

Does Power Corrupt?

The Effect of Holding Local Political Office in Zambia on Generalized Trust and Altruistic Reciprocity

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Abstract: Scholars universally acknowledge government corruption to be widespread in Africa, yet there is no such agreement on whether office-holding tends to corrupt politicians or corrupt politicians tend to obtain office. Building on the corruption and behavioral economics literatures, we identify behavioral choices that we argue are linked to corruption. We conduct controlled experiments with over 140 local politicians in Zambia, sampling those who won or lost the last election by a margin of 10% or less, and use a regression discontinuity design to identify the local average treatment effect of holding office on the behavior of politicians. We find that holding office does have a significant effect on the strategic behavior on politicians. Specifically, at the electoral margin, holding office leads politicians to display higher levels of altruistic reciprocity. Possibly because of our low statistical power, we were not able to identify a significant effect of holding office on politicians' level of generalized trust, although we did observe insignificant differences in the expected direction.

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1. Introduction

Does power corrupt, or do the corrupt seek power? Political observers have explored this question for millennia: Plato held deep concerns about the corrupt pursuing power, but expressed confidence that true philosophers would not be seduced by the temptations of office. Socrates warns Glaucon in the *Republic* that office-holding must be devoid of lavish rewards, or those who are “hungering after their own private advantage ... will be fighting about office,” and will produce civil disputes that undermine the state (Plato 380 BC/1888). Sir John Dalberg-Acton uttered perhaps the most famous warning about the perils of institutional authority in his response to Pope Pius IX’s pronouncement of papal infallibility: “All power tends to corrupt,” he cautions, “and absolute power corrupts absolutely” (Dalberg-Acton 1949).

The ubiquity and consequences of corruption have made it central to political discussions by citizens and scholars alike. It has been blamed for a long list of ills, including the misuse of public funds, the inefficient provision of public goods, the lack of government legitimacy, stunted economic growth, and citizen disenfranchisement. A deep and wide scholarly literature has sought to explain its origins and endurance, pointing to possible causes such as human nature, institutions, enculturation, and even genotype.

But the apparent simplicity of the question – are people or are institutions responsible for corruption -- belies the difficulty of answering it rigorously. Current studies of corruption offer a variety of definitions that range from narrow concepts like criminal bribery to the broader view that corruption includes any action that exploits public office for private gain. Measures of corruption rely on surveys of perceptions of corruption and objective data on policy outputs, both of which suffer from selection bias and measurement error. To explain whether individuals or

office generates corruption, research requires observations from the counterfactual world in which incumbents make choices without holding office.

We explore the determinants of corruption with a novel research design employing behavioral games played by politicians. We begin by developing a theory of the proclivity for corruption at the individual level, based on the widely accepted assumption that corruption is motivated by an individual's preference for private over public welfare. We assert that *prosocial* behavioral traits, specifically generalized trust and altruistic reciprocity, are associated with lower levels of corruption. We ground this assertion in the corruption and behavioral economics literatures and support it with in-depth interviews in the field. Behavioral game theory provides a means by which to measure these traits at the individual level in an unbiased way.

To measure prosocial traits, we recruited subjects from a pool of district councilors in Zambia, an African country with an average level of corruption for the continent, and estimate politicians' preference for private over public welfare, and therefore their proclivity for corruption. We believe this is the first effort to recruit actual politicians for behavioral games, as well as the first study to use such games to identify whether those seeking power have equal proclivity for corruption absent the treatment of office-holding. Using a regression-discontinuity design, we sampled Zambian councilors who competed in the last local government election and won or lost by no more than 10% of the vote. We expect such individuals to share similar underlying traits before taking office, an assumption we support econometrically in our analysis. The combination of the "as if" random assignment to the treatment of holding office and our outcome variable, derived from highly incentivized tasks in the laboratory, allows us to determine whether the prosocial traits of generalized trust and altruistic reciprocity differ across winning and losing politicians. We find that that holding office leads politicians to display higher

levels of altruistic reciprocity. This is particularly compelling given the relatively low statistical power of our test. We find no significant effect of holding office on politicians' level of generalized trust, although we do observe insignificant differences in the expected direction.

2. Corruption Literature

Scholars, journalists, and policy practitioners have documented widespread government corruption and its disastrous downstream effects in all nations, but a great deal of current research narrows its focus to developing countries (Shleifer and Vishny 1993; Coolidge and Rose-Ackerman 1997; Hoff and Stiglitz 2003). Media reports about bribery and embezzlement among ministers, party members, bureaucrats, and political supporters are commonplace. Government officials engage in a vast web of clientelism, a softer form of corruption, by rerouting jobs and funds away from the intended recipients to supporters and dependents. Over time, a culture of corruption promotes self-interested behavior and punishes prosocial behaviors such as egalitarianism and meritocratic hiring (Rose-Ackerman 1999; 2001; 2004).

While nearly as many definitions of corruption exist as there are scholars in the field, most agree that the motivation for corruption is a politician's preference for private gain over public welfare. Shleifer and Vishny (1993) define corruption as the use of public office for private gain. Others, such as Bardhan (1997) and Aidt (2003), suggest that corruption induces agency loss, since the private gain of the office holder comes at some public cost. Some narrow this definition of corruption to require illegality (Jain 2001) or include only the giving and taking of bribes (Gray and Kaufmann 1998). The constant, however, remains that idea that the politician chooses personal over public gain.

