Why Are Co-Ethnics Believed to be More Trustworthy?*

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Scholars who write about trust emphasize that it involves a belief about the action that another person will take, possibly though not necessarily in response to a trusting action. Typically the belief is a belief that the other person will respond with an action in one’s own interest—that the trustee is “trustworthy.” But where do these beliefs come from? Why are some people trusted in this way and others not?

Among the many answers that have been offered to this question, one stands out: people are more likely to trust someone if that person is from their own ethnic group. This assumption can be found throughout the literature on ethnicity (e.g., Cohen 1969, Fearon and Laitin 1996, Landa 1994, Macharia 1988), and it finds empirical support in both experimental studies (e.g., Fershtman and Gneezy 2001, Burns 2003, Petrie 2003, Barr 2004, Karlan 2005) and survey findings. For example, the Afrobarometer survey project includes a standard question in which respondents are asked how much they trust various kinds of people, including “people from your ethnic group” and “people from other ethnic groups.” Whereas 50.6% of the survey’s 25,397 respondents indicated that they trusted co-ethnics “somewhat” or “a lot,” just 38.3% said the same of non-co-ethnics. This paper probes the sources of this connection between co-ethnicity and greater perceived trustworthiness. Its goal is not to document the fact that people perceive co-ethnics to be more worthy of trust—we follow the literature cited above in assuming this is the case—but to account for why.

We identify three possible explanations. The first is the other-regarding preferences rationale, in which trust stems from the belief that the trustee cares about (has positive other-regarding preferences towards) the truster. The second is the incentives rationale, in which trust derives from the belief that the trustee is incentivized to act in the interests of the truster. The third is the competence rationale, in which trust stems from the belief that the trustee is capable of acting in the interests of the truster. Each of these rationales provides a different answer to the question: why might a person believe that a co-ethnic is more trustworthy than a non-co-ethnic?

The major impediment to identifying empirically which of these three rationales best accounts for the greater expectations of trustworthiness among co-ethnics is that, while theoretically distinct, these rationales are observationally equivalent. If we ascertain (through a survey or the behavior we observe in a Trust Game, for

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1 We recognize that it is possible to interpret trust as pertaining to the taking of trusting actions irrespective of beliefs about the trustworthiness of the trustee. For the purposes of this paper, however, we equate trusting with a belief of trustworthiness.

2 Based on an analysis of pooled data from round 3 of the Afrobarometer, collected in 2005 and 2006. The sample includes respondents from 18 African countries.

3 These explanations parallel those provided by Levi and Stoker (2000). Levi and Stoker also identify a fourth rationale, the morality rationale, which hinges on a belief that the trustee adheres to moral values that emphasize promise keeping. We do not have the data to explore this rationale, so we leave it aside in this paper. We also cannot distinguish the social norms/sanctioning explanation that we discuss below from an explanation in which trusting beliefs are generated by strong reciprocity within but not between ethnic groups (Gintis 2000).
example) that person $A$ believes that person $B$ (a co-ethnic) is more trustworthy than person $C$ (a non-co-ethnic), is it because person $A$ believes that person $B$ cares more about her than person $C$ does? Because she thinks that person $B$ has stronger incentives to act in a trustworthy way? Or because she simply thinks that person $B$ is more capable of being trustworthy? It is impossible to know based solely on the evidence that person $A$ says that she believes that person $B$ can be better trusted than person $C$.

Our solution to this inferential problem is to use a series of experiments designed to test each of these three rationales independently of one another. Specifically, we compare patterns of play among co-ethnics and non-co-ethnics across different experimental games, each designed to isolate a separate one of the three competing rationales. When co-ethnics and non-co-ethnics play systematically differently in a particular game, we interpret this as evidence for the salience of the rationale that the game was designed to capture. In the case of some games, we extract direct statements about belief. In others, we infer beliefs from behavior under the assumption that players’ beliefs are consistent, on average, with how others behave.

Although the paper deals with the general question of why people believe co-ethnics to be more trustworthy, our empirical analysis is grounded in a specific multi-ethnic setting—that of the neighboring slum areas of Mulago and Kyebando in Kampala, Uganda. Uganda is a particularly good place to study why ethnicity affects beliefs about trustworthiness. The Afrobarometer findings cited earlier regarding levels of trust for co-ethnics and non-co-ethnics suggest a “trust gap” between within-group and inter-group interactions in Africa of about 12 percentage points. In Uganda, the gap is nearly double that size. Whereas 60.9% of Ugandans in the round 3 Afrobarometer survey reported trusting people from their own ethnic group “somewhat” or “a lot,” just 39.4% reported equal levels of trust for people from other ethnic communities.

The specific neighborhoods in Uganda that we study offer an excellent laboratory for examining inter-ethnic interactions and the beliefs that shape them. Mulago-Kyebando has been the site of heavy in-migration over the past two decades, driven in part by strong ties to sending areas and the availability of cheap accommodation (and even land) in the area. In a pre-survey of 594 randomly selected individuals in Kawempe, the broader division of the city in which Mulago-Kyebando is located, more than 50% of respondents reported that they had lived in their current neighborhood less than five years. Nearly 80% described the community in which they lived as composed of people born outside of Kampala who had moved to the capital. The consequence of this steady stream of migrants has been a dramatic increase in the

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4 Our study area is comprised of four adjacent parishes (LC2s) in Kawempe, the poorest of Kampala’s five divisions. These LC2s are Mulago I, Mulago II, Mulago III, and Kyebando. We refer to them collectively in the text as Mulago-Kyebando.

