

Citizen Perceptions of the Resource Curse and Aid Dependence: Experimental Evidence from Uganda

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Abstract. We perform a survey experiment with behavioral outcomes on a nationally representative subject pool of Ugandans ($n = 3186$) to estimate their willingness to monitor and sanction spending behavior across three sources of government revenue: on-budget aid, oil production, and taxes. We probed the alternative revenue streams' anticipated political consequences and their influence on the willingness of subjects to take action to support transparent spending according to citizen preferences. While we find some meaningful differences in the perceived likelihood that some revenue sources will be expropriated by the elite or contribute to political instability, we find that Ugandans are no more likely to take costly action to monitor and sanction mismanagement of tax revenues than oil or aid revenues. Our results suggest that this is likely due to low priors on the responsiveness of elected officials to citizen demands, and to a lack of transparency in how any revenues that pass through the central government are spent.

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1 Introduction

In 2006 the Ugandan government, working with London-based Tullow Oil, announced the discovery of major oil deposits along the shores of Lake Albert. The estimated 3.5 billion barrels of reserves promise to be a major source of nontax revenue for the government, with President Yoweri Museveni multiple times referring to it as “my oil” (Bariyo 2014, Salama 2014). Many worry that the anticipated oil boom will send Uganda down the road of the “resource curse” that appears to plague many developing countries. On the other hand, the oil discovery may enable the Museveni regime to reduce its dependence on foreign aid, which has comprised roughly one third of the national budget in recent years. However, some observers see the alternate sources of nontax revenue as posing a distinction without a difference.

Critics charge that both natural resource rents and foreign aid are “windfall revenues” that enable corruption, undermine governance, foster repression, prolong autocratic rule, and increase conflict (Smith 2008; Djankov et al. 2008; Bräutigam and Knack 2004; Morrison 2009; Caselli and Cunningham 2009). Elites are affected by windfalls since they now have access to more funds that can be diverted to corruption and clientelism (Knack 2001; Svensson 2000). Citizens likewise suffer from the effects of such windfalls, as resources from non-tax sources are said to promote citizen quiescence and greater willingness to tolerate bad governance (Beblawi and Luciani 1987; Mahdavi 1970; Chaudhry 1997; Waterbury 1997). These and other problems with the receipt of foreign

aid appear to parallel the problems of over-reliance on resource exploitation.

These revenue sources are frequently contrasted with the use of tax-funded spending by governments. Revenues collected from taxes are often assumed to be spent in ways that do not have these problems; such revenues heighten citizen's attention to accountability and make political elites more likely to provide public goods (Bates and Lien 1985; Ross 2001, 2012; Robinson, Torvik, and Verdier 2006). Hence it is assumed that there is a differential accountability effect: funds provided by tax revenues are much more likely to be monitored and politicians to face sanctions if they are badly used. Non-tax revenues like foreign aid and natural resource rents are less likely to be monitored, and less likely to incite citizen action to sanction political leaders for their misuse.

Yet, we believe the literature has paid insufficient attention to two features common to many resource-rich developing countries that may diminish the extent to which the differential accountability effect for tax-financed expenditures exists.

First, citizen demand for transparency should differ by revenue source. If resources for monitoring and sanctions are limited, then the public should be most interested in monitoring those sources that are least transparent. The management of non-tax forms of revenue, such as oil and gas extraction, may be inherently less transparent due to complex supply chains or complicated bidding and procurement procedures for the rights to extract the natural resource in the first place. Tax revenues, on the other hand, are thought to be much more transparent since they are part of the law and budget process in the parliament. Moreover, where

transparency is low relative to other sources, the risk of “expropriation”—that is, the use of government revenues by political elites for clientelist or corrupt purposes—is correspondingly higher. This, in turn, increases the returns to investing in a monitoring mechanism, such that demand for accountability should be the highest for the least transparent source, which may not be—and indeed, is probably often not—taxes but non-tax sources, such as oil or foreign aid.

Second, while many developing countries, particularly those in Sub-Saharan Africa, hold regular elections, the accountability pressures that are often assumed to motivate elected officials to abstain from rent-seeking—and, ostensibly, deliver local public goods instead—are weak or non-existent. Low prior beliefs about the probability that *any* funds passing through the central government will be used in the public interest means that citizens neither expect good performance nor punish bad performance as often or as strongly as in more developed democracies. Furthermore, clientelistic electoral practices such as vote-buying, as well as other forms of gift-giving during the election cycle, diminish the extent to which voters are capable of sanctioning rent-seeking and corruption at the ballot box.

The practical effect of these conditions is thus two-fold: to the extent citizens invest in monitoring, they should prefer to monitor the least transparent source, which may not be (and indeed is probably often not) taxes; and, where any action is unlikely to be successful due to low responsiveness of (un)elected officials to citizen preferences, citizens will likely forego investing time and effort in expressing their dissatisfaction at the ballot box or otherwise.

Put simply, in order for citizens to choose to invest *greater* resources in monitoring tax-based expenditures relative to other sources of revenue, three conditions must be satisfied: the public must believe that tax-based expenditures must be less —or at the very least, no more— transparent than the other non-tax sources; the public must believe that tax revenues are more likely to be appropriated by elites or otherwise mismanaged; and finally the public must believe that conditional on taking action to enforce spending of tax revenues commensurate with their preferences, such actions will be successful. If any of these conditions are not satisfied, we would not expect to see differential accountability outcomes according to the source of government revenues. It may therefore be that, for a large subset of developing countries—that is, those with quasi-authoritarian regimes and non-programmatic politics—the micro-level mechanisms that are often thought to produce differential spending patterns for windfall revenues may not exist in practice.

In order to assess whether this is the case, this paper attempts to answer three questions about the different revenue sources. First, is spending sufficiently transparent that citizens believe they can track whether and how revenue is spent? Second, do citizens believe that the risk of “expropriation” is sufficiently high that monitoring is necessary at all? And third, do citizens believe that, conditional on taking actions to ensure greater accountability, the sanctioning and monitoring mechanisms necessary to ensure it will be put in place and have a chance of success? To do so, we administered a large-N survey experiment with attitudinal and behavioral outcomes on a nationally representative sample of Ugandan citizens. Respondents were randomized into one of three treatment

conditions testing the between-subjects effects on attitudes and behavior of three potential sources of revenue and two different channels: aid, oil, or taxes through government.¹ In each condition, respondents heard a short vignette about government spending. The vignette included information on the amount, source and channel of delivery of additional revenue that will be available to the Ugandan government in the near future. The value of the additional revenue was held constant at 5 trillion Ugandan shillings across all three conditions to alleviate concerns that a differential magnitude might drive results.

Citizens were then asked a battery of questions, including, most importantly, their *preferences* over how the resources *should* be spent; their *beliefs* about how the resources are likely to be spent; how accountable and transparent they believe spending from the new revenue source will be; whether it will affect political stability and competition; and their prior knowledge of spending patterns. Citizens were then invited to sign an anti-corruption petition, send an anti-corruption text message to their member of parliament, and/or donate to their choice of good-government non-profit organizations. These questions and behavioral actions allow us to examine our three conditions for differential accountability.

By way of preview, our findings suggest that Ugandan citizens see relatively few differences among sources of revenue handled by the

¹ The introductory consent statement included information about the entity funding the experiment. We worried that giving respondents information about the funding institution would bias their responses. As such, we randomized among the three conditions: an introduction that mentioned the World Bank, one that mentioned the academic institutions we are affiliated with, and one that mentioned neither but activated a debriefing prompt at the conclusion of the survey. This allowed us to assess whether this bias exists. We found no evidence for this effect.

government with respect to their transparency, their ability to be expropriated by elites, or likelihood of being spent according to citizen preferences. More importantly, however, even where differences exist, Ugandans are, with few exceptions, *no more likely to take either low cost or costly action to monitor or punish mismanagement of funds for tax-based revenue than for oil- or aid-based revenues*. This suggests that citizens are concerned with the government and their control over spending regardless of the revenue's source.

We also present suggestive, though not conclusive evidence that the lack of a differential willingness to monitor and sanction is a function of a belief—widespread in developing countries in general and sub-Saharan Africa in particular—that electoral incentives are not sufficient to induce elected officials to behave according to voter preferences. In what follows we situate the study in the relevant literature, develop hypotheses, describe the research design, and present the data and findings.

