chizamsoka Oliver MULWAFU

This school has MUCH LOWER NEEDS THAN most in this constituency because
- There are 18 students in each classroom
- There are 24 student per teacher
- 2 out of 6 classrooms are temporary

Figure S10: Map containing political support information and aid information treatments

Schools in Your Constituency

KAYOYO SCHOOL (A)
52% of people in this community voted for Olipa CHIMANGENI

Donors have 1 project(s) at this school
helping with Teacher Training

MTSIRO SCHOOL (B)
7% of people in this community voted for Olipa CHIMANGENI

Donors have 0 project(s) at this school

CHANSEMBE (C)
52% of people in this community voted for Olipa CHIMANGENI

Donors have 1 project(s) at this school
helping with Teacher Training

Figure S11: Map containing school need information and aid information treatments

Schools in Your Constituency

NACHIPERE SCHOOL (A)
This school has LOWER NEEDS THAN most in this constituency because
- There are 44 students in each classroom
- There are 65 student per teacher
- 0 out of 15 classrooms are temporary

Donors have 3 project(s) at this school
helping with Construction, Food Provision, Capacity Building,
and Community Support

KHOLONGO SCHOOL (B)
This school has MUCH HIGHER NEEDS THAN most in this constituency because
- There are 1373 students in each classroom
- There are 106 student per teacher
- 0 out of 0 classrooms are temporary

Donors have 2 project(s) at this school
helping with Food Provision, Capacity Building, Community Support,
and Gender Issues

GOMA SCHOOL (C)
This school has HIGHER NEEDS THAN most in this constituency because
- There are 212 students in each classroom
- There are 94 student per teacher
- 0 out of 7 classrooms are temporary

Donors have 1 project(s) at this school
helping with Food Provision

37

Figure S12: Map containing political information, school need information, and aid information treatments
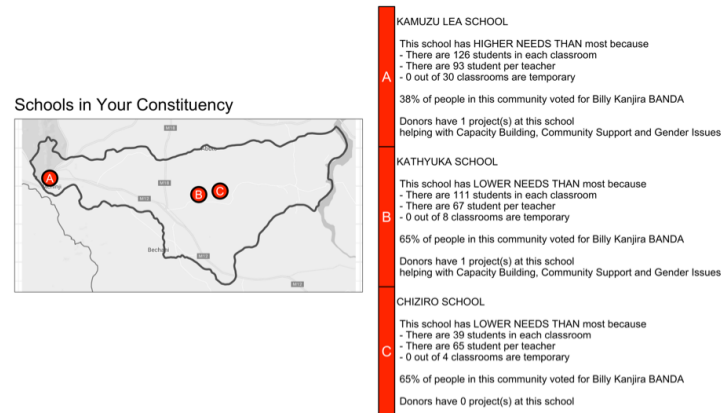
Figure S13: Map containing no information treatment
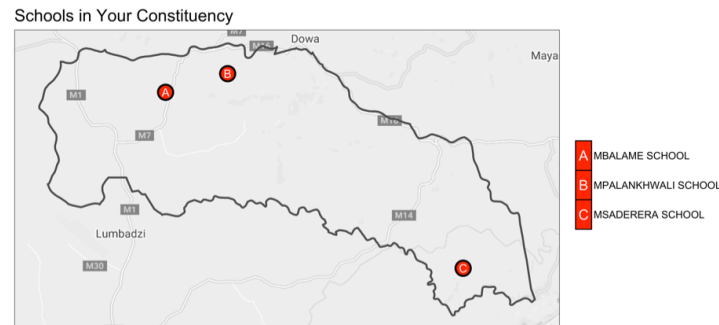
6.3 Details on Development Goods Provided to Schools

In partnership with a UK-based NGO operating in Malawi (Tearfund), we offered to deliver school supplies to schools selected by the respondents, following a lottery. These school-supplies consisted of either a set of 10 solar lamps, 10 dictionaries, or 10 teacher supply kits. Examples of these school supplies are displayed in the pictures below.

Our focus group discussions with project stakeholders suggest that these goods are highly valued by politicians and schools. The solar lamps were intended to allow students and teachers to continue working even after dark fall, which due to lack of electricity in the vast majority of schools in Malawi is often difficult. The dictionaries were standard Oxford English language dictionaries to help with lessons, aid teachers with planning and teaching, and support students in independent studies. The teacher supply kits consisted of a box of chalk, rubbers, pens, notebooks, and tote bag. These were everyday-supplies considered necessary for teachers to carry out their work.

The economic value of these goods was as follows:

1. 10 solar lamps: Malawi Kwacha 50,000 (approximately 69 US dollars)

2. 10 dictionaries Malawi Kwacha 55,000 (USD 76)

3. 10 teacher kits Malawi Kwacha 26.500 (USD 36)

One indication of the value recipients and politicians placed on the goods was the high turnout when delivering goods to the selected schools. On average, some 10 local leaders (i.e. village headmen, chiefs, church leaders, etc.) turned out at the handover events. Furthermore, several LCs as well as headteachers contacted Tearfund to inquire about the goods and their delivery.

We show pictures of a delivery for each good type in Figure S14.

Figure S14: Goods

A. Solar Lamp   B. Dictionary   C. Teacher Kit
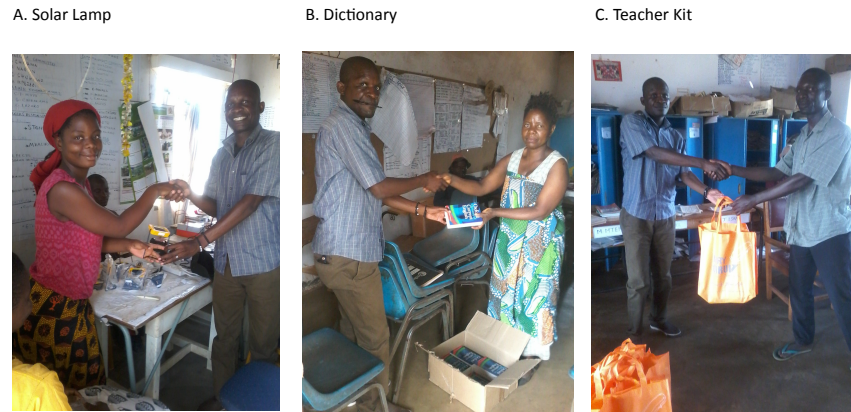
6.4 Transparency Treatment

Besides the information treatments, the experiment also randomly assigned two transparency treatments. These were designed to measure the effect of politicians facing increased visibility of their decision-making to voters or donors. Two transparency treatments were provided before the politician made any decision regarding which school in his area should receive materials. The first transparency treatment involved informing the politician that the selected school will be broadcast on community radio. The research assistant then played out a sample of this broadcast for the politician (see 6.4.1 for an example script). RAs were instructed to use the following script to explain this treatment:

Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi, and will include your name and a description of the schools you have selected today. The report will also explain the lottery. I have brought with me a copy of the letter that donors will receive (show the councillor/MP the letter if he/she wants to see it).

The second transparency treatment involved informing the politician that a report would be sent to donors with his or her name and the selected school. The research assistant showed a sample of this report to the politicians (see 6.4.2 for a sample of the report). RAs were instructed to use the following script to explain this treatment:

Please note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. The broadcast will also explain the lottery. I have brought with me an excerpt of the broadcast your constituents will hear (show the councillor/MP the broadcast if he/she wants to see it).

Politicians appeared to take both treatments seriously. RAs were asked to identify all cases where politicians chose not to listed to the broadcast or read the report. They were also asked to indicate any politicians who did not read or listen to the end. We recorded no instances where politicians failed to review the report or listen attentively.

The provision of the transparency treatments followed a full-factorial design similar to that of the information treatments. Therefore, in addition to the information treatments detailed above, randomly assigned politicians were provided with either of the transparency treatments, both transparency treatments, or neither.

There was no deception involved in this intervention. At the conclusion of the study, the research project purchased a broadcast on the nationally syndicated radio station, Zodiac. In this broadcast we shared information about the decisions that politicians made about where to allocate funding. Additionally, the research project sent an email to all major donors in Malawi. In this email we provided a report about the decisions that politicians made about where to allocate funding.

6.4.1 Example Radio Transparency Treatment Broadcast

Politicians in the radio transparency treatment were provided with an audio recording of the following text to illustrate the information that would be provided to citizens. Politicians could listed to this recording in Chichewa, English or

Tumbuku.

MP Script:

We bring you this special program from Tearfund NGO. Tearfund is distributing development materials to primary schools in Chigwe District. The first phase of this project was to ask MPs and councillors for their input. We would like to inform you, the people of Chigwe District, about the schools your elected officials recommended to receive materials from Tearfund.

Please know that not all these schools will receive materials. A public lottery will be held in Lilongwe to determine which schools will receive materials.

Honourable MP John Banda of Nyasa Constituency was given a choice between Mkuku Primary School, Mpenga Primary School, and Nkhande Primary School to receive teacher supplies kits. [PAUSE HERE.] He recommended Mpenga Primary School. Then, he was given a choice between Mphidza Primary School, and. . .

Councilors Script:

We bring you this special program from Tearfund NGO. Tearfund is distributing development materials to primary schools in Chigwe District. The first phase of this project was to ask MPs and councillors for their input. We would like to inform you, the people of Chigwe District, about the schools your elected officials recommended to receive materials from Tearfund.

Please know that not all these schools will receive materials. A public lottery will be held in Lilongwe to determine which schools will receive materials.