5 Figures are based on an analysis of round 3 Afrobarometer data for Uganda only (N=2,400).
level of ethnic heterogeneity. Whereas Mulago-Kyebando used to be dominated demographically by the Baganda, the largest ethnic group in Uganda (and the group whose historical kingdom is centered in Kampala), Baganda now comprise only a little more than 50% of the local population. The ethnic fractionalization value for Kampala as a whole is approximately 0.9; the figure for Mulago-Kyebando is even higher.6

Ethnic differences in Mulago-Kyebando are not only present but also highly salient in everyday social interactions. Many of Mulago-Kyebando’s ethnic groups have formed homogeneous associations for the purpose of accumulating savings, providing access to credit, and meeting other practical needs. In focus groups and interviews with local council leaders, participants frequently used ethnic or regional labels to refer to factions within the community: “the Bafumbira do this” we would commonly be told; “those from the Northeast do that.” Failures of community-level collective action were often explained in terms of the inability of members of different ethnic groups to work together. While Mulago-Kyebando’s extreme ethnic heterogeneity has never led to inter-group violence, it is a central feature of daily life. This is critically important from a methodological standpoint, since it permits us to rule out the possibility that the non-findings we report below with respect to some of the rationales for beliefs about trustworthiness stem from the lack of salience of ethnic divisions per se within the community.

We proceed as follows. In the next section we describe our experimental framework. In the sections that follow, we examine evidence for each of the three rationales described above. First we investigate whether other-regarding preferences are, in fact, structured along ethnic lines. Our strategy is to use a Dictator Game with an anonymous offerer to examine whether individuals take account of the welfare of in-group members more than out-group members. Next, we explore whether individuals are incentivized to act in the interests of co-ethnics. We first draw on survey data to examine whether preferences over outcomes are aligned in ways that would provide a rationale for higher levels of trust among co-ethnics. Then we use the results of a Dictator Game with a non-anonymous offerer to examine the impact of the availability of social sanctions on both the actions of individuals and the beliefs of individuals about the actions of others (we get at the former by examining patterns of play in the front end of the game, and the latter by examining patterns of play in the back end). The next section then addresses the third rationale: that individuals have greater trust in the capacity of co-ethnics to solve problems together with them. We explore this possibility by examining the choices players make about partners in a new game, which we call the “Lockbox Game,” that is designed to

6 The ethnic fractionalization index measures the likelihood that two people selected at random will be from different ethnic groups. Communities with values of 0 are completely homogeneous; communities with values approaching 1 are extremely heterogeneous.
incentivize players to accomplish a joint task. By examining partner selection in this game, we can gain insight into subjects’ beliefs about the competence of different potential partners.

To preview our results, we find little support for the other-regarding preferences or the competence rationales. Along with other studies, we find that individuals exhibit high levels of altruism, which could provide a foundation for trust. However, this altruism is no higher for co-ethnics than for non-co-ethnics. Thus higher levels of trust among co-ethnics cannot be attributed to beliefs that co-ethnics care more for one another’s welfare. Similarly, we find no basis for a belief that co-ethnics have incentives to take actions that are mutually beneficial simply because they share preferences over outcomes. However, we do find evidence for an important variant of the incentives rationale. Greater trust among co-ethnics, our data suggests, is plausibly based on the belief that co-ethnics have incentives not to take advantage of one another’s trusting overtures.

**Experimental Framework**

To study the role that these mechanisms play, we take a set of experimental games, typically played in laboratory environments, to the field in Kampala, Uganda.\(^7\) We began our study by randomly sampling 300 individuals from Mulago-Kyebando.\(^8\) Like the underlying population from which they were recruited, our subjects were extremely diverse. Forty-four percent were Baganda, with declining shares of Banyankole (9%), Bafumbira (7%), Batoro, Banyarwanda, Bakiga (roughly 5% each), and other groups. They were also largely uneducated: 23% had not completed primary school and over 70% had completed, at most, only some secondary school. Just 17% reported holding formal sector jobs; roughly half were either unemployed or working in the informal sector. Fewer than 30% owned their dwelling. Thirty-six percent reported not having electricity and 87% reported not having piped water in their homes. Ownership of assets such as refrigerators (28%), electric irons (53%), televisions (51%), bicycles (13%), and cars or trucks (10%) were also very low. Our subjects were also overwhelmingly migrants or children of migrants: just 22% reported having been born in Kampala.

Before playing the experimental games, we recorded a series of five digital images of each subject (a headshot and four brief video clips) each providing a different level of information that an observer might use to ascertain the subject’s ethnic background. In the analyses presented here, we treat all five levels of

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\(^7\) The full protocols for all the experiments described in this paper are available from the authors on request.  
\(^8\) Simple random sampling was used within local neighborhoods (LC1s). The number of subjects for each LC1, however, was set using targets that diverged modestly from proportionate-to-size in order to over-sample the second and third largest ethnic groups. More than 75% of those we contacted agreed to participate in the study. Of those who chose to enter the study, more than 95% attended all sessions.
information equally and distinguish only between situations where players have no information about the identities of their partners and situations where they have some information.

The Public Information Box and General Set-up

All but one of the games we describe in this paper were played using a computer interface. In these games, players could make inferences about the ethnic backgrounds of the other players from pictures or video clips of those players that were made available to them in what we call the Public Information Box (PIB). The key attribute of the PIB is that, as its name suggests, the information that it provided about the players in the game was provided publicly. Before each round of each game, all the players in the round were shown the same PIB containing images of all of the players in that round—including themselves—with the images of the players ordered in the same way. Underneath the PIB, each player saw a note indicating which player number he or she was for that round. Figure 1 provides a sample screen shot of a PIB.