2 Theory and Existing Work

2.1 Existing Literature

When leaders of developing countries structure their economies around the extraction of export-based natural resources, such as crude oil or precious minerals, many have argued that a series of negative economic and political consequences follow (Collier 2007; Humphreys et al. 2007; Mehlum et al. 2006; Ross 2001, 1999). This phenomenon, referred to as the “resource curse,” seems to especially undermine good governance, and good governance is often essential to economic development. Because

governments engaged in natural resource exploitation receive large amounts of revenue from sources unattached to the democratic process, mechanisms for accountability weaken and investment in human capital decreases (Bulte et al. 2005; Dunning 2005). Such governments often become more autocratic and more prone to corruption and clientelism as government officials seek political and personal gain (Robinson et al. 2006; Collier and Hoeffler 2005).

Critics charge that both natural resource rents and foreign aid are “windfall revenues” or “sovereign rents” that promote corruption, undermine governance, increase violence, and stabilize autocratic regimes (Collier and Hoeffler 2000; Humphreys 2005; Smith 2008; Djankov et al. 2008; Bräutigam and Knack 2004; Morrison 2009). Moreover, because aid allocations from donors fluctuate, governments receiving large amounts of aid can experience economic and political instability, and when aid is suddenly reduced the likelihood of conflict appears to increase (Nielsen et al. 2011). Corruption and clientelism are also associated with foreign aid, as government officials have been known to use foreign funds for political and personal gain (Knack 2001; Svensson 2000). These and other problems with the receipt of foreign aid appear to parallel the problems of over-reliance on resource exploitation.

Other studies have questioned the inevitability of the resource curse and claimed that the effects of resources on governance are contingent on other factors (Haber and Menaldo 2011; Jensen and Wantchekon 2004; Dunning 2005).² Some scholars have argued that aid has less damaging

²Alexeev and Conrad in a recent econometric study (2009) even claim that natural resources like oil are strongly positive for economic growth and have no negative effect on political institutions.

effects than natural resource revenues because foreign donors can and often do condition aid on government performance and require greater accountability in spending (Jensen and Wantchekon 2004; Collier, 2006; Dunning 2008; Bermeo 2013). However, a distinction in the resource curse literature regarding the “appropriability” of rents from different natural resources suggests that the adverse effects of aid on governance may be more severe (Boschini, Pettersson and Roine, 2007; Isham et al., 2005). Specifically, aid revenues are relatively “appropriable,” as most aid goes directly from donors to central governments.

This debate remains unresolved even in the context of large-N country-year studies. As Ahmadov (2013) points out, examining “29 such studies that in total report 246 empirical estimates of the impact of resources, they...range from negative through no association to positive. While 86% of statistically significant findings report negative coefficients, 14% find a positive link. Twenty-one percent do not find any statistically significant relationship.” The majority of existing research on the resource curse has utilized such cross-national, observational data, limiting the ability to make causal inferences or address micro-level mechanisms.

The comparison made with these windfall revenues often involves tax revenues that are collected from the public. These revenues are said to increase citizens’ demands for information and government accountability and to make elites less able to divert resources to clientelism or corruption (Waterbury 1997; Ross 2004; Beblawi and Luciani 1987; Mahdavi 1970; Chaudhry 1997; Collier and Hoeffler 2005; Devarajan et al. 2011). Moreover, higher taxes should increase scrutiny of governments and elicit more active citizens and more accountable elites; hence to the

extent that non-tax revenues make taxes less onerous than they otherwise would be, they will have the ascribed negative effects (see Morrison, forthcoming). If however, weak, developing country governments are just as unaccountable for tax spending as for all other revenue types in the eyes of citizens, or citizens are equally unable to monitor any centralized form of spending regardless of its source, then we must reconsider what the resource curse means.

Equally as important, the so-called "endowment effect", whereby taxation induces greater accountability pressures as citizens who have had earned income taken directly from them monitor government behavior more closely, is thought to be weaker when such taxes are paid indirectly (Mahon 2005; see also Brautigam 2002). Where individuals are compelled to pay taxes directly from their earned income, they treat such taxes as a net loss, and attempt to recoup some partial value from ensuring tax revenues are spent wisely and in the public interest. In contrast, natural resource revenue—and, as some have suggested, perhaps on-budget aid as well—is seen as a "foregone gain", having never passed through the hands of the citizenry directly.³ Yet, given that value-added taxes constitute a large and sometimes overwhelming share of tax revenue in much of the developing world, the extent to which the endowment effect should lead to greater accountability for tax expenditures is unclear.

³ See Paler (2013) for a review of the literature linking taxation to accountability pressures.

2.2 Theoretical Framework

While we do not dispute that the endowment effect may be in operation for a subset of cases in which earned income is directly taxed and constitutes a large share of the total government budget, these situations are the exception rather than the rule in much of the developing world. Moreover, even if the endowment effect produces differential accountability for tax revenues *ceteris paribus*, the decision to sanction and monitor may be driven by more than a predisposition to treat directly collected taxes differently from other forms of revenue. Our major point of departure from existing literature is thus to conceptualize the decision to monitor and sanction elected officials for misuse or appropriation of a given revenue stream as an action taken by citizens operating in a *strategic environment in which their decision to invest resources in sanctioning and monitoring is a function of their own beliefs over the optimal strategy of elected officials as well as the particular features of different revenue sources*.⁴

We focus here on citizens' beliefs about two features of revenue streams: how easily expenditures from the source can be tracked and verified (transparency) and how vulnerable a source is to various forms of rent-seeking that range from preferential treatment of firms bidding for extraction and processing of the resource to outright theft (expropriation risk).

⁴ Elected and unelected officials seeking to expropriate revenue for personal or political gain are facing a similar problem: given their beliefs about the monitoring and sanctioning behavior of citizens and the inherent features of different revenue streams, they choose whether and how much to expropriate. Investigating elite strategies for expropriation is beyond the scope of this paper. It suffices here to note that, all things being equal, a revenue source that is less transparent and whose supply chain is more complex provides greater opportunities for rent-seeking.

Even where transparency is low and expropriation risk high, it does not necessarily follow that citizens will invest resources in monitoring expenditures from that source or in sanctioning its misuse or expropriation. While the returns to monitoring would be high in such cases, this alone does not guarantee a differential accountability effect for some revenue sources. A differential accountability effect for some revenue sources requires not only the will, but also a belief that lobbying for the necessary monitoring mechanisms is likely to yield results. Thus, what is required for citizens to undertake any concerted effort to monitor a source and sanction its misuse are both a means of influencing policy and, critically, a belief that the probability that such efforts would prove successful is high enough to make it worthwhile. Citizens must, in other words, possess some measure of external efficacy—a belief that, *conditional on taking action, they are likely to effect a policy change*.

This requirement is non-trivial even in developed countries, but is especially important in the developing world, where citizens, particularly the rural poor, may have to make substantial investments of time and effort to acquire the literacy and numeracy skills necessary to evaluate whether a revenue source is being used in their interest. The high costs of developing such skills, if combined with low levels of responsiveness from elected and unelected officials and generalized cynicism about the returns to political action, may result in little difference in monitoring behavior across revenue sources despite vastly different beliefs about the need to do so.

The critical difference between this framework and one more firmly rooted in Prospect Theory is the role that strategy plays in driving citizens

to invest in monitoring a given revenue source and sanctioning its misuse. In the latter framework, decisions to monitor and sanction are both atomistic and devoid of strategic considerations: each individual decides whether to make an effort to hold officials accountable for their use of a revenue source in isolation, and does so because of a psychological aversion to seeing his or her income misused. In our approach, by contrast, citizens will choose, conditional on sufficient levels of external efficacy, to monitor the revenue source they believe *is the least transparent and seen by both elites and average citizens as the most easily expropriated*. Thus, while the endowment effect would predict more monitoring and accountability for tax-based expenditures, our framework suggests that, under certain conditions, we would instead observe greater accountability for *non-tax* expenditures precisely because citizens believe the need for monitoring and sanctioning of these revenues is higher than for their tax-based counterparts.