Honourable Councilor John Banda of Nyasa Ward was given a choice between Mkuku Primary School, Mpenga Primary School, and Nkhande Primary School to receive teacher supplies kits. [PAUSE HERE.] He recommended Mpenga Primary School. Then, he was given a choice between Mphidza Primary School, and. . .

6.4.2 Example Donor Transparency Treatment Report

DONOR REPORT

PRIMARY SCHOOL DEVELOPMENT MATERIALS PROJECT

Prepared for:

USAID, DFID, GIZ, World Food Program, UNICEF, Save the Children, World Vision

June 2017

In the first half of 2017, Tearfund NGO initiated a project to provide development materials to primary schools across Malawi. The first phase of this project was to meet with elected officials to give them the opportunity to select schools in their areas to receive materials. The schools recommended by these officials will be entered into a public lottery to determine which schools will receive materials. This report provides information about the decisions of the officials and the characteristics of the schools they selected that you may find helpful as you plan projects in the future.

Member of Parliament **John Banda**, representing *Nyasa Constituency*, selected the following schools to receive materials:

Selected to Receive Teacher Kits

Mkuku Primary School
Location of School: Mbeta Village, Chizwe Ward
Number of Students: 872
Number of Classrooms: 7
Number of Teachers: 12
Number of Donor Projects: 1
% Votes MP Received in Community: 35%

Selected to Receive Dictionaries

Mpenga Primary School
Location of School: Mwai Village, Chipeza Ward
Number of Students: 963
Number of Classrooms: 5
Number of Teachers: 10
Number of Donor Projects: 0
% Votes MP Received in Community: 16%

Selected to Receive Solar Lamps

Nkhande Primary School
Location of School: Mapeto Village, Nkhozwe Ward
Number of Students: 450
Number of Classrooms: 8
Number of Teachers: 15
Number of Donor Projects: 2
% Votes MP Received in Community: 68%

Please note that, because of our project guidelines, not all schools in the constituency were eligible for selection.

7 Ethical Practices

Our research directly engaged human participants as interviewees, focus group discussion participants, and those exposed to experimental interventions (both directly and indirectly). In this section, we discuss our ethical practices concerning these participants.

We confirm compliance with APSA's Principles and Guidance for Human Subjects Research, and this research was reviewed and approved by the Malawi National Commission on Science and Technology and the London School of Economics Research Ethics Committee. We obtained voluntary and informed consent from all participants prior to research activities. All participants were permitted to withdraw from the project at any time (none did). Participants were compensated via airtime credit in the amounts as follows:

- Elected officials sampled for experiment - MK2000

- Elected officials sampled for interviews, teachers sampled for survey - MK1000

- Citizens sampled for survey or focus group discussions, elected officials sampled for phone survey - MK500

Our study used no deception and we do not believe the research caused physical, psychological, social, or economic harm to either direct participants or to others indirectly affected by the research. Indeed, our intention with this study was to replicate as closely as possible the kinds of spending decisions that officials make regularly as part of their official duties (and to reinforce the ability of democratic accountability mechanisms to improve such decisions). However one concern in this respect might be that the project influenced the allocation of resources in a way that was not equitable or welfare enhancing. In this respect, it is important to note that we did not run the experiment in the context of an existing donor or public project, and therefore did not shift any planned funding or allocations and no community was worse off as a result of our research. Instead, we used research funds to fund an *additional* project that benefited the school communities identified by the elected officials. Moreover, in practice, the interventions piloted in this study appear to have been welfare enhancing.

Some of these choices by the elected officials in our study could be perceived as patronage, and one might also be concerned about the use of a research project that could have facilitated patronage. In practice, the interventions piloted in this study appear not to have shifted spending to political supporters or family members; though we recognize that there was ex ante some risk that the interventions would increase patronage. To ameliorate the risk of highly biased or unfair spending decisions, we allowed school officials and our partner donor organization to decline any project, though they never chose to do so. The partner donor organization also had the option to reallocate the development materials at their own discretion, though they never chose to do so.

Our research related activities complied with relevant laws and regulations in Malawi. In addition to formal approval from the authority governing research in Malawi, we also conducted informational interviews and piloting activities designed to validate our research approach and ensure it aligned with both general and context-specific ethical practices. These pre-research activities involved representatives from the potential participant pools (local councillors, members of parliament, district commissioners, area development committees, Malawian citizens) as well as representatives from organizations involved in development in Malawi (National Democratic Institute, National Initiative for Civic Education, United States Agency for International Development, and the United Kingdom's Department for International Development). In addition to interviews with officials from many of these organizations, we conducted a formal workshop in which stakeholders could offer feedback on our research design.

With the exception of the information revealed as part of the transparency treatments in our experiment, we kept the identities of all participants confidential via robust data security protocols in collection and storage. There were no breaches in confidentiality and the data that will be published as part of the replication materials for this article have been fully anonymized. Regarding the transparency treatments, participants were made aware of the transparency treatments before they made their choices in the experiment and were given the opportunity to refrain from making particular choices or decline to participate in the research altogether. In addition, we note that this research involves decisions about the allocation of public development aid. This task – making decisions about development aid – is a routine component of each elected official's professional duties in Malawi and is always in the public domain.

8 Summary of Pre-Specified Hypotheses

Below we summarize all of the pre-specified hypotheses referring to the information treatments in this experiment. Table S40 below provides an overview of these hypotheses, listing their numbering, potential changes in numbers used in the text, as well as where in the main text or SI the given hypothesis was examined or discussed.

Table S40: Pre-Specified Hypotheses about Information Treatments

PAP Num.	Hypothesis	Where Examined
Effects of Need Information Treatment		
HB.1	Politicians will be more likely to allocate to schools in areas with high need.	Main Manuscript, Section 2
HB.2	Politicians will be less likely to allocate to schools located in areas with higher support in the last election.	Main Manuscript, Section 2
HB.3	Politicians will be less likely to allocate to schools located in their home community or where family members attend.	Main Manuscript, Section 2
Effects of Voting Information Treatment		
HC.1	Politicians will be more likely to allocate to schools in areas with higher support for the politicians in the last election.	Main Manuscript, Section 2
HC.2	Politicians will be less likely to allocate to schools in areas with high need.	Section 3.5
Effects of Aid Information Treatment		
HD.1	Politicians will be more likely to allocate to schools that have already benefitted from more foreign aid projects and where donors have provided more categories of goods (validation effect)	Main Manuscript, Section 2
HD.2	Validation will be more likely when politicians interact frequently with donors.	Section 3.2
HD.3	Politicians will be less likely to allocate to schools that have benefited from more foreign aid projects and where donors have provided more categories of goods (crowding out effect).	Main Manuscript
HD.4	Crowding out will be more likely in areas where the politician did not receive a high proportion of votes.	Main Manuscript, Section 2
HD.5	Crowding out will be [less] likely in areas where schools are less needy.	Section 3.5
Conditioning Effects of Knowledge		
HE.1	Information effects will be weaker (stronger) among politicians with more (less) relevant knowledge of their constituency.	Main manuscript, Section 2
HE.2	Information effects will be weaker (stronger) among politicians with more (less) time living in their constituency.	Section 3.6
HE.3	Information effects will be stronger (weaker) among politicians who found the information provided in the experiment to be useful (not useful).	Section 3.6
Compliance and Understanding		
HH.1	Politicians that demonstrate the ability to read and interpret maps (Q1.22) will be more likely to respond to all treatments.	Section 3.3
Interactions Across Information and Transparency Treatments		
HI.1	The effect of aid information will be stronger among politicians in the donor transparency group.	Section 3.4
HI.2	The effects of need information will be stronger among politicians in the donor and radio transparency treatment group	Main manuscript and Section 3.4
HI.3	The effects of political support information will be weaker among politicians in the donor and radio transparency treatment groups.	Main manuscript and Section 3.4
Conditioning Effects of Gender		
HK.3	Female politicians will be more likely to respond to information about need.	Section 3.6
HK.4	Male politicians will be more likely to respond to information about votes.	Section 3.6
Conditioning Effects of Electoral Competition		
HL.3	Politicians that expect to contest upcoming elections will be more likely to respond to need and political support information treatments.	Section 3.6
Hypothesis Family M: Conditioning Effects of Office		
HM.1	MPs will be more likely to respond to information treatments than LCs	Main Manuscript, Section 2

9 Pre-Analysis Plan Deviations and Errors

- There is a typo in HD.5 in the pre-analysis plan (PAP). The hypothesis should read "Crowding out will be *less likely* in areas where schools are less needy." not "Crowding out will be *more likely* in areas where schools are less needy." This typo is clear from the contradiction between the discussion of the mechanism underlying this hypotheses (at the end of the first paragraph in section D).

- H5 in the main text does not appear as such in the PAP. In section section B of the PAP. Here we discussed our expectation that politicians would be more informed about their home area and we hypothesized in HB3 that the need information treatment would therefore lead to less spending in home areas. While we think that distance is a reasonable way to capture this home area effect, we were not explicit about this choice of measurement strategy. We also only hypothesized this effect for the need information treatment. This is what we find in practice, though we feel it is more transparent and consistent with theory to consider how home towns might condition all the information treatments.

- In our PAP, we anticipated that politicians would be more likely to target community with high population density (PAP HA5); however we did not pre-specify that treatment effects would be conditioned by population density (Figure 10). While the results from these estimates are consistent with our theoretical expectation, the in Figure 10 is a deviation.