[Figure 1 Here]

Beyond providing the information that could be used by subjects to ascertain the ethnicity of the other players (an ability that is described in more detail in the next section), the PIB played three roles in the computer-based experiments. First, it made the interaction more realistic by increasing the credibility of the existence of the other players (Bohnet and Frey 1999; Eckel and Wilson 2006). Second, it provided common information: each player was provided not just with information about who the other players were but also about what the other players knew about them, and that the other players knew what they knew about the others, and so on. Third, the design of the PIB allowed us to manipulate the anonymity of the players in the game. Compare, for example, Figures 1 and 2. In Figure 1, the middle player’s picture is shown to the other players. That player will therefore play the game knowing that the other players can see who he is. But in Figure 2, the middle player’s picture is not shown. He still has information about the other players, but he knows that they have no information about him. He will therefore play the game knowing that he is doing so anonymously. Exploiting this manipulation turns out to be extremely valuable for distinguishing behavior motivated by other-regarding preferences from behavior motivated by incentives.

[Figure 2 Here]

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9 The Lockbox Game is played “live.” However, the partner selection process that we study in that game does involve showing players pictures of other subjects, which is similar to the computer interface we describe here.
Although subjects were shown images of the other players in the game, the games were designed to simulate interactions among strangers. Therefore, after viewing the PIB, subjects were asked to report if they knew either of the other players whose images they had just been shown. About 5% of all rounds involved subjects that said they knew one or more of the other players. All results reported in the paper are robust to the exclusion of such rounds. Each subject played all of the games multiple times but (as they were informed), never played twice with any other player. Furthermore, although players played multiple times (with different partners) they were not given feedback about play until they had completed all games. This limited learning as well as the ability of players to use repeated interaction to establish coordination procedures, norms, or different forms of other-regarding preferences within the context of the game (Crawford and Haller 1990).

Coding Co-ethnicity

The empirical strategy we adopt in this paper depends on our ability to distinguish interactions among co-ethnics from interactions among non-co-ethnics. A simple rule—analogous to the practice employed in most studies of cross-race, -gender, and -ethnic interactions in the experimental literature—would be to code as co-ethnics any pair of players that identified themselves as belonging to the same ethnic category in our pre-experiment questionnaire. Using this rule, we generate what we term a “benchmark” measure of co-ethnicity. However, this benchmark measure runs into the problem that the way a person identifies him- or herself may not correspond with the way he or she is perceived by others. Thus, if two subjects who identified themselves in the pre-experiment questionnaire as members of group $X$ were paired in a game, then, under the benchmark measure, this would be coded as a co-ethnic pairing. But if each subject believed that the other was not really a member of group $X$, then they would each behave as if they were playing with a non-co-ethnic, and our inferences about the impact of shared ethnicity on their actions would be wrong.

To overcome this problem, we employed a relatively straightforward exercise to generate a “subjective” measure of co-ethnicity based on how our subjects perceived the ethnic backgrounds of the players with whom they were interacting in the computer-based games. After all the experimental games had been played (and the danger of priming subjects to ethnicity had passed), we showed our subjects a series of images of other subjects (in most cases, players they had been randomly matched with earlier) and invited them to guess the ethnic identities of the people whose images they were shown. To incentivize the guessers, correct guesses (defined as guessing how the person had identified him or herself in the pre-experiment questionnaire) were rewarded with a small payment. To ensure that everyone had the same prior beliefs about the distribution of

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10 Given the large number of different ethnic groups in our sample, a treatment of dyadic pairings of groups would have been too complex, so we limit our analysis to the more general difference between co-ethnic and non-co-ethnic interactions.
ethnic groups in the sample of images, we told the subjects that the ethnic demography of the sample population matched the ethnic demography of Mulago-Kyebando, and we read aloud a breakdown of shares of the major ethnic groups in Mulago-Kyebando based on 2001 census figures.

To generate estimates of subjective co-ethnicity, we collected data on a total of 15,265 guesses by 274 different subjects. Overall, we found that individuals were able to correctly identify the ethnic backgrounds of others only about 50% of the time—a result that underscores the inferential problem we would have faced had we limited ourselves to the benchmark measure. We used the results of the identification exercise to generate, for every information level, an estimate of the likelihood that an individual of group $A$ believes that an individual of group $B$ is a co-ethnic. The resulting measure (ranging from 0 to 1) provides a measure of “subjective co-ethnicity.” For all games that make use of the PIB, we report results using both the benchmark and the subjective measures of co-ethnicity.

We also parse the results in yet another way to reflect the fact that in Uganda, as elsewhere, ethnic categorization may take place on multiple levels (Mozaffar, Scarritt and Galaich 2003, Posner 2005) and that we, the researchers, do not know ex ante what the salient dimension of cultural cleavage may be for a given interaction. To deal with this issue, we present the results of all games in terms of co-ethnicity defined by shared ethnic group membership and by an additional, broader notion of co-ethnicity based on the region of origin of these ethnic groups (i.e., Center, East, North, West).

The Other-Regarding Preferences Rationale

The first rationale we explore is other-regarding preferences. High levels of other-regarding preferences may produce expectations of trustworthiness by making the truster believe that the trustee has the truster’s interests at heart. If other-regarding preferences are stronger (or believed to be so) between co-ethnics than between non-co-ethnics, then this could produce beliefs about the greater trustworthiness of co-ethnics.12

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11 Note that by using this rule, an individual $i$ is coded as a subjective co-ethnic of individual $j$ if individual $j$ believes that $i$ would code herself in the same group as $j$ codes herself. A stricter definition would require that $j$ codes $i$ in the same group as $j$ codes herself under $j$‘s own (rather than under $i$‘s) classification criteria. Our requirement for a single criterion of “correct” identification to use as a basis for allocating rewards to players precluded us from generating this more precise measure of subjective co-ethnicity.