Under what conditions, then should we see differential accountability? That is, when should we see greater accountability for one source than for another? In our framework, three conditions must be satisfied in order to see differential accountability vis-a-vis other sources: citizens must view that source as less transparent relative to other sources; they must perceive a greater risk of expropriation of that source in the absence of monitoring and sanctioning mechanisms; and they must believe that, conditional on taking action, the probability that such mechanisms will be put in place is high. These conditions can be simplified as follows:

C1: Differential Transparency. In order for citizens to act to provide greater accountability for one revenue source over another, they must perceive that source to be sufficiently opaque that they cannot accurately verify how it is used.

C2: Differential Expropriation Risk. In order for citizens to act to provide greater accountability, they must also perceive that risk of expropriation of that revenue source is inherently higher than for others.

C3: Sufficient External Efficacy. Even where citizens perceive less transparency and higher expropriation risk, observable differences in efforts to promote accountability will only exist if citizens believe the probability that their actions will lead to oversight or sanctions is high.

Where all three of these conditions hold simultaneously, we thus expect to see statistically significant differences in the theoretical and actual willingness to invest financial or political resources into monitoring and sanctioning mechanisms. If only a subset of these conditions are true, we should see no such differences. This leads to the following empirical predictions:

H1 (Behavioral Effect): If citizens view spending from a given source (e.g. taxes, oil, or aid) as inherently less transparent and more vulnerable to expropriation, we should observe a differential accountability whereby citizens show a greater willingness to enforce transparency and pressure elected officials for action on that source relative to other sources *only for those citizens with high efficacy*.

H2 (Attitudinal Effect): If citizens perceive C1 and C2 to be the true with respect to a revenue source but have low priors on the likely success of any action, they should demonstrate a *theoretical*

willingness to enforce monitoring and compliance, but will not take any observable action.

3 Experimental Design

The experimental design and data analysis plan was registered with EGAP prior to researcher access to the outcome data. For this experiment, we drew a sample of Ugandan citizens ($n = 3186$) that is nationally representative in most respects except that we over-sampled districts that are the sites of oil exploration. In interviews with this sample of Ugandan citizens, we presented a randomly assigned statement about the source of significant public funds and then asked subjects a series of questions about what they think the effects of the funds will be and where they think these funds should be spent. These revenue streams were all plausible future budget sources given publicly available information.

The survey first asked questions covering a wide array of standard demographic characteristics. These included ethnicity, age, gender, education, employment, income, quality of life, access to public services, government effectiveness, media consumption, political knowledge, political interest, political activity, political trust, party affiliation, perceptions of corruption, and perceptions of clientelism.

After the battery of demographic questions, we randomly assigned subjects to receive a statement about revenues from one of four sources: oil receipts, aid flows through government, aid flows through NGOs, or domestic taxes. Randomization of treatment assignment allows us to uncover systematic differences in subject responses across conditions. We incentivized respondents to take the survey giving them 1000shillings at

the start; in part we did this so we could ask them to donate (parts of these) sums to NGOs as a behavioral outcome at the end. We tested the effects of the information conditions both on subjects' attitudes and on their willingness to take action imposing personal costs by signing a statement calling for an independent resource tracking agency, sending an SMS message to their MP, and donation of survey remuneration to watchdog NGOs.

3.1 Experimental Conditions

Subjects were randomly assigned to treatment and control conditions in which they are provided with information. While simple randomization would not lead to biased estimates, the presence of non-trivial differences in respondent experience with local government at the constituency-level presented an opportunity to improve the efficiency of the differences estimator through the use of a permuted-block randomization algorithm. This algorithm was designed such that, within each constituency, there was perfect (or, when the number of respondents was not divisible by four, near-perfect) balance between our experimental conditions. The conditions are as follows:

Oil Condition: "As part of this survey, we are also providing important information to Ugandans about finances in Uganda. In next few years, government agencies of Uganda will receive at least five trillion shillings. This money will come from the sale of the oil that was recently discovered in Uganda. This money will become part of the Ugandan government budget. Lawmakers and the President are supposed to use the money to improve the lives of Ugandans."

Tax Condition:“As part of this survey, we are also providing important information to Ugandans about finances in Uganda. In next few years, government agencies of Uganda will receive at least five trillion shillings. This money will come from taxes on wages and purchases that will be paid by all Ugandans. This money will become part of the Ugandan government budget. Lawmakers and the President are supposed to use the money to improve the lives of Ugandans.”

Aid Condition: “As part of this survey, we are also providing important information to Ugandans about finances in Uganda. In next few years, government agencies of Uganda will receive at least five trillion shillings. This money will come from aid given by foreign governments. This money will become part of the Ugandan government budget. Lawmakers and the President are supposed to use the money to improve the lives of Ugandans.”

3.2 Survey and Key Outcomes of Interest

Following the experimental condition text, subjects were asked a series of questions about how transparent spending financed by the new revenue source was likely to be; how likely it was that elites would be able to expropriate the money for themselves, their families, or for their political advancement (e.g. clientelism); and whether they would be willing to pay taxes to finance a transparency agency to monitor the new spending or to contact local or national elected officials in the event the new revenue was misused.⁵

Subjects were then given the opportunity to voice their support for a proposal to create an independent agency to track the new revenue

⁵ Full text of each question is available in the appendix.

source, and allowed to sign a petition either named or anonymously that would later be sent to their constituency MP informing him or her of the respondent's desire for the agency to be created. Subjects were also invited to send an SMS text message reinforcing their position to their MP. Finally, they were invited to donate the money paid them for taking part in the survey, approximately one-fifth the daily wage of a rural Ugandan, to watchdog groups promoting government accountability. With the exception of the donation, all measures are binary and take a value of one if the respondent answered affirmatively and zero otherwise. The prompt for the donation measure was as follows:

There are several organizations in Uganda that work to make it easier for ordinary Ugandans to see how development funds are spent. At the beginning of the survey, we gave you 1000 shillings to compensate you for the time it has taken to answer our questions. Now, we would like to know if you would like to donate to one of those organizations. You may choose to donate to Action Aid Uganda, Transparency International Uganda, or a third organization of your choosing. If you would like to donate, please give me the amount of money you would like to donate and which organization you would like to donate to. If you do donate, your money will be used to help reduce corruption and improve the lives of ordinary Ugandans.

After the money was donated, enumerators recorded the amount in the survey software. In addition to spot-checks, field managers verified the amount of money given out each night and confirmed that it matched reported totals.

The behavioral measures were designed with two principals in mind. First, in order to make sure that we captured not only whether someone would take costly action but how costly of an action they were

willing to take, we crafted behavioral measures that imposed increasingly steep political and economic costs. Signing an anonymous petition is a statement of intent but little more, while signing a named petition is sufficiently more costly, particularly under Uganda's quasi-authoritarian regime. In the middle of the cost distribution is the SMS measure; at approximately 50 shillings per text message, the sum represents a small but not-insignificant amount for the average Ugandan. Finally, with the ability to pocket up to 1,000 shillings by refusing to donate altogether, the donation experiment is the most costly: because respondents were notified their donation would be given directly to the agency of their choice, it constitutes political action that is at once a political and economic cost.

4 Data and Analysis

The sample contains a total of 3,186 observations, which were collected using an area-probability sample designed to achieve national representativeness. Data collection began in May of 2014 and ended in June 2014. The oil districts of Hoima, Bulissa and Masindi were over-sampled to give adequate power for future analyses that will test whether there are meaningful differences between oil and non-oil districts after oil revenue has been collected by the central government and spent.

To enhance the validity of our estimates, we blocked treatment assignment at the constituency-level. While we include the tests without blocking in the appendix, we focus our interpretation on the block-adjusted estimates because they are superior in terms of their substantive value,

controlling as they do for constituency-level features.⁶In addition, the results reported here are estimated only on the subset of respondents who passed a post-treatment manipulation test.⁷ Since literacy and education may affect the likelihood with which a respondent could recall the experimental condition they were given, this may bias the sample slightly. While more educated and wealthy respondents are also more likely to take political action or lobby for their preferred policy, this bias will have the effect of raising the proportion of respondents who take costly action equally across all three treatment conditions, leaving our estimates—which compare responses across conditions—unchanged.

