How Information about Foreign Aid Affects Public Spending Decisions: Evidence from a Field Experiment in Malawi[☆]

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Abstract

Does foreign aid shift public spending? Many worry that aid will be "fungible" in the sense that governments reallocate public funds in response to aid. If so, this could undermine development, increase the poorest's dependency on donors, and free resources for patronage. Yet, there is little agreement about the scale or consequences of such effects. We conducted an experiment with 460 elected politicians in Malawi. We provided information about foreign aid projects in local schools to these politicians. Afterwards, politicians made real decisions about which schools to target with development goods. Politicians who received the aid information treatment were 18% less likely to target schools with existing aid. These effects increase to 22-29% when the information was plausibly novel. We find little evidence that aid information heightens targeting of political supporters or family members, or dampens support to the neediest. Instead the evidence indicates politicians allocate the development goods in line with equity concerns.

Keywords: Foreign Aid, Public Spending, Malawi, Fungibility, International Development, Public Spending, Africa

1 Introduction

When foreign aid is prevalent, do politicians make different public spending decisions than they would in the absence of aid? If so, how does aid shift public spending patterns, and which types of citizens are helped or hurt by the shift? The potential for aid to displace public spending—or be "fungible"—has been blamed for a host of development ills. In addition to undermining development goals and

aid effectiveness, aid fungibility may contribute to corruption and political patronage. Additionally, by making the poorest in society dependent upon donors rather than turning to domestic authorities to meet their needs, fungibility may contribute to low government accountability and aid dependency.

Scholars have not definitively determined how politicians' spending decisions respond to foreign aid. The predominant view is that fungibility undermines development because politicians respond to foreign aid by shifting public spending to areas that are more politically valuable or are overlooked by donors (Easterly, 2009; Gibson et al., 2005; Bueno de Mesquita and Smith, 2009; Morrison, 2007). In this view, donors have "first dibs" on where to focus their efforts, and politicians select other beneficiaries based on alternative (and potentially less optimal) criteria. We call this a "crowding out effect" of aid on public spending.[1] Alternatively, politicians may choose to spend in line with donors, either because they view donor spending as a kind of endorsement, or because of "flypaper" effects (Hines and Thaler, 1995). Indeed, this behavior occurs among donors themselves, with widespread clustering of foreign aid projects.[2] We call this a "validation effect" of aid on public spending.

While the effect of aid fungibility on public spending patterns has been tested using observational data on public spending at the national and cross-national level (e.g., Feyzioglu et al. 1998), there are no direct tests of how foreign aid or information about foreign aid affects real spending decisions by politicians at the individual level. Further, much of the literature on aid fungibility assumes that any crowding out effect would be a normatively undesirable outcome, shifting resources from programmatic and geographic areas that need them to those that do not.[3] Few acknowledge that crowding out could mean politicians are effectively and efficiently shifting resources to meet citizens' needs in response to foreign aid (Rana and Koch, 2020).

To fill these gaps in the fungibility literature, we execute an experiment among in-office elected politicians in Malawi.[4] The effects of aid are particularly important to understand in Malawi. Malawi is among the most aid dependent countries in the world, with aid totalling 129% of central government spending (World Bank, 2019). About 10% that aid is channelled into the education sector, either through support to local government or in the form of projects executed directly by donors (Ministry of Finance, 2019). Yet, by many measures, Malawi remains among the most unequal countries in the world, especially with respect to educational spending and attainment. For instance, a child born in a rural area has only about a 6% chance of achieving a minimum level of reading mastery, compared to 21% for a child in an urban area (World Bank, 2010). According to one estimate, 10% of students in Malawi consume 68% of all education spending (UNICEF, 2015, 57).

Our experiment was designed to adjudicate between the "crowding out" and "validation" effects of aid fungibility. Specifically, we randomly assigned 460 elected local councillors (LCs) and members of

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[1]In this paper, we are focused on identifying a *spatial* crowding out effect, where aid to one site "crowds out" public spending at that site and shifts it to another site. Others in the literature examine how aid "crowds out" public spending from particular areas of development.

[2]Of the 3,151 schools in our sample with foreign aid, 37% have more than one donor involved. Yet we identify no aid in 40% of schools.

[3]For instance, Bueno de Mesquita and Smith (2009) assume in their model that "bilateral aid is largely fungible such that the recipient leader can spend the resources as she sees fit." Similarly, Morrison (2007) argues that "foreign aid is a highly fungible resource and acts similarly to oil in that it provides extra resources the government can use to distribute to its key constituencies without taxation."

[4]This experimental design and our hypotheses were pre-registered on the Evidence in Governance and Politics website prior to analysis (http://egap.org/registration/3065). We describe some minor deviations from this plan in the Supplementary Information (SI). Additionally, our research protocol was informed by an earlier pilot experiment with LCs in 2015. This pilot project mirrored many of this project's design features and informed our pre-specified priors (Jablonski and Seim, 2018).

parliament (MPs) to receive or not receive information about the spatial distribution of foreign aid projects at schools in their constituencies. After receiving (or not receiving) this information, the politicians made real decisions about the spatial allocation of development goods to these same schools. Schools selected by the politicians were entered into a lottery to determine which schools received the goods. About 30% of the politicians enrolled in the experiment followed up on the lottery, implying that the goods are valuable.

Our results are consistent with a spatial crowding out effect. When politicians are informed about foreign aid projects, they are 18% *less* likely to select schools that already received foreign aid projects. These effects are considerably smaller than those identified in most observational studies of fungibility. In assessing politicians' pre-existing knowledge of the spatial distribution of foreign aid projects, we determined that the information we provided was novel for most politicians. Among these politicians, for whom the information about foreign aid projects was more novel, treatment effects increase to 22-29%. This heterogeneous effect based on pre-existing knowledge suggests that the aid information treatment affects politicians' decisions by updating their priors. In interpreting our finding, we provide qualitative evidence from interviews and open-ended survey questions that the primary mechanism underpinning the spatial crowding out effect is a fairness norm, whereby politicians seek to provide development assistance to schools that have not yet received support. While we remain agnostic regarding whether the fairness norm is socially optimal, we note it as a compelling area for future research.

We also evaluate the distributional implications of the spatial crowding out effect. We coded schools based upon their level of need and the percentage of votes received by the politician in the most recent election at a given school—most primary schools in Malawi function as polling stations during elections—as well as the attendance of his or her family members. We find no evidence that the spatial crowding out effect of information about aid benefits considerably less needy schools, increases political biases in education spending, or results in the systematic targeting of goods to schools with politicians' family members.

The aid information treatment was randomized and delivered in the context of a broader multi-arm factorial experiment that evaluated how politicians respond to information about school need, political support, and aid in public allocation decisions. As we discuss in Section 5.2.1 below, we do not find compelling evidence that the other forms of information affected politician decision-making, suggesting that information about foreign aid may be particularly novel and relevant for politicians as they make public spending decisions. We therefore focus this article on the effects of providing information about foreign aid projects. In the SI, we further detail the additional treatment arms, consider interactions across treatments, provide tests of pre-specified hypotheses, and provide multiple comparison corrections.

The decision to examine aid fungibility via an experiment adds realism and causal leverage, but does come with trade-offs. One tradeoff is that we can only study one specific form of budgetary decision. In our experiment, the decision was how to allocate goods funded by an NGO within the education sector. While this decision might seem contrived to those familiar with more traditional budgetary processes, this is a common budgetary decision in much of the developing world; around half of local education spending in Malawi comes from NGOs or other donors and about 70% of our respondents claim to meet with donors about development issues.[5] While we cannot make claims that this budgetary decision is wholly representative, we took pains to include a nearly comprehensive sample of politicians in our experiment. Out of 655 LCs and MPs in Malawi, our experiment involved 460. Thus, the experiment

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[5]In Malawi, over 37% of the government budget is funded by foreign donors (World Bank, 2019), and donors contributed funds to about 34% of all schools in Malawi during our data collection period, compared to 38% from local government. These statistics are based on a survey with teachers in 311 schools.

provides a realistic test of how fungibility affects politicians' decisions within one highly aid dependent and politicized sector.

Our conclusions have important implications for policymaking. For one, the results imply that concerns about the perverse budgetary effects of aid may be overstated, and that efforts to mitigate fungibility may be misplaced. This is particularly true given the fact that we see no evidence that spatial crowding out substantially changes allocations to politically important or needy schools.

2   Our Contribution to the Literature

We build upon a rich literature exploring the fiscal effects of aid.[6] Most conclude – as we do – that governments often respond to foreign aid by changing the composition of public spending (Dollar and Pritchett, 1998; Chatterjee et al., 2012; Marć, 2017; Feyzioglu et al., 1998; Werker et al., 2009). Yet, estimates from these studies are surprisingly disparate. Some studies document a large *negative* effect of aid on public spending (Marć, 2017; Feyzioglu et al., 1998; Werker et al., 2009; Dollar and Pritchett, 1998). Other studies find "flypaper" effects in which foreign aid *increases* public spending (van de Walle and Mu, 2007; Morrissey, 2015; Remmer, 2004). Still others find no evidence of fungibility (Pack and Pack, 1990). Estimates of the scale of fungibility similarly vary from nearly the entirety of the aid budget to more marginal effects (Werker et al., 2009; Chatterjee et al., 2012; Van de Sijpe, 2013; van de Walle and Mu, 2007).

We make several contributions to these debates. First, to our knowledge, this is the first experimental test of how aid affects public spending decisions. Since our treatment is randomly assigned, our research design is unaffected by many of the endogeneity and measurement issues inherent in observational research on fungibility (McGillivray and Morrissey, 2000; Van de Sijpe, 2013).Similarly, existing research has failed to establish causal precedence, as donors have incentives to tailor aid conditionality provisions in anticipation of fungibility. Demand for foreign aid is related to shocks in public spending and income, making it challenging to show that one causes the other.[7] We are also able to avoid measurement challenges in existing studies of aid and public spending.[8]

Second, most existing research on aid fungibility estimates the spillover of aid funds *across* public spending sectors. We show that aid also causes a spatial reallocation of spending *within* sectors.[9] This is not an insignificant contribution, since many of the greatest inequities in development are spatial and existing policy solutions to address aid fungibility rely on sectoral spending restrictions. Moreover, the

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[6]Our research also builds upon methodological insights from other experimental studies of foreign aid. One analog is Findley et al. (2017), who assign information about development projects to Ugandan MPs in order to measure preferences for donor versus government projects. While their research question is quite different, they likewise show that information about aid projects is valuable and novel for politicians, and is meaningful for political decision-making. Additionally, other studies provide information about aid to citizens and find that this information can affect political attitudes, perceptions of donors, and preferences over development typologies (Dietrich et al., 2018; Baldwin and Winters, 2018; Blair and Roessler, 2018; de la Cuesta et al., 2019).

[7]For instance, aid may target a budget shortfall. See Werker et al. (2009) for discussion and evidence of bias.

[8]Among other problems, there is no easy way to determine how much donors intended to be spent in a particular sector in most cases, and distinguishing between on-budget and off-budget aid is not trivial (Van de Sijpe, 2013). Also, public spending data in aid dependent states is often unreliable, or potentially even strategically biased (Morrissey, 2015).

[9]The only other studies we are aware of that look at spatial crowding out are van de Walle and Mu (2007); Wagstaff (2011). These authors estimate crowding out across road projects and health projects, respectively, in Vietnam. Their estimates are broadly consistent with the scale of effects in our study. As we do, Wagstaff (2011) concludes that these spatial crowding out effects are generally welfare improving.

information asymmetries between donors and politicians make it very hard for donors to monitor the kind of local diversion of funds we identify in this study (Jablonski, 2014).

Third, existing studies have largely been unable to disentangle who benefits from the displacement of public spending, or what motivates politicians' decisions to reallocate development. As noted above, many studies conclude that fungibility implies more public spending among political supporters or in less deserving communities, or that fungibility will promote corruption. Yet, there have been few attempts to validate these assumptions (Morrissey, 2015; Wagstaff, 2011). Our estimates and qualitative assessment provide further reason to doubt the generalizability of these conclusions.

3   Theory and Hypotheses

When politicians make public spending decisions, they have to consider both the characteristics of the beneficiaries and the spending behavior of other development actors. This coordination problem is particularly acute in low-income developing democracies, where donors fund a significant portion of local development projects yet inconsistently coordinate with government. How do politicians adjust for spending by donors? How does this affect the characteristics of who benefits from public spending?

We illustrate the logic of a politician's distributional problem, and its potential consequences, with a simple model. Consider a politician that has to make a decision about how to allocate a fixed development budget of value $a > 0$ to one of three schools in her constituency. In making this decision, a politician has to consider both the effects of a on the economic development of the schools, $d(a) = d_1(a_1) + d_2(a_2) + d_3(a_3)$, as well as its effects on voting in the communities that rely on the school, $v(a) = v_1(a_1) + v_2(a_2) + v_3(a_3)$. We assume d and v are increasing and concave with respect to a and we define $d_i > d_{i+1}$ and $v_j > v_{j+1}$ for all i and j. We also assume a politician faces a trade-off between development and votes, so school $i = 1$ is never the same as school $j = 1$.

Absent donor spending, a politician's distributional problem is straightforward. She will choose a_i to solve the utility maximization problem in equation 1 where λ represents the weight she places on development versus votes. Thus if a politician cares more about maximizing development, she will, under most conditions, invest $a_{i=1} > 0$. If she maximizes votes, she will often invest $a_{j=1} > 0$.

$$\max_a \lambda(d_1 + d_2 + d_3) + (1 - \lambda)(v_1 + v_2 + v_3) \tag{1}$$

How might this problem change in the presence of donor spending? To explore this, suppose that, prior to the allocation of a, a donor also makes an aid investment b. Since donors are development focused, we assume they will always invest in the neediest school. This investment $b_{i=1} > 0$ will have two complementary implications for a politician's maximization problem. First, from our assumption of concavity, it follows that $\frac{\partial d_i}{\partial a_i}(b_i > 0) < \frac{\partial d_i}{\partial a_i}(b_i = 0)$. So the donor's aid will decrease the development effectiveness of a politician's investment in the neediest school, $a_{i=1}$. Second, the donor's aid will increase a politician's incentives to invest in votes rather than development. Because donor spending does not affect v and donors never allocate to maximize v, the returns to a politician from maximizing v will always be greater with aid than without aid.[10] These two propositions jointly imply that donor spending will crowd out politician spending, which is our main hypothesis.[11]

H1 When politicians learn about foreign aid spending, they will be *less* likely to allocate goods to schools that benefit from that aid (spatial crowding out effect).

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[10] That is $\frac{\partial d(a)}{\partial b} < \frac{\partial v(a)}{\partial b}$.

[11] H1 is labeled HD3 in the Pre-Analysis Plan and SI.

This model also has implications for the type of schools and communities which are likely to reap benefits or bear costs as a result of crowding out. First, because donors target high d schools and increase a politician's incentives to maximize v rather than d, foreign aid will, on average, cause the benefits from a to flow to less needy schools.[12]

H2 When politicians learn about foreign aid spending, they will be *less* likely to spend on the neediest schools.

A second implication is that donor spending will increase a politician's incentives to target communities likely to vote for her in the election. This follows from our proposition that aid will increase the politician's incentives to maximize v relative to d. This is true regardless of whether politicians are able to take credit for donor investments, or whether donors take measures to prevent the political capture of development projects.

H3 When politicians learn about foreign aid spending, they will be *more* likely to spend on pivotal voters.

This model also illustrates how the development implications of crowding out depend upon a politician's preferences. H1 implies that efforts by donors to target specific schools with development will often be nullified by the redirection of public spending away from these schools. Note, for instance, that school $i = 1$ will often be better off without donor funds since $b_{i=1}$ will crowd out $a_{i=1}$ even if $a_{i=1} > b_{i=1}$. However, the overall consequences for development are ambiguous and depend upon how a politician chooses to reallocate a. If a politician weights d over v in her utility, then crowding out will make it more likely that a politician reallocates from $i = 1$ to $i = 2$. In this case, we would often see a net increase in welfare for the set of schools as a whole relative to a counter-factual case in which aid did not cause crowding out. If, on the other hand, aid causes a politician to weight v over d, then aid is more likely to result in an investment in a high v but low d school, driving down welfare.

The distributional effects of crowding out in H2 and H3 are also potentially conditional. We assume in the discussion above that donors always target needy schools. However evidence suggests that this might not always be a reasonable assumption (Briggs, 2017; Jablonski, 2014). If instead donors fail to target based on development needs then, paradoxically, this will often incentivize a politician to place more weight on development needs. To see this, suppose that instead of targeting the neediest school, the donor instead invested $b_{i=2} > 0$. By decreasing a politician's utility from a_2, this investment will increase rather than decrease a politician's incentives to invest $a_{i=1} > 0$.[13] As we discuss in the conclusion, there are good reasons to believe that politicians do not view foreign aid as being particularly effectively allocated and often view their decisions as addressing inequities in donor allocation.[14] This is one plausible reason why we fail to see evidence consistent with H2 and H3.

Finally, we also consider alternative hypotheses and assumptions. First, there might be advantages to politicians in mimicking the spending behavior of donors due to flypaper effects (Hines and Thaler, 1995; Remmer, 2004). We refer to this alternative as a "validation effect".[15] As we show below, there is

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[12]While H2 and H3 follow from our theory, they were not included in our pre-analysis plan.

[13]Politician utility from a_2 equals $\lambda d_2(a) + (1 - \lambda)v_2(a)$. This quantity is strictly decreasing in b_2.

[14]See also the SI for an empirical assessment of donor spending.

[15]Referred to as HD.1 in our Pre-Analysis Plan and SI.

no evidence of a validation effect.[16] Similarly, we evaluated whether spatial crowding out is conditioned on school need and voting patterns.[17] We fail to find evidence of these conditional effects as well.

4 Research Context

Understanding how donor choices regarding project placement affect public spending is particularly important in Malawi. Malawi is among the most aid dependent countries in the world, with aid representing over 37% of the government's budget and an even larger proportion of overall development allocations (World Bank, 2019). In addition to providing budget support to local government, between 2011 and 2016, donors directly funded projects in approximately 34% of primary schools, which is roughly comparable to the percent of schools (38%) who received projects funded by the local government.[18]

4.1 Local Government in Malawi

Within Malawi, our experiment takes place at the local government level. The *de jure* decision-making body within the local government is the District Council.[19] Councils have an average budget of approximately US$5 million, 11% of which is dedicated to education.[20]

Elected local councillors (LCs) are the voting members on the councils. They are elected in single member constituencies (wards) every five years.[21] Local elections were held in May 2014, and 462 LCs were elected. Out of these 462 LCs, 335 participated in our experiment.