- In the PAP, we specified a two stage least squares estimator of complier average treatment effects. Our measure of compliance (Q1.33 and Q1.34) is only valid for the transparency treatment arms and we see no variation in compliance. We therefore cannot estimate this model.

- In the PAP, we specified a preference for a mixed logit model in addition to a conditional logit model since the mixed logit is often used in the choice experimental literature to model similar consumer choice problems. In practice, we omit the mixed logit estimates. We did not anticipate the complexity of modeling and interpreting
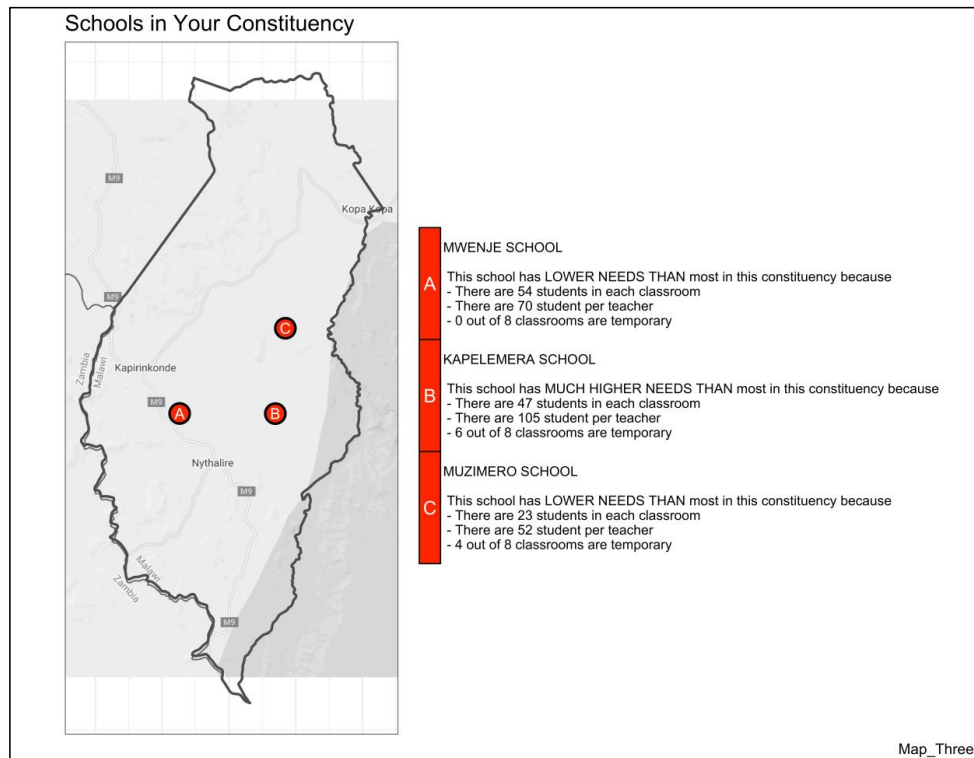
random parameter estimates in this context, especially with fixed treatment interactions (e.g., see Torres, Hanley and Riera (2011); Hensher and Greene (2003)).

10 Filed Pre-Analysis Plan

1. Experiment Design

In spring 2017, we fielded a four-arm randomized control trial in Malawi in order to evaluate how elected officials target development aid. In face-to-face interactions with trained RAs, each official participated in an experiment intended to evaluate the role of economic need information, political support information, transparency conditions, and information regarding past aid projects on aid allocation decisions. A trained RA provided each official with a map showing the location of three schools in her ward. The three schools were randomly selected from a comprehensive list of primary schools in the official's ward or constituency. In partnership with a UK-based NGO operating in Malawi (Tearfund), we offered to deliver school supplies to one of these schools. The elected official was asked to determine which of the three schools should receive materials. The official was provided with three different maps to allocate three different development materials – one for solar lamps, one for teacher supply kits, and one for dictionaries. Our focus group discussions with project stakeholder and councillors suggest that these goods are highly valued by officials and schools. Note that the order in which the official allocated these three goods was randomly assigned and varied from subject to subject. The maps, an example map of which is show in Figure 1 below, are presented to the officials by through portable tablets.

Figure 1: Map with sidebar information

Schools in Your Constituency

MWENJE SCHOOL
A
This school has LOWER NEEDS THAN most in this constituency because
- There are 54 students in each classroom
- There are 70 student per teacher
- 0 out of 8 classrooms are temporary

KAPELEMERA SCHOOL
B
This school has MUCH HIGHER NEEDS THAN most in this constituency because
- There are 47 students in each classroom
- There are 105 student per teacher
- 6 out of 8 classrooms are temporary

MUZIMERO SCHOOL
C
This school has LOWER NEEDS THAN most in this constituency because
- There are 23 students in each classroom
- There are 52 student per teacher
- 4 out of 8 classrooms are temporary

Map_Three

Significantly, this was not a hypothetical decision. Following the experiment, all schools chosen by officials were entered into a public lottery executed by our partner NGO. Approximately 20% of the schools were chosen in this lottery to receive materials. The lottery allowed us to mimic the actual process of aid allocation, thereby making the decision costly and meaningful for the official. The details of the lottery were provided to each official before they make the allocation decision. A picture of the lottery being conducted is provided in Figure 2 below.

Figure 2: Post-Experiment Lottery

In addition to randomizing the order of the school materials the official allocates, we randomly assigned four treatments to each official: economic need information; political support information; transparency type; and information regarding past aid projects in a given school. The three information treatments (needs, political and past aid) were administered via the maps displayed to the official in a full factorial design. A map legend provided the official with economic need information at the three schools, political support information at the nearest polling station (the vote share the councillor or MP received in the 2014 election), and the number and type of past aid projects carried out in a specific school. Since this is a factorial design, the maps may display either individual information treatments, a combination of several information treatments, or no information treatment (control).

We expect the officials' choice of schools to also vary depending on the transparency of decision. Increasing the visibility (transparency) of the decision-making process can improve the ability of voters to hold politicians accountable, and thus alter the decision calculus of elected officials (Buntaine et al. 2017; Reinikka and Svensson 2005; Keefer and Khemani 2005). Yet, while the effect of transparency on *voter behaviour* has often been studied, little is known about how transparency alters the behaviour of government officials. In order to evaluate the effect of transparency on aid targeting decisions we randomly vary whether the official's decision will be announced on community radio, or sent to donors in the form of a report.

For the radio treatment group, the RA told the official, before any decisions regarding which school in the area should receive school supplies has been made, that a radio-broadcast with his or her name and the selected school will be broadcasted on community radio. The RA played a sample of this broadcast for the official (see Appendix B for the wording of the sample broadcast).

For the donor report treatment group, the RA told the official, before any decisions regarding which school in the area should receive school supplies has been made, that a report would be sent to donors with his or her name and the selected school. The RA showed a sample of this report to the official (see Appendix B for sample of the report).

We anticipate the targeting and support decisions will be realistic and non-trivial for the officials in the study. School supplies are highly valued by local officials and communities in Malawi and improving local education -- and specifically improving the provision of school supplies -- is a core goal of the newly elected Democratic Progressive Party and recent studies have shown large gaps in the provision of books and supplies (Democratic Progressive Party 2014: 33; Ministry of Education, Science and Technology 2014). We also expect this decision will mimic those made regularly by elected officials since school supplies are a common aid component (Peratsakis et al. 2012).

We will conduct subgroup analyses to evaluate how these effects vary in competitive and non-competitive constituencies, among male and female officials and between different layers of government. Several influential theories suggest that political biases might vary with gender and competition; however the role of these factors in targeting decisions remains poorly understood (Besley 2007; Duflo 2012), Further, gender is an important policy concern in Malawi, with several NGOs and donors working to address structural inequalities in gender and political participation. Since gender and competition are not randomly assigned, we will match on pre-treatment covariates in these analyses.

Besides the maps provided in the experiment, we provided each subject with two additional maps: one to assess compliance with the treatment (provided as a training map with quiz before the experiment); and one to assess baseline knowledge of economic need and political support (provided after the experiment decisions are complete). Note that the training map depicted schools outside of Malawi and provided hypothetical information about school uniforms.

Table 1 outlines each of our treatment conditions under the two experiments. Note that respondents receive one or more of each of the three information treatments, and one or both of the transparency treatments.

Treatment	Treatment Groups
Economic Need Information	TREATMENT: A map will designate the level of economic need at the school CONTROL: Need information will not be provided
Political Support Information	TREATMENT: A map will designate the level of support for the councillor or MP at the nearest polling station to the school CONTROL: Political support information will not be provided
Past Aid Project Information	TREATMENT: A map will designate the number and type of past aid project supported by international donors at the school CONTROL Past aid project information will not be provided
Radio Transparency	TREATMENT: Official will be informed that an announcement of their decisions will be aired on community radio. A sample of the radio-broadcast will be played for the official. CONTROL: Official is not informed of any radio-broadcast
Donor Transparency	TREATMENT: Official will be informed that an announcement of their decisions will be sent to donors in the form of the report. A sample of the report will be shown to the official. CONTROL: Official is not informed of any report to donors.

2. Sampling and Randomization

For transparency treatments, we randomly assigned each of the four treatment conditions (control, radio transparency, donor transparency, radio+donor transparency) within blocks of four schools. These

blocks were constructed to minimize the distance between the number of schools in a constituency or ward, the vote share of the incumbent, and the party of the incumbent. The randomization code is shown in Appendix C.