A variety of theories also address the systemic determinants of corruption. Beyond the widely established negative correlation between economic development and corruption (Treisman 2007), the main debate explores whether cultural or institutional phenomena cause corruption. Institutionalists argue that the incentives generated by electoral rules, systems of government, and bureaucratic institutions may all affect corruption by altering the incentives that motivate politicians and the monitoring mechanisms that constrain them (Rose-Ackerman 1999; Reinikka and Svensson 2003; Treisman 2007; Andvig and Moene 1990; Chang and Golden 2004; Kunikova and Rose-Ackerman 2005; Acemoglu et al. 2001). Warner (2007) argues that decentralized government institutions, the context of our research, are particularly vulnerable to fostering corruption. African countries often lack precisely those institutions that scholars find important in restraining corruption. Without such mechanisms to check them, politicians turn to corrupt tactics to retain political power and enrich themselves (Aidt 2003; Coolidge and Rose-Ackerman 1997). Although some believe that democratic institutions in Africa will reduce corruption (e.g. Lindberg 2006), most analysts are far less sanguine.

Scholars also advance cultural theories to explain corrupt behavior (Hauk and Saez-Marti 2002; Treisman 2007; Johnston 2005). In this view, corruption is the result of a long history of social conventions, enforced and reinforced by social sanctions and internalized feelings of guilt or shame. For example, Fisman and Miguel (2007) find that U.N. diplomats from high-corruption countries accumulate more unpaid parking tickets, concluding that norms are an important determinant of corruption. De Sardhan (1999) argues that corruption in Africa is socially embedded in the negotiation mechanisms and authority structure of the continent's cultures and is therefore immutable. However, Bayart (1993) explicitly attempts to combat this

assertion by arguing that Africa's poverty, not its embedded culture, makes it prone to corruption and clientelism.

3. Behavioral Economics and Political Behavior

Whether cultural or institutional, explanations for corrupt behavior all assume that a politician's preferences trump what is best for society. We believe that behavioral economics provides us with an ideal tool for measuring the underlying traits that capture the tradeoff between private and public welfare. The use of economic games in the laboratory has led to major advances in our understanding of human decision-making (Camerer 2003). One of the key areas of exploration has been the study of an individual's "value orientation," that is, a comparative weight placed on their own welfare compared to the welfare of others (early examples in psychology include Kelley and Stahelski 1970; Kuhlman and Wimberley 1976; the first economists to adopt the idea of value orientations explicitly were Offerman et al. 1996). Researchers find that individuals tend to make choices quite consistent with their orientations. The dominant value orientations observed in behavioral experiments are "individualistic" (selfish, profit-maximizing) and "cooperative" (jointly maximizing private and public welfare) (e.g. Liebrand 1984; Van Lange 1999; Offerman et al. 1996).

One way to summarize the differences between individualistic and cooperative types would be to say that all individuals put weight X on private welfare and weight Y on public welfare; for individualists $Y = 0$, while for cooperators Y is significantly greater. In our experiments, we consider prosocial choices as those consistent with a "cooperative" value orientation. We associate prosocial behavior with a lower proclivity for corruption, and selfish

choices, those consistent with the “individualistic” value orientation, with a higher proclivity for corruption.

If the institutional arena drives corruption, then holding office would change underlying traits as well as surface-level behaviors. This assertion is well grounded in the literature that links traits to corrupt behaviors. La Porta et al. (1997), Knack and Keefer (1997), and Rothstein (2011) found a negative association between corruption and generalized trust as measured in behavioral games. In this work, generalized trust implies trust without regard to the characteristics of the individual, and particularized refers to trust of known individuals in multi-round interactions. Similarly, Putnam (1993) found a positive association between altruistic reciprocity (“norms of reciprocity”) and government efficiency. In African contexts, Hyden (2006) finds a negative relationship between selfish reciprocity (the “economy of affection”) and ineffective government institutions. He argues that politicians focus so intently on bolstering their networks of support in reciprocal, face-to-face, tit-for-tat relationships that programmatic policy goals and economic development are ignored). Socpa (2000), in a study of Cameroon, argues that altruistic reciprocity is becoming less prevalent and selfish reciprocity is becoming more prevalent, which has in turn led to an increase in the prevalence of clientelism. Other studies find a positive association between altruistic punishment and cooperation (Fehr and Gächter 2002; Bowles and Gintis 2002; Fowler 2005). In these studies, consistent with our own approach to the concept of corruption, altruistic reciprocity is reciprocity in the absence of multi-round interactions, the threat of sanctioning, or any other conditions that may induce behavior for self-serving reasons. Selfish reciprocity, on the other hand, relies on “egoist or antisocial objectives” that incentivize a reciprocal behavior with an individual future gain (Anders 2005: 213).

4. Theory and Hypotheses

In this study, we seek to measure how holding office might change individual behavior. Our broad expectation is that the treatment of holding office alters the underlying behavioral traits of individual politicians to lower their proclivity for prosocial behavior. The treatment of holding office makes individuals less trusting in a generalized way and less reciprocal in an altruistic way and therefore more likely to engage in corruption.