12 A variant on this mechanism, which some social scientists refer to as “quasi-magical thinking,” depends on the other-regardingness of the truster toward the trustee. To wit: if the truster has the trustee’s interests at heart, he/she assumes that the reverse is true as well. By contrast, the mechanism we focus on here depends only on the other-regardingness that the trustee has vis-à-vis the truster, and on the trustee’s beliefs about the trustee’s other-regardingness.
To test whether a basis for such a belief exists, we had subjects play a version of the standard Dictator Game in which the offerer is anonymous and the receivers' identities are known (Kahneman, Knetsch, and Thaler 1986). In such a game, any observed difference in patterns of play between situations where the offerer and receiver are co-ethnics and where they are from different ethnic groups can be attributed to differential levels of altruism toward in-group and out-group members. Because our focus is on detecting ethnic discrimination, the Dictator Game that our subjects played differs from more commonly used versions in two ways. First, we play in trios rather than in pairs. This permits us to evaluate situations where offerers must decide between allocating a sum to a co-ethnic and a non-co-ethnic. Second, the sum to be allocated is “lumpy.” Instead of being given a continuous endowment to divide among the players, offerers were given two coins and told that no player (including themselves) was permitted to receive more than one coin. This forced the offerer to discriminate between the two receivers (or, if the offerer chose to give away both coins, against him or herself). Hence, we refer to this as the “discrimination game.”

Each round began with subjects (who in this game only play the role of offerer) seated in front of a laptop computer. The screen of the computer showed a PIB containing images of the two other players (the receivers) and a dummy for the subject (as in Figure 2). In front of the computer were three ballot boxes, each located directly below one of the pictures in the PIB. Subjects were given two 500 USh coins (about 60 US cents, approximately equal to the per capita daily income in Uganda) and asked to divide this sum as described above. Subjects were told to put the amount that they wanted to keep directly into their pocket and to put the amounts that they wanted to allocate to each of the other players into envelopes and deposit them in the ballot boxes located directly below the players’ pictures. Subjects were told that the envelopes would be delivered to their intended recipients at a later date, which they were. An enumerator manipulated the computer to show the PIB for the given round and handed the subject the money, but then stepped away and waited behind a screen while the subject completed his or her allocation. When the subject was finished making the allocation, he or she signaled the enumerator, who returned from behind the screen and set up play for the next round.

13 We also played “non-discrimination” versions of the Dictator Games described in this paper with ten coins instead of two. The results (reported in Habyarimana et al 2007) are very similar to those described here.
14 We instituted various checks to ensure that our subjects understood the games they were playing. Most importantly, prior to beginning play, subjects were tested on their comprehension of the rules of the game and the set of strategies that were available to them. Subjects that failed this test were given additional instruction until they could explain the game on their own. In addition, we organized a back-translation of the games in which an educated Ugandan with no connection to the project met with a group of our subjects and tried to elicit from them sufficient information about the various games they were playing that he could describe the details of the games back to the experimenters. The success of this back-translation exercise gave us confidence that our subjects understood the underlying behaviors that each game sought to assess.
Each subject played multiple rounds (an average of 2.7) of the game. In all, we have data from 782 rounds (1,564 individual choices). The modal strategy (played in 73% of rounds) was to keep one 500 USh coin and to allocate the other coin to another player. Nonetheless, in 23% of the rounds, subjects allocated both coins to the other players. These offers can be compared with a baseline strategy of random allocation, under which subjects would keep one coin two thirds of the time.

We now turn to the question of whether subjects displayed different degrees of other-regardingness toward co-ethnics and non-co-ethnics. We restrict our analysis to rounds in which a player was playing (or believed he or she was playing) with one co-ethnic partner and one non-co-ethnic partner, and in which he or she also elected to discriminate.\footnote{In the subjective co-ethnicity analysis, a player was coded as believing that he or she was facing one co-ethnic partner and one non-co-ethnic partner if the difference in his or her estimated beliefs that each of the two partners was a co-ethnic exceeded .5.} Row 1 of Table 1 reports the marginal effect of co-ethnicity on the likelihood that players discriminated in favor of co-ethnics when they played anonymously.\footnote{The model reports the marginal effects of co-ethnicity both for games in which offerers were anonymous and for games in which they were not. These pooled models contain indicators for co-ethnicity and anonymity as well as an interaction between these two indicators. These results are substantively and statistically equivalent to what is obtained from unpooled models. Our specification includes fixed effects for the ethnic group of the offerer to ensure that the co-ethnic effect is not driven by an ethnic group main effect (which might happen if members of one group were generally more generous and, because of the size of their group, were more likely to be in co-ethnic pairings). We also cluster disturbance terms by the offerer to account for the fact that observations across games for a given player are not independent. In addition to the controls already described, the findings reported here are also robust to the inclusion of ethnic group fixed effects for the receiver and individual fixed effects for both the offerer and the receiver, which gives us confidence that the results are not driven by how particular ethnic groups are treated on average or by the play of specific individuals. The results are also robust to the inclusion of a battery of controls for age, education, income, gender, and other characteristics (which, by design, are uncorrelated with the experimental treatment).} We find no evidence of any co-ethnic effect. Contrary to the expectations of the other-regarding preferences rationale, there is no statistically significant difference in the likelihood that players will discriminate in favor of co-ethnics.

