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Annet Adong, Oliver Kiptoo Kirui, and Jolly Achola

# "Us" and "Them": Prosocial attitudes between refugees and host communities exposed to armed conflict: Experimental evidence from Northern Uganda

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# Abstract

We examine prosocial attitudes between refugees and host communities exposed to armed conflict and living in close proximity in Northern Uganda. By conducting trust and dictator games in the field, we test if there are in-group preferences or parochialism regarding trust, trustworthiness and altruism and whether parochial tendencies change with remoteness. We find that refugees show out-group preferences for reciprocating trust and altruism with increasing remoteness from district headquarters while members of the host communities show parochial preferences for trust although this changes with increasing remoteness. Refugees also do not perceive that their partners might expect them to discriminate along social identities of being refugee or host while hosts believe that their partners expect them to show parochial preferences. We conclude that refugees do not consider the social differentiation of "us refugees" and "them host" in their interactions as much as hosts do particularly in areas remote from urban areas which offer opportunities for increased interactions. The results are crucial to the policy arena in humanitarian contexts where concerns for the assistance of the vulnerable displaced people are high.



Key words: Trust, Trustworthiness, Altruism, Refugees, Host communities

JEL CODES: D9, C91, D03

# 1. Introduction

Armed conflicts are associated with displacement of multitudes of people forced to flee the comfort of their homes to other countries as refugees. The countries or communities that they flee to have their own identify characterized by similar norms, ethnicity, religion and taboos. Clearly, hosting refugees who are different in social identity creates a social characterization of "us" hosting communities and "them" refugees which is likely to affect social behavior between the two groups (Tajfel, Billig, & Bundy, 1971). Also, external organizations and Government agencies offering support to displaced persons often make the distinction between refugees and host communities when offering services. Refugees are likely to have correlated preferences from shared norms, taboos and kinship (Bénabou & Tirole, 2011; Denison & Muller, 2016)and uncorrelated preferences with hosting communities. Nevertheless, this categorization of identify evolves over time (Akerlof & Kranton, 2000) with repeated social interactions, some preferences might change (Ernst Fehr, Fischbacher, & Gächter, 2002) and there might cease to exist a distinct social categorization based on norms or social preferences. Discrimination against out-groups or favoritism to in-group members evidenced in several studies (Baumgartner, Götte, Gügler, & Fehr, 2012; Bernhard, Fischbacher, & Fehr, 2006; Chen & Li, 2009; Tajfel et al., 1971) may be ambiguous. It is even more ambiguous for social groups exposed to war such as refugees and host communities following literature that shows that war experiences increases prosocial behavior (Bauer et al., 2016; Voors et al., 2012).

We contribute to this puzzle by examining the prosocial behavior of two social groups namely refugees fleeing from armed conflict and hosting communities who have previously experienced armed conflict. The context that we study is unique because communities' currently hosting refugees from South Sudan were refugees in the past. Our main goal is to examine any forms of discrimination in trust, reciprocity of trust and altruism between the two social groups.

The theory of parochial altruism in psychology literature postulate altruistic behavior towards in-group members and mistrust, hostility or indifference towards out-groups (Baumgartner et al., 2012; Tajfel et al., 1971). Akerlof & Kranton (2000) extend the psychological aspects of social identity into the neoclassical utility functions to analyze economic outcomes such as gender discrimination, household division of labor and economics of social exclusion. We hypothesize that there are in-group preferences or parochialism regarding trust, trustworthiness and altruism and that these parochial tendencies change with remoteness from urban areas such as district headquarters. The latter is from the assumption that repeated social interaction changes attitudes of in-groups against out-groups (Ernst Fehr et al., 2002).

We test the above hypothesis by conducting trust and dictator games with refugees and members of the host community in Adjumani district in Uganda. The case of refugees and host communities gives a clear social group categorization of "us" and "them" for which an understanding of any discrimination is of policy relevance. We use the within subject design in which all players play both the trust and dictator game in a random way. To understand how each of the two groups behave towards each other (parochialism), as treatment, we provide information on which social group ones partner comes from when playing the dictator and the trust games.