Also in 2014, 197 members of parliament (MPs) were elected in single member constituencies.[22] Out of these 197 MPs, 125 participated in our experiment. MPs are not voting members of local councils though they are influential in allocation decisions at the local level. For example, one LC discussed a time when he mobilized the community to make bricks for a community hall, and then the MP "convinced the Council to change the project and use the bricks to construct [a] girls' hostel at another school...and the bricks were moved and used on [that other] project."

4.2 Local Government and Development Decision-Making in Malawi

Regardless of the Council dynamics, every interviewed MP, LC, and District Commissioner agreed that a primary role of the Council and all elected politicians is to allocate development projects in the area, both from government coffers and in partnership with donors. For example, one LC said his primary responsibility is to, "[take] the development from the District [Council] to the ward when there is money from local development funds and other donors from different organizations." One MP stated a primary role of his position is to "attend full Council meetings [that] concentrate on projects which can develop the district."

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[16]We also predicted that this validation effect would be particularly strong when politicians interacted frequently with donors (HD.2 in the pre-analysis plan). We fail to find evidence that this is the case.

[17]Referred to as HD.4 and HD.5 in the pre-analysis plan.

[18]These statistics are based on a survey of teachers in 311 schools across Malawi. Project-level data we collected from a subset of donors suggests that 57% of primary schools had at least one donor-funded project in 2011-2016. The discrepancy in these figures is likely due to information gaps among teachers regarding project funding sources.

[19]Within urban areas, these are called "town councils" or "city councils."

[20]These statistics are based on 2011-2012 budgets, the most recent data available. An exchange rate of MK700=US$1 was used.

[21]There are 462 wards in Malawi. On average, they are about 180 square kilometers in size and have about 15 primary schools.

[22]There are 197 constituencies in Malawi. On average, they are about 430 square kilometers in size and have about 30 primary schools.

The potential for politicization in development decisions is widely acknowledged by the citizens of Malawi. We probed the perceptions of Malawian citizens in a series of focus group discussions. One participant said, "Most politicians choose development to where they get more votes, in order to punish those who didn't vote for him." In a more positive spin on this same phenomenon, a participant in another focus group discussion said, "Most politicians want to appreciate the people who voted for him."

4.3 Relationship between the Government and Donors and NGOs

The experiment we conduct mimics the way elected politicians make decisions about NGO-funded projects. In the 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. As one MP said, "Sometimes the NGO goes to the District Commissioner and gets [my] phone number and the NGO calls me directly and talk about development." A LC similarly stated, "Almost [all] NGOs, when they want to introduce a project in my area, these NGOs they do approach me first."

Even though these projects are funded by NGOs, the allocation of these projects is nonetheless often politicized. Elected politicians will claim credit for projects funded by NGOs in discussions with constituents and other stakeholders. In turn, their constituents give them credit for projects initiated in the ward under their tenure, regardless of the ultimate funding source. For example, in a survey we conducted among 164 head teachers at primary schools across Malawi just prior to the experiment, 27% could identify a particular project completed at their school that they attributed to the LC. Out of these, the majority (71%) were projects that could have been funded by either a NGO or government funds (or by the LC personally). Only four percent were identified as government-funded projects, and 24% were identified as projects funded by non-governmental organizations. This demonstrates that elected politicians are given credit for development projects funded and executed by non-governmental organizations within their constituencies and, as such, are incentivized to carefully consider the allocation of these projects.

Yet, while politicians value their connections with NGOs, they are also often frustrated by the frequency with which donors—particularly larger international donors—fail to consider local development priorities. As one District Commissioner said, "I would not say the relationship [with NGOs and donors] is productive. They come to fund their own projects, not projects that the Council wants. What we would have loved is for them to come and look at the Council's District Development Plan. From the Plan, look at the needs and priorities. The problem with NGOs is that they are accountable to their donors, not the partners they work with."

Local government officials widely agree that a primary issue in the relationship with donors is that donors ask for only limited input from government officials, and often late in the decision process. As one District Commissioner said, "They don't consult; they come with already framed projects. They come when they have already made a decision. In actual sense the [Council] is there just to endorse what they have already planned." In general, our interviews clearly portrayed a pattern of donors consulting local government officials on a limited basis, and local government officials perceiving that donor development projects are not allocated optimally as a result.

5 Research Design

5.1 Overview

This research is based on a field experiment conducted among 125 in-office MPs and 335 in-office LCs in Malawi, or 63% and 73% of each theoretical population, respectively. In addition to 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. Finally, we also conducted a survey among 2,000 citizens and teachers across 311 schools in 60 of the 462 wards in Malawi. The survey asked questions about local school conditions and perceptions of government and donor performance.

5.2   Experiment Design

In order to evaluate how politicians make decisions about public spending and the allocation of goods, we conducted an experiment among LCs and MPs. The experiment was conducted in Malawi between March and June 2016. In partnership with a UK-based NGO (Tearfund), we offered participants the opportunity to choose schools in their ward or 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. 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, examples of which are shown in Figure 1 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.[23]

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 both highly desired and needed in most communities.

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 highly valued by both politicians and schools.

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[23]This experimental design is similar to those used in the choice experiment literature to model consumer behavior. For reviews in health and ecological economics, see Clark et al. (2014) and Hoyos (2010).

Figure 1: Treatment and Control Maps

A. Treatment Map

Schools in Your Ward

A	CHIMGONDA SCHOOL	Donors have 0 project(s) at this school
B	DWAMBAZI SCHOOL	Donors have 3 project(s) at this school helping with Food Provision, Capacity Building and Health Services
C	CHIGUMUKIRE SCHOOL	Donors have 2 project(s) at this school helping with Capacity Building, Health Services and Food Provision
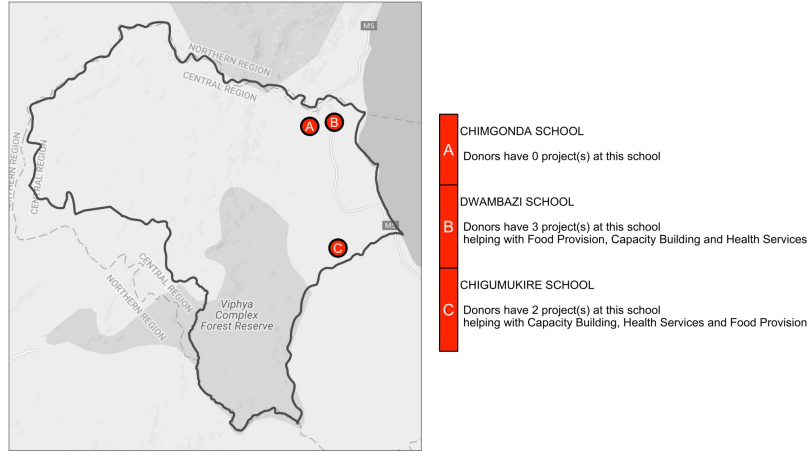
B. Control Map

Schools in Your Ward

A	CHILINDE
B	KATUNTHA SCHOOL
C	SUNGENI SCHOOL

To evaluate how information about foreign aid projects influenced the politicians' allocation deci-sions, we randomly assigned an aid information treatment at the map level. The aid information treatment provided information about development projects supported by major international donors in Malawi in the past five years (since 2011) at each school. Specifically, the information detailed how many donor-supported projects had been carried out at each individual school, and the type of donor support pro-vided at that school. This aid information treatment was randomly assigned at the map level, and within respondent-level blocks. An example map for the treatment group is shown in Figure 1, Panel A. It

contains a side panel with information about foreign aid projects. An example control map is shown in Figure 1, Panel B. It contains no information about foreign aid projects.

Our expectation is that the aid information treatment will cause politicians to update their priors about the number and type of foreign aid projects in the mapped schools. As a consequence, by comparing politicians' decisions in response to treatment versus control maps, we can isolate the causal effect of learning about foreign aid projects on the allocation decisions of politicians. Our primary estimand is therefore an intention to treat (ITT) effect in which we assume that politicians update their priors about foreign aid projects in the expected direction in response to information.

We provide evidence below to support this assumption for most respondents. However, since not all respondents will update in the same way, these ITT estimates may not effectively characterize the effect of learning about foreign aid projects. In order to derive more realistic estimates of learning, we also took steps to measure politicians' pre-existing knowledge of foreign aid projects in their constituency. Following the decisions, we provided all politicians with a random list of three school in their constituency which were not used as part of the experiment. We then asked the politician a series of questions about how many foreign aid projects were in each school, and which donors were involved. Politicians with low pre-existing knowledge about foreign aid projects should be more likely to update their beliefs in response to the aid information treatment, and thus—if our results are a result of information updating—we should see stronger effects among this subset of respondents.

A related compliance concern is that some politicians may misinterpret the information on the map. To ameliorate this concern, prior to the experiment, we also provided a training map to all politicians in order to assist them in understanding the information provided via the treatment. This map depicted schools outside Malawi and provided hypothetical information about school uniforms. Politicians were only permitted to continue the survey once they had demonstrated that they could correctly answer questions about the map. This training exercise appears to have been effective and we were able to identify no difference in the response to the aid information treatment among those who initially had difficulty in understanding the training map.

5.2.1 Other Treatments in Broader Experiment

The aid information treatment was randomized and delivered in the context of a broader multi-arm factorial experiment.[24] Due to the factorial design, all treatments are orthogonal to each other, enabling independent analysis of each treatment separately.

In the broader experiment, we also evaluated the effect of providing information about school need and political support in a full factorial design. Therefore, each map displayed either individual information treatments, a combination of several information treatments, or no information treatments at all. The school need information treatment took the form of Government of Malawi data on school characteristics (see Section 5.4.2). The political support information treatment took the form of vote share of the MP/LC at the nearest polling station in the previous election (see Section 5.4.3). As specified in our pre-analysis plan, we expected information about political support and need to increase allocation to politically pivotal and needy schools.

Prior to providing any of these information treatments, we randomly assigned two transparency treatments. Specifically, we told a random sample of politicians that his/her allocation decisions would either be announced on local radio or in a report to donors.[25] We predicted that sharing decisions with donors

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[24]Due to space constraints, we have focused this manuscript on the results surrounding the aid information treatment, though we present the full set of pre-specified analyses for all information treatments in the SI.

[25]A few months after the study, a report was delivered to donors and a radio script was broadcast on Zodiak radio about the

might encourage politicians to align their decisions with donor preferences. We test this claim in SI Section B.2. We find no evidence that politicians respond to aid information differently when their decisions are more transparent.

The randomisation proceeded so that each sampled politician was first assigned into one of four transparency treatment combinations. Each politician then received three maps, each containing one out of eight potential information treatment combinations. Altogether, therefore, there were 32 different possible combinations of transparency and information treatments. In Section D.1 of the SI, we provide further descriptions of the different treatment arms, examples of maps with different combinations of the information treatments (Figures D.1 through D.8), and a table delineating the number of maps that received different combinations of the transparency and information treatments (Table D.1).

5.3 Sampling and Administering of Survey

Out of 655 sitting MPs and LCs, we sampled 82%.[26] Out of these, we had a total response rate of 85.2%: 94.9% for LCs and 66.8% for MPs. The lower response rate among MPs was primarily because many were unavailable due to travel or legislative commitments. None of the subjects that we did reach refused to participate. Balance and attrition tests included in the SI indicate that the final sample is reasonably representative of politicians in Malawi.[27] There is no significant difference in attrition across treatment conditions. The sampled politicians are also well distributed geographically across Malawi, as shown in Figure 2.

In total, the sampled MPs were provided with a total of 370 school maps.[28] Out of these, 179 (48.4%) included information about foreign aid projects. The 335 sampled LCs were provided with a total of 882 maps. Out of these, 442 (50.11%) included information about foreign aid projects.

The survey was carried out by a team of trained Malawian research assistants. Interviews were typically conducted in the home constituency of the politicians or in the capital city of Lilongwe. All interviews were conducted in English, which is the language of official business in Malawi.[29] We provide an example survey in the SI Section D.

5.4 Data

To carry out the experimental design, we collected school-level data on aid, need, and political support at each school, as well as assessed the politicians' prior knowledge on these topics. We also collected a broad range of other data on individuals, schools, and ward/constituencies.

5.4.1 Aid Information

To collect information on foreign aid used for the aid information treatment, we focused the data collection on the main foreign donors active in the primary education sector in Malawi, and the projects these donors had carried out in individual primary schools in the past five years (since 2011). Following

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decisions of the politicians randomly assigned to these transparency treatments.

[26]The main reasons for excluding some politicians from the sample were the unavailability of electoral data or data on school need, or because the number of schools in their ward or constituency was not sufficient for carrying out the experiment.

[27]Since we exclude wards with very few primary schools, out sample is biased towards wards with a greater number of schools relative to enrollment.

[28]As a rule, each politicians was provided with three school maps and one test map, each containing 3 schools. However, in a few rare cases this was not possible, due to limited numbers of schools within sampled constituencies. Therefore a very small number of the politicians participating in the survey only received two or even one school map.

[29]RAs were trained to clarify terms in the respondent's local language.

Figure 2: Sampled Constituencies and Wards

Wards and Consts.pdf

A. Constituencies

B. Wards

Constituency Boundaries

Sampled Constituencies

Ward Boundaries

Sampled Wards
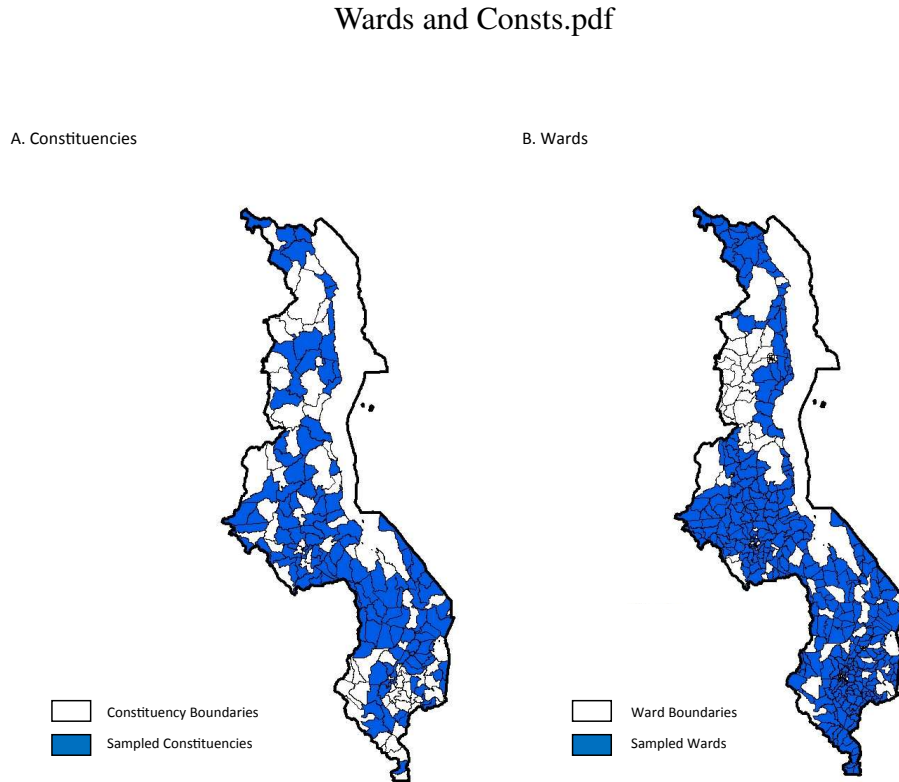
consultations with local stakeholders and practitioners active within the aid sector in Malawi, we identified the main donors whose project activities included the primary education sector. When approaching each of these donors, we asked them to provide detailed data on their project activities since 2011, including the type of intervention and the name and location of the recipient school. 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.[30] As we discuss below, the politicians in our experiment had little or no knowledge about most of these foreign aid projects, and were not involved in their allocation.[31]

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[30]The organizations from which data on aid projects 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 Population Fund (UNFPA), and World Vision.

[31]Like most of the Malawian aid portfolio for these donors, these education projects were almost entirely off-budget and implemented by donors or non-governmental 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. In the SI, we plot the plot the characteristics of schools associated with donor spending and find no significant association with the political characteristics of communities.

In total, 3,151 primary schools received 4,566 foreign aid projects from this set of donors between 2011 and 2016. This constitutes 57% of the 5,438 primary schools in Malawi for which we had location data. The number of foreign aid projects in each school varied from 0 to 4. Figure 3 displays the total sample of primary schools in Malawi with no projects supported by donors (in grey) versus those with at least one project (in blue).

The total number of primary schools that were included in the school maps presented to the 125 sampled MPs was 1,109. Of these, 683 (62.03%) contained at least one foreign aid project. The average number of projects per school was 0.95, ranging from 0 to 4. For the 335 sampled LCs, the total number of primary schools presented in the maps was 2,646, of which 1,545 (58.39%) contained at least one foreign aid project. the average number of projects was 0.88, again ranging from 0 to 4.

We create two variables to measure aid at the school level: *Aid Project Count* equalling the log(+1) of the number of projects in each school, and *Aid Good Types* equalling the log(+1) of the number of project types. Aid project types include capacity building, construction, health services, food provision, community support, gender issues, and teacher training. Some aid projects encapsulate several project types. Since politicians might care both about the number of foreign aid projects and the scale of donors' involvement in a school, and since both types of information were provided in the aid information treatment, we predicted that both variables would have similar effects on spending outcomes. Seventy-three (73%) of our treatment maps contained variation across schools in the number of foreign aid projects.

5.4.2 School Need Information

In order to test H2, we require information about the level of need at a school. For this we rely on official school-level statistics from the Education Management Information System (EMIS) 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 through the support of local headmasters. These data have been collected and refined over multiple years and 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 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, 2019).) 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 overcrowding in classrooms or teacher houses. Teachers also frequently mentioned needing more staff, various facility improvements including electricity, and learning materials. 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 analysis, we analyze the effects of each of these components of need separately. In addition, as specified in our pre-analysis plan, we create an overall index, *School Need*, which is equal to the sum of the z-scores of the three measures of school need.[32]

5.4.3 Political Support Information

In order to measure the political characteristics of communities, we collected polling station level data from the Malawi Electoral Commission 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 (32%) which were not used as polling stations, we measure political support by using the geographically nearest polling station to the school.

One challenge we face is how to determine whether an allocation decision was politically motivated. There is considerable debate about which citizens are most likely to be targeted by pork barrel or clientelistic allocations, and studies suggest that such strategies are contingent on the social and institutional environments faced by politicians (e.g., Stokes et al. 2013). Despite this diversity in strategy, most studies in multi-ethnic developing democracies like Malawi conclude that pork barrel allocations will be targeted to core supporters of politicians due to politicians' greater ability to organize voting and turnout in communities where they have pre-existing social or ethnic ties, clientelistic networks, or information (Jablonski, 2014; Stokes et al., 2013; Keefer and Vlaicu, 2008; Burgess et al., 2015; Kramon and Posner, 2013).