It is important to emphasize that these results do not directly establish what individuals believe about the other-regarding preferences of co-ethnic and non-co-ethnic partners. To establish beliefs directly we would like to have been able to ask our receivers to predict the offers made by co-ethnic and non-co-ethnic offerers. However, playing such a back end to this game would have required showing receivers pictures of the offerers, who had been told that they were making their allocations anonymously. This would have violated

\[\text{Table 1 Here}\]

\footnote{Because the game is played with two partners for each offerer, we stack the data and code a dependent variable that captures whether a given receiver was favored. In stacking the data this way, we double the number of observations in our regressions. Our results—both those reported here and in the next section—are robust to treating each game as a single game. In analyses using non-stacked data (not shown), we can reject the null hypothesis that players select}
the experimental norm of no deception, so this experiment is silent on receivers’ beliefs. Nonetheless, the results suggest that other-regarding preferences are not structured along ethnic lines, and any belief to the contrary would be sharply at odds with this observed behavior.

The Incentives Rationale

Next we turn to the incentives rationale. There are multiple reasons why an individual may have an incentive to be trustworthy even if he or she does not have the interests of the truster at heart. One possibility is that the preferences of the two agents over outcomes are aligned—the truster in this case knows that the trustee will take the right action because that action is also in the interest of the trustee. A second channel through which the incentives mechanism might operate is via social norms. In this case, the truster believes that the trustee will take the right action because he or she knows that the trustee will be violating a sanctionable norm if he or she does not. In either case, the existence of incentives for the trustee to be trustworthy, if known to the truster, would lead the truster to have higher expectations of the trustee’s trustworthiness.

Preferences over Outcomes

In a trivial sense, the other-regarding preferences rationale we discussed in the last section may be thought of as an incentive rationale. But other preference rationales may be less trivially linked to incentives. In the classic example provided by Adam Smith, I can rely on servicemen to deliver goods not because they like me but because they, like me, benefit from the trade (Smith 1776). In this case what matters is not preferences over the welfare of others but the fact that the welfare of each person is correlated across outcomes. If the preferences of co-ethnics in particular are aligned in this way, then this may lead to higher levels of trust among co-ethnics and greater expectations that co-ethnics will be trustworthy.

To probe the plausibility of this argument for Mulago-Kyebando, we use simple survey techniques to test whether preferences over public goods outcomes do in fact correlate with ethnic group membership. Insofar as they do, individuals have incentives to trust each other in the joint production of these goods. We examine two types of survey questions. First, to what types of public goods do individuals attach the highest priority (security, drainage maintenance, or garbage collection)? Second, how should these goods be provided? For example, should private or public means be used? We focus on these issues—the prioritization of projects between a co-ethnic and a non-co-ethnic randomly at the 99% level for co-ethnicity and the 95% level for co-region using a subjective coding of co-ethnic pairings.
and the manner of their provision—because they were identified by community members in interviews and focus group discussions as being among the most salient concerns in Mulago-Kyebando. 18

Table 2 reports the results from $F$-tests derived from a simple analysis of variance (ANOVA) as well as from the non-parametric Kruskal-Wallis test which is more appropriate for the case where the outcome measure is categorical. We cannot reject the null hypothesis of no systematic variation across ethnic or regional groups for any of the six questions. More detailed analysis suggests further that there is little clustering on any given group and that what clustering exists can be accounted for by local, non-ethnic, fixed effects. In short, there is little empirical support in our data for the argument that members of ethnic groups possess correlated preferences over political outcomes in Mulago-Kyebando.

[Table 2 Here]

**Social Norms**

A second source of beliefs about trustworthiness lies in the existence of social norms, and in the social sanctioning that may take place if those norms are violated. If individuals know that a norm exists that one should act in a trustworthy way, and that one is subject to sanctioning in the event that they fail to abide by this norm, then they will be more likely to be trustworthy. Knowing that the norm exists and that potential cooperating partners are subject to it will raise expectations of trustworthiness. In principle, such norms could exist within but not across ethnic groups: if co-ethnics expect that cooperation with co-ethnics will be reciprocated under threat of sanctioning but that cooperation with non-co-ethnics will not, then expectations of trustworthiness will be higher among co-ethnics than among non-co-ethnics.

To test for the existence of such a norm—and for its differential strength among co-ethnics and non-co-ethnics—we explored what happened to the offerers’ behavior in the Dictator Game described above when the offerers were no longer anonymous (the PIB shifts from the one depicted in Figure 2 to the one depicted in Figure 1). In such a setting, the offerer’s behavior can be interpreted as a product of his or her (relative) altruism toward the receiver (as it was in the anonymous version of the game) and his or her concern about being seen to violate a social norm requiring cooperation. This latter concern is irrelevant when the offerer is anonymous, but it becomes potentially important when the offerer is seen and (in principle) can be sanctioned if his or her actions breach the norm against failing to contribute. To evaluate whether or not such a norm exists, we can therefore compare patterns of play in Dictator Games where the offerer is and is

18 Although we confirm empirically that there is considerable diversity in attitudes toward these issues, we emphasize that the issues were selected for their general salience and thus may not necessarily represent the most ethnically divisive
not seen. To evaluate whether the norm exists more strongly for co-ethnics than non-co-ethnics—the central claim of the incentives rationale that we seek to test here—we can compare the results of anonymous and non-anonymous Dictator Games played among co-ethnics and non-co-ethnics.

Each subject played approximately four rounds of the non-anonymous version of the Dictator Game, yielding a total of 1,226 rounds (2,452 choices). Aggregate patterns of play were similar to those found in the Dictator Game with the anonymous offerer. In 70% of cases, subjects kept one 500 USh coin and allocated the other to another player and in 24% of cases they gave both coins away.