The most closely related paper to our study in literature is by Hartman & Morse (2018) who study violence, empathy and altruism of the Ivorian refugee crisis in Liberia. Hartman & Morse (2018) ask an important question on how past exposure to violence affects altruism towards members of a different ethnic or religious group in the Liberian context. The key setback in the paper is the failure to rule out omitted factors by using survey data, conjoint experiments and observational approaches to measure altruism[1]. We corroborate their findings by using lab in the field experiments of trust and dictator games with refugees and members of the host community to be able to address endogeneity of preferences. Hartman & Morse (2018) also rely on self-reported behavior of hosting communities that may not reflect the actual reality of the households. In a controlled experimental environment such biases from self-reporting is limited. Besides, our study focuses on a different behavioral puzzle of understanding trust, trustworthiness and altruism, which influences many social interactions that remain largely informal. Trust for example is crucial in many economic interactions (Berg, Dickhaut, & McCabe, 1995) especially in informal settings where contracts may not be complete (Bauer, Fiala, & Levely, 2018).

There are limited studies focusing on trust, trustworthiness and altruism using lab in the field experiments with two distinct out-groups. Either the context is different or the puzzle that they solve is different. Bauer et al. (2018) for example use trust and dictator games to understand if the experience of being abducted to fight for a rebel group affects individual trustworthiness. Voors et al., (2012) examine the relationship between exposure to conflict and social, risk and time preferences and use a modified version of the social value experiment to measure social preferences. Werner & Lambsdorff, (2019) investigate the impact of activation of memories of conflict on prosociality and find no evidence for discrimination of out-groups. Studies looking at the puzzle of social preferences between two 'out-groups' never really have distinct out-groups (Bauer et al., 2016) and thus a bias towards parochialism. For others, the social groups are artificially created in the lab (Chen & Li, 2009; Everett, Faber, & Crockett, 2015) which might not depict real life categorization of individual

[1] In conjoint experiment, players are presented with a hypothetical condition and told to make a choice based on several factors such as gender, ethnicity, religion, food security and other factors that the players consider prime and are likely to affect the choices made. Hartman & Morse (2018) use conjoint experiments to elicit respondent's preferences over attributes of refugees.

social group identities based on regular interactions, emotional ties or common norms (Everett et al., 2015).

Lastly, we contribute to the limited research focusing on behavioral aspects of refugees and their hosts unlike many studies which center on refugee livelihoods. The results are crucial to the policy arena in many humanitarian contexts where concern for the assistance of the vulnerable displaced people are particularly high. Recent policy discussions on refugee settlement have been on whether refugees should be integrated with local communities and allowed some degree of work and freedom of movement or be secluded in designated camps and settlements (Bohnet & Schmitz, 2019). Uganda is heralded for its move towards reintegrating refuges into host communities (refugees live with host communities rather than in secluded camps) and allows them to work, access land, and to have some degree of movement.

We find that refugees show out-group preferences for reciprocating trust and altruism with increasing remoteness from district headquarters while members of the host communities show parochial preferences for trust although this changes with increasing remoteness from the urban areas particularly from the district headquarters. Hosts nevertheless show no parochial altruistic behavior to fellow hosts even with increasing remoteness. We attribute the results to the opportunities of increased interaction between the two groups with increasing remoteness from the district headquarters. For example, we find that shops are more in localities far from the district. We rule out the possibility that refugees reciprocate trust more to host than to fellow refugees with increasing remoteness from the district to gain favor from them in trust. In addition, focus group discussions show that refugees perceive hosts as “one”. Less trust by host towards refugees also does not stem from their anticipation of less reciprocity from the latter.

The possibility of the results being biased by self-selection and screening of refugees to particular localities is ruled out given the nature with which refugees are resettled on their arrival to the Ugandan border. The fact that refugee settlements are established, as the need arises (once the existing settlement has reached its capacity, then another one is set), and also the limited possibility of refugees migrating from one settlement to another limits self-selection into particular localities. Lastly, it can be argued that the results are likely to be influenced by the fact that only trustworthy and altruistic refugees get to move into Uganda following forced displacement. Nevertheless, we think this is less likely to be the case given the history and nature of the conflict in South Sudan that drives refugees to Uganda. To ensure robustness of our findings, we use socio economic information about the players from household surveys to check for randomization success. We control for socio economic characteristics of the players in our regression and corroborate our findings with survey responses and focus group discussions.