Building on the literature and our field research, our pre-specified expectation is that electorally motivated politicians would prefer to target allocations in communities where they received a large proportion of votes in the last election. We call this variable *Incumbent Percent*, which equals the percentage of votes received by the incumbent politician in the nearest polling station to a school. Additionally, we coded whether a politician's family member attended a particular school, since these schools might be particularly likely to benefit from networks of patronage. We coded this by asking the politicians to indicate which schools their children or their family's children attended.[33] In the SI we re-estimate our results using alternative measures of political support.[34]

5.4.4 Respondent Priors

To assess the politicians' prior knowledge of donors and foreign aid projects, we conducted surveys of all respondents, testing their ability to describe characteristics of schools in their ward or constituency. This was done by presenting the politician with a map of their ward/constituency containing three schools and asking which schools on the map received projects sponsored by large donors in the past five years.

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

[33]This question was asked after the assignment of treatment, raising potential concerns about post-treatment bias. However we see no indication that politicians assigned to the aid information treatment were more or less likely to respond to this question ($p = 0.67$). Nor do we find that politicians are less likely to name schools within treatment maps ($p = 0.88$).

[34]We lack sufficient data to test whether politicians are targeting co-ethnic voters. However, we expect little co-ethnic targeting in this context. Ethnicity typically does not vary extensively within MP or LC constituencies, and competing candidates for elected office often share ethnicity. Seventy-eight percent (78%) of LCs indicated to us that their ward consists primarily of one ethnic group.

In addition, they were also asked to list the name(s) of any major donor(s) that had supported a project in one of the schools shown on the map. For the first question regarding which schools had received most aid, approximately 24% of MPs and 21% of LCs were able to provide a correct answer: a rate which is only slightly better than random chance.[35] When it came to the latter question about which donors had provided support, less than 4% of the respondents were able to provide a correct answer. This confirms that the information we provided was novel: politicians started the interaction with little knowledge of the distribution of foreign aid projects in their constituency, and almost no knowledge of which major donors had provided projects.[36] This relatively low level of knowledge is perhaps reflective of the fact that most of the respondents had only been in office for three years at the time of the survey, though also reflects the low level of transparency around many donor initiatives in Malawi.[37] We plot responses to these knowledge questions in the SI.

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[35]Respondents had the choice of selecting school A, B, or C, all schools, or no schools. Additionally they could say they didn't know.

[36]These questions were asked post-treatment so one might worry that respondents were strategic in their response to this question. However, we find that responses to this question are indistinguishable between treatment and control ($p = 0.80$).

[37]This low level of knowledge about foreign aid projects is also consistent with Baldwin and Winters (2018) who show that less than 4% of citizens in Uganda can identify the donor of a local development project.

Figure 3: Primary Schools and Foreign Aid Projects

Past Donor Supported Projects Since 2011

○ Schools with no projects

● Schools with one or more projects
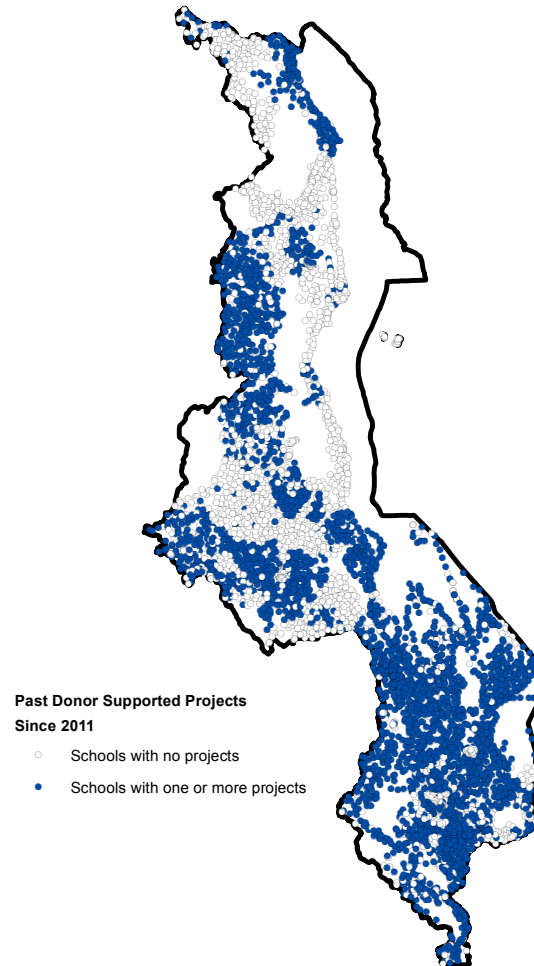
Note: The map displays 5,438 primary schools in Malawi, differentiating between the schools that received no foreign aid projects between 2011-2016 versus those that received at least one in that period. The data are based on interviews with major donors in Malawi.

We briefly summarize the main analysis variables in Table 1 and include more detailed summary, attrition and sample selection statistics in the SI.

Table 1: Sample Statistics

Variable	All	Treatment	Control	LCs	MPs
Aid Project Count	0.532	0.542	0.526	0.558	0.558

	(0.478)	(0.481)	(0.476)	(0.558)	(0.558)
Aid Good Types	0.723	0.741	0.713	0.783	0.783
	(0.675)	(0.677)	(0.674)	(0.783)	(0.783)
School Need Index	-0.028	0.038	-0.067	-0.059	-0.059
	(1.813)	(1.828)	(1.803)	(-0.059)	(-0.059)
Incumbent Percent	0.469	0.47	0.469	0.416	0.416
	(0.218)	(0.218)	(0.218)	(0.416)	(0.416)
Family Attends School	0.062	0.063	0.062	0.028	0.028
	(0.242)	(0.243)	(0.241)	(0.028)	(0.028)
Log Enrollment	6.131	6.145	6.123	6.158	6.158
	(1.524)	(1.521)	(1.527)	(6.158)	(6.158)
Pop Density at School	9.712	9.184	10.03	9.519	9.519
	(19.6)	(13.611)	(22.446)	(9.519)	(9.519)
Knowledge of Donors	0.124	0.12	0.126	0.127	0.127
	(0.224)	(0.223)	(0.224)	(0.127)	(0.127)

Note: Table shows sample means for each variable and sub-group with standard deviations in parentheses.

6 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 map 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 2.[38]

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

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 conditional effects of z_{is}, we interact t_s with z_{is} as in equation 3:

$$P(Y_{nsi} = 1) = \phi(\beta_1 z_i + \beta_2 t_s z_i + \gamma X_{is} + e_{nsi}) \tag{3}$$

Where ϕ is the conditional logit estimator in equation 2. X_i is a vector of control variables which are specific to a school, or an interaction of respondent and school-specific variables. Note that since this is a within choice set estimator, the coefficient on t_s is not estimated.

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[38]The conditional logit specification has the disadvantage of assuming independence of irrelevant alternatives and having limited flexibility in modelling heterogeneity across respondents. In the SI we also show consistent results using a mixed logit specification, which extends the conditional logit probability by allowing β to vary across respondents.

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.[39] 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.

We include two measures of z_i. First, we use *Aid Project Count*, which is the log(+1) of the number of projects in each school. Second, we use *Aid Good Types* which is the log(+1) of the number of project types. Aid project types include capacity building, construction, health services, food provision, community support, gender issues, and teacher training. Some aid projects encapsulate several project types. This second measure is intended to capture the scale of the projects, and we expect it to have similar effects as the first measure on respondent incentives.

We also anticipate that the effect of providing information about aid projects may vary with the pre-existing knowledge of each politician about the school. As discussed, we collected information about the pre-existing knowledge a politician had about foreign aid projects at a random selection of schools in the politician's ward or constituency not used in the experiment. We expect this to be a reasonable proxy for the amount of information about foreign aid projects held by the politician prior to receiving the treatment. Let k_n be the level of information about foreign aid projects and donors held by politician n about these three schools. We can then estimate how the effect of t_s varies with k_n using equation 4:

$$P(Y_{nsi} = 1) = \phi(\beta_1 z_i + \beta_2 t_s z_i + \beta_3 z_i k_n + \beta_4 t_s z_i k_n + \gamma X_{is} + e_{nsi}) \tag{4}$$

We estimate other heterogenous effects in a similar fashion.

7 Results

7.1 Odds of School Selection in Control Group

We begin by estimating the odds in the control group that a politician selects a school in a map based upon the characteristics of that school. The results in Fig 4 are broadly consistent with other qualitative and quantitative evidence on the distribution of public resources in Malawi and elsewhere. They are also consistent with our pre-specified priors. Both need and political support appear to play a role in politicians' allocation decisions. A one standard deviation increase in a school's need index increases the odds that a school is selected by 1.08. A one standard deviation increase in a school's percentage of votes for the politician increases the odds of selection by 1.15. Politicians are also much more likely to select schools where they have family members attending, even controlling for other factors. Such a school is 1.8 times more likely to be selected.

Also worth noting is that schools in the control group are more likely to be selected when they have received more projects or types of projects from donors. Given the weak pre-existing knowledge surrounding foreign aid projects, we do not interpret this to mean that politicians in the control group target schools with more aid spending: rather, we see this as evidence that donors and politicians often have similar preferences.[40]

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[39]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, ward or district).

[40]In SI Section B we compare donor and politician spending. There is a small positive correlation between donor and

Figure 4: The Effects of School Characteristics on School Selection
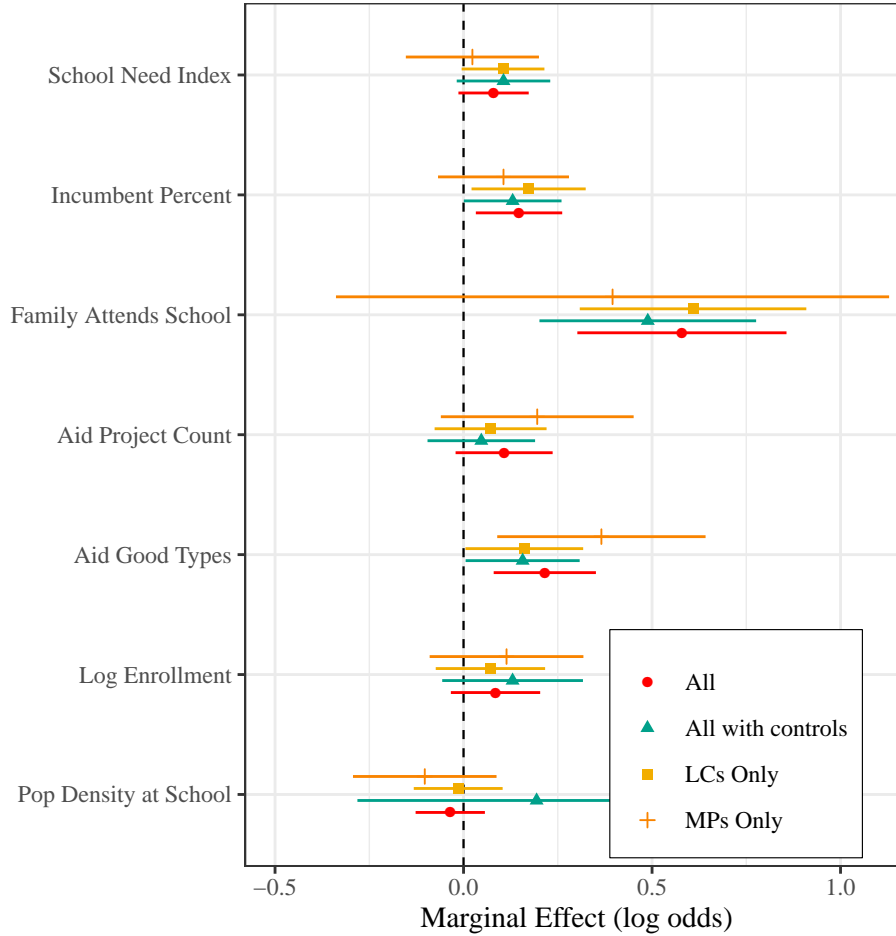
Note: This figure shows the coefficients of separate conditional logistic regressions of school selection on baseline variables. The sample is limited to maps that do not contain treatment information related to the school characteristic. 95% confidence intervals are shown in the horizontal lines. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. Control variables 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.*

7.2 Average Aid Information Treatment Effects

We next consider how the odds of school selection vary between treatment and control groups. We first evaluate in Table 2 whether the aid information treatment causes politicians to be more or less likely to select schools with existing foreign aid projects. 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

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politician spending in the control group, though only a couple school characteristics significantly predict both donor and politician allocation decisions.

MPs compared to LCs.[41]

We next evaluate whether the odds of school selection vary depending upon how many categories of goods have been delivered by donors to a school. The estimates in Table 3 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.

Table 2: The Effect of Information about Past Aid

	All	All with Controls	LCs	MPs
	(1)	(2)	(3)	(4)
Aid Treatment* Aid Project Count	−0.424*	−0.393*	−0.558**	−0.114
	(0.235)	(0.241)	(0.279)	(0.440)
Aid Project Count	0.317**	0.178	0.250	0.486*
	(0.143)	(0.152)	(0.169)	(0.271)
Observations	3,738	3,728	2,634	1,104
R^2	0.001	0.019	0.002	0.004
Benjamini-Hochberg Adj. (H1)	p=0.055	p=0.086	p=0.031	p=0.154
Benjamini-Hochberg Adj. (all pre-registered)	p=0.137	p=0.215	p=0.076	p=0.385

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

Standard errors are clustered on politician. Control variables include *Log Permanent Classrooms, Log Temporary Classrooms, Log Teacher Houses Permanent, Log Teacher Houses Temporary, Opposition Percent Votes, Log Enrollment, Number of Aid Projects, Family Attends School, Incumbent Percent at Polling Station,* and *School Need Index.* Note that the constituent term for Aid Treatment is co-linear with the map-level fixed effect, and does not have a meaningful coefficient estimate. Benamini-Hochberg p-values correct for multiple comparisons across the two tests of H1 (row one) and across all tests of our five pre-registered hypotheses about the aid information treatment (row two).

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[41]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 between offices should be interpreted with caution due to the sample size for MPs.

Table 3: The Effect of Information about Past Aid and Aid Categories

	All	All with Controls	LCs	MPs
	(1)	(2)	(3)	(4)
Aid Treatment* Aid Good Types	−0.398**	−0.368**	−0.521***	−0.174
	(0.176)	(0.180)	(0.210)	(0.328)
Aid Good Types	0.322***	0.223**	0.241**	0.531***
	(0.108)	(0.115)	(0.127)	(0.210)
Observations	3,738	3,728	2,634	1,104
R^2	0.003	0.019	0.002	0.008
Benjamini-Hochberg Adj. (H1)	p=0.038	p=0.073	p=0.018	p=0.154
Benjamini-Hochberg Adj. (all pre-registered)	p=0.096	p=0.182	p=0.045	p=0.385

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

Standard errors are clustered on politician. Control variables include *Log Permanent Classrooms, Log Temporary Classrooms, Log Teacher Houses Permanent, Log Teacher Houses Temporary, Opposition Percent Votes Log Enrollment, Number of Aid Projects, Family Attends School, Incumbent Percent at Polling Station,* and *School Need Index.* Note that the constituent term for Aid Treatment is co-linear with the map-level fixed effect, and does not have a meaningful coefficient estimate. Benamini-Hochberg p-values correct for multiple comparisons across the two tests of H1 (row one) and across all tests of our five pre-registered hypotheses about the aid information treatment (row two).

Since we conduct multiple tests of our main hypotheses, it is possible that the uncorrected p-values overstate the evidence against the null hypotheses. In Tables 2 and 3 we include p-values accounting for the false discovery rate using the procedure specified in Benjamini and Hochberg (1995). We provide estimates controlling both for the two tests of H1 and for tests of all pre-registered hypotheses.[42] In the SI, we provide further details about this procedure and show estimates of type one error rates under the sharp global null hypotheses that all treatments in the study as a whole had zero effect.

These effects are large and substantively important. Our estimates suggest that, in a world where politicians are fully informed, each additional aid project from a major donor in a school would displace about 18% of public discretionary projects in that school, or 22-29% among those politicians for whom this information is more likely to be novel (see discussion below). Given that approximately 57% of schools in Malawi benefit from some major donor's foreign aid, this represents a substantial potential redistribution of resources.

7.3 Comparing Across Information Treatments

In Table 4, we compare the effects of providing information about aid to the effects of the other two information treatment conditions in the experiment (information about need and political support). As discussed above in Section 5.2.1, these other two information treatments provided information about the level of need at the school and the percentage of votes the respondent received in the school's community.

Table 4 shows that the effects of these other treatments are smaller and more consistent with the null hypotheses, though there is a small significant positive effect of providing information about school need.

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[42]We had five pre-registered hypotheses testing the main effects of the aid information treatment. In the pre-analysis plan, these are labeled as HD.1, HD.2, HD.3, HD.4 and HD.5.

One possible reason for the weaker effects of the other information treatments is that respondents find it easier to learn about the needs and political characteristics of schools, whereas information about donor spending is less accessible. Consistent with this explanation, respondents were considerably less likely to be able to answer questions about foreign aid projects in a school compared to questions about school need and political support.[43] In SI Table B.1, we evaluate interaction effects across information treatment conditions, and in SI tables B.2, B.3, and B.4, we use several specifications to assess interaction effects across information and transparency treatments. We do not find evidence of significant interactions between the aid information treatment and other treatments in the experiment.[44]

Table 4: Comparison with Other Information Treatments

	All Treatments	All Treatments	Need Treatments	Voting Treatments
	(1)	(2)	(3)	(4)
Aid Project Count*Aid Treatment	−0.390*			
	(0.236)			
Aid Project Count	0.318**			
	(0.144)			
Aid Good Types*Aid Treatment		−0.361**		
		(0.177)		
Aid Good Types		0.319***		
		(0.109)		
School Need Index*Need Treatment	0.062*	0.062*	0.060*	
	(0.037)	(0.037)	(0.037)	
School Need Index	0.043	0.043	0.044*	
	(0.026)	(0.026)	(0.026)	
Incumbent Percent*Voting Treatment	0.133	0.125		0.132
	(0.413)	(0.413)		(0.411)
Incumbent Percent	0.704**	0.700**		0.684**
	(0.295)	(0.295)		(0.293)
Observations	3,738	3,738	3,738	3,738
R^2	0.010	0.011	0.005	0.004

Note: $^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$
Standard errors are clustered on politician.