The effects of co-ethnicity on offers can be seen in the second row of Table 1. Again, for the purposes of our analysis, we focus only on cases in which players actually discriminate (ie. choose to give the coin to one player and not another) when they are facing (or believe they are facing) one co-ethnic and one non-co-ethnic. In non-anonymous games, we find systematic differences in the way subjects played with co-ethnics and non-co-ethnics. Using the benchmark measure, co-ethnicity increases the likelihood that a partner will be favored by 12 percentage points; using our subjective coding, co-ethnicity increases the likelihood of favoritism by 29 percentage points. Results for shared group membership defined by common regional background are similarly large (14 and 25 percentage points respectively).

The contrast between these findings and those reported in the first row of Table 1 is striking. When they are making their offers anonymously, subjects give no more to co-ethnics than to non-co-ethnics. But when they know that they can be seen, they give significantly more. These results provide evidence that trust-facilitating norms exist within ethnic groups. We note, however, that although we find a significant effect of co-ethnicity in the non-anonymous games and not in the anonymous games, we lack sufficient power to distinguish the difference between these marginal effects from zero (see the final row of Table 1).

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19 Our decision to interpret the Dictator Game where the offerer is seen as a situation where the offerer can be punished for the violation of a social norm requires explanation, since the Dictator Game is a one-shot interaction that, by construction, does not allow for the possibility of punishment within the context of the game. Our logic, following Hoffman et al (1996), is that players “are accustomed to operate in an environment in which there is ongoing social interaction” and as a result “may be concerned about the extent to which their decisions have post-experimental consequences, or that others may judge them by their decisions.” Thus, although punishment may not be possible within the game itself, players behave as if it is. This interpretation is supported by the findings of Haley and Fessler (2005), who report strikingly different results in dictator games when players believe they can and cannot be seen, even in a context where the identity of the would-be punisher is undefined.

20 We do not have the power in our sample to test for the robustness of these results to the inclusion of fixed effects for the ethnic group of the receiver (in addition to that of the offerer).

21 We identify a similar pattern of no co-ethnic bias in anonymous games and co-ethnic favoritism in non-anonymous games in a version of the Dictator Game our subjects played with ten 100 USh coins (reported in Habyarimana et al 2007). In that game, subjects were free to choose from a wide range of potential allocations, including many which
Beliefs

These results provide support for the claim that individuals take the interests of others into account in response to socially generated incentives. They do not, however, establish directly whether individuals believe that others respond in this way. They only provide a basis for drawing a conclusion about beliefs of trustworthiness if we assume consistency of beliefs—that is, that people’s beliefs about trustworthiness follow directly from behavior that is, in fact, trustworthy. We turn now to a more direct investigation of whether or not individuals believe that others will act in a trustworthy way. Specifically, we test whether, in non-anonymous Dictator Games, players expect to receive more from co-ethnics than from non-co-ethnics. This test does not permit us to adjudicate whether the source of these beliefs lies in presumptions about the trustee’s other-regardingness vis-à-vis the truster or in incentives that increase the likelihood that the trustee will behave in a trustworthy way. However, if players do expect to receive more from co-ethnics, then our claim that the threat of punishment is credible when such expectations are not met—the rationale for which we have found empirical support—stands on stronger grounds.

To assess player’s expectations, we examine data gathered during the back end of the non-anonymous Dictator Game. Subjects played the back end after all Dictator Games had been completed (but, of course, before they learned what they received from each offerer). Their guesses were not relayed to any other players and, although players were incentivized to guess correctly, their guesses had no effect on the amounts that were actually allocated by the offerers.

Capturing an accurate reading of people’s expectations is a challenge. We did not want subjects to provide their guesses directly to our enumerators for fear that that this might bias our results. Instead, we gave each receiver the exact endowment of cash that had been provided to offerers in the front end of the game (two 500 USh coins) and asked them to indicate how they believed the offerer had allocated the coins among the three players. To do this, we showed them PIBs for each round of each game in which they had been a receiver and, for each one, asked them to place coins in envelopes and put them in the boxes corresponding to the pictures of each player on the computer screen exactly as they thought the offerer had allocated the coins.\(^\text{22}\) To motivate participants, players were given 500 USh if their guess about the offerer’s allocation was correct.

\(^\text{22}\) One natural concern with this approach is that the action of placing coins in one’s own box might predispose subjects toward wishful thinking: they might always guess that they received more. This might be especially the case in the

permitted them to treat each of the other players equally. In the 100 USh version of the game, we have sufficient power to demonstrate that players favor co-ethnics if and only if they are observed.
In general, our subjects were wishful thinkers. Players guessed that the offerer would keep one coin and give them the other in about half the games, but only guessed that the second coin would go to the other receiver 28% of the time. In 17% of cases, receivers believed that the offerer would give away both coins, and approximately 4% of the time they guessed that the offerer would keep them (against the rules of the game).