The rest of the paper is structured as follows. Sub-section 1 reviews the post conflict region of northern Uganda. Section 2 discusses theory and related literature on trust, altruism and empathy. Section 3 then discusses the methods including experimental design, sampling and procedures for the game. In section 4, we present the main results from the experiment and lastly conclusions in section 5.

# 2. Review of post conflict and refugee hosting in northern Uganda

Uganda is a landlocked country situated in East Africa with a population of about 34.6 million from 2014 population census (Uganda Bureau of Standards (UBOS), 2016). Remarkable trends in poverty reduction have been achieved from 31.2 percent of the proportion of the population living below the poverty line in 2006 to 19.7 percent in 2013 (WorldBank, 2016). Nevertheless, poverty remains concentrated in Northern and Eastern parts with 84 percent of the poor living in these regions.

The Northern region has experienced a number of armed conflicts over the decades since independence in 1962. The downfall of President Idi Amin in 1979 led to a number of conflicts mainly driven by ethnicity differences (Merkx, 2000). Many people of Alur, Lugbara, Kakwa and Madi descent were harassed and had to flee to Southern Sudan were similar tribes exist. In 1986, the National Resistance Movement (NRM) led by Yoweri Museveni took over political leadership and several uprisings such as Holy Spirit Movement of Alice Lakwena and the Lord's Resistance Army (LRA) under the leadership of Joseph Kony emerged. The armed conflict between LRA and Government of Uganda lasted for two decades and extreme measures such as relocating people to camps were undertaken by the Government to reduce on killings.

In as much as Uganda has in the past had several of its people displaced to other countries as refugees, currently it is one of the countries with a great number of refugee influx. It is third to Turkey and Pakistan as a "refugee go to country" hosting about 1.4 million refugees fleeing from the armed conflict in South Sudan and from ethnic conflicts from Democratic Republic of Congo and Somalia. It has a generous refugee policy that allows refugees free movement, ability to work and engage in business opportunities and access to services such as health and education with host communities. It contrasts the reluctance by several countries whose policies on refugees confines them to camps.

We conduct our study in Adjumani district located in West Nile region of northern Uganda. Adjumani has been plagued by several civil tensions arising internally within Uganda but also from neighboring Sudan. For example, in 1979, the overthrow of President Idi Amin was accompanied by civil tensions forcing communities from Adjumani to flee into South Sudan. In 1986, displaced communities were forced to return back home due to escalating conflict in South Sudan (Hovil, 2001). Adjumani was also affected by the two decade of Lord's Resistance Army (LRA) war that traumatized many communities in Northern Uganda. Currently, Adjumani has the highest ratio of refugees to host communities in Uganda at a ratio of 43 percent of host community to 57 percent refugees (Figure 1). As of 2016, it also had one of the largest refugee settlements in Uganda with about 185,000 inhabitants.