Our extensive consultations with Zambian elected officials and policy makers – including the government’s Auditor General – provided strong support for our broad expectation. These discussions also provided three possible causal mechanisms for the link between the treatment of holding office as a district councilor, behavioral traits, and corruption: party discipline, political culture, and income. In the party discipline mechanism, respondents believed that some candidates enter office hoping to make a difference for their communities, but become disillusioned by the tight control their parties exert over their policy decisions and other choices in office. The official may then give up on their goals of service and turn towards augmenting their own personal well-being. In the political culture mechanism, the culture of local government may also push individuals toward private versus public welfare. There is a widely held belief that since all other elected officials at the local level are engaging in small acts of corruption, the only real option is to do the same. Income is another possible mechanism working against prosocial behavior. Many candidates expect their income to increase after entering office: they quickly realize that they are unpaid for their official duties and turn to corruption to supplement their income. Temptations are great since the average income of local councilors is very low: approximately \$100/month for the subjects in our sample. In addition to providing support for our theory linking the treatment of holding office to corruption, these three

causal mechanisms indicate the effects of the treatment can take hold soon after the councilors enter office. These mechanisms also give us reason to believe the timing of our experiments is not critical to our results: the effects of taking office on underlying traits are swift, meaning that councilors would play the behavioral games similarly regardless of how long they have been in office.

The treatment of holding office is a heterogeneous treatment influenced by a variety of factors. However, we believe the differences in the treatment of holding office across politicians are small, and that the most important characteristics are stable. We further assert that the difference between the treatment condition and the control condition is much greater than any differences across units in the experience of the treatment. Finally, our theory does not pertain to those politicians who have been in office in the past but who lost in the last election, meaning that we are not theorizing about the persistent effects of the treatment. Rather, we address only the effects of current office holding.

Since attributes like trust and reciprocity are difficult to measure, we use subjects' choices in a series of games to elicit their inclination toward trust, generosity, reciprocity, cooperation, iterated strategic reasoning, as well as their ability to predict the actions of others and their confidence in their predictions.¹ While it is impossible to measure the behavioral tendencies enumerated above without error, a substantial literature exists in behavioral economics and, more recently, in political science suggesting that the experimental tasks in which our subjects engage are reliable—if noisy—measures of these tendencies.

¹ When describing games in this proposal, we often use words like game, partner, and give. Our protocols are very carefully designed, however, to exclude these kinds of words, which generate a framing that would encourage subjects to behave one way or another.

In this study, we focus on the results of a standard Trust Game, which provides measures of the prosocial behaviors of generalized trust and altruistic reciprocity. This game begins with two players endowed with 5,000 Zambian Kwacha (about \$1.05). The first may give any amount of his initial endowment to the second; the second player receives triple the amount given and may return any amount of his money to the first player, but this return is not tripled. The players are anonymous in all games, so there is no opportunity for monitoring or sanctioning. Trust Games, originally developed by Berg et al. (1995), have been shown to predict trusting behavior out of the lab and expressions of generalized trust in survey responses (Glaeser et al. 2000; Baran et al. 2010). Recent experiments on fraternal and identical twins even suggest that behavior in the Trust Game is a heritable trait (Cesarini et al. 2008). We posit that choices in a Trust Game are a good measure of fundamental behavioral traits, and that these traits are linked to corruption. We construct two specific hypotheses:

Hypothesis 1: The experience of holding office makes politicians *less* trusting in a generalized way.

Test: Trust P1 transfers less

Hypothesis 2: The experience of holding office makes politicians *less* willing to sacrifice their earnings to altruistically reciprocate trust.

Test: Trust P2 returns less (controlling for P1 transfer)

5. Research Methods

Case Selection

We selected Zambia as the country within which to conduct our experiments, and district councilors as the subjects for theoretical and practical reasons. Zambia represents a representative case for the study of politics and corruption because it experiences a significant but not overwhelming level of corruption, as noted by international indices, nonprofit

organizations, citizens, and even its own government.² On the Worldwide Governance Indicators, the “control of corruption” index, which ranges from -2 (high corruption) to 2 (low corruption), Zambia receives a -0.5 (World Bank Group 2009), about average for countries in Africa and in the twenty-fifth percentile worldwide. In the Round 4 Afrobarometer conducted in Zambia, which occurred only a few months before our field research, 20% of respondents reported exchanging a bribe for government services, more than 85% of respondents thought at least some councilors were corrupt, and more than 80% of respondents thought government corruption was getting worse.³ This implies that the corruption is present and consistent, but is not at a level that prevents some generalization of our findings to other countries or periods of time. We recruited district councilors as the subjects in our games because they are the politicians with whom citizens are most likely to interact. Also, they enjoy extensive spending authority over their local budgets, allowing opportunity to engage in illegal fiscal activities (Hoffman and Gibson forthcoming). Indeed, an expenditure tracking survey conducted in Zambia revealed that as much as 75% of discretionary education funds are stolen by local government officials (Das et al. 2002). While not the stuff of headlines, corruption at the local level is rarely monitored or punished, and its negative consequences for communities accrue over time.

Practically, some of the authors have extensive field experience in Zambia, which facilitated the hiring translators and enumerators. We also knew that district councilors could be

² Reducing local government corruption has been a primary goal of the Auditor General of Zambia for the last three years, and was the subject of the March 2010 Office of the Auditor General (OAG) Newsletter. Reducing corruption was also one of the main priorities in the Local Government Association of Zambia Strategic Plan 2006-2010, in which the main cause of corruption was seen as the “temptation for personal enrichment” in council work (LGAZ Strategic Plan 2005, p. iv).

³ The Afrobarometer Round 4 was conducted in Zambia in June of 2009, approximately one year before our field research, on a sample of 1,200 Zambians.

recruited and that the cost of their time would be relatively inexpensive. Each subject’s stipend for a full day of experiments represented nearly half of their monthly income.