4.1 Randomization Inference

Although we employ traditional difference-in-means and block-adjusted regression results as robustness tests, our primary analysis uses randomization inference, an assumption-free non-parametric estimation strategy that has become increasingly common in the analysis of randomized experiments in political science. In most contexts—the present

⁶While investigating the reason for between-constituency differences—to the extent they exist at all—is the subject of ongoing work, they are of secondary importance for two reasons. The first is a matter of data availability: constituency-level data of interest, such as variables measuring respondents' experience with corruption, the strength and tenure of the ruling party, and ethnic composition are not widely available. The second is substantive: while between-constituency differences may be of interest to those studying the resource curse, the differential willingness of citizens to take costly action to monitor and sanction elected officials depending on the revenue source is ultimately a local phenomenon. As such, our primary focus here is discovering whether accountability pressures from *within* the constituency would differ by revenue source.

⁷The test prompted respondents to recall the source of the new government revenue. Enumerators were instructed not to read any answer choices or give any assistance to respondents as they answered this question. Only an un-assisted answer matching the experimental source was coded as correct.

included— randomization inference is the preferred approach for the analysis of experiments for several reasons.

First, and perhaps most importantly, unlike traditional parametric estimation which relies on the t or Normal distribution to establish statistical significance, randomization inference makes no distributional assumptions about the test statistic used. Instead, the distribution used to recover the test statistic's p -value is generated directly from the data. This is accomplished by considering all possible treatment assignment vectors, calculating the test statistic for each, and using these estimates to construct a distribution that represents the range of potential treatment effects that might arise purely from chance alone. In doing so, it accounts for treatment assignment vectors that would be both highly favorable to the experimenters—for example, those in which most or all treated units were also those with high values on the dependent variable of interest—as well as those that would be unfavorable.

As Keele et al (2012, 686) note, one of the principal advantages of this approach is that the resulting test of significance is an intuitive quantity, one that is often precisely what the political science experimenter seeks to approximate with traditional parametric tests: a p -value that represents "the probability that the result observed among his or her specific set of experimental subjects can be explained away by the chance constitution of the treatment groups under one allocation of treatment". While our sampling strategy was designed to be nationally representative (and thus to maximize external validity), this so-called *exact* test ensures the internal validity of reported estimates for any sample, even one generated non-randomly, without recourse to a

parametric distribution.⁸ Although the flexibility in choosing a substantively meaningful test statistic is another advantage of randomization inference, we focus here on a traditional test: that of a difference-in-means between the treated and control group.⁹

In order to make predictions about whether we should expect to see a differential accountability effect in favor of tax-based spending on our behavioral measures, we must first establish whether Condition 1 (Differential Transparency) and Condition 2 (Differential Expropriation Risk) are satisfied. In other words, our framework would predict a differential accountability effect of tax-based spending *only if respondents believed both that tax-based spending is relatively less transparent than spending from other sources and that tax revenues are more easily expropriated than other sources.*

For our measure of transparency, we constructed a simple weighted index of two items that asked respondents how likely they believed it would be possible for them to observe how the new revenue from their randomly assigned source was spent, and how likely they believe their constituency Member of Parliament (MP) would know how it was spent. The inclusion of the second item allows the measure to capture transparency in terms of an information asymmetry between those who manage or have access to the funds (elites) and those for whose benefits the funds are supposed to be used (citizens). Using only the

⁸ While not relevant for the present study, randomization inference is also assumption-free with respect to the behavior of treated units, and does not require what, after Rubin (1986), is often called the "stable unit-treatment value assumption" (SUTVA), or non-interference between units. This assumption is often violated in practice and is especially untenable the more intense the treatment becomes.

⁹ We also conducted an alternative non-parametric test, the Wilcoxon rank-sum test. The results were substantively and statistically unchanged.

respondent-focused question could lead to poor inference in those cases where respondents may believe that spending is opaque even for elected officials, as is the case in heavily authoritarian regimes.

To measure expropriation risk, we used a simple weighted combination of four items that measured, respectively, their belief that the new revenue would be captured by elites for rent-seeking, used to benefit the central government, used to benefit the community, and used to benefit themselves or their family. The scores of the latter two items were inverted, such that higher values on the composite variable reflect a higher expropriation risk in the eyes of the respondent.

Figure 1 provides a visual representation of both measures using boxplots. While the overlapping boxes in both panels hints at the similarity of both measures across treatment groups, we also conducted for each measure a Kruskal-Wallis test, a generalization of the Wilcoxon rank-sum test for multiple groups. The Kruskal-Wallis test, a non-parametric test most appropriate for rating-scale data of the kind captured here, does not assume normally distributed residuals and tests the null hypothesis of no stochastic dominance between the three treatment groups—that is, between those who received the aid, tax, or oil conditions.¹⁰ The tests verify the visual intuition, with p-values of .92 and .93 respectively. We can thus conclude that neither Condition 1 (Differential Transparency) nor Condition 2 (Differential Expropriation Risk) are satisfied in our sample: put plainly, respondents do not appear to have meaningfully different beliefs about the

¹⁰The Kruskal-Wallis test was chosen because its parametric counterpart, one-way ANOVA, requires a normality assumption that does not hold for either the transparency or expropriation risk measures. It is also the most common non-parametric

transparency or expropriation risk associated with revenues derived from from aid, oil, or taxes.

Yet, it is worth noting that the lack of differences is not a function of a general belief in good behavior on the part of government actors: in a separate item, an overwhelming majority (82 percent) of respondents reported that it was "very important" (the highest item in the scale) that the new revenue be tracked, a proportion that, in addition to the mean, is nearly invariant across treatments. Moreover, disaggregating the risk measures demonstrates the high degree of cynicism that Ugandans share with citizens in other African countries about elites' use of public funds for private gain: over 80 percent of the sample reported it was likely or somewhat likely their MP would know how the funds were spent, while 70 percent of the sample believed people like them would be *unlikely or somewhat unlikely* to learn how the money was spent.

The implications of the overall similarity in respondents' beliefs about transparency and appropriation risk are two-fold. First, under H1 and H2, above, we should thus see no behavioral differences across conditions. The second is that, in a Prospect Theory framework we should, in fact, expect a positive treatment effect for the tax condition--that is, we should see a greater willingness to take action for those who received the tax condition than for those who received the oil or aid conditions.

4.2 Behavioral Effects

Tables 1 and 2 report the Average Treatment Effect (ATE), right-handed and left-handed p-values, and the standard deviation of the randomization distribution on our four behavioral measures: signing a petition anonymously (Sign Anon), signing a petition with the respondent's legal name (Sign Name), sending an SMS voicing support for the new agency (Send SMS), and donating to an anti-corruption or anti-transparency agency (Donate).¹¹

As noted above, *exact* p-values represent the probability that the estimated average treatment effect (ATE) could have been obtained by a chance treatment assignment vector. The large number of respondents made exact estimation of the distribution infeasible--the number of possible combinations of treatment assignment tends towards infinity even in moderately sized samples--but approximation of the distribution has been shown to be quite accurate even with relatively few draws from the set of all possible treatment vectors. The primary quantity of interest for our purposes is the two-sided p-value, which represents the probability that we would have observed a different ATE in the treatment group (the

¹¹ All estimates obtained using the *r/* package in R. The left, right, and two-tailed tests correspond to the alternative hypotheses of a negative, positive, and non-zero effect respectively. While it customary to report only one of the three p-values, we report all three here for two reasons. The first is that our hypotheses are of a null effect, and so the two-tailed test is the most appropriate. However, an endowment effect story would be consistent with a positive treatment effect, in which case a right-handed test would be most appropriate. Left-handed p-values to demonstrate that, in some cases, the tax treatment actually appears to make respondents less willing relative to the control group to take action.

tax group) relative to the control group (oil and aid, respectively) under the sharp null of no effect for all units.¹²

Looking first at the Aid-Tax comparison in Table 1, we see that, consistent with Hypothesis 1, there are no positive treatment effects of any kind in the tax treatment: those who received the tax treatment were no more likely than those who received the aid treatment to take behavioral action of any kind to encourage greater monitoring. In the Oil-Tax comparison we see a similar pattern of null results, with one exception: the willingness to donate money to a non-profit transparency agency. Yet this effect goes in the opposite direction from those we would expect from the current literature--those who receive the tax condition donate *less* than those who received the oil condition.