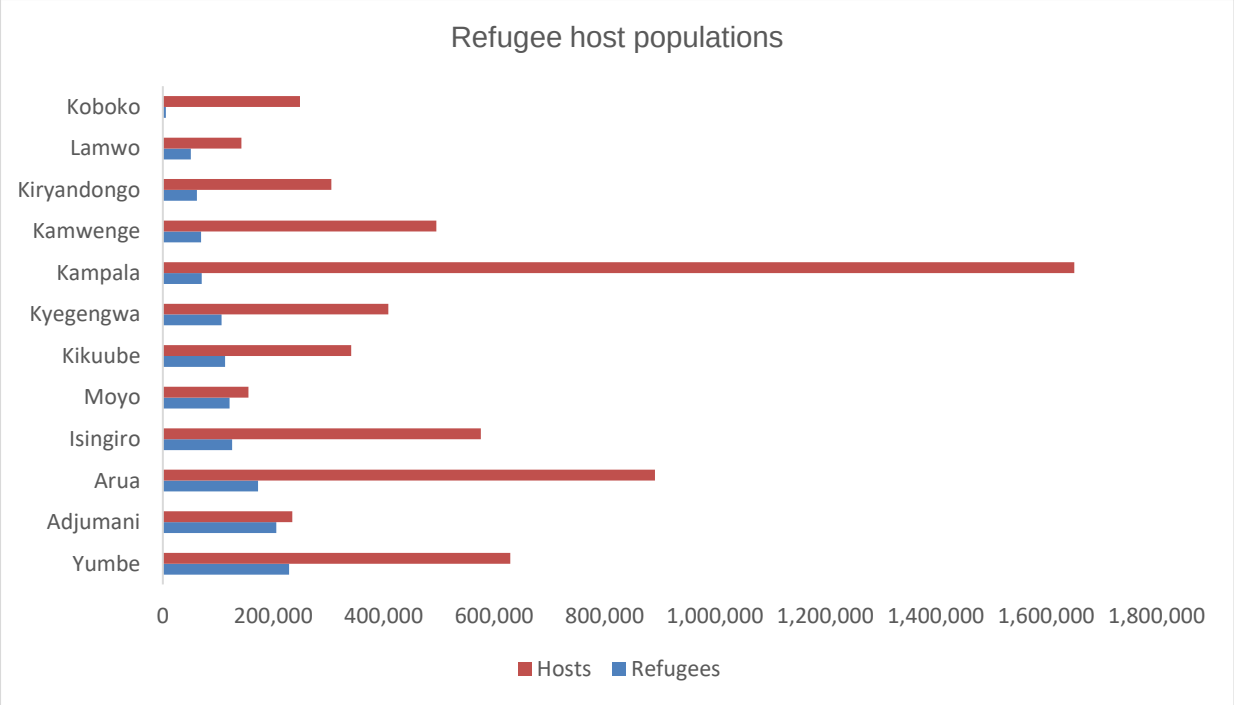


**Figure 1: Refugee host populations as of 31st August 2019.**

Source: UNHCR & Government of Uganda, (2019)

# 3. Theory and Literature

## 3.1 Trust, reciprocity and altruism

Literature relates the ability for people to trust to two things: expectation of trustworthiness or return and personal satisfaction from being kind to others (Ashraf, Bohnet, & Piankov, 2006; Rabin, 1993). The latter coined unconditional kindness is attributed to social preferences such as altruism (Andreoni & Miller, 2002) or inequality aversion(Rabin, 1993) or quasi-maximin preferences (Charness & Rabin, 2002) or due to psychological benefits "a warm glow" derived from being kind to others (Adreoni, 1990).

To measure trust and trustworthiness, Berg, Dickhaut, & McCabe (1995) proposed a two player sequential game of trust with no contract to enforce agreement (Johnson & Mislin, 2011). It involves two players- the sender/trustor/investor and receiver/trustee who are anonymously paired and endowed with an initial amount say$X_0$. In the first stage of the trust game, the sender has to decide how much to send to the receiver. He can send nothing in which case he remains with all the endowment of $X_0$ or send a proportion $X_a$ of the endowment which lies in the range $0 \leq X_a \leq X_0$ with the hope that he will get some of it back in case the trustee reciprocates. In this case, he remains with$X_0 - X_a$. The amount sent by the trustor is tripled by the experimenter $3X_a$and passed to the receiver or trustee who decides how much to send back to the trustor which we denote as$kb(3X_a)$. Subsequently, the amount the trustor sends with the hope that the other party will reciprocate measures trust while the amount sent back by the receiver or trustee measures trustworthiness (Berg et al., 1995; Johnson & Mislin, 2011).

If the initial endowment was 10 units for example, the trustors strategy $X_a$ is given by $(0,1,2 \ldots \ldots .10)$ while the trustees strategy is such that $K_b$: $(0,3, \ldots \ldots \ldots 30)$ which should satisfy$0 \leq K_b(3X_0) \leq 3X_a$. The payoffs will be such that trustors get $P_a(X_0, K_b) = X_0 - X_a + K_b(3X_0)$ while trustees get $P_b(X_a, K_b) = 3X_a - K_B(3X_a)$. If the subjects have a strictly increasing direct utility function for wealth given by $V_i(W_i + P_i(X_a - K_b))$ for $i = a, b$ and want to maximize their welfare, then the trustees dominant strategy will be to keep all the money in which case $K_b(3X_a) = 0$. In anticipation of this behavior, trustors send nothing such that $X_a = 0$. The subgame-perfect equilibrium is such that if subjects have selfish interest and only care about their monetary payoffs, the trustee will never send anything back because returning money reduces one's payoff (Burks, Carpenter, & Verhoogen, 2003).