7.4 Information Updating

Our theory implies that politicians should be responding to the aid information treatment because they have updated their priors about the locations of foreign aid projects in their constituency. We consider three tests of this claim. First, we estimate our treatment effects conditional on how well-informed

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[43]See SI Section C.3.

[44]As highlighted in Muralidharan et al. (2019), if our assumption of zero interaction across treatments is not correct, the estimates from a non-saturated model are "a composite treatment effect that includes a weighted-average of the interactions with other treatments."

politicians are about foreign aid projects in their constituencies prior to receiving the aid information treatment. If our treatment effects are driven by information updating, we would expect our effects to hold primarily among the subset of politicians with less pre-existing knowledge. Second, we estimate effects conditional on how frequently politicians interact with donors. The frequency of a politician's interaction with donors is another reasonable proxy for how knowledgeable a politician is about foreign aid projects, and we would expect our effects to hold primarily among those with less frequent interactions. Third, we test whether our aid information treatment has a stronger effect among those subjects who indicated that they learned something from the information or found the information useful.

The results in Fig 5 are generally consistent with an information updating mechanism and, as discussed below, inconsistent with social desirability bias. We only see significant spatial crowding out when politicians are less knowledgeable about foreign aid projects prior to receiving the aid information treatment, when politicians interact with donors less frequently, or when politicians indicate that the information is useful. Moreover, consistent with information updating, our treatment effect estimates approach zero among those politicians who already have considerable knowledge about foreign aid projects in their constituency or who do not claim to have learned.[45]

These conditional treatment effects are potentially more credible estimates of how aid crowds out public spending, as these politicians are those most likely to have updated their priors in response to the treatment. Among those politicians who lack pre-existing knowledge of foreign aid projects in their constituencies or who indicate learning from the information treatment, the odds of selecting a school with one project decrease by 0.40 ($p = 0.04$) and 0.59 ($p = 0.10$) respectively; or 22% and 29% relative to control group means.

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[45]In most cases, we cannot identify a statistically significant difference between these subgroups.

Figure 5: Heterogenous Treatment Effects by Respondent Knowledge and Background
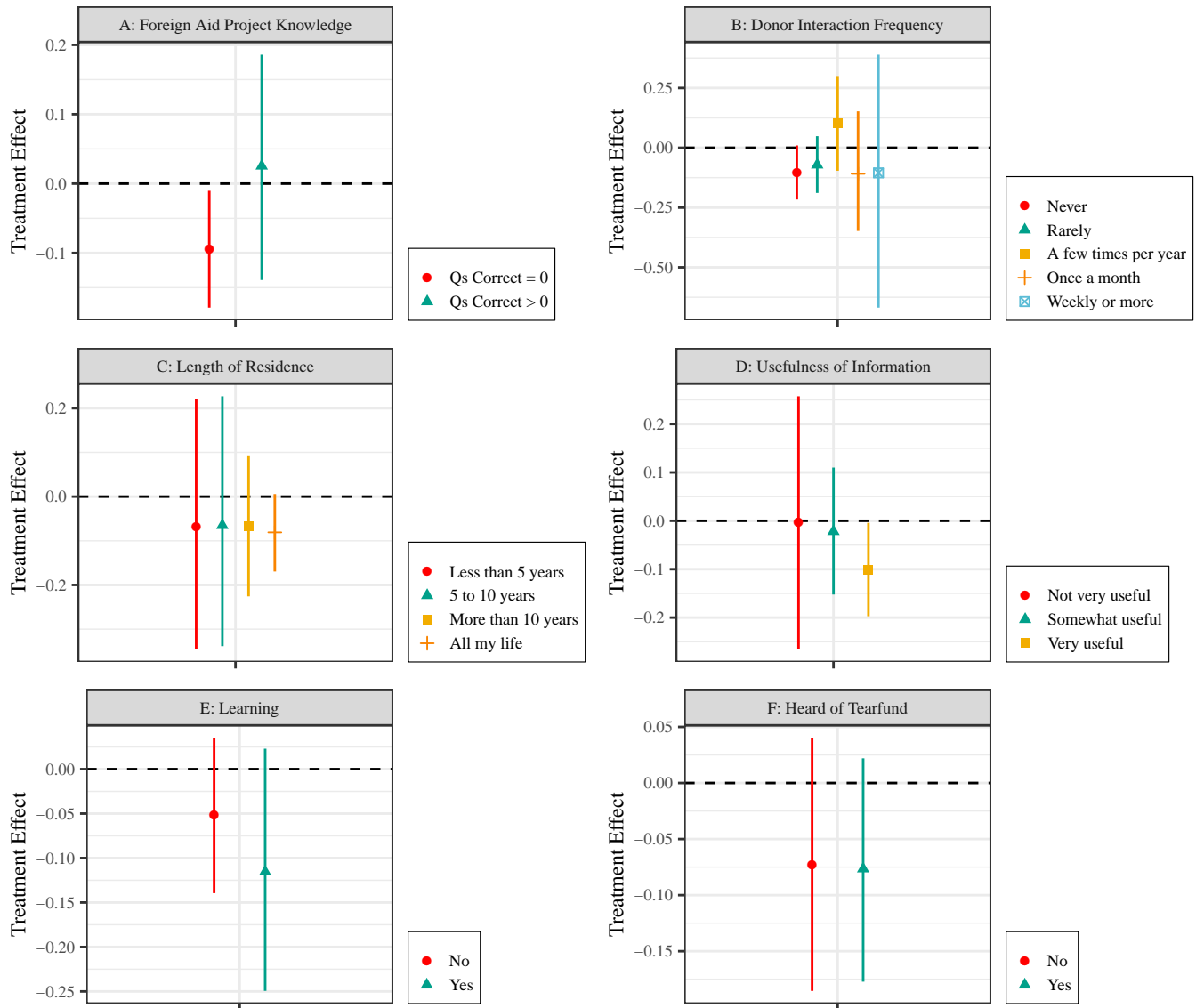
Note: This figure shows the average effect of the aid information treatment on the log odds of selecting a school with an aid project. In Panel A are the results conditional on the politician's donor knowledge score. In Panel B are the results conditional on the intensity of donor interaction. In Panel C are results conditional on a politician's indication of the usefulness of the information. In Panel D are results conditional on a politician's length of residence in a constituency. In Panel E are results conditional on whether a politician indicated that she learned something from our interaction. These estimates are based on a triple interaction of Aid Treatment, Aid Project Count and the conditioning variable. Standard errors are clustered on politician. Vertical lines indicate the 95% confidence intervals.

We also see evidence that the aid information treatment caused politicians to claim that they learned something at the conclusion of the experiment. Politicians who were assigned to one or more aid information treatments were 0.19 ($p = 0.01$) times more likely to claim that they "learned anything new" from

the experimental interaction.[46]

7.5 *How Spatial Crowding Out Affects Allocation Decisions*

We next consider how the aid information treatment changes the way in which politicians chose to distribute funds. Many worry that aid fungibility will increase the tendency for politicians to spend money on corruption or patronage, or that politicians will spend more on richer areas, making the poor increasingly dependent upon donors for their welfare. To test these claims, we interact the aid information treatment with school-level variables intended to measure corruption, patronage, and need. By comparing the effects of these variables on spending between treatment and control groups, we can determine whether the aid information treatment caused politicians to make significantly different allocation decisions.

In Table 5 and Figure 6 we see that allocation decisions in treatment and control groups are similar. Treatment information appears to result in slightly more goods being allocated to larger and less overcrowded schools, as well as to schools where politicians' family members attend. However these differences are small and not statistically significant. We do see evidence that politicians in the treatment group are more likely to select schools with high enrollment. This effect was not anticipated, though we think it worth further investigation. One potential reason for this effect is that politicians may wish to target areas where they can influence a larger number of voters.

As we discussed in the theoretical section, small effects are consistent with politicians trying to make effective development decisions for their constituencies rather than using their increased discretion to target pivotal voters or family members. That said, there may be small differences which cannot be identified with our sample. This is particularly true for identifying treatment effects on the selection of family members' schools since this represents only a small proportion of schools in our sample (5%). However, overall these results suggest that arguments that crowding out will promote aid dependency among the very poorest, or facilitate patronage spending or corruption, are overstated. In the next section we discuss qualitative evidence that politicians reallocate funds out of concern for the welfare of their constituents.

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[46]Treatment effects among the sample of those who claimed to learn and did not learn are -0.67 (p=0.10) and -0.30 (p=0.26) respectively.

Table 5: The Effect of Treatment by School Characteristic

	(1)	(2)	(3)	(4)
Aid Treatment* Incumbent Percent	0.030			
	(0.093)			
Aid Treatment* School Need Index		−0.023		
		(0.071)		
Aid Treatment* Family Attends School			0.261	
			(0.291)	
Aid Treatment* Log Enrollment				0.164**
				(0.084)
Aid Treatment* Aid Project Count	−0.177*	−0.182*	−0.184*	−0.225**
	(0.114)	(0.114)	(0.114)	(0.116)
Aid Project Count	0.039	0.019	0.042	0.054
	(0.072)	(0.072)	(0.072)	(0.072)
Incumbent Percent	0.129**			
	(0.061)			
School Need Index		0.185***		
		(0.051)		
Family Attends School	0.491***	0.465***	0.385**	0.494***
	(0.145)	(0.145)	(0.185)	(0.145)
Log Enrollment				0.143*
				(0.070)
Observations	3,718	3,728	3,728	3,728
R^2	0.019	0.023	0.019	0.020

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

This table shows estimates from a conditional logistic regression of school selection on an interaction of treatment and school characteristics. Standard errors are clustered on politician. Control variables include *Log Permanent Classrooms*, *Log Temporary Classrooms*, *Log Teacher Houses Permanent*, *Log Teacher Houses Temporary*, *Opposition Percent Votes*, *Log Enrollment*, *Number of Aid Projects*, *Family Attends School*, *Incumbent Percent at Polling Station*, and *School Need Index*.

Figure 6: The Effects of School Characteristics on School Selection by Treatment Status
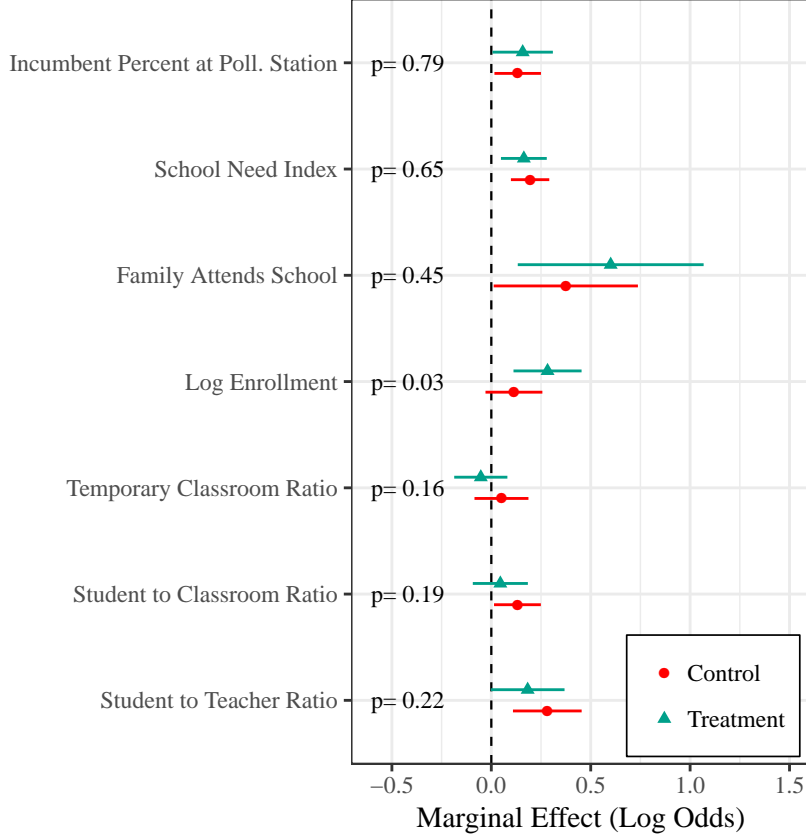
Note: This figure shows the coefficients of separate conditional logit regressions of school selection on baseline variables by treatment status (derived from Table 5) with 95% confidence intervals. Standard errors are clustered on politician. Continuous variables are normalized for comparison purposes. On the left side we include p-values for whether the observed difference between treatment and control is inconsistent with the null hypothesis.

In the SI, we also consider other ways to operationalize the targeting of pivotal voters: we find no significant evidence that the aid information treatment causes politicians to target communities with a higher victory margin, fewer opposition voters, or higher turnout for the politician. We also include tests for non-linearities in these effects, as we might expect non-linear effects if politicians were targeting areas with more indifferent or "swing" voters. In each case we fail to reject the null hypothesis of no effect.

8 Possible Mechanisms

8.1 Fairness Norms

As we note in our theory section, we were uncertain *a priori* whether or not the influence of donors would result in politicians complementing foreign aid projects at the same sites (validation effect) or substituting for foreign aid projects at sites with fewer projects (spatial crowding out effect). To gather qualitative evidence regarding these mechanisms, we asked the politicians in our study for a brief explanation regarding the choices they made. These explanations suggest causal mechanisms to explain the spatial crowding out effect we observe.

First, only 1% of the sampled politicians mentioned any explanation related to the validation hypothesis, whereas 17% mentioned an explanation suggestive of a crowding out effect. Further, another 16% mentioned a reason related more generally to a fairness norm—the idea of distributing development projects to areas that have not received any. As one LC said when explaining his decision, "This school is located far away from other schools and there is no support from donors so if this school is supported it can be good." Another said, "The school [does] not receive any support from donors and this can be the first one and help the school." An MP noted in explanation, "The road is far away...and no access and some development organizations are reluctant to support those schools due to [the] road [being] impassable." These types of explanations were not more common among those who received the aid information treatment, which indicates that this norm is present even in the absence of information that primes it. We view this qualitative evidence of a fairness norm as suggestive evidence that the spatial crowding out effect might generalize beyond foreign aid fungibility and to the fungibility or substitutibility of development more generally.

As we noted in Section 3, this fairness norm offers a plausible explanation for why spatial crowding out might not benefit less needy or more politically pivotal communities. If politicians weight public welfare highly in their decision-making, and see donors as allocating aid in a way that is not optimal, then our model implies that foreign aid will incentivize politicians to spend more in highly needy communities than they would have in the absence of aid.

8.2   Social Desirability Bias

One alternative explanation for the findings is that the experiment participants were making decisions in line with what they believe donors, the research team, or their peers would want them to do, rather than what they believe is best for their constituents. While we acknowledge that we cannot entirely eliminate social desirability bias, we consider several pieces of evidence contrary to this alternative explanation.

First, politicians viewed the decision to allocate aid through our experiment as a meaningful decision that had real consequences. An estimated 30% of the sampled politicians contacted us following data collection to confirm when the lottery would be held and the goods delivered. Thus, even if the politicians were considering donor or research team preferences, it is unlikely their concerns for these preferences would override their concerns for the preferences of voters.

Second, it seems plausible that the direction of any social desirability bias would be the opposite of the results we find. Politicians would presumably expect that decisions that validate donor choices, or at least are orthogonal to donor choices, would be more desirable to donors than decisions that deliberately shift away from donor allocation patterns. As discussed above, 174 politicians outright said that they were choosing a school *because* it had not been supported by donors or other development projects.

Third, we examined the open-ended explanations provided by the respondent for indications of donor desirability bias. Only five explanations specifically mention Tearfund and only six mention "you" (as in the researcher), so qualitative evidence for social desirability bias is weak. Similarly, we fail to see any significant differences in treatment effects among those respondents who had heard of Tearfund ($p = 0.91$) or interacted with Tearfund ($p = 0.63$).

Fourth, the subgroup analysis based on the frequency of interaction with donors also diminishes concerns about social desirability bias. 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. Yet, as discussed above, politicians who interact with donors are *less* likely to experience aid information treatment effects.

Finally, to the extent social desirability concerns *are* affecting the real spending decisions made in our experiment, such concerns are likely shifting other real spending decisions as well. In other words,

perhaps this kind of "social desirability bias" is not social desirability bias in a limited research sense at all, but instead is social or peer pressure shifting behavior in the real world as well as in our research context.

8.3 Priming

Another alternative source of bias is that politicians are making responses due to priming effects. That is, the information provided may not inform politicians so much as prime them to consider foreign aid in their spending decisions. While this is difficult to rule our entirely, the heterogenous effects in Figure 5 undermine this explanation. If our results were primarily driven by priming, we would see little evidence that pre-existing knowledge about foreign aid projects was associated with larger treatment effects or that respondents report learning from the information in the experiment.

9 Conclusion

Scholars and policy-makers involved in international development cooperation have long expressed concerns that foreign aid earmarked for specific development objectives are directly or indirectly used to fund other — possibly less productive — government expenditures. The oft-cited statement by Paul Rosenstein-Rodan — "When the World Bank thinks it's financing an electric power station, it is really financing a brothel." — dates as far back as 1947, and such concerns have been noted in several World Bank World Development Reports. Scholars and policymakers have linked aid fungibility to many negative outcomes that may undermine overall development objectives, including corruption, patronage, and a shifting of resources from areas that qualitatively need them to those that do not. Nevertheless, past research relying primarily on observational data has struggled to reach an agreement on the scale of aid fungibility, or its exact consequences for development.

In this article, we examine how information about foreign aid projects affects public spending and distributional decisions at the individual politician level. In particular, we look at how politicians take into account existing foreign aid projects when allocating development goods within the education sector. We hypothesize that they may either seek to shift funds away from areas that have already been targeted by international donors (a spatial crowding out effect) or that they choose to align their allocation decisions with those of international donors (validation effect). These effects may also activate other distributional biases, including corruption and patronage. To evaluate these claims, we implemented a field experiment in which politicians made real and meaningful decisions regarding the provision of different goods to primary schools in their constituencies. In the process of making these decisions, we provided them with randomly assigned information about foreign aid projects in their constituencies, allowing us to adjudicate between the spatial crowding out and validation effects.

The results align with the spatial crowding out effect. When politicians received information about an existing foreign aid project in a given school, they were 18% less likely to target that school with development goods. Among those politicians for whom the information about foreign aid projects was more novel, these effects were considerably stronger (22-29%), indicating that they were due to information updating, rather than social desirability bias. This is, to our knowledge, the first experimental evidence to confirm the aid fungibility hypothesis.