We anticipate our sample will include approximately 400 ward councillors and 200 members of parliament. After accounting for non-response, this is effectively the population of all councillors and MPs in Malawi. Since this is a full-factorial design, each official will be assigned to multiple experiment conditions. We describe the experiment conditions in Table 1 below.

3. Data and Measurement

Information on the distribution of political support is collected using polling station-level returns from the 2014 elections for members of parliament and councillors. Using these data, we will create a variable measuring the official's level of support at each school. Since many polling stations are primary schools, this research design allows us to precisely measure both economic need and political support at the school level. In order to measure the needs within particular schools we rely on detailed school-level survey data collected by the Ministry of Education and Technology. For past aid project information, we have collected data on projects carried out is primary schools in the last five years (since 2011) from the main donors active in the primary education sector in Malawi

We also collected several additional pieces of information via pre- and post-treatment surveys. Prior to the experiment, we collected demographic information about each respondent, including education, party, income and employment. This will allow us to reduce the variance in our outcome variable and increase our power. We will also use these data to aid in matching observations in our sub-group analyses.

We operationalise our variables as follows:

1. *Political Support*: Political Support around the school or development project will be measured by the vote share of the councillor/MP at the nearest polling station in 2014.
2. *Economic Needs*: We will measure economic needs in school by looking at the teacher-to-student ratio, classroom-to-student ratio and permanent-to-temporary classroom ration. Using this information we will also create a z-score index which categorizes all schools in a respondent's ward/constituency into high, low or average need.
3. *Past Aid Project Information*: Past aid projects are measured by the number and type of donor supported development projects carried out in each school in the past five years[1]. We will create two variables measuring this information, *PastProjects* will equal the log (+1) of the number of past projects in each school, logged. *AidCoverage* will equal the log (+1) of the number of categories of goods provided by donors.
4. *Radio Transparency*: Radio transparency will be operationalised by providing information to the official about the radio-broadcast about their allocation decision that will be played on community radio.
5. *Donor Transparency*: Donor transparency will be operationalised by providing information to the official about the report about their allocation decision that will be shared with donors.

4. Theory of Change Summary

Our theory of change is based upon a theory of accountability and distributional politics under incomplete information. We assume that elected politicians and will seek to maximize their chances of

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[1] The number of past aid projects in each school vary from 0 to 4. The different types are: Capacity Building, Construction, Health Services, Food Provision, Community Support, Gender Issues, and Teacher Training. Some past aid projects encapsulate several project types.

remaining in power and will use distributional transfers as a way to further this goal (Persson and Tabellini 2002). The way that they make decisions over these distributional transfers will depend upon the features of the decision-making environment including the transparency of the decision and information held by voters and politicians about the needs and characteristics of local communities.

Politicians also have other competing incentives. Politicians may seek to maximize personal income through corruption, particularly when their effort is only incompletely observed, or when they face little electoral competition (Rose-Ackerman 1999; Brollo et al. 2013). They may also attempt to subvert the effort associated with their official management responsibilities. Finally politicians may have personal goals (for insurance maximizing development for their community) which may or may not conflict with their re-election incentives ((Besley 2007; Besley and Coate 1997).

From pilot interviews, we further know that elected officials in Malawi are not just interested in winning local elections, but also seek advancement in the political hierarchy. For instance, local councillor may seek to obtain a party nomination for a seat in parliament. This gives politicians strong incentives to maximize their local support base, even beyond what might be needed for re-election.

The distributional decisions of politicians will also critically depend upon voter behaviour within communities. Building upon evidence from other contexts, we assume that voters attempt to select politicians that will maximize the economic wellbeing of themselves and their family (Casey 2015; Long and Hoffman 2013; Bratton et al. 2012; Besley 2007). In addition, they may also weight concerns like local reputation, ethnicity, personal connections, party history and programmatic commitments.

Crucially, such voting decisions are necessarily imperfect. Perhaps the most important reason for this is that voters lack information about the behaviour of politicians. Voters have to choose politicians retrospectively, which means there is no way they can know for certain how a politician will perform (Persson and Tabellini 2002). Second, voters are constrained by the fact that they lack information about what exactly a politician has done in their community. Often key information about public spending behaviour, the roles of a public office, and the characteristics of an official are not known and/or are not knowable (Keefer and Khemani 2005).

These imperfections in the information environment have several perverse consequences. First, they hinder the ability of politicians to make credible promises, giving voters and politicians incentives to instead invest in clientelistic, contingent exchanges like vote buying or patronage (Keefer and Vlaicu 2008; Kitschelt and Wilkinson 2007) rather than invest in a reputation for programmatic policies or development. Second, when voters are not fully aware of their interests or the behaviour of political officials, politician may engage in pandering. This means that politicians will favour distributional decisions with high information content, or those that reflect well upon herself, even when such decisions are not completely efficient (Fearon 1999; Maskin and Tirole 2004). For instance, our interviews suggest that local politicians often seek to target projects in well populated areas in order to be observed by voters, often to the detriment of more remote villages.

In addition to understanding the interaction between voters and politicians, we also explore the interaction between donors, NGOs and politicians in this study. In Malawi, as in many other developing countries, politicians are partly dependent upon NGOs and donors for distributing development goods to their constituents. This changes the nature of distributional problems in several ways. Perhaps most importantly, politicians must account for the interests of such development actors. NGOs are usually interested in obtaining a measurable and efficient development outcome, and can often condition the future delivery of aid on a politician's performance in the present (Resnick and Van de Walle 2013). This means that politicians must weigh the NGOs development objective when considering their distributional decision. NGOs, however, like voters, are constrained by the fact that they only incompletely observe politician's behaviour. In addition they

oftentimes lack information about who is most deserving in a community or how development outcomes might be maximized (Jablonski 2014).

Finally, distributional decisions may also depend on past allocation of aid projects. A broad set of donors have been active in Malawi for several decades and have supported local level services in the education and other sectors across the country. Despite considerable normative concern about overcrowding, duplication and outbidding among donors, the empirical literature on dependencies across aid allocation decisions is sparse. While it is likely that politicians do consider past aid projects when allocating future ones, it is not entirely clear how this occurs. Politicians may view past aid projects as a validation of the development needs of the selected project locations and allocate further aid to those same locations. Alternatively, they may compensate for past aid projects by allocating aid to locations that have not benefitted from other projects.

This model provides predictions about how changing the information environment might influence the distributional decisions made by elected officials. These predictions are described in detail in the sections below.

5. Hypotheses

A. Baseline effects of school characteristics on allocation decisions

HA.1. Politicians will allocate more aid to schools with high need than with low need.

HA.2. Politicians will allocate more aid to schools located in areas with higher support for the politician in the last election.

HA.3. Politicians will allocate more aid to school located in their home area (Q1.7).

HA.4. Politicians will allocate more aid to schools where their family members attend (Q1.54).

HA.5. Politicians will allocate more aid to schools located in densely populated areas.

B. Effects of information about need on allocation decisions

As politicians become more informed about the needs of local communities, this changes their distributional decisions in a couple of ways. First, if politicians are uninformed about the needs of local communities, then information about these should make allocation decisions more efficient. If voters are selecting politicians that maximise well-being then, all else equal, maximising development outcomes will also ensure more votes, and should therefore be preferred by vote maximising politicians. Second, since poorer voters are usually easier to persuade through distributional transfers than richer voters, more information about the needs of a community should enable politicians to more efficiently exchange distributional transfers of votes. Third, better information about the needs of local communities will improve the ability of NGOs and civil society actors to monitor spending outcomes. This will limit the ability of politicians to engage in inefficient distributional transfers. Finally, need information should also reduce bias in favour of areas about which politicians already hold good information, such as their home community and areas in which they hold significant amounts of support.

When politicians receive information about the distribution of needs in their ward or constituency (relative to baseline):

HB.1 Politicians will be more likely to allocate to schools in areas with high need.

HB.2 Politicians will be less likely to allocate to schools located in areas with higher support for the councillor in the last election.

HB.3 Politicians will be less likely to allocate to schools located in their home community or where family members attend.

C. Effects of information about votes on allocation decisions

The ability of politicians to use distributional transfers to win votes is constrained by their level of knowledge about their political support in their communities. Evidence from our pilots and from similar contexts, suggest that this informational problem is often quite severe. By providing detailed information about the distribution of political support in wards, we expect that politicians will be more efficient at targeting development goods to their political supporters. All else equal, this should decrease the importance of other observable factors like need in allocation decisions.

When politicians receive information about the distribution of political support in their ward or constituency (relative to baseline):

HC.1 Politicians will be more likely to allocate to schools located in areas with higher support for the politicians in the last election.

HC.2 Politicians will be less likely to allocate to schools in areas with high need.

D. The effect of information about past aid projects on allocation

Politicians do not make aid allocation decisions in a vacuum. They consider past allocation decisions made by themselves and those made by other politicians and by donors. Nevertheless, the exact effects of these considerations remain unclear. If politicians are worried about the equity of distributional decisions, then aid projects may crowd out government investment out of concerns that investments are duplicative. Alternatively, if politicians can claim credit for donor projects, then they may seek to spend in areas where donors are not in order to maximize credit taking. If these mechanisms are correct then we expect politicians to shift aid away from locations that have benefitted in the past (a crowding out effect). This crowding out effect might be particularly strong in areas where the politician did not receive a lot of votes and weaker in areas where they did receive a lot of votes. This would be the case if marginal effect of increased development spending on votes in pivotal areas is smaller (Dixit and Londregan 1996). If these crowding out effects are driven by electoral concerns, we may also see more crowding out among politicians facing electoral pressure. If crowding out is driven by efficiency concerns, we should also see weaker crowing out in areas where schools are not very needy.