Evidence however shows that people playing either roles ( trustor or trustee) do make some transfers (Berg et al., 1995; Burks et al., 2003; Cesarini, Dawes, Fowler, Johannesson, & Lichtenstein, 2008; Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005) showing trust and trustworthiness. For every positive amount sent by the trustor, the average net return by the trustee is positive (Rabin, 1993). Cameron, Gelbach, & Miller (2007) and Fehr & Schmidt,

(1999) attribute positive transfers especially equal splits to inequity aversion – the resistance for inequitable outcomes. Other factors to explain the puzzle of positive giving are attributed to genetics (Kosfeld & Rustagi, 2015), environment (Cesarini et al., 2008), gender ( Haselhuhn, Kennedy, Kray, Van Zant, & Schweitzer, 2015a), social preferences and internalized norms (Andreoni & Bernheim, 2009; Ashraf et al., 2006; Burks et al., 2003; Kimbrough & Vostroknutov, 2016) audience effects or social image (Andreoni & Bernheim, 2009) , fairness and reciprocity (Charness & Rabin, 2002). Ashraf et al. (2006) find that expectations of return and unconditional kindness account for the variance in trust. Andreoni, James, and Miller (2002) agree that people behave in kindness to others and when rephrased in the language of prices and income can be shown to be rational.

To determine if trust and trustworthiness are gender sensitive ,Chaudhuri, Paichayontvijit, and Shen (2013) find that female individuals are most reciprocal although such gender differences dissipate over time. Haselhuhn, Kennedy, Kray, Van Zant, and Schweitzer (2015) find that women are both less likely to lose trust and more likely to restore trust than men. Relating violence to social preference and cooperative literature, a number of studies find a positive relationship (Bauer et al., 2018; Bellows & Miguel, 2009; Hartman & Morse, 2018; Voors, Nillesen, Verwimp, Bulte, Lensink, & Soest, 2012). Voors et al.-, (2012) find that individuals exposed to violence display more altruistic behavior towards their neighbors, are more risk seeking and have higher discount rates. Bellows & Miguel (2006)find that households affected by war are more likely to attend community meetings and join political and community groups. Hartman & Morse (2018) study how regions plagued by reoccurring periods of war and displacement are altruistic towards members of different ethnic or religious group and find that violence indeed promotes intergroup cooperation. Lastly, Bauer et al. (2018) explore the effects of forced military services on trust and trustworthiness and find that experience of soldiering increases individual trustworthiness and community engagement.

To distinguish expectations of trustworthiness or reciprocity in the trust game from social preferences not conditioned on the behaviors of others (Ashraf et al., 2006; Cox, 2004a), studies incorporate the dictator game (Ashraf et al., 2006; Bauer et al., 2018). In the dictator game, two players – a dictator (D) and receiver (R) split a prize normalized to have a unit value. If $X\epsilon(0,1)$ denotes what the receiver gets, then D is left with$(1-X)$. D chooses what to transfer with probability $(1-p)$ and nature sets this equal to some fixed value $X_0$ with probability of $p$ (Andreoni & Bernheim, 2009). In a standard dictator game, $p$ is 0. The difference between what is sent in the dictator and trust game constitutes the portion of trust attributed to expectations of reciprocity by the other party (Ashraf et al., 2006).

## 3.2 Social identity and parochialism

Favoring members of one's ethnic, racial or language in-group is referred to as parochialism (Bernhard et al., 2006). Sometimes, parochialism is associated with no expected gains (Rabellino, Morese, Ciaramidaro, Bara, & Bosco, 2016). Parochial altruism theory in psychology literature is associated with altruistic behavior towards in-group members (one's ethnic, racial or any other social group) and mistrust, indifference or hostility towards out-groups(Baumgartner et al., 2012; Tajfel et al., 1971). In economic theory, Akerlof & Kranton (2000), introduces social identity variables such as race, ethnicity and gender as explanatory variables in the neoclassical utility functions to analyze outcomes such as gender discrimination, household division of labor and economics of social exclusion and poverty. Social identity is synonymous to a norm of groupings associated with parochial social instincts (Bernhard et al., 2006) and members within the social grouping benefit from altruistic behavior amongst members. When there is a categorization of "us" and "them" (Tajfel et al., 1971) then there exist a social or group identity.