Our experiment involved 70% of all sitting elected politicians across Malawi. Thus we expect the findings presented here are generalizable to other Malawian elected politicians making decisions about how to allocate donor-funded, government-allocated development projects. However, one limitation of the experiment design is that it does not examine all types of distributional decisions the elected politicians make. It is possible that elected politicians allocating development projects funded with tax revenue

instead of donor funds would be more or less sensitive to a crowding out effect. Politicians may feel more constrained in such an environment; or alternatively logrolling may actually increase incentives to reallocate public funds. Similarly, politicians making spending decisions over a larger pool of funds rather than small-scale specific development goods, or over projects that can be directed to a specific household instead of an entire school, may be less constrained by fairness norms and more emboldened to engage in corruption, patronage, or targeting. Finally, it is possible that the effects we observe would vary depending on the identity of prominent donors in the constituency. These are all plausible mechanisms we are unable to explore but present as promising avenues for future research.

A key strength of our design is that we are able to attribute decisions at an individual level, and can rule out the possibility that our results are driven by higher order political actors or the nature of the institutionalized decision process. Moreover—as in many low-revenue contexts—local politicians in Malawi have little ability to use tax revenue to fund discretionary projects. Thus, by involving an NGO partner, we were able to make the spending decision both meaningful and realistic. We leave a more complete examination of group vs. individual decisions for future research.

The findings of this study have some important implications for aid effectiveness. For one, the existence of spatial crowding out means that evaluating the specific impact of aid programs is more difficult than often appreciated. Spatial spillover from aid recipient sites to government recipient sites will often violate the identifying assumption of non-interference and bias treatment estimates (Baird et al., 2014). Our findings suggest this bias will often be negative, implying that researchers may have often underestimated the true impact of aid programs.

Our findings also imply that the difference between budgetary aid and project aid may be less meaningful than is usually appreciated. Donors often use project aid instead of budget aid to achieve greater oversight in the end-use of development funds and to circumvent political bias and corruption. On one hand, the crowding out effects we identify suggest that circumventing political influence over development spending is much harder than often appreciated. On the other hand, we find no evidence that crowding out has any negative effects for development outcomes, suggesting that donor ring fencing efforts are sometimes misplaced.

These results also offer good news for aid effectiveness. The scale of spatial crowding out of public funds that we identify in our experiment is smaller than most estimates from cross-national observational studies, and several times smaller than the least optimistic estimates. Moreover, the results also suggest that the possible negative outcomes of aid fungibility may be overstated. We find no evidence that the spatial crowding out effect benefits schools with politicians' family members in attendance, or that funds are systematically targeted to more politically important or economically less needy schools. Instead, qualitative evidence collected in the study suggests that many participants in the experiment made their allocation decisions in line with a fairness norm, whereby they sought to provide development assistance primarily to those schools that had not yet received support.

10 References

Baird, S., Bohren, J.A., McIntosh, C., Ozler, B., 2014. Designing experiments to measure spillover effects. World Bank Policy Research Working Paper .

Baldwin, K., Winters, M.S., 2018. Bypass aid and perceptions of local government performance and legitimacy. AidData Working Paper 56.

Benjamini, Y., Hochberg, Y., 1995. Controlling the false discovery rate: a practical and powerful ap-

proach to multiple testing. Journal of the Royal statistical society: series B (Methodological) 57, 289–300.

Bernbaum, M., Moses, K., 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. URL: https://www.fhi360.org/sites/default/files/media/documents/EQUIP2%20LL%20EMIS%20AAR.pdf.

Blair, R.A., Roessler, P., 2018. The effects of chinese aid on state legitimacy in africa: Cross-national and sub-national evidence from surveys, survey experiments, and behavioral games. AidData Working Paper 59.

Briggs, R.C., 2017. Does foreign aid target the poorest? International Organization 71, 187–206.

Burgess, R., Jedwab, R., Miguel, E., Morjaria, A., Padró i Miquel, G., 2015. The value of democracy: evidence from road building in kenya. American Economic Review 105, 1817–51.

Chatterjee, S., Giuliano, P., Kaya, I., 2012. Where has all the money gone? foreign aid and the composition of government spending. The BE Journal of Macroeconomics 12.

Clark, M.D., Determann, D., Petrou, S., Moro, D., de Bekker-Grob, E.W., 2014. Discrete Choice Experiments in Health Economics: A Review of the Literature. Pharmacoeconomics 32, 883–902.

Croissant, Y., 2018. Estimation of Multinomial Logit Models in R: The mlogit Packages. R package version 0.4. URL: http://cran. r-project. org/web/packages/mlogit/vignettes/mlogit. pdf .

de la Cuesta, B., Milner, H.V., Nielson, D.L., Knack, S.F., 2019. Oil and aid revenue produce equal demands for accountability as taxes in ghana and uganda. Proceedings of the National Academy of Sciences 116, 17717–17722.

Dietrich, S., Mahmud, M., Winters, M.S., 2018. Foreign aid, foreign policy, and domestic government legitimacy: Experimental evidence from bangladesh. The Journal of Politics 80, 133–148.

Dollar, D., Pritchett, L., 1998. Assessing aid: What works, what doesn't, and why. World Bank Policy Research Working Paper URL: http://documents.worldbank.org/curated/en/612481468764422935/Assessing-aid-what-works-what-doesnt-and-why.

Easterly, W., 2009. Can the west save africa? Journal of economic literature 47, 373–447.

Feyzioglu, T., Swaroop, V., Zhu, M., 1998. A panel data analysis of the fungibility of foreign aid. The World Bank Economic Review 12, 29–58.

Findley, M.G., Harris, A.S., Milner, H.V., Nielson, D.L., 2017. Who controls foreign aid? elite versus public perceptions of donor influence in aid-dependent uganda. International Organization 71, 633–663.

Gibson, C.C.K.A., Ostrom, E., Shivakumar, S., 2005. The Samaritan's Dilemma: The Political Economy of Development Aid. Oxford University Press, Oxford.

Hines, J.R., Thaler, R.H., 1995. The flypaper effect. Journal of economic perspectives 9, 217–226.

Hoyos, D., 2010. The state of the art of environmental valuation with discrete choice experiments. Ecological Economics 69, 1595 – 1603.

Jablonski, R., Seim, B., 2018. How transparency affects distributional politics: A field experiment among elected incumbents in malawi. Mimeo.

Jablonski, R.S., 2014. How Aid Targets Votes: The Impact of Electoral Incentives on Foreign Aid Distribution. World Politics 66, 293–330.

Keefer, P., Vlaicu, R., 2008. Democracy, Credibility, and Clientelism. The Journal of Law, Economics, and Organization 24, 371–406.

Kramon, E., Posner, D.N., 2013. Who Benefits from Distributive Politics? How the Outcome One Studies Affects The Answer One Gets. Perspectives on Politics 11, 461–474.

Marć, Ł., 2017. The impact of aid on total government expenditures: New evidence on fungibility. Review of Development Economics 21, 627–663.

McGillivray, M., Morrissey, O., 2000. Aid fungibility in assessing aid: red herring or true concern? Journal of international development 12, 413–428.

Bueno de Mesquita, B., Smith, A., 2009. A political economy of aid. International Organization 63, 309–340.

Ministry of Finance, 2019. Malawi Aid Management Platform. URL: `https://malawiaid.finance.gov.mw/portal/`.

Morrison, K.M., 2007. Natural resources, aid, and democratization: A best-case scenario. Public Choice 131, 365–386.

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

Muralidharan, K., Romero, M., Wüthrich, K., 2019. Factorial designs, model selection, and (incorrect) inference in randomized experiments. National Bureau of Economic Research Working Paper .

Pack, H., Pack, J.R., 1990. Is foreign aid fungible? the case of indonesia. The Economic Journal 100, 188–194.

Rana, Z., Koch, D.J., 2020. Is it time to 'decolonise'the fungibility debate? Third World Quarterly 41, 42–57.

Remmer, K.L., 2004. Does foreign aid promote the expansion of government? American Journal of Political Science 48, 77–92.

Van de Sijpe, N., 2013. Is foreign aid fungible? Evidence from the education and health sectors. The World Bank.

Stokes, S.C., Dunning, T., Nazareno, M., Brusco, V., 2013. Brokers, Voters, Clientelism: The Puzzle of Distributive Politics. Cambridge University Press, Cambridge.

UNICEF, 2015. The Investment Case for Education and Equity. URL: `https://www.unicef.org/publications/index_78727.html`.

Wagstaff, A., 2011. Fungibility and the impact of development assistance: Evidence from vietnam's health sector. Journal of Development Economics 94, 62 – 73.

van de Walle, D., Mu, R., 2007. Fungibility and the flypaper effect of project aid: Micro-evidence for vietnam. Journal of Development Economics 2, 667–685.

Werker, E., Ahmed, F.Z., Cohen, C., 2009. How is foreign aid spent? evidence from a natural experiment. American Economic Journal: Macroeconomics 1, 225–44.

World Bank, 2010. The Education System in Malawi. URL: `https://poledakar.iiep.unesco.org/sites/default/files/fields/publication_files/resen_malawi_2010_0.pdf`.

World Bank, 2019. World Development Indicators. URL: `http://data.worldbank.org/data-catalog/world-development-indicators`. accessed August 2019.

Appendix

Table of Contents

A Additional Treatment Effect Estimates

A.1 Multiple Comparison Adjustment

This study primarily focuses on the effect of aid information; however, as discussed in the main text, in the full experiment we also considered the effect of two additional information treatments. Additionally

we assigned two transparency treatments at the respondent level. (See Section D for further details on the experimental protocol.)

In this section we consider the implications of adjusting for a multiplicity of tests both within and across treatment arms. We have in total 5 main treatment effect estimates and 25 potential interaction terms, plus other tests of mechanisms. In our pre-analysis plan we divided these tests into 5 main families of tests (labeled HB, HC, HD and HF), each of which consider the main effects of one of the treatment arm and associated theory. In addition, we pre-specified 8 additional families of hypotheses (HA, HG, HH, HI, HJ, HK, HL and HM). These additional hypothesis families explore selection in the control communities, compliance issues, validation, interaction across treatments and tests of mechanism. Since these hypotheses are intended to decompose or validate the main treatment effect, they are not include in the multiple comparison tests below. To maintain consistency with our pre-analysis plan, we use hypothesis labels from the pre-analysis rather than the main text. A mapping of pre-specified tests to their location in the main text is in Table D.2. A copy of our pre-analysis plan is available in Section D.6.

To assuage concerns about multiple inference, we adjust standard errors as follows. First, in Section A.1.1 we adjust for all the pre-specified tests of the effect of the aid information treatment. Second, in Section A.1.2 we use a randomization inference estimator to provide a global multiple comparison adjustment. This procedure estimates the Type One error rate across tests of the three information treatments.

A.1.1   Multiple Comparison Adjustments within Hypothesis Families

We report uncorrected and corrected p-values for each of our hypotheses about the effects of aid information. Here we expand on this analysis. In our pre-analysis plan (Section D.6), we proposed adjusting for the false discovery rate within each 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. Below we refer to our hypotheses using the nomenclature in our pre-analysis plan as not all hypotheses are discussed at length in the main text. In Section D We also provide a full listing of all of our pre-specified hypotheses and where they are discussed in the text or SI.

The results in Table A.1 show that our results are generally robust to adjusting for multiple comparison. In column 3 and 4, we show adjustments for all pre-specified tests, including those that are designed to decompose the main treatment effects (HD2, HD4 and HD5). In column 5 and 6 we show adjustments only for the main treatment effects (excluding HD2, HD4 and HD6). The latter is arguably a better estimate of the comparison adjusted p-value since HD2, HD4 and HD5 are conditional on the existence of the main effects hypothesized in HD1 and HD3. However even in more conservative specification, one of two main hypotheses (HD1/3a and HD1/3b) for the direct effect of the treatment remains significant at $p < 0.10$. In the less conservative specification, the p-values drop to $p = 0.04$ and $p = 0.05$ for the Benjamini-Hochberg correction.

In Table A.2 we also show multiple comparison adjustments for our pre-specified hypotheses on the average unconditional effects of covariates on school selection. The results are consistent with those shown in the main effects. Even after accounting for multiple comparisons, politicians are significantly more likely to select needy schools, schools where family members attend, and schools where politicians received more votes.

Table A.1: Multiple Comparison Adjustment, Donor Information Treatment

Hypothesis	P-Value Unadjusted	BH All Tests	Bonferroni All Tests	BH Main Effects	Bonferroni Main Effects
HD1/3b. Politicians will be more likely to allocate to schools where donors have provided more categories of goods.	0.0192	0.0962	0.0962	0.0385	0.0385
HD1/3a. Politicians will be more likely to allocate to schools that have already benefitted from more past aid projects.	0.0548	0.1370	0.2739	0.0548	0.1096
HD.4 Crowding out will be more likely in areas where the politician did not receive a high proportion of votes.	0.2111	0.3518	1.0000		
HD.5 Crowding out will be more likely in areas where schools are less needy.	0.4895	0.6119	1.0000		
HD.2 Validation will be more likely when politicians interact frequently with donors.	0.8036	0.8036	1.0000		

Table A.2: Multiple Comparison Adjustment, Unconditional Effects

Hypothesis	P-Value Unadjusted	BH	Bonferroni
HA.1. Politicians will allocate more aid to schools with high need than with low need.	0.0000	0.0001	0.0001
HA.4. Politicians will allocate more aid to schools where their family members attend.	0.0000	0.0001	0.0002
HA.2. Politicians will allocate more aid to schools located in areas with higher support for the politician in the last election.	0.0002	0.0003	0.0008
HA.5. Politicians will allocate more aid to schools located in densely populated areas.	0.4421	0.4421	1.0000

A.1.2 Global Multiple Comparison Adjustments

In the previous section we considered the probability that we overstate the evidence in favor of our theory by conducting multiple tests. In this section we conduct a supplementary analysis of the overall global study-wise error rate. This is an alternative approach which estimates the Type One error rate across treatments and hypotheses in the entire study, not just those within a pre-registered family of hypotheses. It is worth noting that this is a conservative test that exceeds the expected power of our treatments. It was not pre-registered.

We are specifically interested in the probability that the realized estimated effect from the aid information treatment is greater than the effect that we would observe under the sharp null hypothesis that there is no effect from any of the information treatments. We only focus here on the main effects of the information treatment arms (the HB, HC and HD families of hypotheses). As noted above, we also proposed in our pre-analysis plan tests of compliance, validation, updating and mechanism (HI, HJ, HK, HL and HM hypotheses). As these primarily decompose treatment effects we consider them outside the scope of a global multiple comparison test. Since our theory and argument in this paper only applies to the effects of information, we also exclude from these calculations tests of the two transparency treatment arms (HE and HF).

One of the more efficient ways to estimate global error rates is to use a randomization inference approach.[47] Unlike other methods for calculating global error rates, this method has the advantage of avoiding assumptions about the dependence structure of the hypotheses.

For each hypothesis, $j = 1, ..., J$, we simulate the distribution of test statistics under the sharp null of no effect. To do this, we replicate the original experimental sampling procedure to randomly re-assign each of the three information treatments to the sample over 1,000 iterations. For each iteration, we calculate the t-statistic for each hypothesis using the estimating equation in the main text, $\hat{\theta}_j, ..., \hat{\theta}_J$. This creates a J by 1,000 matrix of test statistics .

Using this matrix, we simulate the probability that the two realized test statistics for the main tests of our aid information treatment, θ^*_{HD1a} and θ^*_{HD1b}, exceeds any $\hat{\theta}_j$ under the null hypothesis of no effect. We show estimates both on the fully pooled sample and on a sub-sample of uninformed respondents who did as well or worse than the median on donor knowledge tests. See Section 7.4 for a justification of conditioning on donor knowledge.

First, in Table A.3 rows 1 and 2, we replicate the main effects adjustments from Table A.1 which adjust for the two tests of our main treatment effect (HD1a and HD1b). The estimates suggest that there is a 7% and 3% chance that we could obtain a test statistic under the null which is at least as great as the one we actually observe. That is, these estimates suggest there is a 7% and 4% chance that we have committed a Type One error in rejecting the null. This is consistent with the estimates from the Benjamini-Hochberg and Bonferroni corrections in Table A.1. Among the uninformed sample, there is less that a 4% chance that we have committed a Type One error.

Next in rows 3 and 4 we estimate the probability that θ^* exceeds $\hat{\theta}^*$ from the main hypothesis from each information treatment arm. Recall, the other main treatment arms provided information about school need and political support so we include here only tests of the hypothesis that this information caused more to be spent on needy schools or in places where respondents received more votes (HB1, HC1, HD1a and HD1b). The results are, as expected, weaker. We estimate a 17% and 7% change of a Type One Error in the main sample.

Finally in rows 5 and 6 we include tests of all the direct effects of any information treatment. This only excludes tests which further decompose the treatment (for instance by layer of government or competitiveness) in order to test mechanisms or treatment interactions. The results are weaker under these assumption; though we believe reasonable given the conservative nature of this test and the fact that the study was not powered for a global multiple comparison correction.

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[47]List, John A., Azeem M. Shaikh, and Yang Xu. Multiple Hypothesis Testing in Experimental Economics. No. w21875. National Bureau of Economic Research, 2016; Westfall, Peter H., S. Stanley Young, and S. Paul Wright. "On adjusting P-values for multiplicity." Biometrics 49.3 (1993): 941-945.

Table A.3: Global Multiple Comparison Adjustments and Estimated Type One Errors

ID	Test	Main Sample	Uninformed Sample
1	$\theta^*_{HD1a} > \hat{\theta}_{HD1a} \cup \hat{\theta}_{HD1b}$	p=0.074	p=0.035
2	$\theta^*_{HD1b} > \hat{\theta}_{HD1a} \cup \hat{\theta}_{HD1b}$	p=0.037	p=0.035
3	$\theta^*_{HD1a} > \hat{\theta}_{HD1a} \cup \hat{\theta}_{HD1b} \cup \hat{\theta}_{HB1} \cup \hat{\theta}_{HC1}$	p=0.171	p=0.114
4	$\theta^*_{HD1b} > \hat{\theta}_{HD1a} \cup \hat{theta}_{HD1b} \cup \hat{\theta}_{HB1} \cup \hat{\theta}_{HC1}$	p=0.065	p=0.094
5	$\theta^*_{HD1a} > \hat{\theta}_{HD1a} \cup \hat{\theta}_{HD1b} \cup \hat{\theta}_{HB1} \cup \hat{\theta}_{HB2} \cup \hat{\theta}_{HB3} \cup \hat{\theta}_{HC1} \cup \hat{\theta}_{HC2}$	p=0.295	p=0.212
6	$\theta^*_{HD1b} > \hat{\theta}_{HD1a} \cup \hat{\theta}_{HD1b} \cup \hat{\theta}_{HB1} \cup \hat{\theta}_{HB2} \cup \hat{\theta}_{HB3} \cup \hat{\theta}_{HC1} \cup \hat{\theta}_{HC2}$	p=0.118	p=0.173

Note: This Table provides estimates of the Type One error rates under a global null hypothesis that all treatment effects are zero. Column 2 provides a description of each test where each θ^* indicates the observed test statistic and each θ is the test statistic under the null. Column 3 provides the Type One error rate for the full sample and Column 4 provides the Type One error rate for the subset of respondents who lack knowledge about donor spending.