4.3 Prospective Behavioral Effects

The lack of systematic treatment effects for the tax condition---that is, the lack of a difference in willingness to take observable action to implement monitoring of the new spending---is consistent with our predictions given the results in Figure 1, which suggest that respondents see little difference between the transparency or expropriation risk of our three revenue sources. However, the lack of observable action is also consistent with a high *willingness* to act and a low belief in the probability that such action will succeed. To test whether it may be low external

¹² It is also worth noting that, because we include only those units that passed the post-treatment manipulation test, we are testing on the subset of respondents for whom a treatment effect is *most* likely. Compared to testing the full sample--results of which are reported in the appendix and are substantively identical--these results represent a harder test for our hypothesis of a null effect.

efficacy that is preventing citizens from taking meaningful action, we conducted randomization inference on respondent's theoretical willingness to pay taxes to create a new transparency agency; the amount of new taxes per month (in shillings) they said they would be willing to spend to finance it; and how likely they would be to demonstrate, change their vote, or contact a battery of elected officials if they learned the new revenue had been misused.

Tables 3 and 4 report the results of an analysis identical to that conducted for our behavioral measures. Here, we see far more significant results for both the Aid-Tax and Oil-Tax comparisons, particularly in the one-tailed tests. Yet, as with the *Donate* measure, these results go in the *opposite* of the direction we would expect if the endowment effect were present. Relative to those in the aid treatment, respondents who saw the tax vignette are *less* likely to contact their LC3 Chairman (a position similar to that of a mayor in the United States) or Member of Parliament if they learn the new revenue has been misused. Only in the case of the desire to pay new taxes to create a government monitoring agency does the tax treatment appear to have a positive effect on respondents' theoretical willingness to act.

Turning to the Oil-Tax comparison in Table [X], we see an even stronger set of negative treatment effects for the tax condition. Respondents in the tax condition were significantly less likely to demonstrate in the case of mismanagement (p-value = .103), to contact their village elder or LC3 Chairman (p-values .08 and .11 respectively), or to contact their MP (p-value = .008). Again, as in the Aid-Tax comparison, the tax condition had a positive effect only on respondents'

willingness to pay additional taxes to create a new agency, but not on the amount that those who were willing to pay said they would be willing to forego.

5 Discussion

There are several results worth noting. The first is that, with one exception, the reported results were consistent with Hypothesis 1: there was no greater willingness to take either cheap or more costly forms of action to increase the likelihood of greater transparency among those who received the tax treatment relative to either the oil or aid treatment. The one exception to this broad trend was the amount in shillings respondents were willing to donate to a non-profit transparency organization of their choosing. Yet in this case the results were contrary to what we might expect given findings in the literature: those who saw the tax condition donated *less* than those who saw the oil condition.

While our results lend broad support for Hypothesis 1---that is, no behavioral effect---an examination of respondents' theoretical willingness to act is not consistent with our expectations in Hypothesis 2. Contrary to our expectations, there did appear to be differential theoretical willingness to enforce transparency depending on the revenue source. However, the direction of this effect was the opposite of what we might expect given existing findings in the literature, which show that taxes appear to engender a greater willingness to monitor and sanction spending behavior. Instead, we see that citizens, in general, appear to be most

willing to take action (at least theoretically) to monitor and sanction officials for their oil-based expenditures.

In the context of the recent political developments in Uganda-- large amounts of oil were recently discovered and the extraction rights are a matter of much public debate--this is perhaps not unsurprising. Yet it suggest that we should conceptualize monitoring and sanctioning decisions by citizens as a function of their beliefs about which sources of revenue are particularly vulnerable to corruption. While our experiment does not speak to the endowment effect directly, it does suggest that, attitudinally if not behaviorally, it may be the case that it will matter most only in those cases where there is not greater concern over other sources of funding.

6 Conclusion

Using measures of both actual and theoretical willingness to monitor and sanction elected officials for the misuse of tax-, oil- and aid-financed expenditures, we have sought to understand when and why citizens may choose to monitor some sources of spending and not others. While existing literature demonstrates that a unique feature of taxation--the expropriation of earned income after the fact--can produce stronger incentives to hold politicians accountable for tax-based spending, we sought to understand whether other factors might lead to a preference for monitoring of other revenue sources.

Emphasizing the transparency and expropriation risk of existing streams, we conducted a large field experiment to determine whether differential beliefs over these two features of spending sources might, in

fact, lead to greater willingness (both actual and stated) to enforce greater transparency for non-tax forms of revenue, particularly oil and aid, that are often captured by elites. In general, our results suggest that where citizens do not perceive a greater transparency or expropriation risk for one source over another, it is not necessarily the case that they should prefer to monitor tax expenditures.

The extent to which this is driven by a feature common to many developing countries--the heavy use of the value-added tax and lesser reliance on income taxes for government revenue--is beyond the scope of this study but may prove a fruitful area for future research. It may indeed be that the combination of low priors on government efficacy and widespread belief in systemic corruption means that citizens are equally pessimistic about the extent to which *any* revenue that passes through the central government will be well-spent. Where this is the case, it is difficult to see why non-tax sources of revenue, particularly aid, which often comes with built-in transparency measures via conditionality, should be any more likely to contribute to poor economic and political performance.

Table 1: Aid Control, Tax Treatment

<u>Measure</u>	<u>ATE</u>	<u>Two-Tailed P-Val</u>	<u>Greater P-Val</u>	<u>Lesser P-Val</u>	<u>Std. Dev</u>
Anonymous Petition	0.011	0.611	0.305	0.747	0.030
	-				
Donation (Shillings)	20.220	0.420	0.793	0.210	22.035
Named Petition	-0.030	0.445	0.814	0.223	0.030
Send SMS	0.008	0.827	0.414	0.644	0.031

Table 2: Oil Control, Tax Treatment

<u>Measure</u>	<u>ATE</u>	<u>Two-Tailed P-Val</u>	<u>Greater P-Val</u>	<u>Lesser P-Val</u>	<u>Std. Dev</u>
Anonymous Petition	-0.002	1.031	0.516	0.539	0.031
	-				
Donation (Shillings)	46.383	0.120	0.940	0.060	25.058
Named Petition	0.014	0.697	0.349	0.697	0.031
Send SMS	-0.003	0.935	0.585	0.467	0.031