In Table 3, we explore whether players conditioned their expectations on the match between the offerer’s ethnic background and their own. We limit the analysis to games in which guessers expected offerers to keep one coin and give the other away, and in which one of the receivers was a member of the offerer’s ethnic group and the other was not. By conditioning on players who always keep one coin, no offerer is more or less generous than another; the question is simply who they chose to benefit. The results suggest that individuals expect offerers to discriminate in favor of co-ethnics. Specifically, co-ethnics are between 15 and 21 percentage points more likely to expect the other coin than non-co-ethnics, with slightly lower but equally statistically significant rates of in-group discrimination expected for co-regionists. These findings reinforce the results reported earlier regarding the role of sanctioning and social norms in generating trustworthy behavior: in non-anonymous settings players favor their co-ethnics and their co-ethnics expect them to do so.23

The Competence Rationale

A third rationale for why some people will be believed to be more trustworthy than others derives from beliefs about their ability to deliver what has been promised. As the myriad stereotypes about the “natural” abilities possessed by members of particular groups to perform certain tasks attest (i.e., Italians are good at making shoes; “Nubians” make good soldiers, etc.), perceived competence in particular domains is frequently correlated with ethnic group membership. However, this would not produce higher levels of perceived trustworthiness among co-ethnics per se. Only if competence is (or is perceived to be) relational—that is, that individuals believe that co-ethnics, while perhaps no more competent overall, are better able to work together with them—will beliefs about competence provide a foundation for differential expectations of trustworthiness among co-ethnics and non-co-ethnics.

subject had trouble comprehending the game. This possibility could potentially swamp some of the subtle effects with which we are concerned. However, it should not bias the findings either toward or against co-ethnics. 23 These results survive the inclusion of fixed effects for all receiver (guesser) groups. They do not, however, survive the inclusion of fixed effects for the offerer.
To test the possibility that our subjects had differential beliefs about the abilities of others (and specifically the ability of others to work effectively with them), we created a game in which players had to select among a set of partners to perform a joint task. Since rewards accrued only to teams that successfully completed the task, players had an incentive to select partners with whom they believed they would be most likely to succeed.

The game we examine here—the “Lock Box Game”—involves two people working together to open a combination lock that has been affixed to a box containing cash. Pairs that successfully open the box share the money. Partners were matched by randomly dividing six subjects in a given session into two groups of three: one group was designated to play the role of Player 1; the other to play the role of Player 2. Player 1 is taught how to open the combination lock; he or she must then provide oral instructions to Player 2, who actually manipulates the lock. After receiving instructions about how the game would be played, one subject was selected at random from the Player 1 pool, shown pictures of the three subjects in the Player 2 pool and asked to select one to be his or her partner in the game. A second subject was then selected at random from the Player 1 pool, shown pictures of the two remaining subjects in the Player 2 pool, and asked to select one to be his or her partner. The final subject in the Player 1 pool had no choice and was simply assigned to play the game with the last remaining subject in the Player 2 pool.

Each subject played the game only once, so only half of our subjects played in the position of Player 1. Thirty-one subjects could choose a partner from among 3 partners, 51 from among just 2, and 66 had no choice at all. To the extent that they could identify co-ethnics from looking at their pictures, did subjects select them as partners?

The basic results are as follows. First, there is no evidence that competence is in fact relational. Co-ethnic pairs were no more likely than non-co-ethnic pairs to succeed in the game: success rates were .63 for co-ethnics (n=32) and .61 for non-co-ethnics (n=114). When group membership is defined in terms of region, success rates are even lower for co-ethnics—.59 (n=51), compared to .62 (n=95) for non-co-ethnics (difference not significant). This is true both for the cases in which players had a choice in partner selection and those cases in which they did not.

Given this pattern, it is perhaps not surprising that players appear not to have believed that co-ethnics would be better able to work with them. Table 4 presents data on partner selection for those cases in which a player could select a partner from among a pool of co-ethnics and non-co-ethnics. Although the n is low for all these cases, we see that player selections are as close as possible to random given integer constraints. The
same pattern also emerges from a more general analysis (not shown) that uses an alternative-specific multinomial probit model to check for co-ethnicity effects. This model is appropriate for settings in which an individual chooses one option from a set of alternatives (with the number of options possibly varying) for which each option has distinct characteristics. In this analysis, we looked to see whether any ethnic cues were used. It is possible (and consistent for example with findings of Fershtman and Gneezy (2001)) that individuals find it optimal to work with some particular ethnic groups though not necessarily their own. Again, we find no evidence to support this view and fail to reject the null that the selection is independent of the ethnic composition of the pool of potential partners.

[Table 4 Here]

One possible challenge to our strategy is that players may select partners in part because, independent of success rates, they simply prefer working alongside (or prefer not to work alongside) individuals of a given group. If players had preferences to work alongside co-ethnics then this would bias us towards finding co-ethnic selection (even if there were no competence advantage of co-ethnic pairings). The fact that we do not find this strengthens our results (at least if we expect procedural preferences to be positively correlated with co-ethnicity, which we think is plausible).

Conclusion
A major problem with traditional approaches to the question of why some people are believed to be more trustworthy than others is that they cannot distinguish among competing accounts for the outcome that is observed. Suppose we observe an individual handing over a monetary contribution to a political campaign in the belief that this money will not be misspent. What is the source of this person’s trusting belief? One possibility is that the person believes that the trustee cares about the welfare of the truster and so is motivated to act in her interests. Another is that the trustee is incentivized to act in the trustee’s interests, perhaps because she seeks the same outcomes or perhaps because she expects to be sanctioned if she misuses the funds. A third is that the person believes that the trustee has the skills to spend the campaign funds successfully.

Parsing these explanations is of substantive importance, but is difficult using standard methods. In this paper, we have employed experimental techniques in an effort to test these different explanations. Our focus was on the specific question of why people believe that co-ethnics are more trustworthy than non-co-ethnics. Our results suggest that, at least in Mulago-Kyebando, the source of this belief lies in the expectation that, owing
to norms of reciprocity that bind more strongly in within-group than in cross-group interactions, co-ethnics have greater incentives than non-co-ethnics to respond to trusting overtures in a trustworthy way. The competing rationales find little empirical support.