A.2 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 significant bias into our estimates.[48] 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 A.4 we show how our treatment effects differ across these measures. There is little evidence that respondents with interpretation issues responded in a significantly different way to the treatment. We do see an anomalous negative interaction for those respondents who misunderstood maps (at p=.097). This may be due to the fact that LCs are both more likely to respond to the treatment (as shown in the main text) and less likely to be able to interpret the maps without assistance. We no longer see a significant difference for respondents who misunderstood maps when we also interact the treatment on political office.

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[48]Note that we do not have a variable that directly measures whether respondents interpreted the aid information treatment. Thus we cannot estimate the 2SLS complier average treatment effects (CATE) model discussed in our pre-analysis plan. The tests shown here were not pre-specified.

Table A.4: Treatment Effects by Compliance

	1	2	3	4
	(1)	(2)	(3)	(4)
Aid Treatment* Aid Project Count* Misunderstood Maps (Q1.22)	−1.125 (0.723)			
Aid Treatment* Aid Project Count* Requested Other School (Q1.71)		0.224 (1.444)		
Aid Treatment* Aid Project Count* Disputed Map (Q1.72)			−0.213 (0.619)	
Aid Treatment* Aid Project Count* Requested Other Goods (Q1.73)				−2.067 (1.426)
Aid Treatment* Aid Project Count	−0.251 (0.260)	−0.402* (0.244)	−0.354 (0.266)	−0.314 (0.245)
Aid Project Count* Misunderstood Maps (Q1.22)	0.218 (0.394)			
Aid Project Count* Requested Other School (Q1.71)		−0.443 (0.814)		
Aid Project Count* Disputed Map (Q1.72)			−0.082 (0.379)	
Aid Project Count* Requested Other Goods (Q1.73)				2.307*** (0.900)
Aid Project Count	0.141 (0.166)	0.191 (0.154)	0.193 (0.167)	0.093 (0.155)
Observations	3,728	3,728	3,728	3,728
R^2	0.019	0.019	0.019	0.021

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

A.3   Mixed Logit Estimates

In the pre-analysis plan we noted that we would include both conditional logit and mixed logit estimators. Conditional logit estimators rely on several assumptions which may be problematic, such as constant effects across respondents and independence of irrelevant alternatives. We therefore also estimate the probability of school selection using a mixed logit (ML) estimator for repeated panel data (sometimes also called a random effects logit). This estimator extends the conditional logit by allowing β to vary randomly across each respondent, n, and has the advantage of allowing for random taste variation and correlation in the estimated parameters. We estimate the mixed logit equation in Equation A.1 using the approach in Croissant (2018), which relies on maximum simulated likelihood. In practice, the choice of a mixed or conditional logit makes little difference, as the results are consistent using both estimators.

$$P(y_{ns} = 1|z_{is}) = \int \prod_{s=1}^{S} \frac{e^{\beta_s z_{ns}}}{\Sigma_{j=1}^{J} e^{\beta_s z_j}} f(\beta) d\beta \text{ for } j = 1, 2, 3 \tag{A.1}$$

Table A.5: Mixed Logit Estimates of the Effect of Information about Past Aid

	LCs	MPs	All Respondents
	(1)	(2)	(3)
Aid Treatment* Aid Project Count	−0.556**	−0.088	−0.418*
	(0.278)	(0.447)	(0.245)
Aid Project Count	0.250	0.468	0.318**
	(0.166)	(0.291)	(0.151)
Number of Choices	878	368	1,246
R^2	0.002	0.005	0.002

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

Table A.6: Mixed Logit Estimates of the Effect of Information about Past Aid and Aid Categories

	LCs	MPs	All Respondents
	(1)	(2)	(3)
Aid Treatment* Aid Good Types	−0.524**	−0.165	−0.389**
	(0.224)	(0.381)	(0.194)
Aid Good Types	0.242*	0.517**	0.323***
	(0.132)	(0.243)	(0.116)
Number of Choices	878	368	1,246
R^2	0.003	0.010	0.003

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

A.4 Heterogenous Effects by Good Type

One might wonder whether our results are driven by one particular good. For instance, it could be the case that foreign aid only crowds out goods that are highly valuable or visable. In Table A.7 we interact our treatment with the type of good being allocated. We see slightly stronger treatment effects when politicians make decisions about dictionaries, and weaker effects when politicians make decisions about lamps. Since lamps are the most valuable good, it does not appear to be the case that foreign aid only crowds out the most valuable forms of goods.

Table A.7: Heterogenous Effects by Good Type

	School Bags	Dictionaries	Lamps	All
	(1)	(2)	(3)	(4)
Aid Treatment* Aid Project Count* School Bags	−0.055			−0.519
	(0.505)			(0.573)
Aid Treatment* Aid Project Count* Dictionaries		−0.746		−0.996*
		(0.507)		(0.573)
Aid Treatment* Aid Project Count* Solar Lamps			0.755	
			(0.490)	(0.000)
Aid Treatment* Aid Project Count	−0.404	−0.190	−0.695**	0.060
	(0.284)	(0.285)	(0.295)	(0.392)
Aid Project Count* School Bags	0.227			0.389
	(0.307)			(0.351)
Aid Project Count* Dictionaries		0.141		0.331
		(0.305)		(0.349)
Aid Project Count* Solar Lamps			−0.360	
			(0.302)	(0.000)
Aid Project Count	0.243	0.271	0.441***	0.081
	(0.174)	(0.175)	(0.178)	(0.244)
Observations	3,738	3,738	3,738	3,738
R^2	0.002	0.002	0.002	0.002

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

A.5   Alternative Measurement Strategies

In Figure A.1 we consider alternative ways to measure the electoral value of targeting a community, including the politician's victory margin, number of votes and the percentage of votes received by the leading opposition candidate. We also consider the log of *Incumbent Percent* since some versions of a swing voter hypothesis would predict a non-linear relationship between a politician's percentage of votes and the electoral returns from targeting a particular area.

Generally, the results are consistent with those in the main text, that is, we see little evidence that the information treatment caused politicians to systematically target more electorally valuable areas. One exceptions is that there is a statistically significant difference between treatment and control groups in terms of the odds of selecting a school with more votes for the politician (Model 1). In Model 2 we re-run this result after controlling for the interaction of treatment and turnout. The p-value for this difference decreases from $p = 0.06$ to $p = 0.74$. We interpret this to mean that this effect of votes for the politician is likely driven by the tendency of the politician to respond to the treatment by targeting more populous communities (as noted and discussed in the main text).

Figure A.1: Effects of School Characteristics on School Selection by Treatment Status, Alternative Operationalization
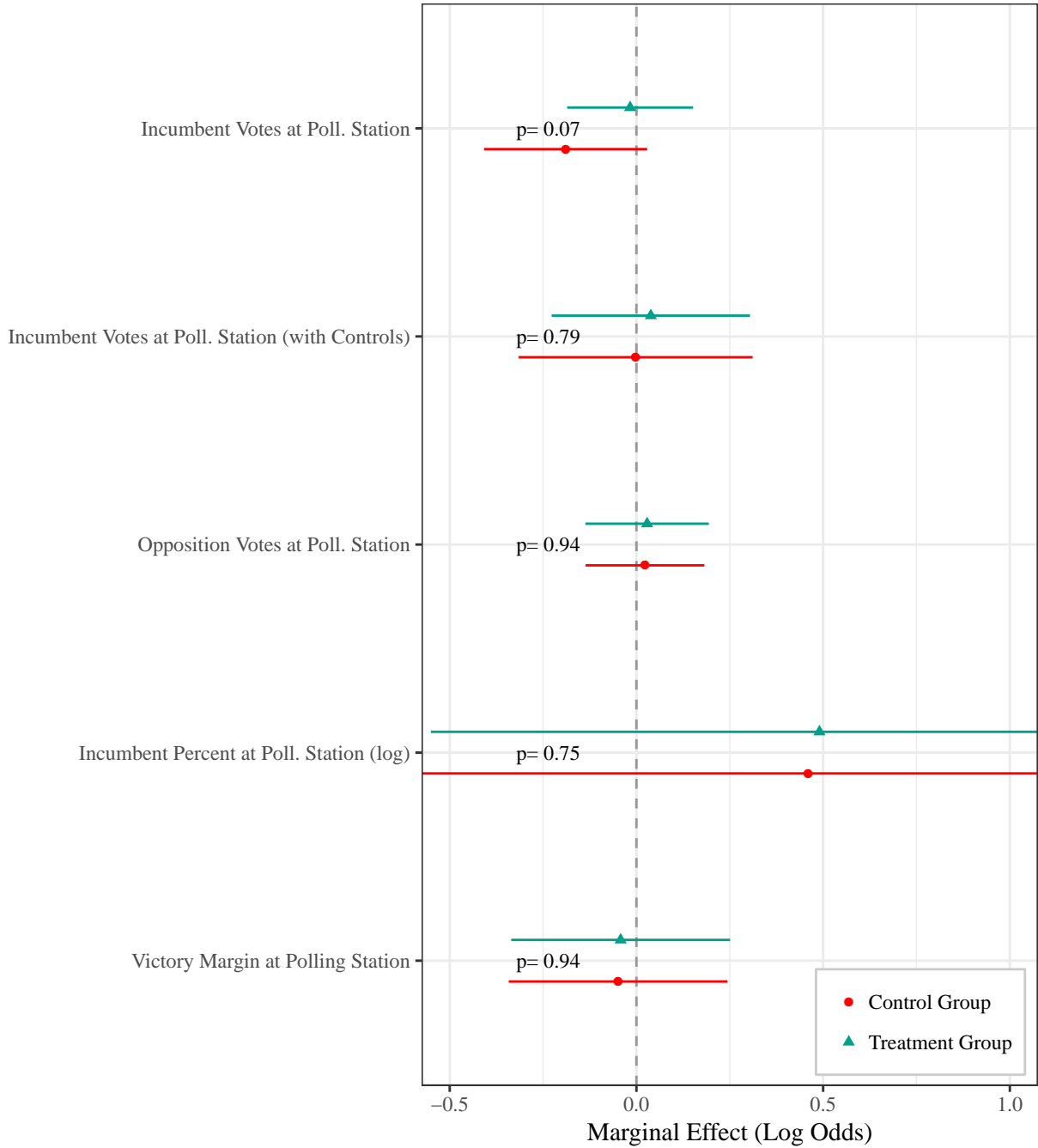
B   Supplementary Analysis

B.1   *Effects for Additional Information Treatment Arms*

In this section we include estimates of the effect of providing respondents with information about school need and political support in the community around the school. These treatments are not discussed in-depth in the main text, but are included here to allow readers to compare the effects of the aid information treatment to other information treatments in the experiment.

In the pre-analysis plan, we also specified conditional hypotheses which decompose the main effects of these additional information treatment arms. Based on the weak main effects, we do not report tests of these conditional hypotheses. We plan to report these additional tests in a forthcoming manuscript which will explore the implications of the null effects on the provision of information about school need and political support.

In Table B.1 we test whether providing information about school need or political support causes politicians to be more likely to select schools that receive a higher need score or where politicians received more votes. We observe some evidence ($p < 0.10$) that receiving the school need information treatment causes politicians to allocate funds to more needy schools (hypothesis HB1 in our pre-analysis plan). We see no evidence that any treatment causes politicians to be more likely to allocate to places where they received more votes (HB2 and HC1 in the pre-analysis plan).

Table B.1: All Information Treatments

	All Treatments	All Treatments	Need Treatments	Voting Treatments
	(1)	(2)	(3)	(4)
Aid Project Count*Aid Treatment	−0.367			
	(0.237)			
Aid Project Count	0.293**			
	(0.145)			
Aid Good Types*Aid Treatment		−0.338*		
		(0.177)		
Aid Good Types		0.299***		
		(0.109)		
School Need Index*Need Treatment	0.065*	0.065*	0.065*	
	(0.037)	(0.037)	(0.037)	
Incumbent Percent*Need Treatment	−0.479	−0.466	−0.474	
	(0.417)	(0.417)	(0.416)	
School Need Index	0.030	0.030	0.042	0.064**
	(0.032)	(0.032)	(0.026)	(0.026)
Incumbent's Relatives Attend School*Need Treatment	0.004	0.005	−0.021	
	(0.315)	(0.315)	(0.314)	
Incumbent's Relatives Attend School	0.532**	0.524**	0.553**	
	(0.214)	(0.214)	(0.214)	
Incumbent Percent*Voting Treatment	0.149	0.143		0.170
	(0.414)	(0.414)		(0.412)
School Need Index*Voting Treatment	0.022	0.022		0.022
	(0.037)	(0.037)		(0.037)
Incumbent Percent	0.856**	0.847**	0.919***	0.678**
	(0.361)	(0.361)	(0.295)	(0.294)
Observations	3,738	3,738	3,738	3,738
R^2	0.014	0.015	0.012	0.008

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are clustered on politician.

B.2 Effects for Transparency Treatment Arms

In this section we evaluate whether telling politicians that their decisions would be announced on the radio or revealed to donors made politicians more or less likely to respond to the aid information treatment. In Table B.2 we test this hypothesis by evaluating the coefficient on a triple interaction between Aid Project Count, Aid Treatment and each of the transparency treatments. We fail to find evidence that either treatment caused politician allocations to differ significantly. In our pre-analysis plan, we hypothesized that the donor transparency treatment could cause politicians to be more likely to align their allocation decisions with that of donors (hypothesis HG3 in the pre-analysis plan).

Additionally, in Tables B.3 and B.4 we consider the interaction of the two transparency treatments on all the information treatments considered in the study as a whole. There is a significant interaction between donor transparency and the school need information treatment; but we find little indication that the transparency treatments interacted with the treatment arms overall.

In the pre-analysis plan, we also considered several hypotheses about the direct effects of transparency on distributional decisions. Since this scope of this manuscript is limited to the effects of information on allocation decisions, we only report here how the effects of transparency mediate the effects of information. The direct effects of the transparency treatment will be reported elsewhere.

Table B.2: Interaction of Aid Information Treatment with Transparency Treatments

	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)
Aid Project Count	0.309**	0.279*	0.067
	(0.167)	(0.170)	(0.086)
Aid Project Count*Aid Treatment	−0.495*	−0.391	−0.058
	(0.274)	(0.284)	(0.121)
Aid Project Count*Radio Transparency Treatment	0.032		0.017
	(0.324)		(0.124)
Aid Project Count*Aid Treatment*Radio Transparency Treatment	0.263		−0.002
	(0.531)		(0.202)
Aid Project Count*Donor Transparency Treatment		0.133	0.027
		(0.317)	(0.120)
Aid Project Count*Aid Treatment*Donor Transparency Treatment		−0.118	−0.046
		(0.506)	(0.197)
Observations	3,738	3,738	3,738
R^2	0.002	0.001	0.0005

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

Standard errors are clustered on politician.

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Table B.3: Interaction of All Information Treatments with Transparency Treatments, Aid Project Count Coding

	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)
Aid Treatment*Donor Transparency Treatment*Aid Project Count		−0.142 (0.510)	−0.083 (0.527)
Need Treatment*Donor Transparency Treatment*School Need Index		0.018 (0.082)	0.058 (0.084)
Voting Treatment*Donor Transparency Treatment*Incumbent Percent		−0.830 (0.932)	−1.021 (0.959)
Aid Treatment*Radio Transparency Treatment*Aid Project Count	0.340 (0.540)		0.321 (0.558)
Need Treatment*Radio Transparency Treatment*School Need Index	0.162* (0.081)		0.176** (0.084)
Voting Treatment*Radio Transparency Treatment*Incumbent Percent	−0.644 (0.924)		−0.871 (0.951)
Aid Treatment*Aid Project Count	−0.474* (0.276)	−0.347 (0.286)	−0.451 (0.343)
Need Treatment*School Need Index	0.015 (0.044)	0.057 (0.043)	−0.005 (0.053)
Voting Treatment*Incumbent Percent	0.329 (0.487)	0.352 (0.485)	0.659 (0.586)
Donor Transparency Treatment*Aid Project Count		0.138 (0.319)	0.133 (0.333)
Donor Transparency Treatment*School Need Index		−0.031 (0.059)	−0.054 (0.061)
Donor Transparency Treatment*Incumbent Percent		0.563 (0.682)	0.715 (0.699)
Radio Transparency Treatment*Aid Project Count	0.029 (0.329)		0.058 (0.343)
Radio Transparency Treatment*School Need Index	−0.073 (0.057)		−0.086 (0.060)
Radio Transparency Treatment*Incumbent Percent	0.536 (0.673)		0.689 (0.690)
Aid Project Count	0.321** (0.169)	0.279* (0.172)	0.276 (0.209)
School Need Index	0.065** (0.031)	0.052 (0.031)	0.084** (0.038)
Incumbent Percent	0.556* (0.344)	0.561* (0.342)	0.330 (0.406)
Observations	3,728	3,728	3,728
R^2	0.012	0.011	0.012

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are clustered on politician.

Table B.4: Interaction of All Information Treatments with Transparency Treatments, Aid Good Types Coding

	Donor Treatment	Radio Treatment	All Treatments
	(1)	(2)	(3)
Aid Treatment*Donor Transparency Treatment*Aid Good Types		−0.033	0.015
		(0.382)	(0.394)
Need Treatment*Donor Transparency Treatment*School Need Index		0.018	0.059
		(0.082)	(0.085)
Voting Treatment*Donor Transparency Treatment*Incumbent Percent		−0.802	−1.005
		(0.932)	(0.959)
Aid Treatment*Radio Transparency Treatment*Aid Good Types	0.180		0.187
	(0.391)		(0.403)
Need Treatment*Radio Transparency Treatment*School Need Index	0.161*		0.174**
	(0.081)		(0.084)
Voting Treatment*Radio Transparency Treatment*Incumbent Percent	−0.657		−0.882
	(0.925)		(0.952)
Aid Treatment*Aid Good Types	−0.410**	−0.355*	−0.423
	(0.211)	(0.214)	(0.261)
Need Treatment*School Need Index	0.014	0.057	−0.006
	(0.044)	(0.043)	(0.053)
Voting Treatment*Incumbent Percent	0.324	0.341	0.652
	(0.487)	(0.485)	(0.586)
Donor Transparency Treatment*Aid Good Types		0.180	0.152
		(0.238)	(0.249)
Donor Transparency Treatment*School Need Index		−0.030	−0.053
		(0.059)	(0.062)
Donor Transparency Treatment*Incumbent Percent		0.560	0.720
		(0.683)	(0.700)
Radio Transparency Treatment*Aid Good Types	−0.062		−0.027
	(0.234)		(0.244)
Radio Transparency Treatment*School Need Index	−0.072		−0.085
	(0.057)		(0.059)
Radio Transparency Treatment*Incumbent Percent	0.538		0.691
	(0.673)		(0.691)
Aid Good Types	0.347***	0.264**	0.290**
	(0.132)	(0.130)	(0.164)
School Need Index	0.066**	0.053*	0.085**
	(0.032)	(0.031)	(0.038)
Incumbent Percent	0.552*	0.553*	0.322
	(0.344)	(0.342)	(0.407)
Observations	3,728	3,728	3,728
R^2	0.013	0.012	0.013

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are clustered on politician.