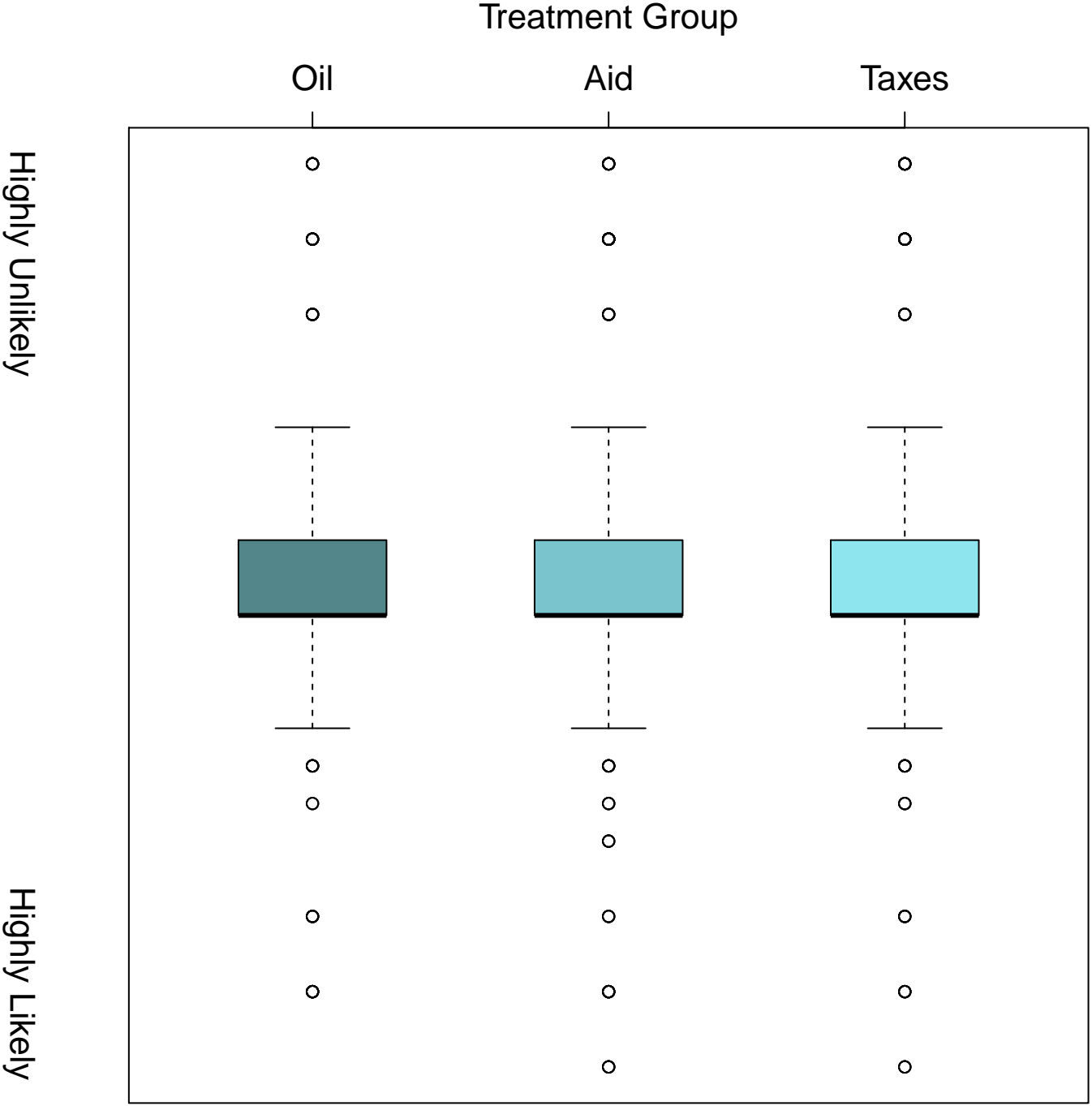
Table 3: Aid Control, Tax Treatment

<u>Measure</u>	<u>ATE</u>	<u>Two-Tailed P-Val</u>	<u>Greater P-Val</u>	<u>Lesser P-Val</u>	<u>Std. Dev</u>
Demonstrate	0.038	0.777	0.389	0.629	0.101
Contact Elder	-0.109	0.383	0.817	0.192	0.110
Contact LC3	-0.256	0.034	0.984	0.017	0.109
Contact MP	-0.155	0.111	0.947	0.056	0.112
Change Vote	0.012	0.805	0.402	0.615	0.123
Create Agency	0.045	0.178	0.089	0.931	0.030
Taxes Willing to Pay	0.030	0.892	0.446	0.554	0.128

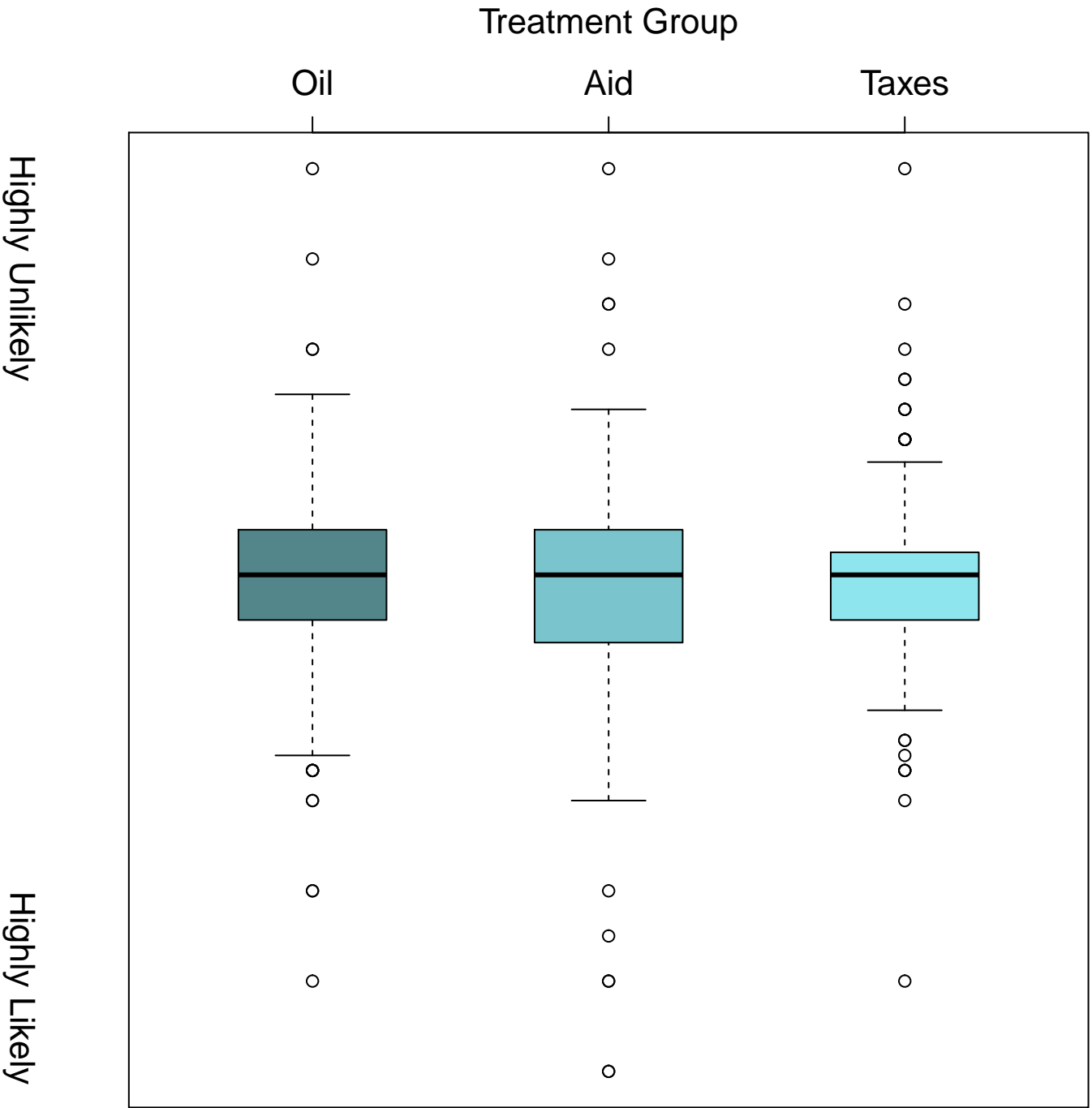
Table 4: Oil Control, Tax Treatment

<u>Measure</u>	<u>ATE</u>	<u>Two-Tailed P-Val</u>	<u>Greater P-Val</u>	<u>Lesser P-Val</u>	<u>Std. Dev</u>
Demonstrate	-0.161	0.206	0.902	<i>0.103</i>	0.109
Contact Elder	-0.139	0.169	0.921	0.084	0.111
Contact LC3	-0.130	0.231	0.889	<i>0.116</i>	0.113
Contact MP	-0.244	0.016	0.993	0.008	0.117
Change Vote	0.001	0.836	0.591	0.418	0.124
Create Agency	0.057	0.159	0.080	0.938	0.031
Taxes Willing to Pay	-0.097	0.493	0.754	0.246	0.134

**Likelihood Spending from
Revenue Source Will Be Transparent**



**Likelihood Spending from
Revenue Source Will Be Expropriated**



7 Appendix

7.1 Key Survey Items

1. **Some people have said that they would like to create a special government agency in charge of tracking how the five trillion shillings in [oil/tax/aid] money is spent by [government agencies/non-governmental organizations]. How important do you think it is to track how this money is spent?**
 - A. Not at all important
 - B. Not very important
 - C. Somewhat important
 - D. Very important
 - E. Don't know
 - F. Refuse
2. **In other countries, there are government agencies that are used to track how development money is spent. Currently, the Ugandan government does not have an agency like this. An agency to do this could be created, but it would require all Ugandans to pay special taxes in order to create it. Would you be willing to pay a small tax so that this agency could be created?**
 - A. Yes
 - B. No
 - C. Don't know
 - D. Refuse
3. **How much would you be willing to pay per month in new taxes for this agency to be created?**
 - A. Enumerator enters amount stated
4. **Would you be willing to send an anonymous petition to your Member of Parliament telling him that you would like for this agency to be created? An anonymous petition is one that does not have your name on it.**
 - A. Yes