Several studies reveal how prosocial behavior favors in-groups as compared to out-groups (Baumgartner et al., 2012; Bernhard et al., 2006; Chen & Li, 2009; Rabellino et al., 2016; Tajfel et al., 1971). Bernhard et al. (2006) using "punishment experiments" in Papua New Guinea found that punishers protect in-group victims much more than out-group victims. The norm violators on their part have higher expectations of lenience by punishers from their social group. Similarly, Baumgartner et al. (2012) find that stronger in-group networks lead to higher punishment of out-groups for norm violation compared to in-groups. Social preferences for in-groups is attributed: First to higher expectations of reciprocity (Bernhard et al., 2006) from in-group members compared to out-group members to minimize differences within the group (inequity aversion within the group likely to be higher). Second, to the desire to maximize in-group payoffs relative to out-group payoffs thus increasing inequity feelings to out-groups (Everett et al., 2015). Third, selfish behavior of maximizing utility because of the perceived higher reciprocity from in-group rather than out-group (Rabbie, Schot, & Visser, 1989). Fourth, perceived immoral acts of out-group which are a threat to resources (Everett et al., 2015).

Empirical findings show evidence of in-group favoritism(Chen & Li, 2009; Rabellino et al., 2016).Chen & Li (2009)find that 19 percent of the study sample are more likely to reward an in-group member for good behavior and 13 percent are less likely to punish them for misbehavior. They also find that participants are significantly more likely to choose social-welfare-maximizing actions when matched with an in-group member than an out-group member. Rabellino et al. (2016) find that punishers tend to punish those who exhibit unfair play towards members of one's own group.

Just like other preferences, parochialism can be shaped by economic and social conditions such as market integration (Ernst Fehr et al., 2002). Repeated interactions between non kin

through markets allows for punishment of non-cooperative actions such as cheating which cease to exist in the long run akin to the evolution of cooperation (Denison & Muller, 2016). Besides, market integration is also associated with greater prosociality (Henrich, Boyd, & Bowles, 2005).

# 4. Methods

## 4.1 Conceptual framework

We hypothesize that there are in-group preferences or parochialism regarding trust, trustworthiness and altruism and that these parochial tendencies change with remoteness. Specifically, we examine whether refugees show in-group preferences for reciprocating trust and altruism and whether members of the host community show in-group preferences for trust and altruism. Our treatment is information on whether one plays the trust and dictator games with a refugee or host community

We estimate equation 1 and 2 for refugees and members of the host community respectively.

$$D_{ir} = \alpha + \beta_1 P_r + \beta_2 T_r + \beta_3 P_r T_r + \delta controls + \epsilon_r \qquad \text{Equation1}$$

$$D_{ih} = \alpha + \beta_1 P_h + \beta_2 T_h + \beta_3 P_h T_h + \delta controls + \epsilon_h \qquad \text{Equation 2}$$

Where $D_{ir}$ is the outcome for individual $i$ in the refugee household $r$ and can be trustworthiness or altruism. To measure trustworthiness, we solicit for responses using the strategic measure on how much they would send back if the trustor sent UGX 1000 and if the trustor sent back UGX 2000 respectively. $P_r$ is the treatment dummy variable of whether a refugee knows that their partner is either a refugee or member of the host community and provides a measure for parochialism. The coefficient $\beta_1$ in equation 1 measures average treatment effect and is a measure of parochialism.

$T_r$ is a variable that measures distance that a refugee is from district headquarters. We capture distance both as a dummy variable (less than 10km or more) and as continuous variable in kilometers. In this study, we hypothesize that remoteness from the district increases prosocial attitudes of trust, reciprocating trust and altruism towards out-groups from increased opportunities of interaction.