B.3   *Comparing Donor and Politician Spending Decisions*

In this section, we summarize the characteristics of schools selected by the donors which were surveyed in the experiment. We then compare these donor selections with the selections of politicians.

This comparison is not entirely unproblematic since, unlike politicians, donors were not constrained in their decision-making by the experimental protocol; however the results nonetheless provide suggestive evidence about the differing preferences of politicians and donors.

To estimate the effects of school characteristics on donor selection, we estimate a series of conditional logic regressions. The outcome here is a zero to one variable indicating whether a particular school was selected by a donor. All regressions include a district fixed effect and have standard errors clustered by donor.[49] All regressions also include controls for the log of school enrollment, the number of classrooms and the population density in the school's community.

The results in Figure B.1 show that there is considerable variation in how donors allocate funding; though schools with high population and poverty levels are more likely to be selected on average.

In Figure B.2 we compare these results with how politicians allocated goods in control conditions in our experiment. There are some similarities, particularly with respect to the allocation of more populous schools. However, politicians remain more likely to consider school need and political support.

We also find some evidence that both donors and politicians allocate funds to high poverty areas as measured using high resolution estimates of poverty from the WorldPop project[50]. We caution however that there is a high degree of error associated with poverty estimates at tis granularity, and, after incoporating spatial measurement error, these effects are indistinguishable from zero. We also tested and found no evidence that the aid information treatment increased the targeting of poorer schools.

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[49]I include district fixed effects since donors often prioritize specific regions first, and then target specific schools. The results are similar if we instead estimate a fully pooled regression.

[50]Tatem, A. J., et al. "Pilot high resolution poverty maps." Southampton: Oxford Uo (2013).https://www.worldpop.org/doi/10.5258/SOTON/WP00157

Figure B.1: Where Donors Spend Money
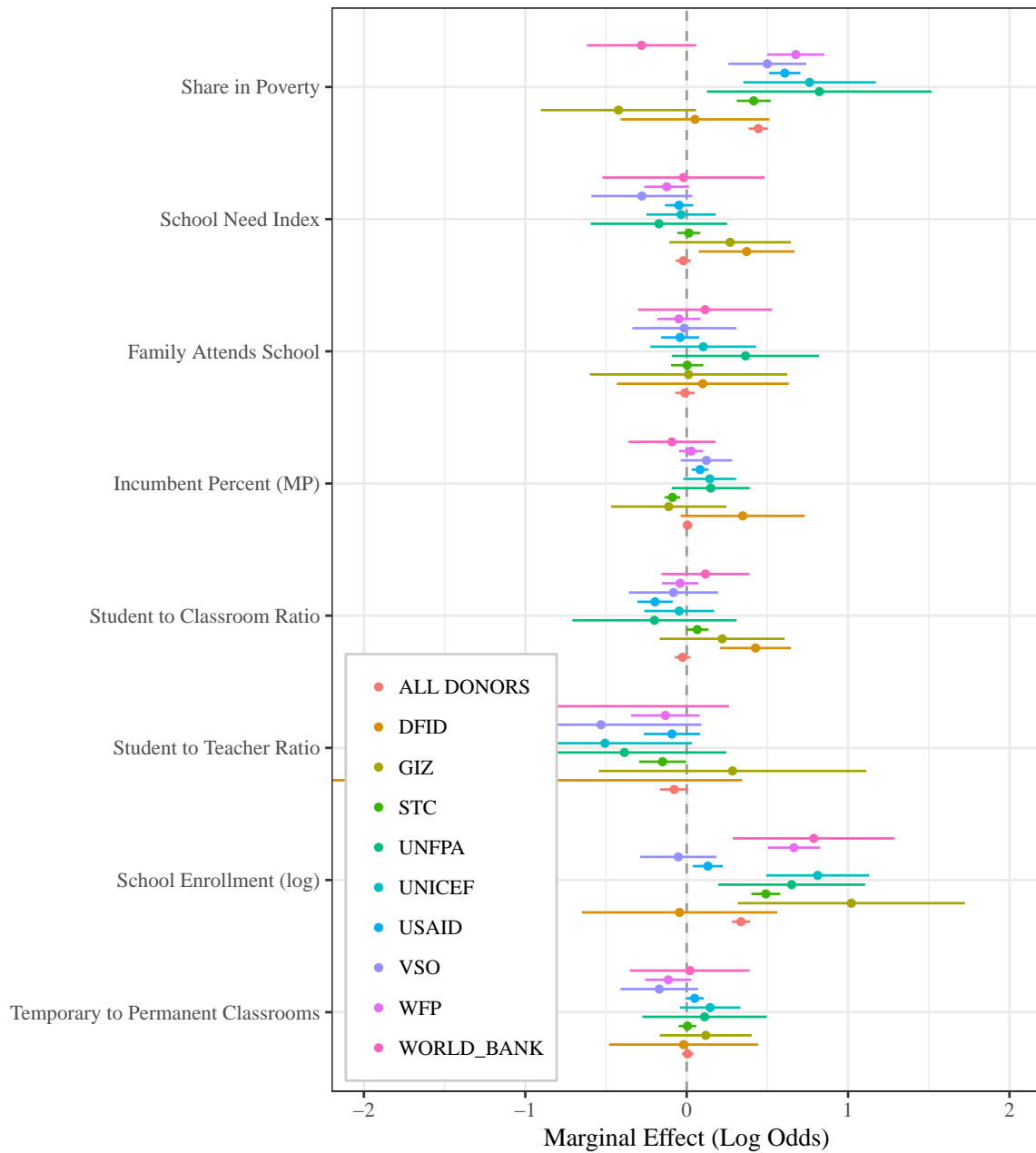
Note: This figure shows the coefficients on separate conditional logit regressions of donor school selection on school characteristics. All regressions also include controls for the log of school enrollment, the number of classrooms and the population density in the school's community.

Figure B.2: Comparing Donor and Politician School Selection
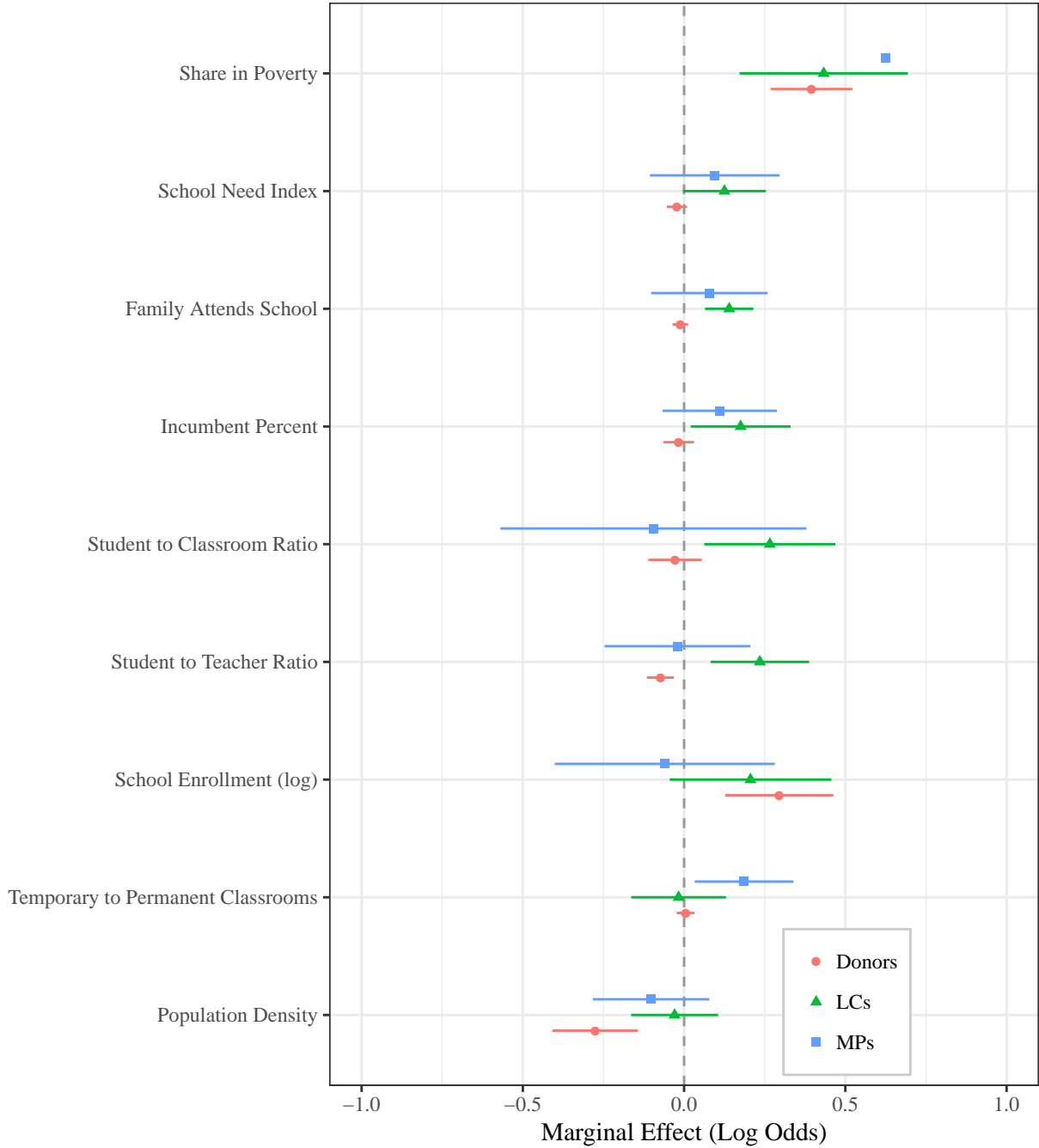
C Summary Statistics and Variable Descriptions

C.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 C.1 and C.2 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 C.1: 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 C.2: 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)

C.2 *Summary Statistics for All Variables*

Table C.3: Summary Statistics, LCs

Variable	Mean	SD	Details
Log Population	10.527	0.464	Log Constituency/Ward Population (WorldPop)
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 predominately 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 C.4: Summary Statistics, MPs

Variable	Mean	SD	Details
Log Population	11.253	0.391	Log Constituency/Ward Population (WorldPop)
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)

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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

C.3   School Knowledge Statistics

Below we show average scores for respondents in our school knowledge tests. These tests were given to respondents following treatment in order to measure knowledge of school characteristics, and foreign aid projects in respondents' constituencies.

Figure C.1: LC Scores on School Knowledge Tests
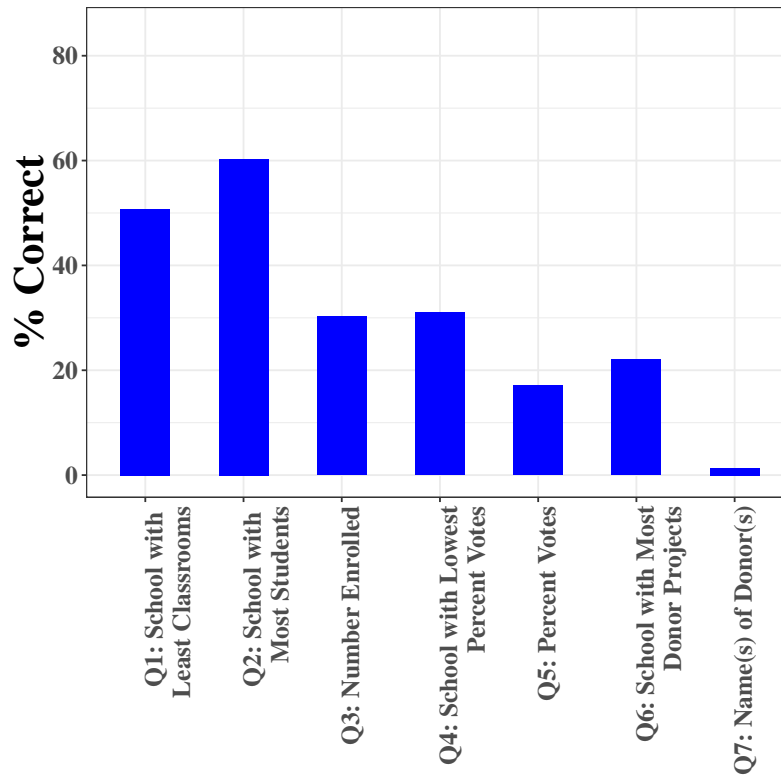
NOTE: Figure shows the results of test questions to assess LC politicians' knowledge of schools in their constituency. The y axis indicates the percentage of politicians who provided an accurate answer.

Figure C.2: MP Scores on School Knowledge Tests
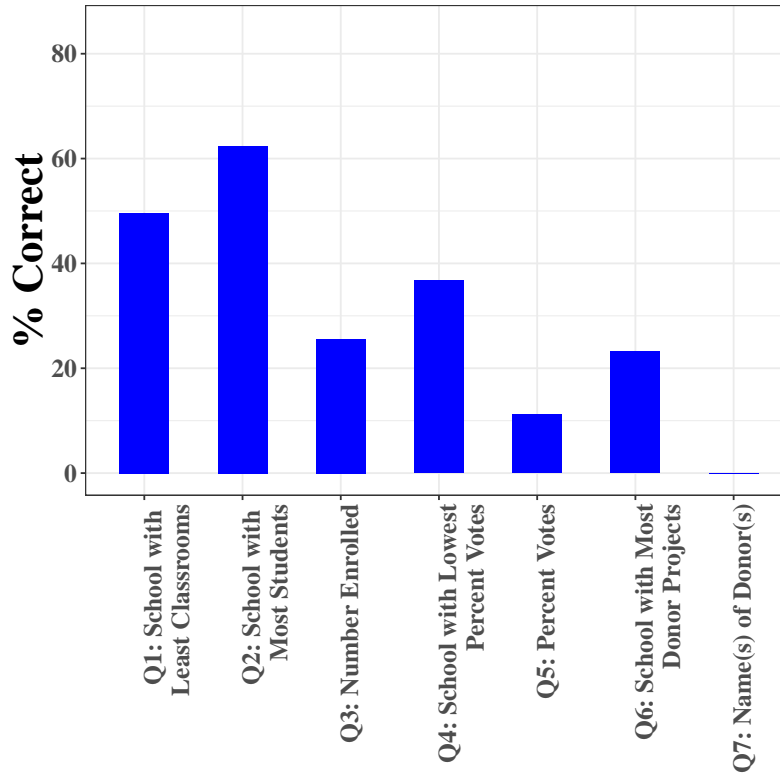
NOTE: Figure shows the results of test questions to assess MPs' knowledge of schools in their constituency. The y axis indicates the percentage of politicians who provided an accurate answer.

C.4 *Attrition Statistics*

Out of the 353 LCs and 187 MPs which were eligible for participation in the experiment, we were only able to contact 335 LCs and 125 MPs. Subjects were excluded primarily because they were out of town. We minimized the possibility of differential attrition by blinding the treatment status from RAs and subjects. Since no subject refused to participate or dropped out of the study, this makes differential attrition highly unlikely. In Table C.1 we show that there is no significant relationship between treatment status and attrition.

Attrition also raises concerns about generalizability. In Tables C.2 and C.3 we show that there is little systematic difference between included and excluded subjects. Additionally in Table C.4 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 C.1: The Effect of Treatment on Survey Attrition

	Attrition	
	MP Survey	Councillor Survey
	(1)	(2)
Treatment	0.035	0.006
	(0.024)	(0.008)
Intercept	0.319***	0.047***
	(0.015)	(0.005)
Observations	1,662	2,784
R^2	0.001	0.0002
F Statistic	2.194 (df = 1; 1660)	0.531 (df = 1; 2782)

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

Table C.2: Summary Statistics by Survey Attrition Status

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 C.3: Summary Statistics by Survey Attrition Status

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 C.4: 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

Figure C.3: Correlation Matrix
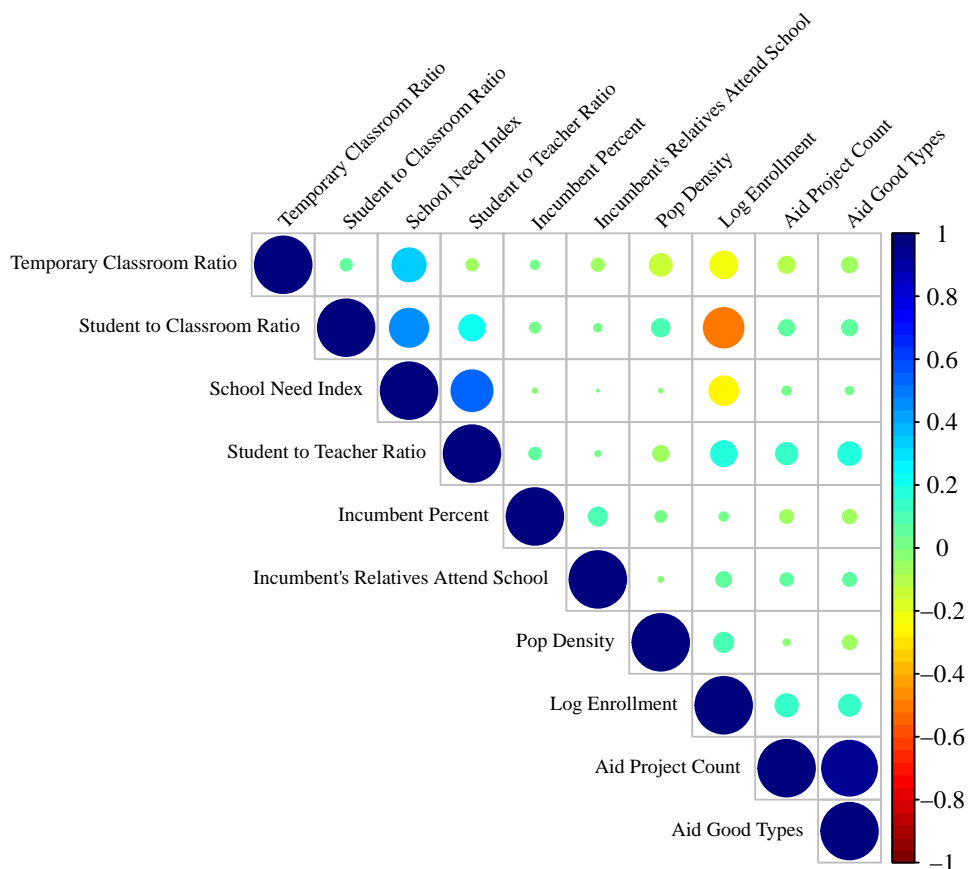
D Details on the Experimental Protocol

### D.1 Broader Experiment Design

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

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 D.1 through D.8 provide examples of maps containing each of the possible combinations of information treatment.