We believe that the use of actual politicians as subjects in behavioral games is both highly warranted and quite unprecedented for this study. The use of non-political subjects, such as students or some other set of citizens, has produced foundational knowledge about how individuals think and interact. Yet, political scientists universally assume that politicians are somehow different from the average person. In examining political decisions, therefore, we thought it important to attempt to explore choices made by actual politicians. We also know that doing so is extremely difficult in practice. Our review of the literature found no one who has successfully recruited politicians for behavioral games.

Regression-Discontinuity Design

We use a regression-discontinuity design to achieve “as if” random assignment to the treatment of holding office, allowing us to identify the local average treatment effect of holding office on the prosocial traits of generalized trust and altruistic reciprocity, and therefore the underlying tendency towards corruption. The linear model we estimate is:

$$y = \beta_0 + \beta_1 T + f(V) + \epsilon, \text{ for } V \in (-0.05, 0.05)$$

The quantity of interest in this equation is β_1 , the local average treatment effect (LATE) of holding local office for candidates in approximate electoral ties (this last clause is the “local” part of the LATE). The forcing variable, V , is margin of victory in the last local government elections, and we selected candidates who won or lost by a margin of 10% or less. We chose this interval to allow for a sample size large enough for statistical tests. As we will show below, we meet the regression discontinuity design criteria for including all subjects within this interval in

our analysis. Winners constitute the “treatment group,” as these are the politicians that won the previous election, a necessary and sufficient condition to receive the “treatment” of holding office for four years. Runners-up constitute the control group.

Caughey and Sekhon (2011) discuss in detail the conditions under which margin of victory is a prudent forcing variable. They assert that margin of victory can be used only when there is continuity of pretreatment covariates at the cut point and when these covariates are irrelevant to the treatment-outcome relationship. We measure independent covariates through questions on the pretest survey, completed by every participant. The survey contains 59 questions about language group, geographic origin, gender, age, education level, income, business ownership, incumbency in the last election, political experiences, and party membership. The regression discontinuity design rests on the assumption that there is covariate balance across treatment and control groups at the discontinuity. In our project, this requires that winners and runners up are similar on all covariates except for the treatment of holding office. Without balance between our treatment and control groups, the covariates selected could be confounding variables, affecting both differences in our experimental games and the assignment of the candidates to the treatment and control groups. This is particularly true for incumbency, since any incumbents could have an advantage unrelated to their other traits. We administered the covariates survey to all subjects. After running a Kolmogorov-Smirnov test (KS) on all observed covariates, we have covariate balance between our treatment and control groups (see Table 1). An F-test of joint significance using all covariates to predict treatment assignment is also insignificant. The results of these covariate balance tests were robust to restricting the sample to those with higher compliance quiz scores, discussed below, and when accounting for missing data in the Trust Game.

Table 1: Covariate Balance

Covariate	Runners Up (Control)	Winners (Treatment)	KS p-value
Bemba Dummy ⁴	66.6%	60.7%	.50
Province			
Copperbelt	30.2%	25.0%	.53
Eastern	12.7%	8.9%	.51
Lusaka	9.5%	8.9%	.91
Luapula	1.2%	3.4%	.50
Northern	14.3%	12.5%	.78
Northwestern	11.1%	12.5%	.82
Southern	7.9%	14.3%	.23
Western	1.6%	5.4%	.27
Gender	7.9% Female	8.9% Female	.85
Age	48.1	50.4	.28
Education	5.96 ⁵	5.96	.91
Income	5.30 ⁶	4.41	.35
Ownership			
Business	71.4%	71.4%	1
House	92.1%	92.9%	.87
TV	77.8%	66.1%	.16
Incumbent	12.7%	14.3%	.80
MMD Party	50.1%	35.7%	.10
Family in Politics ⁷	53.6%	57.1%	.77

Of course, there could be an imbalance in unobserved covariates, which may negate our assumption of random assignment of the treatment. Caughey and Sekhon (2011) identify two issues with unobserved covariates in regression-discontinuity designs using margin of victory: fraudulent electoral results that mimic close electoral competition, and imprecise manipulation by politicians to barely win (Caughey and Sekhon 2011). We believe our design does not suffer from these problems. First, Zambian district councilors are elected from wards, which exist in a

⁴ Several experts in Zambian politics expressed the opinion that the Bemba are perceived to act more strategically than other ethnic groups. Although we have no evidence of this, we include Bemba as a covariate.

⁵ This represents the average level of education using the ordinal scale used in the Afrobarometer surveys as well as our pretest survey. For example, a value of 6 equates to completing secondary school but not going on to university.

⁶ This represents the average income using an ordinal scale. A value of 4 equates to US\$50-US\$100 per month, and a value of 5 equates to US\$100-US\$200 per month.

⁷ The data on family connections was collected via follow-up survey on a subset (40%) of the subjects in July of 2011.

low information environment and thus politicians are rarely able to gauge accurately how much imprecise manipulation to use. In a follow-up survey of subjects conducted in July of 2011, 80% of subjects said either that there was no fraud in Zambian local government elections or that there was fraud but that it was concentrated in the races won by large margins.⁸ Zambia is one of the few countries in Africa in which citizens of all parties have high confidence in electoral institutions, and it has the highest proportion of people stating they would fight for democracy if they did not trust the election results (Moehler 2005). Together, this evidence helps support the assertion that close elections at the local level of government in Zambia in 2006 were not fraudulently manipulated.