The coefficient $\beta_1$ in equation 2 measures the difference in the likelihood of trust towards refugees and members of the host community. In equation 2, $D_{ih}$ is outcome for individual $i$ in the host community household $h$ and can be either trust or altruism of host communities. Trust is the measure of the amount sent in the trust game while altruism is the amount of money sent in the dictator games, the description of other variables used in the model is in Appendix 1. For both equation 1 and equation 2, $controls$ is a vector individual characteristics of the player such as age, gender, level of education and household characteristics such as household size and wealth that affect behavior (Henrich et al., 2006) and $\epsilon_r \quad and \epsilon_h$ are the error terms with standard errors clustered at the settlement level.

## 4.2 The experiment

### Experimental design

We use a within subject design where a participant plays both the trust and dictator game in a varied order and follow the gold standard trust game discussed previously. Trustors are given an endowment and have the opportunity to send money to an anonymously matched participant. Subsequently, each trustee chooses how much of the tripled amount to send back to the trustor. Host played as senders (trustors) while refugees played as receivers (trustees) to measure the degree of trust by host who are the owners of most of the resources and the degree of trustworthiness by refugees who are resource constrained.

Returning positive amounts by senders in the trust game is attributed to unconditional altruism, inequality aversion and reciprocity (Andreoni & Miller, 2002; Bauer et al., 2018). Dictator games are used for measuring unconditional altruism not directly linked to kinship, reciprocity or the immediate threat of punishment (Andreoni & Bernheim, 2009; Cox, 2004a). In the dictator game, participants were asked to decide on what amount they would want to send to an anonymous partner with the knowledge that this amount sent would be tripled. The receiver, on the other hand did not send back any money to the sender.

### Description of the treatment

Treatment was the information given to the players regarding whether their partner is a refugee or is host community. Refugees and host were randomly assigned to the treatment.

### Sampling and sample selection

We used a multistage sampling technique. In the first stage, refugee settlements were randomly selected from a categorization of “newest and oldest settlements” and from the ones that were neither new nor old. Overall, our study covered Elema, Boroli, Mugula, Oliji, Olua, Alere, Agojo, Maji, Merieyi, Ayilo and Pagirinya settlements. In the second stage, we randomly selected households from a list of refugee households. Applying probability proportional to size sampling, 300 refugee households were randomly selected from 11 settlements. Two of the five host community local councils within a 15 km radius of each of the selected refugee settlements were also randomly selected. From the eligible local councils, we randomly selected 320 host households using probability proportional to size sampling. In total, we surveyed 620 households from localities shown in Figure 2 between April and May 2018 and conducted experiments in June 2018.