- B. No
- C. Don't know
- D. Refuse

5. **Would you be willing to send a petition using your real name to your Member of Parliament telling him that you would like for this agency to be created?**

- A. Yes
- B. No
- C. Don't know
- D. Refuse

6. **ENUMERATOR: Present the petition to the respondent. Mark below whether the respondent signs the petition. If the respondent has suggested that he would only be willing to sign anonymously, ask him or her to put an "X" instead of a signature. If the respondent said he would be willing to use his name, ask him to sign the petition directly.**

- A. Signed
- B. Did not sign

7. **Would you be willing to send an SMS saying that you would like for this agency to be created? Your message will be presented along with other messages to your Member of Parliament. Standard SMS rates apply.**

- A. Yes
- B. No
- C. Don't know
- D. Refuse

E. **ENUMERATOR: Please take the slip of paper used for the SMS code and write the following number: [piped based on experimental conditions]**

8. **There are several organizations in Uganda that work to make it easier for ordinary Ugandans to see how development funds are spent. At the beginning of the survey, we gave you 1000 shillings to compensate you for the time it has taken to answer our questions. Now, we would like to know if you would like to donate to one of those organizations. You may choose to donate to Action Aid Uganda, Transparency International Uganda, or a third organization of your choosing. If you would like to donate, please give me the amount of money you would like to donate and which organization you would like to donate to. If you do donate, your money will be used to help reduce corruption and improve the lives of ordinary Ugandans.**

9. **ENUMERATOR:** How much money did the respondent give you? If they do not donate any money, type "0" as the answer.

10. **ENUMERATOR:** Which organization did the respondent choose to donate the money to?

- A. Transparency International Uganda
- B. Action Aid Uganda
- C. Other Organization

7.2 Citizen Survey Outcomes

The following is a battery of questions that was asked after the vignette, and represents the key outcome measures that will be used to assess whether respondents view hold different expectations for different revenue streams. They organized by the causal mechanism they are designed to test. Because spending and repression effects are ultimately a decision by elites about how to allocate resources, it is possible to observe both, one, or neither. We therefore consider these effects together. Some questions measure whether people think one is more likely than the other, while others ask them about the likelihood of each occurring independently of the other.

Prompt:We would now like to ask you some questions about what you think will happen when government [agencies/non-governmental organizations] receive five trillion shillings from [oil/taxes/aid].

1. **How likely is it that this money will make the government less willing to tolerate opposition and differences of opinion?**

- A. Very unlikely
- B. Unlikely
- C. Somewhat unlikely
- D. Somewhat likely
- E. Likely
- F. Very likely
- G. Don't know
- H. Refuse

2. **List Experiment Question:** Now I would like you to think about what may happen to the new revenue available to [government agencies/non-governmental organizations], which is coming from [oil/taxes/aid]. I am going

to read you a list of things that may or may not happen with this new revenue. After I am done, I would like you to tell me **HOW MANY** of these things will probably happen. Do not tell me which ones you experienced, only **HOW MANY**. **ENUMERATOR:** Read the following list of things to the respondent. Read them **SLOWLY**. Once you are done, ask the respondent if he or she would like you to read them again. If they answer yes, do so. Sometimes there will be four items, at other times only three. Read **ONLY** the items on the list. Mark the number they tell you in the box below.

1. Most of the [oil/tax/aid] money will be used to bring development to Uganda.
 - A. The [oil/tax/aid] money will bring conflict to Uganda.
 - B. Some Ugandans will benefit from the [oil/tax/aid] money, but others will not.
 - C. [List experiment item, randomly assigned] Politicians will use the [oil/tax/aid] money to do favors for people and try to win their votes.

3. **How do you think the money should be distributed? Should it be distributed directly to the people, distributed to the local government, or controlled by the national government?**
 - A. Directly to the people
 - B. Distributed to local government
 - C. Controlled by national government
 - D. Don't know
 - E. Refuse

4. **Do you strongly agree, agree, disagree, or strongly disagree with the following statements?**
 - A. The money will become a prize to be won and will increase political conflict and violence in the country.
 - B. The money will help opposition parties win more votes.

5. **Now, we would like to ask you some questions about WHERE you think the money will be spent. Do you think it will spent:**
 - A. Equally among all Ugandan districts
 - B. Mostly in your own district
 - C. Mostly in the poorest districts
 - D. Mostly in the districts that support the NRM government
 - E. Mostly in the districts that produce oil

- F. Don't know
- G. Refuse

6. The money we mentioned before may be spent in many different ways. We are now going to ask you some questions about the revenue. After each, we would like to know if you think they are very likely to happen, somewhat likely to happen, not very likely to happen, or not at all likely to happen.

- A. People like me will be able to learn how it was spent. [Likert scale]
- B. My MP will know how this money is spent. [Likert scale]
- C. The money will be spent on projects that will make ordinary people's lives better. [Likert scale]
- D. Politicians will use the money to get people to vote for them. [Likert scale]

7. We would now like to ask you some questions about HOW YOU THINK [government agencies/NGOs] will spend the five trillion shillings from [oil/taxes/aid]. How much do you think the money will help the following people?

- A. Your family [not at all, a little, some, a lot, don't know, refuse]
- B. Your community [scale]
- C. The Ugandan economy [scale]
- D. The NRM [scale]
- E. The central government [scale]

8. How do you think this money will be spent? I would like you to rank the three things that the money is most likely to be spent on, starting with the most likely one first:

- F. Infrastructure (e.g. building new roads, improving existing roads)
- G. Education (e.g. hiring new teachers, improving classrooms, new schools)
- H. Improving access to clean water (e.g. giving people water filters, making rivers cleaner, digging new wells)
- I. Health care (e.g. building new clinics, hiring more doctors and nurses, reducing the cost of medicine)
- J. Providing more money and gifts during elections (e.g. at rallies)
- K. Giving government jobs to important or influential people
- L. Hiring more police and military personnel
- M. Agriculture (e.g. teaching people about good farming practices, providing subsidies for equipment and fertilizer)

- N. Other
- O. Don't know
- P. Refuse

9. If the money is not spent on the things you think are most important, how likely are you to do each of the following:

- A. Contact village elder [Likert scale]
- B. Contact LC3 official [Likert scale]
- C. Contact your Member of Parliament [Likert scale]
- D. March in a demonstration [Likert scale]
- E. Change what party I vote for in the next election [Likert scale]

7.2.1 MP Behavioral Outcome

Enumerators invite MPs to sign the following statement: "Through a survey project with Princeton University, which is funded by the World Bank, I have learned about an example of a sovereign wealth fund, one way that certain government revenues can be managed and invested to deliver long-term development for the people of Uganda. I understand that the creation of such a fund would entail the creation of an independent body that would manage and invest the revenues that are collected. I also understand that, every year, the fund would be required to publicly report its income and investments in order to promote transparency. I support the creation of such a fund and hope that it will bring greater development and prosperity to Uganda."

7.2.2 MP Survey Outcomes

1. Some people have said that they would like to create a special government agency in charge of tracking how the five trillion shillings in [oil/tax/aid] money is spent by [government agencies/non-governmental organizations]. How important do you think it is to track how this money is spent?

- A. Not at all important
- B. Not very important
- C. Somewhat important
- D. Very important
- E. Don't know
- F. Refuse

2. List Experiment Question: Now I would like you to think about what may happen to the new revenue available to [government agencies/non-governmental organizations], which is coming from [oil/taxes/aid]. I am going to read you a list of things that may or

may not happen with this new revenue. After I am done, I would like you to tell me **HOW MANY** of these things will probably happen. Do not tell me which ones you experienced, only **HOW MANY**. **ENUMERATOR:** Read the following list of things to the respondent. Read them **SLOWLY**. Once you are done, ask the respondent if he or she would like you to read them again. If they answer yes, do so. Sometimes there will be four items, at other times only three. Read **ONLY** the items on the list. Mark the number they tell you in the box below.

- A. Most of the [oil/tax/aid] money will be used to bring development to Uganda.
- B. The [oil/tax/aid] money will bring conflict to Uganda.
- C. Some Ugandans will benefit from the [oil/tax/aid] money, but others will not.
- D. [List experiment item, randomly assigned] Politicians will use the [oil/tax/aid] money to do favors for people and try to win their votes.