Alternatively, politicians may see past aid projects as a validation of where they should be spending development funds. For instance, if politicians might want to be seen by donors as allocating to areas that donors find needy. Or politicians may just want to be observed by donors doing good for their community. If so, they may choose to invest in areas where donors have already made investments (a validation effect). We expect these validation effects to be particularly strong among politicians who interact frequently with donors, and have expectations of future aid investments. Alternatively, politicians that lack information about their constituency may choose to follow donors out of a belief that donors have more information about the needs of communities.

When politicians receive information about the locations of past aid projects in their ward or constituency (relative to baseline):

HD.1 Politicians will be more likely to allocate to schools that have already benefitted from more past aid projects and where donors have provided more categories of goods (validation effect)

HD.2 Validation will be more likely when politicians interact frequently with donors.

HD.3 Politicians will be less likely to allocate to schools that have benefitted from more past aid projects and where donors have provided more categories of goods (crowding out effect).

HD.4 Crowding out will be more likely in areas where the politician did not receive a high proportion of votes.

HD.5 Crowding out will be more likely in areas where schools are less needy.
Note to reader: HD.5 should read less likely. This is clear from the discussion of this hypothesis at the end of paragraph one above.

E. Local effects of information: knowledge

Building upon prior research on voting, accountability and information, we expect that information treatment effects will vary depending upon how informed politicians are about the information being provided (Lieberman, Posner and Tsai 2014). When politicians lack information useful to their decisions, and when that information being provided is both relevant and valuable, we expect information treatments to have a stronger effect. To assess the effects of priors, we conduct post treatment surveys of all politicians in order to test their ability to describe characteristics of schools in their constituency. We expect good scores on this test to be associated with weaker treatment effects on information. Additionally, we expect that politicians with experience in their constituency should be less likely to lack or value information.

HE.1 Information effects will be weaker (stronger) among politicians with more (less) relevant knowledge of their constituency.

HE.2 Information effects will be weaker (stronger) among politicians with more (less) time living in their constituency.

HE.3 Information effects will be stronger (weaker) among politicians who claimed they learned (did not learn) something (1.64) about their constituency through the experiment.

HE.3 Information effects will be stronger (weaker) among politicians who found the information provided in the experiment to be useful (not useful) (1.61).

F. Effects of radio transparency

When distributional decisions lack transparency, politicians frequently take advantage of this fact to allocate more goods to political supporters, or to capture funds for corrupt ends (Robinson, Torvik and Verdier 2006; Olken 2007; Reinikka and Svensson 2004). In addition to increasing capture, low transparency is likely to lead to inefficient pandering since poorly informed voters will often outweigh visible and credible signal of political performance (Fearon 1999; Maskin and Tirole 2004). By informing politicians about the transparency of their decision, we expect that inefficient distributional decisions will be less likely. Moreover politicians are less likely to engage in pandering activities like targeting market towns or population centres.

When politicians are made aware that their allocation decisions will be broadcasted on community radio (relative to baseline):

HF.1 Politicians will be more likely to allocate to schools with high need than low need.

HF.2 Politicians will be less likely to allocate to schools located in areas with higher support for the incumbent politician in the last election.

HF.3 Politicians will be less likely to allocate to schools where family members attend.

HF.4 The effects of radio transparency will be largest among politicians that expect to face re-election (Q1.56, Q1.57)

G. Effects of donor transparency

Politicians do not just consider the impact of transparency on voter accountability, they also have to consider that donors might impose costs for spending decisions which do not align with their preferences. Donors might withdraw funding, pressure higher up officials, or inform civil society or media outlets about poor performance. As a result, we expect that informing donors should cause politicians to align their preferences more closely with that of donors. As a result, we expect to see more alignment with donor projects and more investment in needy areas.

When politicians are made aware that their allocation decisions will be reported to donors (relative to baseline):

HG.1 Politicians will be more likely to allocate to schools with high need than low need.

HG.2 Politicians will be less likely to allocate to schools located in areas with higher support for the incumbent politician in the last election.

HG.3 Politicians will be more likely to allocate to schools located in areas that have already received donor funds.

HG.4 The effects of donor transparency will be largest among politicians who interact frequently with donors.

H. Assessing compliance and understanding

We attempted to address several instrumental concerns in the course of this experiment. First, we worried that some politicians may not understand the experiment. While education among elected officials is above the Malawi national average, the ability to read and interpret maps is not universal. To ensure understanding, we asked a verification question at the beginning of the survey that asked politicians to interpret a legend on a hypothetical map. Enumerators were asked to "train" those who seemed unable to do so. We expect that those that were able to accomplish this task will also be more capable of participating effectively in the experiment.

A second worry is that the knowledge requirements for complying with some of these treatments are high. In order for transparency to increase allocation to needy areas, affect allocation to areas with aid projects, or decrease spending on high vote areas, politicians have to be aware of these characteristics of schools in their community. To assess politicians' level of knowledge, we conducted a post-treatment test of politicians' level of knowledge of aid, votes and need. We expect treatment effects of transparency to be highest among those politicians who score well on this test.

HH.1 Politicians that demonstrate the ability to read and interpret maps (Q1.22) will be more likely to respond to all treatments.

HH.1 Politicians that score well on knowledge tests in school need, votes and aid (Q1.35-1.41) will be more likely to respond to transparency treatments by changing allocation based on need, votes and aid respectively.

I. Interaction of information and transparency treatments

We expect that transparency can change demand for information among politicians. When politicians know that their decisions will be revealed to voters and/or donors, they may especially value the ability to make decisions that are visibly associated with need. They will also have less demand for information that may expose them to censure from donors, such as the share of votes in an area.

HI.1 The effects of aid information will be stronger among politicians in the donor transparency treatment group.

HI.2 The effects of need information will be stronger among politicians in the donor and radio transparency treatment groups.

HI.3 The effects of political information will be weaker among politicians in the donor and radio transparency treatment groups.

J. Conditional effects by oversight

In Q1.45-1.47 we asked politicians to rank the actors whose views they take into account when making development decisions. We expect donor treatment effects to be stronger among subgroups that say they prioritize donor oversight and radio effects to be stronger among those that prioritize citizen oversight.

HJ.1 The effects of radio transparency will be stronger among politicians that prioritize citizen oversight.

HJ.2 The effects of donor transparency will be stronger among politicians that prioritize donor oversight.

K. Conditional effects by gender

A growing body of literature suggests that female politicians may make distributional decisions that differ from those of male politicians. We will test these assertions. We will also evaluate whether women are more or less responsive to transparency and information treatments. Based upon our pilot results, we expect that men will be more responsive to information about voting and women will be more responsive to information about need.

HK.1 Female politicians will be more likely to allocate to schools in areas with high need.

HK.2 Male politicians will be more likely to allocate to schools in areas with a high percentage of votes.

HK.3 Female politicians will be more likely to respond to information about need.

HK.4 Male politicians will be more likely to respond to information about votes.

HK.5 Male politicians will be more likely to respond to radio transparency treatments.

L. Conditional effects by electoral competitiveness

HL.1 Politicians that expect to contest upcoming elections will be more likely to allocate to areas with a high percentage of votes.

HL.2 Politicians that expect to contest upcoming elections will be more likely to respond to citizen transparency treatments.

HL.3 Politicians that expect to contest upcoming elections will be more likely to respond to need and politics information treatments.

M. Conditional effects by layer of government

HM.1 MPs will be more likely to respond to information treatments than councillors.

HM.2 Effects of radio treatments will be stronger among MPs than councillors.

HM.3 Effects of donor transparency treatments will be stronger among councillors than MPs.

HM.4 MPs will be more likely to allocate to schools in areas with a high percentage of votes compared to councillors.

6. Social Desirability Bias

One concern is that subjects may respond in ways that they think our implementing partner (Tearfund) wishes. This could be due to expectations about future investments by Tearfund, or concerns about their reputation generally among the development community in Malawi. To help rule this out, we included Q1.59 and Q1.60 which measure subjects familiarity with Tearfund. If the results are subject to social desirability bias, we would expect particularly strong effects among the subgroups of subjects with knowledge of Tearfund.

7. Instrumentation Issues

One instrumentation concern is that politicians could receive erroneous information due to errors in Ministry of Education, donor, census or Malawi Election Commission datasets. Where politicians believe information is erroneous, we ask enumerators to note this in the survey. We will look at potentially erroneous information on a case by case basis and will try to verify with the appropriate ministries. If and when the information is proven erroneous, we will remove observations from our analysis of information effects.