We end with a note of caution and a note of optimism. A skeptical reader might question the generality of our conclusions: the salience of each of the rationales we study, a critic might argue, may depend on the context of the trusting decision. We concur. Other regarding preferences may plausibly be of greater importance in settings where ethnic differences have been a source of violence. A competence rationale may underlie trusting actions in settings where, unlike in Mulago-Kyebando, no lingua franca exists or where success in specific tasks depends more directly on shared group attributes. Experimental protocols that involve explicitly priming subjects to ethnicity (which our protocols do not) may also generate different conclusions about the relative importance of the three rationales.

It is possible, however, that incentives explanations may be of overriding importance in a broad class of settings. At this stage, we simply do not have sufficient evidence to know. Understanding the relative explanatory power of these different rationales, and the contexts in which they are most salient, is an important research agenda, and one for which the empirical strategy detailed in this paper is well-suited to make a contribution.
Figure 1: Public Information Box with Non-Anonymous Offerer

Player 2, the offerer, is “seen” by all players. Note that the images used in this figure are for illustration purposes only and are not the images of actual subjects.

Figure 2: Public Information Box with Anonymous Offerer

Player 2, the offerer, is anonymous. Note that the images used in this figure are for illustration purposes only and are not the images of our subjects.
### Table 1: Discrimination Rates in the Dictator Game

<table>
<thead>
<tr>
<th></th>
<th>Benchmark Co-ethnicity</th>
<th>Benchmark Co-region</th>
<th>Subjective Co-ethnicity</th>
<th>Subjective Co-region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of In-group Membership When Offerer is Anonymous</td>
<td>-0.03 [0.10]</td>
<td>0.06 [0.08]</td>
<td>0.08 [0.16]</td>
<td>0.83 [0.14]</td>
</tr>
<tr>
<td>Effect of In-group Membership When Offerer is Seen</td>
<td>0.12* [0.07]</td>
<td>0.14*** [0.06]</td>
<td>0.29** [0.13]</td>
<td>0.25*** [0.11]</td>
</tr>
<tr>
<td>Difference</td>
<td>0.15 [0.11]</td>
<td>0.08 [0.09]</td>
<td>0.20 [0.21]</td>
<td>0.16 [0.18]</td>
</tr>
<tr>
<td>Observations</td>
<td>628</td>
<td>962</td>
<td>310</td>
<td>432</td>
</tr>
</tbody>
</table>

Notes: *** Significant at 1%; ** Significant at 5%; * Significant at 10%. Each column reports marginal effects calculated from a single probit model that includes both anonymous and non-anonymous plays. The “difference” terms correspond to the interaction between an anonymity indicator and co-ethnicity measures. Robust standard errors in brackets. Every model contains group fixed effects and clustering on actions by a given player in a given game.
Table 2: Within-Group Clustering of Policy Preferences

<table>
<thead>
<tr>
<th>First Priority for Public Goods Provision</th>
<th>Ethnicity</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethnicity</td>
<td>Region</td>
</tr>
<tr>
<td></td>
<td>ANOVA F-test (p)</td>
<td>ANOVA Kruskal-Wallis χ² test (with ties) (p)</td>
</tr>
<tr>
<td>Drainage</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Garbage Collection</td>
<td>0.70</td>
<td>0.69</td>
</tr>
<tr>
<td>Security</td>
<td>0.67</td>
<td>0.66</td>
</tr>
</tbody>
</table>

How Public Goods are to be Provided

<table>
<thead>
<tr>
<th>Preference for fee based garbage collection, over free but lower quality provision</th>
<th>Ethnicity</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ANOVA F-test (p)</td>
<td>ANOVA Kruskal-Wallis χ² test (with ties) (p)</td>
</tr>
<tr>
<td>It's better not to have to pay anything or to volunteer for patrols, even if that means security is low</td>
<td>0.88</td>
<td>0.66</td>
</tr>
<tr>
<td>It's better to have well-maintained drainage channels, even if we have to make contributions of money or labor</td>
<td>0.41</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Notes: Analysis is limited to the ten largest groups.
<table>
<thead>
<tr>
<th>Marginal Effect of</th>
<th>Dictator Game (Back End)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark Co-ethnicity</td>
<td>0.15 (.07)**</td>
<td>414</td>
</tr>
<tr>
<td>Benchmark Co-region</td>
<td>0.07 (.04)*</td>
<td>697</td>
</tr>
<tr>
<td>Subjective Co-ethnicity</td>
<td>0.21 (.12)*</td>
<td>413</td>
</tr>
<tr>
<td>Subjective Co-region</td>
<td>0.14 (.07)**</td>
<td>688</td>
</tr>
</tbody>
</table>

*Each row presents estimated marginal effect of co-ethnicity (co-region) from a probit model conditioned on the set of plays in which guessers expected offerers to keep one coin and in which exactly one receiver was of the same benchmark ethnicity / region as the offerer. The model includes fixed effects for the ethnic group of the receiver (guesser). Disturbance terms are clustered for each player across all of his or her guesses. Standard errors are in parentheses.
Table 4: Partner Selection in the Lockbox Game

<table>
<thead>
<tr>
<th>Case</th>
<th>Share of players that selected in-group members</th>
<th>Expected share given random selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethnicity ((N))</td>
<td>Region ((\tilde{N}))</td>
</tr>
<tr>
<td>One co-ethnic, one non-co-ethnic</td>
<td>0.55 (11)</td>
<td>0.53 (19)</td>
</tr>
<tr>
<td>One co-ethnic, two non-co-ethnics</td>
<td>0.39 (8)</td>
<td>0.33 (12)</td>
</tr>
<tr>
<td>Two co-ethnics, one non-co-ethnic</td>
<td>0.6 (5)</td>
<td>0.67 (6)</td>
</tr>
</tbody>
</table>
Bibliography