Another possibly important unobserved covariate could be the differential access that winners and runners up have to campaign funding. Although we do not have perfect measures of this covariate, our follow-up survey with subjects in July of 2011 found that 72% of respondents said either that winners of local government elections spend less money on campaigns or that all candidates spend about the same amount. Given the observed covariate balance and the lack of evidence of electoral malpractice or uneven access to campaign finance, we believe we have a strong regression-discontinuity design that will yield an unbiased estimate of the local average treatment effect of office-holding on prosocial behavioral traits, specifically generalized trust and altruistic reciprocity.⁹

⁸ We intend to follow Cantu and Saiegh (2011) in analyzing the election results for fraud using Benford's Law.

⁹ SUTVA is a critical component of the Rubin Causal Model, with two potential violations that could affect our study. The first, spillover effects from one politician to another, is not an issue in our work. The other potential violation, a treatment that is not stable from politician to politician, could potentially be an issue. However, we believe the differences in the treatment of holding office across politicians are small, and that the most important characteristics are stable. We further assert that the difference between the treatment condition and the control condition is much greater than any differences across units in the experience of the treatment. Therefore, SUTVA holds, and we are able to make causal inferences under the potential outcomes framework.

Sampling

Our theoretical population was any politician in Zambia who ran in the 2006 local government elections and won or lost by a margin of less than 10%. There were 1,421 wards with elections in 2006, and 173 (12%) had races ending in a margin of victory of 10% or less, creating a theoretical population of 346 winners and runners-up. Voter turnout in this election was 71%, and approximately half (750) of the seats were won by the major party, MMD.

Due to the logistics and expense of recruiting politicians as subjects, our sampling procedure was non-random. After obtaining a letter of endorsement from the Local Government Association of Zambia, we first contacted all districts and mailed or faxed letters addressed to the councilors in our theoretical population that introduced our study and asking for their assistance in locating candidates in our theoretical population. We then followed up these letters with telephone calls to the District Commissioner or Mayor of the province, who then typically connected us via telephone number to the councilors directly. In districts without active offices, fax machines in their offices, or access to reliable postage service, we broadcast announcements on the radio recruiting subjects. This tactic was used in Luapula, Northern, Northwestern and Eastern provinces, where the telephone networks were least reliable.

Our recruitment procedure ultimately resulted in telephone calls with 150 of the politicians in our sample. The final step in recruitment was issuing a formal invitation to participate over telephone. Including all individuals in our theoretical population as potential contacts and restricting the final number contacted to only those with whom we spoke on the telephone, our recruitment procedure yielded a contact rate of 43%. Once we found and spoke with the candidates, our response rate was very high: 95% of the politicians we spoke with and invited to participate ultimately did so.

Our final sample includes 143 politicians¹⁰, of which 104 candidates come from 52 matched pairs of winners and runners-up and 39 are unmatched, resulting in 79 winners and 64 runners-up total. The minimum vote share in our sample was 27% and the maximum was 55%, with a mean of .5%, reflecting the fact that our sample contains slightly more winners than runners-up. The number of candidates in the race ranged from two to five, with a mean of 3.3. Exactly half of the winners are of the MMD party, reflecting the percentage found in the theoretical population. Thirty-six percent of the runners-up are members of the MMD party, but this difference is not statistically significant.

Experimental Procedures

We asked the members of our sample to participate in a day of experiments in the capital city of Lusaka. We went to great lengths to run the experiments in an environment that resembles as closely as possible the environment in which our subjects make their political decisions, and set the stakes high enough to ensure that our subjects make their decisions carefully. One benefit of using politicians as subjects is that politicians are used to being asked to make decisions in fairly formal environments. Local political leaders are regularly brought to conferences (generally in hotel conference rooms) where they are asked to help make decisions and are paid for their participation. We designed our experiments to be as similar as possible to the format of those conferences.

To avoid influencing subjects' behavior, we did not actually interact with subjects, but trained the same local research assistants who translated our protocols and the survey to run the

¹⁰ Given that all subjects were being paid a comparatively large amount of money for their participation, we felt it necessary to verify the identity of all participants when they arrived on site. We did this by requiring a national identification card as well as a photo identification card, and a signature on a consent form for each participant.

experiments. As typical in laboratory experiments in the United States, we unobtrusively videotaped the experiments to verify that the experimental procedure did not deviate from our protocols.¹¹

We first tested our experimental protocols with undergraduates at the University of California, San Diego and the University of Zambia. We asked for their feedback on the protocols and the appropriateness of our questions in focus groups. On the basis of this information, we revised the protocols to clarify the language and simplify some of the questions, especially those that required calculating averages, a task that the research assistants and test subjects assured us would be difficult for most district councilors in Zambia.

The experiments were carried out using paper and pencil: we chose not to use computers because politicians in Zambia are not frequent computer users. Each experimental session had approximately 20 subjects. We paired subjects with someone in another room and reminded them of this set up every time they made a decision. We make this distinction to prevent their behavior from being affected by friend, familial or tribal ties of someone in their room, and to mimic more closely the heterogeneous legislative environments in which they make policy decisions. A roughly equal number of winners and runners-up played games in each room and each session.

We believe we incentivized the experiments at a high enough level to motivate politicians to devote serious thought before making choices. We paid subjects approximately \$46/day, about half their monthly income. And since the final amount of payment was contingent on subject choices, we are confident that politicians considered each case carefully.