8. Treatment Effect Estimation

We are interested in the probability that a school is selected in each of a respondent's three choice sets (as shown in each of three maps). We seek to estimate how this probability differs conditional on the characteristics of the school and the treatment assignment of the choice set. Formally, let π_{nsi} be the probability that politician n chooses school i in choice set s. Let z_{is} be the alternative specific characteristics of school i, such as the percent of votes for the incumbent or the level of need. We can represent probability of selecting a particular school in set s conditional on z_{is} using a conditional logit specification as in equation one.

$$P(y_{ns} = i | z_{is}) = \frac{e^{\beta_s z_{is}}}{\sum_{j=1}^{J} e^{\beta z_j}} \text{ for j=1,2,3} \qquad (1)$$

The conditional logit specification has the disadvantage of assume independence of irrelevant alternatives and having limited flexibility in modelling heterogeneity across respondents. We will therefore primarily rely on the mixed logit specification, which extends the conditional logit probability by allowing β to vary across respondents as in equation two:

$$P(y_{ns} = i | z_{is}) = \int \frac{e^{\beta_s z_{is}}}{\sum_{j=1}^{J} e^{\beta z_j}} f(\beta) d\beta \text{ for j=1,2,3} \qquad (2)$$

We are primarily interested in evaluating how this probability varies across treatments. Let $t_s \in [0,1]$ be our randomly assigned treatment of information at the map level. Our treatment equals one if map s has

been assigned to a treatment group and zero if it is in a control group. We can represent our estimation problem as follows:

$$y_{isn} = \beta_1 z_i + \beta_2 t_s z_i + \varphi X_{is} + e_{isn} \tag{3}$$

X_i is a vector of control variable which are specific to a school, or an interaction of respondent and school specific variables.

We also anticipate that the effect of providing political and need information may vary with the baseline knowledge of each official about the schools. Ideally, we would do this by estimating the effect of treatment conditional on politicians' school level priors; however it was not feasible to collect this information. Instead, we collected information about the knowledge a politician has about a random sampling of schools in her constituency not used in this experiment. We expect this to be a reasonable proxy for the amount of information held by politicians prior to treatment. Let k_n be the level of information associated with the treatment held by politician *n* about these three schools. For instance, if the treatment provided information about the percentage of votes in schools, k_n would be the politician's score for how well they can identify the percentage of votes in three randomly selected schools in their constituency (Q1.38-1.39). We can estimate how the effect of t_s varies with k_n using equation 4.

$$y_{isn} = \beta_1 z_i + \beta_2 t_s z_i + \beta_3 t_s z_i k_n + \varphi X_{is} + e_{isn} \tag{4}$$

Both transparency and information treatments will be estimated in a similar fashion; however in the case of transparency the treatment varies only across respondents. In addition, for the transparency treatment, assignment is within matched blocks. In any pooled analysis we will include a dummy variable to capture blocked effects.

In addition to the conditional and mixed logit specifications above, we may also rely on a linear probability model in robustness checks and exploratory analysis due to its flexibility.

9. Complier Average Causal Effects

In some cases, politicians may not be able to read or interpret the map correctly. To assess compliance, we gave politicians a test at the beginning of the survey to assess their ability to interpret the treatment information. We will use the answer to the associated question (Q1.22) as a measure of compliance. A second compliance issue arises when politicians refuse to answer, or question the validity of the information provided (e.g., as assessed in Q1.71-1.81). A final compliance issue arises when politicians do not pay attention to the treatment as measured by treatment follow-up questions (e.g., Q1.33 and Q1.34). The primary analysis will ignore compliance; however, we will also estimate complier average causal effects using a 2SLS approach using treatment assignment as an instrument for compliance, and estimating using a linear probability model.

10. Correction for Multiple Comparisons

Within each of the categories of hypotheses regarding the different treatments presented in Section 7, we will present uncorrected p-values for all tests. In addition, we will assess the overall evidence supporting each category of hypotheses after implementing the Benjamini-Hochberg correction. In this approach, p-values are ordered and indexed by k, and then only tests with p-values meeting the criterion $p_k \leq (\frac{k}{m})\alpha$, where m is the number of tests in the category of hypotheses and $\alpha = 0.05$.

11. Attrition and Missing Data

We expect some attrition in this study due to issues such as councillor deaths or access issues. The study will evaluate whether the levels of this attrition differ across treatment and control groups. We will compare mean attrition in treatment and control groups, reporting t-test statistics. If there is missing data on key control variables, where feasible, we will impute these data using mean ward or constituency values, or the lowest block for which data are available.

12. Exploratory and Mediation Analysis

In addition to the tests above, the study will engage in more exploratory analysis to assess how treatment effects differ across different kinds of environments, and how other factors influenced distributional decisions. This may include additional data collection, and the inclusion of mediators not mentioned in the tests above.

Additionally, we plan to conduct mediation analysis to assess the channels through which treatment effects operate. For instance, we plan to assess whether transparency operates through citizen, family, donor or bureaucratic oversight using responses to questions Q1.45-1.47.

Additionally, we will vary our coding of political variables to test for alternative theories of distributional politics, such as targeting swing voters.

13. Data on Control Variables

In order to provide more precise estimates and account for alternative explanations, we will estimate our results with and without control variables. We anticipate collecting data on the following pre-treatment covariates (in addition to those discussed above). Note that in most cases, only alternative specific variables (school and polling station level variables) are appropriate to include in the analysis.

- Survey characteristics
  - Number of maps
  - Order of maps
  - Order of goods
  - Enumerator details
  - Coding details
- School-level variables:
  - Population of community
  - Number of students
  - Number of teachers
  - Whether a councillor's or family member's children attend
  - Number of temporary/permanent classrooms
  - Number of temporary/permanent houses for teachers
  - Type of good provided
- Polling-station variables
  - Support for leading opposition candidate in ward/constituency election
  - Number of voters who turned out
- Constituency-level variables
  - Measures of level of political connection with the MP
- Ward-level variables
  - Ward population
  - Councillor gender
  - Status of ward education plan
  - Tribe of councillor
  - Predominate tribe of ward
  - Councillor re-election plans
  - Councillor victory margin

- Predominate party of the ward
- Education of the councillor
- Income of the councillor
- Length of residence in the ward
- Councillor age
- Marriage status
- Current party of the councillor
- Number of schools
- Urban/Rural population

11 Example Survey

Aid Allocation MP Questionnaire

For Assistant to Fill:

1.1.   *Assistant*
   a.   *Felix*
   b.   *Francis*
   c.   *Frank*
   d.   *Frazer*
   e.   *Hector*
   f.   *Richard*

1.2.   *Participant ID Number _____*

1.3.   *Gender of Official*
   a.   *Male*
   b.   *Female*

Introduction:

Hello, my name is [Name of Assistant], and I am part of the implementation team for a development project working in partnership with Tearfund NGO. Our project plans to allocate materials and supplies to 54 schools across Malawi. To assist us in planning this work, we are asking approximately 500 MPs and councilors to guide us in selecting schools. We'd like to interview you and ask for your input in selecting the schools to receive these materials in your constituency. Your recommendation is very important to us.

We remind you that this decision is part of your official duties as MP and therefore may be made public. With the exception of your school recommendations, however, all information you provide will remain strictly confidential, and will not be linked to your name or other information in any way. I will record your answers on the paper on the table in front of you, so that you can see the information recorded is accurate. We will be unable to identify you as yourself. Please, feel free as you participate in this discussion to be honest. This survey will take approximately 40 minutes.

Because of limited funding, we cannot ultimately provide materials to all schools designated by all officials. Out of the schools designated by officials such as yourself, we will use a lottery to select 54 to receive materials from 54 different constituencies or wards. This lottery will occur sometime in June-December of 2017, will be publicly announced in advance, and will be attended by citizens, representatives from NGOs, the media, and civil society. If one of the schools you designate is chosen, the materials will be delivered directly to the schools.

Read the following sentence only if you believe the official would not be offended:

As a token of our appreciation for your assistance, we would like to give you a MK3000 voucher for airtime credit, or equivalent good of your choosing.

You will also receive certificate of participation for your records. *Show the official the certificate if asked.*

Are you willing to proceed? *Allow official to answer. If the official says he/she will provide input, continue:* Thank you very much for your assistance on this project.

Section 1: Background Information

1.4. Which district do you live in?
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.5. Which constituency do you live in?
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.6. Which ward do you live in? *Write down everything said about where the official lives. If the official lives in multiple places, list all of them here.*
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.7. Which village or city do you live in? *Write down everything said about where the official lives. If the official lives in multiple places, list all of them here.*
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.8. How long have you lived in this village?
   a. Less than 5 years
   b. 5 to 10 years
   c. More than 10 years
   d. All of my life
   e. *Don't know*
   f. *Decline to answer*

1.9. Do you come from the constituency you represent?
   a. Yes → *Go to question 1.12*
   b. No
   c. *Don't know*
   d. *Decline to answer* → *Go to question 1.12*

1.10. Which district do you come from? *If clarification is needed, say:* What is your district of origin?
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.11. Which constituency do you come from? *If clarification is needed, say:* What is your constituency of origin?
   a. _____
   b. *Don't know*
   c. *Decline to answer*

1.12. Have you travelled to other countries outside Malawi, and stayed in them for a period longer than five days?
   a. Yes
   b. No
   c. *Don't know*
   d. *Decline to answer*

1.13. What is your tribe? *Do not read these options aloud. Allow official to list more than one.*
   a. *Chewa*
   b. *Lomwe*
   c. *Ngoni*
   d. *Yao*
   e. *Tumbuka*
   f. *Sena*
   g. *Other: _____*
   h. *Don't know*
   i. *Decline to answer*

1.14. To what tribe do most people in the constituency you represent belong? *Do not read these options aloud. Allow official to list more than one.*
   a. *Chewa*
   b. *Lomwe*
   c. *Ngoni*
   d. *Yao*
   e. *Tumbuka*
   f. *Sena*
   g. *Other: _____*
   h. *Don't know*
   i. *Decline to answer*

1.15. What is your marital status?
   a. *Single*
   b. *Married*
   c. *Married with Multiple Wives*
   d. *Separated*

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e. *Divorced*
f. *Widowed*
g. *Don't know*
h. *Decline to answer*