3. How much do you think that [government agencies/NGOs] will use the money from [oil/taxes/aid] to help the following things/people:

- 3A. Your family [not at all, a little, some, a lot, don't know, refuse]
- 3B. Your community [scale]
- 3C. The Ugandan economy [scale]
- 3D. The NRM [scale]
- 4E. The central government [scale]

4. Do you strongly agree, agree, disagree, or strongly disagree with the following statements?

- A. When the [oil/tax/aid] money arrives, I will be able to work with the [government agencies/NGOs] to bring projects to my constituency [Likert scale]
- B. When the [oil/tax/aid] money arrives, I will be able to influence how the money is spent
- C. When the [oil/tax/aid] money arrives, I will be able to see how the money is spent.
- D. When the [oil/tax/aid] money arrives, I will be able to see how the money is spent.

5. How do you think the money from [oil/taxes/aid] should be distributed? Should it be distributed directly to the people, distributed to the local government, or controlled by the national government?

6. Before, we mentioned that [government agencies/NGOs] will receive five trillion shillings from [oil/taxes/aid]. I am going to read you a list of things that this money could be spent on, and I would like you to rank the three most important, starting with the things you would most like the money to be spent IN YOUR CONSTITUENCY on at the top.

- A. Infrastructure (e.g. building new roads, improving existing roads)
- B. Education (e.g. hiring new teachers, improving classrooms, new schools)
- C. Improving access to clean water (e.g. giving people water filters, making rivers cleaner, digging new wells)
- D. Health care (e.g. building new clinics, hiring more doctors and nurses, reducing the cost of medicine)
- E. Providing more money and gifts during elections (e.g. at rallies)
- F. Giving government jobs to important or influential people
- G. Hiring more police and military personnel
- H. Agriculture (e.g. teaching people about good farming practices, providing subsidies for equipment and fertilizer)
- I. Other
- J. Don't know
- K. Refuse

7. Before, we mentioned that [government agencies/NGOs] will receive five trillion shillings from [oil/taxes/aid]. I asked you how you would like this additional money to be spent. Now I would like you to tell me how you think the money will actually be spent. I would like you to rank the three things that the money is most likely to be spent on, starting with the most likely one first.

- A. Infrastructure (e.g. building new roads, improving existing roads)
- B. Education (e.g. hiring new teachers, improving classrooms, new schools)
- C. Improving access to clean water (e.g. giving people water filters, making rivers cleaner, digging new wells)
- D. Health care (e.g. building new clinics, hiring more doctors and nurses, reducing the cost of medicine)
- E. Providing more money and gifts during elections (e.g. at rallies)
- F. Giving government jobs to important or influential people
- G. Hiring more police and military personnel
- H. Agriculture (e.g. teaching people about good farming practices, providing subsidies for equipment and fertilizer)
- I. Other
- J. Don't know
- K. Refuse

8. Now, we would like to ask you some questions about WHERE you think the money will be spent. Do you think it will spent:

- A. Equally among all Ugandan constituencies
- B. Mostly in your own constituency
- C. Mostly in the poorest constituencies
- D. Mostly in the districts that support the NRM government
- E. Mostly in the districts that produce oil
- F. Don't know

8 References

- Anderson, Michael L. 2008. "Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American Statistical Association* 103, 484: 1481–95.
- Bariyo, Nicholas. 2014. "Uganda Set to Award New Oil Exploration Licenses in 2015." *Wall Street Journal*. 3 June 2014. Accessed 21 September 2014 at <http://online.wsj.com/articles/uganda-set-to-award-new-oil-exploration-licenses-in-2015-1401793334>.
- Bermeo, Sarah Blodgett. 2013. "Aid is Not Oil: Donor Preferences, Heterogeneous Aid, and the Aid–Democratization Relationship." Article manuscript.
- Boschini, Anne D., Pettersson, Jan, Roine, Jesper, 2007. Resource curse or not: A question of appropriability. *Scandinavian Journal of Economics* 109(3), 593–617.
- Bräutigam, Deborah A., and Stephen Knack. Foreign aid, institutions, and governance in Sub-Saharan Africa. *Economic Development and Cultural Change* 52, no. 2: 255–285.
- Bulte, Erwin H., Richard Damania, and Robert T. Deacon. 2005. Resource intensity, institutions, and development. *World Development* 33, no. 7: 1029–1044.
- Collier, Paul. 2006. Is aid oil? An analysis of whether Africa can absorb more aid. *World Development* 34(9), 1482–97.
- Collier, Paul, and Anke Hoeffler. 2005. Resource rents, governance, and conflict. *Journal of Conflict Resolution* 49, no. 4: 625–633.

- Conroy-Krutz, Jeffrey and Carolyn Logan. 2012. Museveni and the 2012 election: did the money matter? *Journal of Modern African Studies* 50, no. 4: 625–655.
- Djankov, Simeon, Jose G. Montalvo, and Marta Reynal-Querol. 2008. The curse of aid. *Journal of Economic Growth* 13, no. 3: 169–194.
- Dunning, Thad. 2005. Resource dependence, economic performance, and political stability. *Journal of Conflict Resolution* 49, no. 4: 451–482.
- Dunning, Thad. 2008. *Crude Democracy: Natural Resource Wealth and Political Regimes*. Vol. 37 Cambridge, UK: Cambridge University Press.
- Haber, Stephen and Victor Menaldo. 2011. “Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse.” *American Political Science Review* 105(1):1–26.
- Humphreys, Macartan, Jeffrey D. Sachs, and Joseph E. Stiglitz, ed. *Escaping the resource curse*. New York: Columbia University Press.
- Isham, Jonathan, Woolcock, Michael, Pritchett, Lant, Busby, Gwen, 2005. The varieties of resource experience: Natural resource export structures and the political economy of economic growth. *World Bank Economic Review* 19(2), 141–74.
- Jensen, Nathan and Leonard Wantchekon. 2004. “Resource Wealth and Political Regimes in Africa.” *Comparative Political Studies* 37(7):816–841.
- Knack, Stephen. 2009. Sovereign Rents and Quality of Tax Policy and Administration. *Journal of Comparative Economics*, 37(3): 359–71.
- Martin, Lucy. 2013. Taxation and accountability: experimental evidence for taxation’s effect on citizen behavior. WGAPE Working Paper. Accessed December 5 2013 at:

http://cega.berkeley.edu/assets/cega_events/55/Martin_WGAPE-WB.pdf

- Mehlum, Halvor, Karl Moene, and RagnarTorvik. 2006. Institutions and the resource curse. *The Economic Journal* 116, no. 508: 1–20.
- Morrison, Kevin M. 2009. "Oil, nontax revenue, and the redistributive foundations of regime stability." *International Organization* 63, 1: 107–138.
- Morrison, Kevin M. Forthcoming. *Nontaxation and Representation: The Fiscal Foundations of Political Stability*. Cambridge Studies in Comparative Politics. Cambridge: Cambridge University Press.
- Nielsen, Richard, Michael Findley, Zachary Davis, Tara Candland, and Daniel Nielson. 2011. Aid shocks as a cause of violent armed conflict. *American Journal of Political Science* 55, no. 2:219–232.
- Paler, Laura. 2013. Keeping the public purse: an experiment in windfalls, taxes, and the incentives to restrain government. *American Political Science Review*, forthcoming.
- Robinson, James A., RagnarTorvik, and Thierry Verdier. 2006. Political foundations of the resource curse. *Journal of Development Economics* 79, no. 2: 447–468.
- Ross, Michael L. 1999. The political economy of the resource curse. *World Politics* 51, no. 2: 297–322.
- Ross, Michael L. 2001. Does oil hinder democracy? *World Politics* 53, no. 3: 325–361.
- Salama, Vivian. 2014. "Museveni's Oil Bet." Foreign Affairs "Museveni's Oil Bet." *Foreign Affairs*. 14 February 2014. Accessed 21 September 2014 at <<http://www.foreignaffairs.com/features/letters-from/musevenis-oil-bet>>.
- Smith, Alastair. 2008. The perils of unearned income. *Journal of Politics* 70, no. 3: 780–793.

Svensson, Jakob. 2000. Foreign aid and rent-seeking. *Journal of International Economics* 51, no. 2: 437-461.