¹¹ Our team of local enumerators felt that videotaping would neither influence behavior nor violate behavioral norms. The video recordings were used only for internal purposes to verify compliance. We aimed our camera so that none of our subjects' faces were recognizable in the video. Finally, the subjects are public figures and are accustomed to being photographed and videotaped in similar environments.

Although the payments incentivized subjects to think judiciously, we did not prime them to think about corruption or doing “right and wrong.” Our instructions made it very clear that individuals would be paid for their actions, and it was implied that they would be financially rewarded for making decisions according to the rules of the activities and what they thought prudent, not for making decisions according to other behavioral norms. Our translators and early games with Zambian students helped us to construct clear rules with language free of words that might prime certain actions. In advance of participating in our experiment session, the subjects received a letter stating that the project was interested in studying how local leaders make decisions.

Compliance

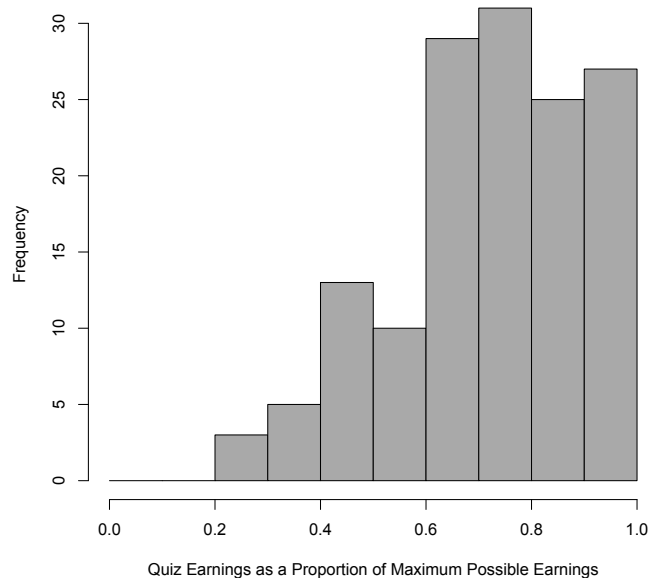
We believe it imperative that scholars employing field experiments using games systematically test and report on the skills and understanding of the subjects. Not only should subjects’ understanding be tracked and enhanced via tests and subsequent corrections of knowledge, these data should be used to narrow the pool of subjects. Conclusions about the population’s behavior cannot be drawn if some members of the population are acting under mistaken beliefs about the expectations and incentives facing them. Chou et al. (2009) show that even average Americans have difficulty comprehending classic behavioral games, and this problem is likely to be enhanced in the low-information, low-education environment of the developing world.

For this reason, our protocols included extensive tests of understanding and mathematics skills to measure subjects’ compliance: 1) The pretest survey contained questions gauging mathematics skills; 2) In the experimental session, an enumerator read instructions to a group of

subjects; 3) An enumerator handed out a pen and paper quiz about the instructions to each subject; 4) Each subject had a pre-specified period of time to answer the questions; 5) After the time expired, an enumerator came around and looked at each respondent's answers. Using a red pen, incorrect answers were corrected in full view of the participant; 6) Participants received US\$0.60 for each correct answer and our enumerators reminded them of this incentive immediately before each quiz. The compliance quiz questions ranged in their difficulty: only 22% of the subjects answered the most difficult question correctly, but 87% of the subjects answered the easiest question correctly. The average participant score was 70%.

We use the compliance quiz data to restrict our sample to include only those subjects who thoroughly understood the instructions for our games and were able to demonstrate the mathematical skills to participate without guessing. Although we believe our compliance procedures enabled subjects to learn from the quizzes and refine their knowledge accordingly, we do not want to assume learning has happened without testing it. We use the percentage of questions participants got correct to determine whether they are included in our sample. Our cut point is 50%, which weeds out 18 participants and leaving a sample of 125. Figure 2 displays compliance information.

Figure 2: Histogram of Subject Quiz Earnings



6. Results

We find that holding office significantly affects the strategic behavior of politicians.¹² The observed effects, however, directly contradict our hypothesis that holding office decreases levels of altruistic reciprocity. Specifically, for those at the electoral margin of victory, holding office leads politicians to engage in *greater* levels of altruistic reciprocity. While this effect directly contradicts our hypothesis, it is not a null finding. Instead, it is a significant finding in the opposite direction. We discuss the implications of this finding in the conclusion.

Following our hypotheses about prosocial behavior, we tested for the effects of the treatment, holding office, for the two traits of generalized trust and altruistic reciprocity. The former is a simple count of how much money a subject chooses to transfer in the first stage of our Trust Game. The second is a more involved but standard measure, in which subjects play two

¹² The data reported on in this paper are available at http://polisci2.ucsd.edu/denemark/data/egmz_data.csv, and the code is available at http://polisci2.ucsd.edu/denemark/data/egmz_code.R.

Trust Games, one as Player 1 and one as Player 2. After the Trust Games, subjects must complete an extended set of intervening tasks involving various monetary endowments. Finally, they play a dictator game in which the endowments were identical to those the subject received as Player 2 in the Trust Game. Because of the intervening tasks, we believe that subjects' choices as Trust Player 2 and Dictator Player 1 were independent, which is supported by the fact that nearly two thirds of our subjects chose different amounts to transfer in these two games. The altruistic reciprocity measure is then calculated by subtracting the subject's dictator Player 1 transfer from his Trust Player 2 transfer, and then dividing this quantity by the subject's endowment (which, again, was identical in both tasks). This value gives the increase in transfer associated with an altruistic reciprocity framing, as a proportion of the amount the subject could have conceivably sent.