1.16. How old are you? *If official seems hesitant, ask:* In what year were you born?
   a. _____ → *Go to question 1.18*
   b. *Don't know*
   c. *Decline to answer*

1.17. I will list some age ranges. Please tell me when you hear the age range in which you belong.
   a. 20-29
   b. 30-39
   c. 40-49
   d. 50+
   e. *Don't know*
   f. *Decline to answer*

1.18. What is the highest level of education you completed? *Probe to determine the highest year of school <u>completed</u>.*
   a. Primary School → *Class:* _____
   b. Secondary School → *Form:* _____
   c. Certificate
   d. Diploma
   e. Degree
   f. Masters
   g. Ph.D.
   h. *Don't know*
   i. *Decline to answer*

1.19. What is your **main** source of income **for your household**? *Do not read these options aloud. If the official mentions more than one, probe until you identify their primary source of money. If the official answers "my employment" or something similar, then probe to verify if that is indeed the main source of money. If the official answers "businessperson" or "consultant," probe for the details of their business or consultant work.*
   a. *Supported by Spouse or Family*
   b. *Commercial Farming (some sales of product)*
   c. *Renting Out Properties (Landlord)*
   d. *Employment by a Business Official Does Not Own*
   e. *Employment by Government (excluding teachers)*
   f. *Employment by NGO*
   g. *Employment by Religious Institution*
   h. *Employment by Public Educational Institution*
   i. *Employment by Private Educational Institution*
   j. *Health Care Work (Doctor or Nurse)*
   k. *Consultant* → *Probe for details:* _____
   l. *Business* → *Probe for details:* _____
   m. *Retirement Pension*
   n. *Other:* _____

1.20.   What is your estimated total household **monthly** income? In other words, how much do **you and your spouse** earn in **total** each month from **all** sources, full- and part-time employment, investments, and other fees or services?
   a.   Under 100,000 kwacha/month
   b.   100,000-200,000 kwacha/month
   c.   200,000-400,000 kwacha/month
   d.   400,000-1,000,000 kwacha/month
   e.   1,000,000-5,000,000 kwacha/month
   f.   Over 5,000,000 kwacha/month
   g.   *Don't know*
   h.   *Decline to answer*

1.21.   We are interested in how Malawi's leaders invest their wealth to ensure future prosperity. How many of the following assets do **you and your spouse and your children** own?
   Remember that children who are independent should not be included.
   a.   Houses: _____
   b.   Undeveloped Plots: _____
   c.   Bicycles: _____
   d.   Ox Carts: _____
   e.   Livestock
       Chickens: _____
       Goats: _____
       Pigs: _____
       Cows: _____
   f.   Cars: _____
       21.f.1. *Please identify the make and model and year of each car and write it here:*
       _____
       _____
       _____
   g.   Computers: _____
   h.   Basic Cell Phones: _____
   i.   Smart Phones: _____
   j.   Stock: _____
   k.   Other: _____
   l.   None
   m.   *Don't know*
   n.   *Decline to answer*

   We now would like your help in making decisions about the allocation of school materials and supplies in your community. I will show you several maps of schools and ask you to decide which school should receive a set of a certain kind of materials. Before you begin allocating materials, I will now give you a short orientation. I will show you the kind of maps you will see, and explain the information on these maps.

This is an example of the kind of map you will see. *[Point at the map.]* As you can see, it shows you the location of three schools. In this case, the example map is from another country in Africa.

[EXAMPLE MAP]

The map provides you with some information we have collected about these schools. *[Point out the legend on the right.]* You can use this information to compare the schools to each other.

1.22.   Let's be sure we understand one another. Please look at the map and answer the following question based on the information on the map. Which school has orange uniforms? *Record the first response stated by the official here. However, if the respondent fails to get the correct answer, you should point out the correct answer and explain again.*
   a.   School A
   b.   School B
   c.   School C
   d.   *Other answer provided: _____*
   e.   *Don't know*
   f.   *Decline to answer*

1.23.   The orientation is over. We would now like you to recommend a school in your constituency to receive a set of English dictionaries. These dictionaries will assist teachers with preparing English lessons/teacher supplies kits. These kits come with items helpful for teachers in preparing lessons/solar lamps. These lamps will assist teachers with preparing lessons and students with studying after dark.

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I have brought a sample of the English dictionaries/teacher supplies kits/solar lamps with me.

Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive.
OR
Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive. Please also note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
OR
Please note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
Please note that Tearfund will not inform anyone about your choices today.

Here is a map of your constituency with some schools we have selected to be eligible to receive the English dictionaries/teacher supplies kits/solar lamps. Please look at this map carefully.

When you are ready, please tell me which school you would like to choose to receive a set of English dictionaries/teacher supplies kits/solar lamps. Please take your time in making this decision.

a. School A
b. School B
c. School C
d. *Don't know→ Go to question 1.25*
e. *Decline to answer→ Go to question 1.25*

1.24. Why did you choose this school?
a. _____
_____
_____
b. *Don't know*
c. *Decline to answer*

1.25. *Did the official read the report carefully?*
a. *Yes*
b. *No*

1.26. *Did the official listen to the full radio broadcast attentively?*
a. *Yes*
b. *No*

1.27. We would now like you to recommend a school in your constituency to receive a set of English dictionaries. These dictionaries will assist teachers with preparing English lessons/teacher supplies kits. These kits come with items helpful for teachers in preparing lessons/solar lamps. These lamps will assist teachers with preparing lessons and students with studying after dark.

I have brought a sample of the English dictionaries/teacher supplies kits/solar lamps with me.

Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive.
OR
Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive. Please also note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
OR
Please note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
Please note that Tearfund will not inform anyone about your choices today.

Here is a map of your constituency with some schools we have selected to be eligible to receive the English dictionaries/teacher supplies kits/solar lamps. Please look at this map carefully.

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When you are ready, please tell me which school you would like to choose to receive a set of English dictionaries/teacher supplies kits/solar lamps. Please take your time in making this decision.

a. School A
b. School B
c. School C
d. *Don't know→ Go to question 1.29*
e. *Decline to answer→ Go to question 1.29*

1.28. Why did you choose this school?
a. _____
   _____
   _____
b. *Don't know*
c. *Decline to answer*

1.29. *Did the official read the report carefully?*
a. *Yes*
b. *No*

1.30. *Did the official listen to the full radio broadcast attentively?*
a. *Yes*
b. *No*

1.31.   We would now like you to recommend a school in your constituency to receive a set of English dictionaries. These dictionaries will assist teachers with preparing English lessons/teacher supplies kits. These kits come with items helpful for teachers in preparing lessons/solar lamps. These lamps will assist teachers with preparing lessons and students with studying after dark.

I have brought a sample of the English dictionaries/teacher supplies kits/solar lamps with me.

Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive.
OR
Please note that Tearfund will distribute a report about your choices today. This report will be provided to major donors in Malawi to help them make decisions about development. The report will include your name and a description of the schools you have selected today. I have brought with me a copy of the introduction to the report that donors will receive. Please also note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
OR
Please note that Tearfund will make an announcement on community radio about your choices today. This broadcast will be heard by many in your constituency, and will include your name and a description of the schools you have selected today. I have brought with me an excerpt of the broadcast script your constituents will hear.
Please note that Tearfund will not inform anyone about your choices today.

Here is a map of your constituency with some schools we have selected to be eligible to receive the English dictionaries/teacher supplies kits/solar lamps. Please look at this map carefully.

When you are ready, please tell me which school you would like to choose to receive a set of English dictionaries/teacher supplies kits/solar lamps. Please take your time in making this decision.

a. School A
b. School B
c. School C
d. *Don't know* → *Go to question 1.33*
e. *Decline to answer* → *Go to question 1.33*

1.32. Why did you choose this school?
a. _____
_____
_____
b. *Don't know*
c. *Decline to answer*

1.33. *Did the official read the report carefully?*
a. *Yes*
b. *No*

1.34. *Did the official listen to the full radio broadcast attentively?*
a. *Yes*
b. *No*

1.35. Here is a final map of your constituency with some schools marked on it.

Which school on this map do you think has the *lowest* number of permanent classrooms?
a. School A
b. School B
c. School C
d. A, B, and C have the same number of permanent classrooms
e. *Don't know*
f. *Decline to answer*

1.36. Which school on this map do you think has the *most* students?
a. School A
b. School B
c. School C
d. A, B, and C have the same number of students
e. *Don't know* → *Go to question 1.38*
f. *Decline to answer* → *Go to question 1.38*

1.37. About how many students do you think attend _____?
a. Less than 100
b. Between 100 and 300
c. Between 300 and 500
d. Between 500 and 1000
e. Between 1000 and 1500
f. Between 1500 and 2000

g. More than 2000
h. *Don't know*
i. *Decline to answer*

1.38. Which school on this map do you think is in the area where you received the *least* support in the last election?
a. School A
b. School B
c. School C
d. I received the same percentage of the votes in the areas around all three schools
e. *Don't know*
f. *Decline to answer*

1.39. About what percent of votes do you remember receiving in this area?
a. Less than 10%
b. Between 10 and 20%
c. Between 20 and 30%
d. Between 40 and 50%
e. Between 50 and 60%
f. Between 60 and 70%
g. More than 70%
h. *Don't know*
i. *Decline to answer*

1.40. Which school on this map do you think has received the most projects sponsored by large donors in the last five years?
a. School A
b. School B
c. School C
d. All these schools received projects
e. None of these schools received projects → *Go to question 1.39*
f. *Don't know*
g. *Decline to answer*

1.41. Which donors gave projects at these schools?
_____

1.42. Do you have an education development plan for your district?
a. Yes
b. No
c. *Don't know*
d. *Decline to answer*

1.43. In selecting schools to receive materials today, what are some things that influenced your decision? *Record all reasons.*
a. _____
_____
b. *Don't know*
c. *Decline to answer*

1.44. In your capacity as MP, how often do you make decisions such as the ones you made today, about the allocation of development materials?