Figure D.1: Map containing political support information treatment

Schools in Your Constituency
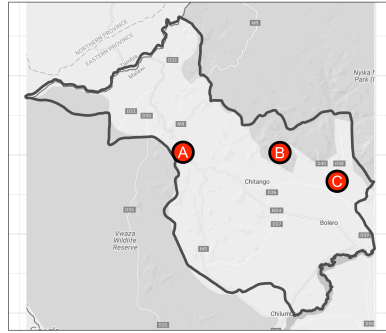
A	**CHANKHAMA**
	72% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN
B	**MBWEZIWE**
	40% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN
C	**MPHANDE**
	34% of people in this community voted for Jacqueline Jacoba C.C. KOUWENHOVEN

Map_Three

Figure D.2: Map containing school need information treatment

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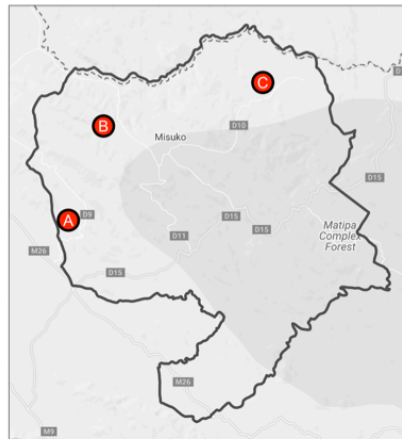
A	**CHISANSU SCHOOL**
	This school has MUCH HIGHER NEEDS THAN most in this constituency because
	- There are 77 students in each classroom
	- There are 69 student per teacher
	- 4 out of 8 classrooms are temporary
B	**CHUBA SCHOOL**
	This school has LOWER NEEDS THAN most in this constituency because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

39

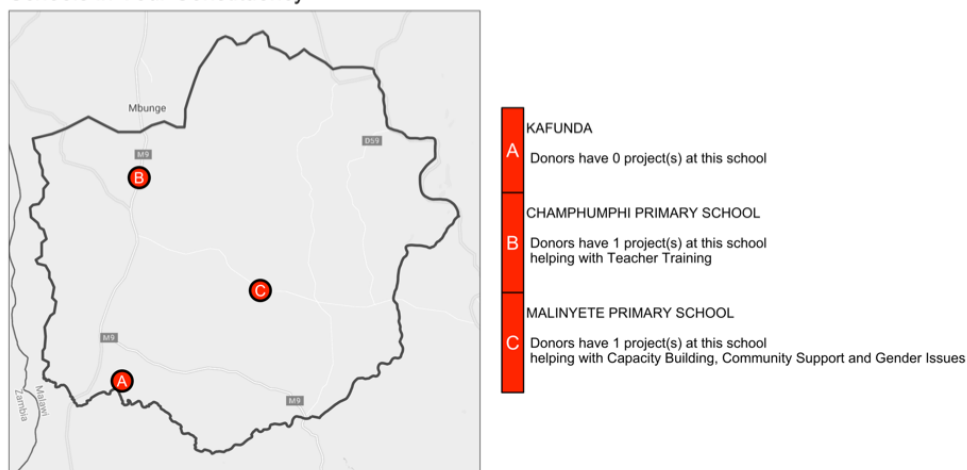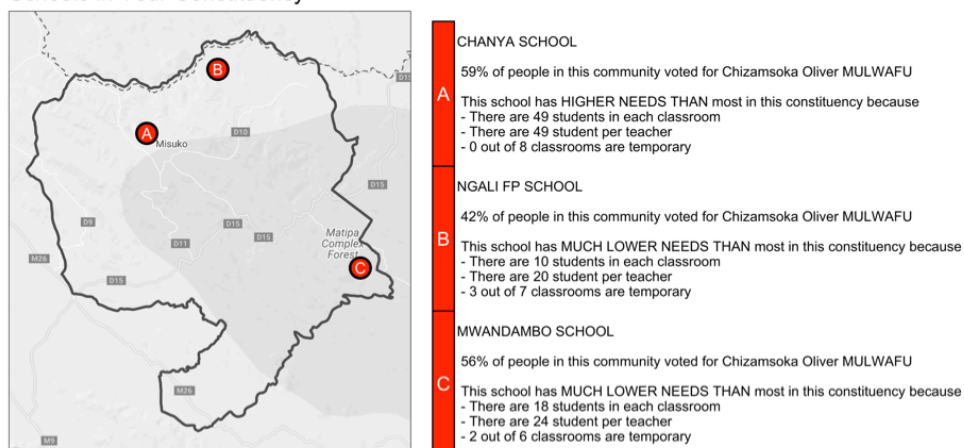Figure D.3: Map containing aid information treatment

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 D.4: Map containing political support information and school need
information treatments

Schools in Your Constituency

A — CHANYA SCHOOL
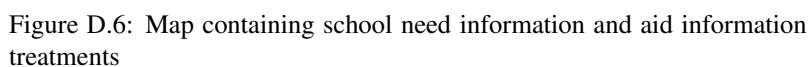59% of people in this community voted for Chizamsoka Oliver MULWAFU
This school has HIGHER NEEDS THAN most in this constituency because
- There are 49 students in each classroom
- There are 49 student per teacher
- 0 out of 8 classrooms are temporary

B — NGALI FP SCHOOL
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

C — MWANDAMBO SCHOOL
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 D.5: Map containing political support information and aid information treatments

Schools in Your Constituency

Mbobo

M7

Bwanje

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 D.6: Map containing school need information and aid information treatments

Schools in Your Constituency

NACHIPERE SCHOOL

This school has LOWER NEEDS THAN most in this constituency because
- There are 44 students in each classroom
- There are 65 student per teacher
A - 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

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
B - 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

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

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

41

Figure D.7: Map containing political information, school need information, and aid information treatments
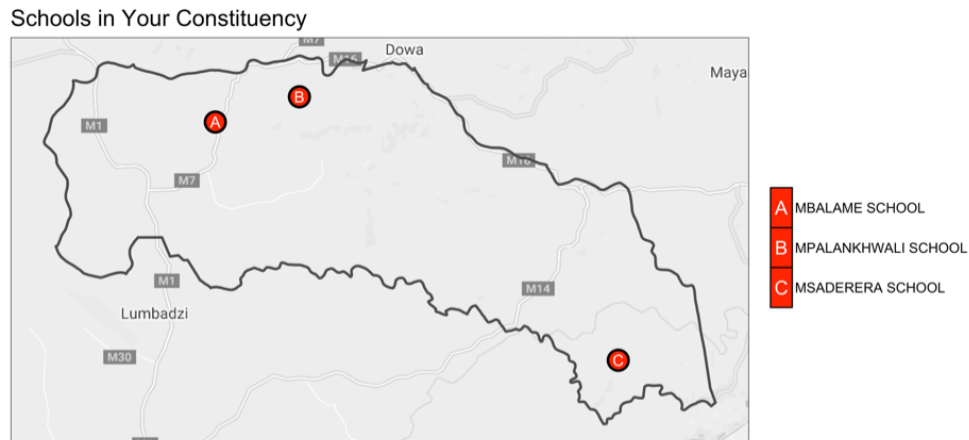

Figure D.8: Map containing no information treatment

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 played out a sample of this broadcast for the politician (see PAP Appendix B for the wording of the sample broadcast). 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 PAP Appendix B for a sample of the report).

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.

The randomisation proceeded so that each sampled politician was first assigned into one of four transparency treatment. Each politician then received 3 maps, each containing one out of eight potential information treatment combinations. Altogether, therefore, there were 32 different possible combinations of transparency and information treatments. Table D.1 below provides an overview of the number of individual maps that received each combinations.

Table D.1: 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

D.2 *Mapping of Hypotheses in Broader Experiment*

The expected outcomes from each treatment, interactions between treatments as well as conditional hypotheses were pre-specified in the pre-analysis plan (annexed). Table D.2 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 D.2: Hypotheses in PAP, main text and SI

Hypothesis number in PAP	Hypothesis text	Hypothesis number in text or SI (if different)	Where in main text or SI hypothesis is examined
Hypothesis Family A: Baseline Effects			
HA.1	Politicians will allocate more aid to schools with high need than with low need.	Mentioned in Section 3, but not numbered	Section 7.1
HA.2	Politicians will allocate more aid to schools located in areas with higher support for the politician in the last elections.	Mentioned in Section 3, but not numbered	Section 7.1
HA.3	Politicians will allocate more aid to schools located in their home area.		Section 7.1
HA.4	Politicians will allocate more aid to schools where their family members attend.		Section 7.1
HA.5	Politicians will allocate more aid to schools located in densely populated areas.		Section 7.1
Hypothesis Family B: Effects of Need Information Treatment			
HB.1	Politicians will be more likely to allocate to schools in areas with high need.		Section 7.3, SI B.1
HB.2	Politicians will be less likely to allocate to schools located in areas with higher support for the LC in the last election.		SI B.1
HB.3	Politicians will be less likely to allocate to schools located in their home community or where family members attend.		SI B.1
Hypothesis Family C: Effects of Political Support 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.		Section 7.3
HC.2	Politicians will be less likely to allocate to schools in areas with high need.		SI B.1
Hypothesis Family D: 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)	Mentioned in Section 3, but not numbered	Section 7.2
HD.2	Validation will be more likely when politicians interact frequently with donors.	Mentioned in Section 3, but not numbered	Section 7.4
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).[51]	H1	Section 7.2
HD.4	Crowding out will be more likely in areas where the politician did not receive a high proportion of votes.	Mentioned in Section 3, but not numbered	Null results are referred to in Section 3 and p-values are shown in Table A.1.

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[51]In the main text, the hypothesis wording is "When politicians learn about foreign aid spending, they will be *less* likely to allocate goods to schools that benefit from that aid (spatial crowding out effect)." This change in wording is to improve clarity and consistency.

HD.5	Crowding out will be [less] likely in areas where schools are less needy.	Mentioned in Section 3, but not numbered	Null results are referred to in Section 3 and p-values are shown in Table A.1.
Not in PAP	When politicians learn about foreign aid spending, they will be less likely to spend on the neediest schools.	H2	Section 7.5
Not in PAP	When politicians learn about foreign aid spending, they will be more likely to spend on pivotal schools.	H3	Section 7.5
Hypothesis Family E: Conditioning Effects of Knowledge			
HE.1	Information effects will be weaker (stronger) among politicians with more (less) relevant knowledge of their constituency.		Section 7.4
HE.2	Information effects will be weaker (stronger) among politicians with more (less) time living in their constituency.		Section 7.4
HE.3	Information effects will be stronger (weaker) among politicians who found the information provided in the experiment to be useful (not useful).		Section 7.4
Hypothesis Family F: Effects of Radio Transparency Treatment			
HF.1	Politicians will be more likely to allocate to schools with high need than low need.		Outside scope. See discussion in SI B.2.
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.		Outside scope. See discussion in SI B.2.
HF.3	Politicians will be less likely to allocate to schools where family members attend.		Outside scope. See discussion in SI B.2.
HF.4	The effects of radio transparency will be largest among politicians that expect to face re-election.		Outside scope. See discussion in SI B.2.
Hypothesis Family G: Effects of Donor Transparency Treatment			
HG.1	Politicians will be more likely to allocate to schools with high need than low need.		Outside scope. See discussion in SI B.2.
HG.2	Politicians will be less likely to allocate to schools located in areas with higher support for the incumbent in the last election.		Outside scope. See discussion in SI B.2.
HG.3	Politicians will be more likely to allocate to schools located in areas have already received donor funds.		Outside scope. See discussion in SI B.2.
HG.4	The effects of donor transparency will be largest among politicians who interact frequently with donors.		Outside scope. See discussion in SI B.2.
Hypothesis Family H: 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.		SI Table A.4
HH.2	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.		Outside scope. See discussion in SI B.2.
Hypothesis Family I: Interactions Across Information and Transparency Treatments			
HI.1	The effect of aid information will be stronger among politicians in the donor transparency group.		SI B.2

HI.2	The effects of need information will be stronger among politicians in the donor and radio transparency treatment group		SI B.2
HI.3	The effects of political support information will be weaker among politicians in the donor and radio transparency treatment groups.		SI B.2
Hypothesis Family J: Conditioning Effects of Oversight			
HJ.1	The effect of radio transparency will be stronger among politicians that prioritize citizen oversight		Outside scope. See discussion in SI B.2.
HJ.2	The effects of donor transparency will be stronger among politicians that prioritize donor oversight.		Outside scope. See discussion in SI B.2.
Hypothesis Family K: Conditioning Effects of Gender			
HK.1	Female politicians will be more likely to allocate to schools in areas with high need.		Outside scope. See discussion in SI B.1.
HK.2	Male politicians will be more likely to allocate to schools in areas with a high percentage of votes.		Outside scope. See discussion in SI B.1.
HK.3	Female politicians will be more likely to respond to information about need.		Outside scope. See discussion in SI B.1.
HK.4	Male politicians will be more likely to respond to information about votes.		Outside scope. See discussion in SI B.1.
HK.5	Male politicians will be more likely to respond to the radio transparency treatment.		Outside scope. See discussion in SI B.1.
Hypothesis Family L: Conditioning Effects of Electoral Competition			
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.		Outside scope. See discussion in SI B.2
HL.3	Politicians that expect to contest upcoming elections will be more likely to respond to need and political support information treatments.		Outside scope. See discussion in SI B.1
Hypothesis Family M: Conditioning Effects of Office			
HM.1	MPs will be more likely to respond to information treatments than LCs		Section 7.2
HM.2	Effects of radio treatments will be stronger among MPs than LCs		Outside scope. See discussion in SI B.2.
HM.3	Effects of donor transparency treatments will be stronger among LCs than MPs.		Outside scope. See discussion in SI B.2.
HM.4	MPs will be more likely to allocate to schools in areas with high percentage votes compared to LCs.		Section 7.1

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 D.9.

Figure D.9: Goods

A. Solar Lamp

B. Dictionary

C. Teacher Kit

D.4 Deviations from Pre-Analysis Plan

1. In the pre-analysis plan HA.3 we predicted that politicians would be more likely to allocate to their home area. Due to difficulties in obtaining sufficiently granular census data, we have yet to be able to code the location of politician's home villages. We therefore exclude this variable from analysis.

2. In the pre-analysis plan, we specified a two stage least squares estimator of complier average treatment effects. However this test is not relevant for the aid information treatment since we included no measure of compliance with this treatment in the survey.

3. The hypotheses H2 and H3 in the main text do not appear in the pre-analysis plan. These hypotheses follow directly from our formalization of our theory. As noted in the text these are also commonly accepted (though rarely tested) implications of aid crowding out public spending.

D.5 Omissions and Errors in Pre-Analysis Plan

1. We did not pre-specify how the effects of treatment arms would be reported. Since the aid information treatment considered in this paper follows a different theoretical logic than other treatment arms, we anticipated that tests of this treatment would be reported in a separate manuscript; however regret that we did not specify this plan in advance of analysis. In the interest of full transparency, we therefore describe in this appendix the estimated effects associated with all treatment arms and adjust for multiple comparison under the (incorrect but not-pre-specified) assumption that all treatment arms are testing the same theoretical model.

2. There is a typo in HD.5 in the pre-analysis plan. 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).

3. In the pre-analysis plan Section 10, we described adjustments for multiple comparison within specific families of hypotheses. We did not pre-register any global study-wise multiple comparison test or specify what the main hypotheses were for each treatment arm. Thus the global adjustments in SI Section A are a deviation from our plan; and the assumptions of this test are post-hoc.

D.6 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[2]

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[3]

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.

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[2] For hypotheses HA.1-HA.5 see main text, section 7.1
[3] For hypothesis HB.1 see main text, section 7.3 and SI BI; for HB.2 see SI B.1; for HB.3 see SI B.1

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[4]

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 [5]

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

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[4] For hypothesis HC.1 see further main text, section 7.3; for HC.2 see SI B.1

[5] For hypotheses HD.1 – HD.5 see main text in section 3, (please note that HD.3 is here relabelled as H1) and main text, section 7.2; for HD.1 see main text, section 7.2 and for HD.2 see section 7.4. For HD.4 and HD.5, the null results are referred to in the main text in section 3 and null results are shown in Table A.1.

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[6]

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[7]

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

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[6] For hypotheses HE.1 – HE.3 see further main text, section 7.4.
[7] See discussion in SI B.2

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[8]

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[9]

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

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[8] See discussion in SI B.2
[9] For hypothesis HH.1 see Table A.4 and for HH.2 see SI B.2.

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[10]

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[11]

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

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[10] See further SI B.2

[11] Conditional hypotheses below in J – M were omitted from this manuscript; please see discussion in SI B.1

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[12]

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

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[12] For HM.4 see main text, section 7.1

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.

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

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:

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

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

- o Enumerator details
- o Coding details
- School-level variables:
  - o Population of community
  - o Number of students
  - o Number of teachers
  - o Whether a councillor's or family member's children attend
  - o Number of temporary/permanent classrooms
  - o Number of temporary/permanent houses for teachers
  - o Type of good provided
- Polling-station variables
  - o Support for leading opposition candidate in ward/constituency election
  - o Number of voters who turned out
- Constituency-level variables
  - o Measures of level of political connection with the MP
- Ward-level variables
  - o Ward population
  - o Councillor gender
  - o Status of ward education plan
  - o Tribe of councillor
  - o Predominate tribe of ward
  - o Councillor re-election plans
  - o Councillor victory margin
  - o Predominate party of the ward
  - o Education of the councillor
  - o Income of the councillor
  - o Length of residence in the ward
  - o Councillor age
  - o Marriage status
  - o Current party of the councillor
  - o Number of schools
  - o Urban/Rural population

D.7   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*

<u>Introduction:</u>

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*

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 completed.*
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.

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.

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. _____
_____
_____