Figure 2: Histogram of Trust Stage 1 Offers

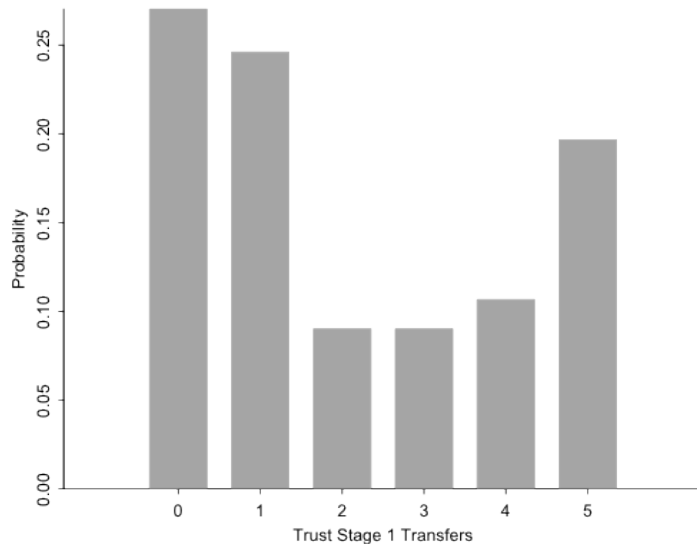
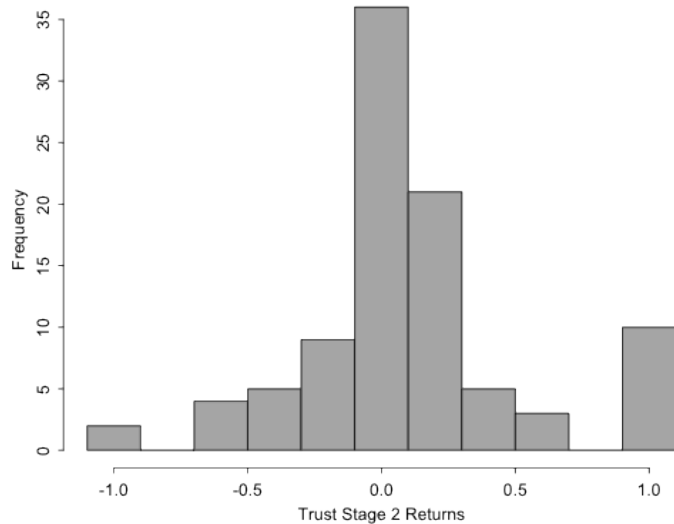


Figure 2: Histogram of Altruistic Reciprocity Scores



We included those participants who scored less than 50% on the compliance tests to ensure that our results are robust. Including possible non-compliers slightly increases the p-value of the main effect, but otherwise does not seem to affect our estimates. Those results are not reported here, but can be recreated using our data and R code. We also test the effect of removing all subjects who did not receive anything in the first stage of the trust game from our analysis of altruistic reciprocity, and found no change in results. There are small amounts of data missing due to subjects' use of restrooms or urgent telephone calls (in the hallway), which we consider to be missing at random. We follow Allison (2001) who recommends list-wise deletion in such cases.

We use a linear regression-discontinuity model to analyze the results of our experiments:

$$Y = \beta_0 + \beta_1 T + \beta_2 V + \varepsilon, \text{ for } V \in (-0.1, 0.1)$$

Here, T is the treatment, a dummy variable that takes a value of one for subjects who are in office and zero for subjects who are out of office. The results of our regressions appear in Table 3, and regression discontinuity figures appear in Figures 2 and 3. The effect of holding office on

levels of generalized trust is not significantly different from zero. However, the result is in the hypothesized negative direction, and the relationship may be significant with a larger sample size. There is, however, a significant local average treatment effect of holding office on altruistic reciprocity in the opposite direction from our hypothesis. As anticipated, the forcing variable, margin of victory, has no effect in either regression.

Table 3: Regression Results

	Generalized Trust	Altruistic Reciprocity
Intercept	2.44*** (.393)	-.0809 (.0979)
Treatment (Election Victory)	-.639 (.700)	.356* (.171)
Forcing Variable (Margin of Victory)	.883 (6.26)	-2.21 (1.53)
N (number of trials)	122	95
Adjusted R ²	.0213	.0497

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 2: Regression Discontinuity for Generalized Trust (values are jittered)