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a. Daily
b. Once a week
c. Once every other week
d. Once a month
e. A few times per year
f. Rarely
g. Never
h. *Don't know*
i. *Decline to answer*

1.45. Typically, when you make development decisions on behalf of your community, whose views and ideas do you consider first and foremost?
a. The citizens
b. Chiefs
c. Donors
d. Civil society
e. MPs
f. Councilors
g. Members of the District Executive Committee
h. Members of the VDC
i. Family
j. Friends
k. Other_____
l. *Don't know*
m. *Decline to answer*

1.46. Typically, when you make development decisions on behalf of your community, whose views and ideas do you consider second?
a. The citizens
b. Chiefs
c. Donors
d. Civil society
e. MPs
f. Councilors
g. Members of the District Executive Committee
h. Members of the VDC
i. Family
j. Friends
k. Other_____
l. *Don't know*
m. *Decline to answer*

1.47. Typically, when you make development decisions on behalf of your community, whose views and ideas do you consider third?
a. The citizens
b. Chiefs
c. Donors
d. Civil society
e. Councilors
f. MPs
g. Members of the District Executive Committee
h. Members of the VDC

i. Family
j. Friends
k. Other_____
l. *Don't know*
m. *Decline to answer*

1.48. What are your primary responsibilities as MP of this area? *Please record exact words and full quotes. If the official mentions anything about development, please write that down specifically and probe to get additional descriptions of how the official views his/her role in development.*

a. _____
_____

b. *Don't know*
c. *Decline to answer*

1.49. How often do you meet with citizens in your community about development issues?
a. Daily
b. Once a week
c. Once every other week
d. Once a month
e. A few times per year
f. Rarely
g. Never
h. *Don't know*
i. *Decline to answer*

1.50. How often do you meet with international donors about development issues?
a. Daily
b. Once a week
c. Once every other week
d. Once a month
e. A few times per year
f. Rarely
g. Never
h. *Don't know*
i. *Decline to answer*

1.51. How often do you meet with local donors about development issues?
a. Daily
b. Once a week
c. Once every other week
d. Once a month
e. A few times per year
f. Rarely
g. Never
h. *Don't know*
i. *Decline to answer*

1.52. What was your most recent interaction with donors?
_____

1.53. Do your children attend a school in the constituency you represent?

a. Yes → Which one(s)? _____
b. No
c. *Don't know*
d. *Decline to answer*

1.54. Do the children of a family member attend a school in the constituency you represent?
a. Yes → Which one(s)? _____
b. No
c. *Don't know*
d. *Decline to answer*

1.55. Did anyone endorse you in the last election?
a. Yes → Who? _____
b. No
c. *Don't know*
d. *Decline to answer*

1.56. Do you plan on running again for MP of this constituency in the next election?
a. Yes → Why? _____
b. No → Why not? _____
c. Undecided
d. *Don't know*
e. *Decline to answer*

1.57. Do you plan to run for another government office in the future?

    a.   Yes → Which one and why?

        _____

    b.   No → Why not?

        _____

    c.   Undecided
    d.   *Don't know*
    e.   *Decline to answer*

1.58.   *If answer to 1.56 and 1.57 are both "no":* Why have you decided to leave government office?

        _____

1.59.   Before today, had you ever heard of Tearfund NGO before?
    a.   Yes → What was your impression of the organization?

        _____
        _____
    b.   No
    c.   *Don't know*
    d.   *Decline to answer*

1.60.   Before today, had you ever worked with Tearfund NGO before?
    a.   Yes → What work did you do together?

        _____
        _____
    b.   No
    c.   *Don't know*
    d.   *Decline to answer*

1.61.   Today we have provided you with several pieces of information about schools in your community. How useful did you find this information?
    a.   Very useful
    b.   Somewhat useful
    c.   Not very useful
    d.   *Don't know*
    e.   *Decline to answer*

1.62.   How did this information influence your decision?
    a.   _____
        _____
    b.   *Don't know*
    c.   *Decline to answer*

1.63.   Did you learn anything new about schools in your community today?
    a.   Yes → What is something that you learned_____
    b.   No
    c.   *Don't know*
    d.   *Decline to answer*

1.64. We would like to follow-up with you by phone or email if we have need for more input like this. Is this ok?
   a. Yes → Phone number or email address: _____
   b. No
   c. *Don't know*
   d. *Decline to answer*

Now we would like to ask you about the 2014 Presidential elections in Malawi. The election was won by Dr. Peter Mutharika of DPP with 36.4% of the popular vote, followed by Lazarus Chakwera of MCP with 27.8%, and Joyce Banda with 20.2%.

There was some concern about irregularities and possible fraud in the election. For example, DOMESTIC OBSERVER MISSIONS, including the National Initiative for Civic Education (NICE) and the Malawi Election Support Network (MESN), raised concerns about these issues.
OR
There was some concern about irregularities and possible fraud in the election. For example, DOMESTIC and INTERNATIONAL OBSERVER MISSIONS, including the European Union (EU), African Union (AU), the National Initiative for Civic Education (NICE) and the Malawi Election Support Network (MESN), raised concerns about these issues.
OR
Please note that Tearfund will not inform anyone about your choices today.

Please tell us if you strongly agree, agree, disagree or strongly disagree with the following statements about the Presidential election in 2014.

1.65. Voters were deliberately prevented from voting because of party affiliation, ethnicity, or some other trait.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

1.66. Election officials tried to influence or intimidate voters.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

1.67. MEC prepared and distributed ballot papers without bias towards any particular party or candidate.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

1.68. Ballot boxes were interfered with to advantage particular parties or candidates.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

1.69. Votes were counted fairly without bias towards any particular party or candidate.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

1.70. Election was on the whole free and fair, reflecting the will of the people.
   a. Strongly agree
   b. Agree
   c. Disagree
   d. Strongly disagree
   e. *Don't know → Do you believe the respondent truly does not know or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*
   f. *Decline to answer → Do you believe the respondent is actively refusing to answer or that they are trying to remain neutral by selecting this option? a) Don't know b) Remaining neutral*

g.   If you are willing to tell us, if the election happened today, which political party would you vote for?_____

h.   Undecided

i.   *Don't know*

j.   *Decline to answer*

Thank you for your time today. We will use your input to guide this development project. For your records, here is a certificate of participation.

Additional Questions for Enumerators

1.71.   *Record here if the official wanted to give to a school OFF the map, which school it was, which good it was for, what reason he gave, and any ideas you have about reasons that he did not actually state but you believe might be influencing his thinking.*

a.   _____
_____
_____

1.72.   *Record here if the official stated a school was not in his constituency and which school it was.*

a.   _____
_____
_____
_____

1.73.   *Record here if the official asked for different materials, what reason he gave, and any ideas you have about reasons that he did not state but might be influencing his thinking.*

a.   _____
_____
_____

1.74.   *Record here if the official asked for Tearfund to focus on another development issue, what reason he gave, and any ideas you have about reasons that he did not state but might be influencing his thinking.*

a.   _____
_____
_____

1.75.   *Record here if the official wanted to keep the goods, what reason he gave, and any ideas you have about reasons that he did not state but might be influencing his thinking.*

a.   _____
_____
_____

1.76.   *Record here if the official wanted to deliver the letter himself, what reason he gave, and any ideas you have about reasons that he did not state but might be influencing his thinking.*

a. _____
   _____
   _____

1.77. *Record here if the official asked about how he was selected to participate in the survey and what the conversation was like.*
   a. _____
      _____
      _____

1.78. *Record here if the official asked about Tearfund or mentioned anything about Tearfund besides what is captured in the questions earlier in the survey, and describe here what the conversation was like.*
   a. _____
      _____
      _____

1.79. *Record here if they asked to contact someone else about the decision, what reason they gave, and who it was.*
   a. _____
      _____
      _____

1.80. *Record here if you have any observations or impressions to share about the respondent's reactions to the questions about the election.*
   a. _____
      _____
      _____

1.81. *Record here if there were any other issues in the interaction.*
   a. _____
      _____
      _____

12 References

References

Benjamini, Yoav and Yosef Hochberg. 1995. "Controlling the false discovery rate: a practical and powerful approach to multiple testing." *Journal of the royal statistical society. Series B (Methodological)* pp. 289–300.

Gibson, Clark C., Barak D. Hoffman and Ryan S. Jablonski. 2015. "Did Aid Promote Democracy in Africa? The Role of Technical Assistance in Africa's Transitions." *World Development* 68:323–335.

Hensher, David A and William H Greene. 2003. "The mixed logit model: the state of practice." *Transportation* 30(2):133–176.

Morrissey, Oliver. 2015. "Aid and government fiscal behavior: Assessing recent evidence." *World Development* 69:98–105.

Torres, Cati, Nick Hanley and Antoni Riera. 2011. "How wrong can you be? Implications of incorrect utility function specification for welfare measurement in choice experiments." *Journal of Environmental Economics and Management* 62(1):111–121.