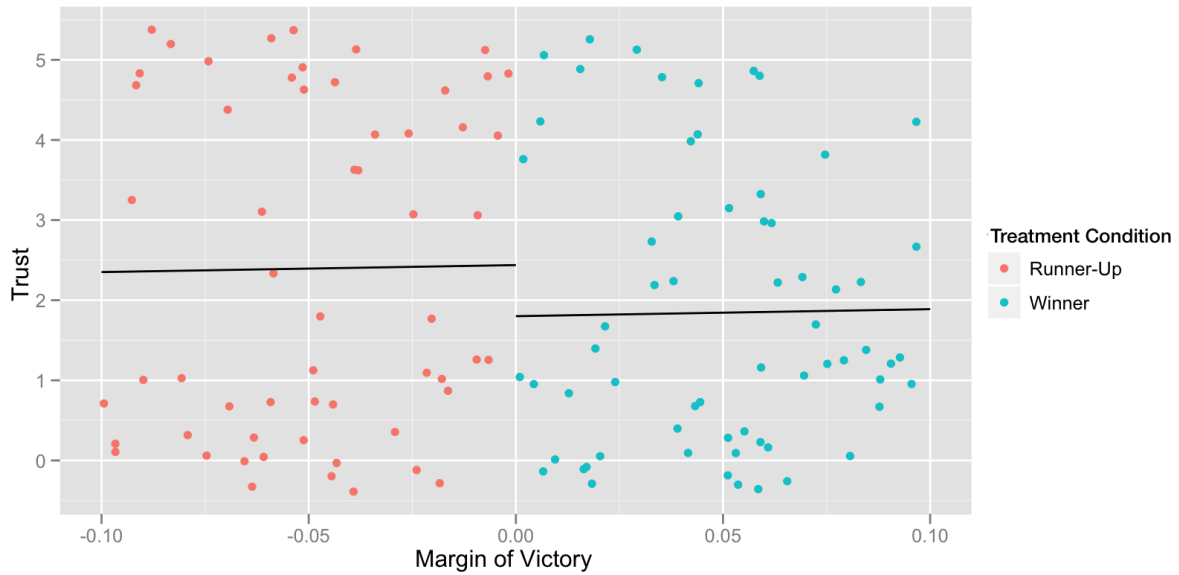
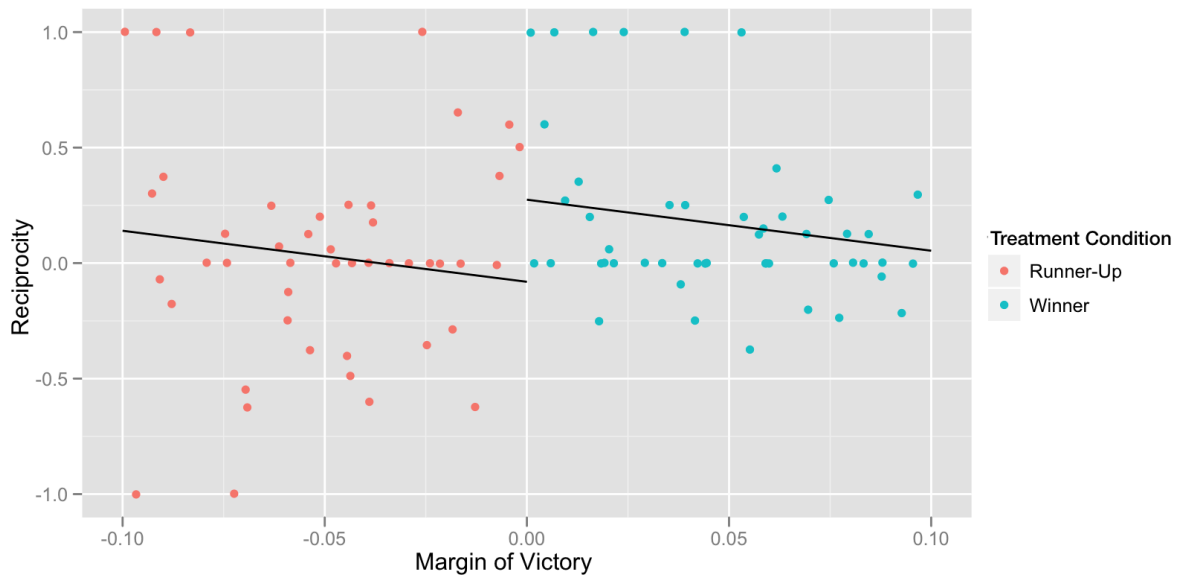


Figure 3: Regression Discontinuity for Altruistic Reciprocity (values are jittered)



7. Conclusions

The results of our experiment provide evidence refuting the argument that holding office induces politicians to engage in corrupt behavior. We find that the treatment of holding office significantly increases the likelihood that individual Zambian politicians will make prosocial

choices than those who are not in office. This result is especially clear for the Trust Player 2 task, in which altruistic reciprocity levels are higher among the “treatment group” of office holders, at a level that is likely not attributable to chance. This indicates that holding office does not make our subjects more selfish in their value orientations. More broadly, we interpret this as some indication that holding office does not increase candidates’ proclivity for corruption, at least within the context of local elective office in Zambia.

Our study cannot, of course, answer definitively the classic question about the origins of corruption. Our work does, however, take an initial and we believe more rigorous step in the exploration of the relationship between political office and prosocial behavior, in a particular context where corruption is a serious problem. It is important that politicians are no more likely to exhibit value orientations associated with corruption if they have held office for four years than if they have not held office over the same period of time. Furthermore, the non-significant finding may be due to the relatively low level of generalized trust in broader Zambian society: in Round 4 of the Afrobarometer, over 60% of respondents trust Zambians in their network, but less than 45% of them trust Zambians more generally.

Studying any illegal or unethical behavior linked to corruption is difficult, since it is problematic to observe its incidence and its counterfactual. And yet it is precisely this type of behavior that is crucial to explaining the consequences of politics at the local, regional, national, and international levels. Our study is modest, but we hope it inspires others to employ novel and rigorous research designs in pursuit of determining the origins and effects of corruption.

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