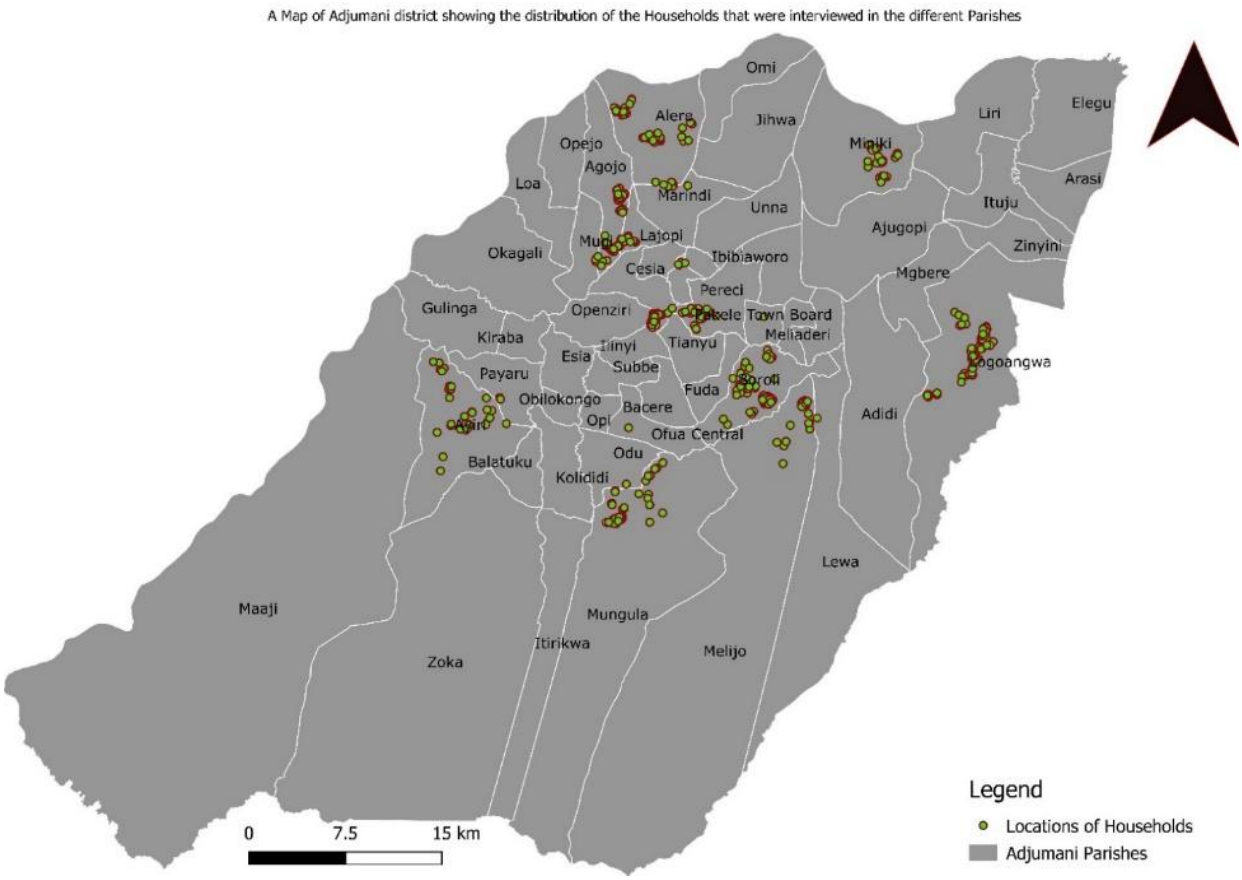


**Figure 2: A map of Adjumani district showing the distribution of the households**

## Experimental procedure and instructions

Our experimental procedures and instructions follow closely those of Bauer et al. (2018) who conducted trust and dictator games in Northern Uganda, Gulu and Kitgum districts which are about 157 km and 115 km from Adjumani district respectively. Bauer et al. (2018) adapted the written protocols by Barr (2003) and Henrich et al. (2006). Details of the experimental procedures and instructions are available in a separate submission. We intensively trained research assistants for two months with sequential piloting of the games. The household head, in his or her absence, the spouse, played the gamesand in a few cases, we allowedan adult member of the household above 18 yearsto take part. We conducted a short exit interview asking for the demographic characteristics of the player and soliciting for risk preferences of the individuals.

We randomly assigned hosts and refugees to treatment (knowledge of whether the anonymous person that they play the game with is either a refugee or member of the host community). To minimize any possibilities of creating any antagonism within the communities, we adopted a deceptive approach to the games where the partners labeled as refugees or hosts might not have been in the same location at the time one played the games. We read out a uniform profile to the players for example that their paired partner was

between the ages of 18 – 60 years old, that they were registered refugees (assuming this was the treatment) registered and stayed in one of the refugee camps demarcated by Government of Uganda in Adjumani district. No mention was made of the village or refugee. We told both parties what information was shared with the other party depending on treatment. For example, members of the host community treated with information that their anonymous partner is a refugee were aware that their paired partner knew that they were from the host community. Similarly, refugees who played as receivers were aware that the senders in the trust game knew that they were refugees living in nearby settlements.

Playing games in a certain order is likely to bring about order effects due to learning. To address order effects, we allowed for alterations in the order in which the games were played. To further understand the role of risk in making decisions in the games, we solicited for risk preferences by asking players to choose between four gambles with different payoffs although no actual payoffs were made.

We conducted the experiment locally and to ensure that the players understood the game well, instructions were given first at group level and then individually. We also tested out the player's comprehension of the game. At the end of the game, the total pay was a sum of the show up fee plus the pay for correct predictions and the pay from outcome of either the dictator or trust game determined by tossing a coin.

# 5. Experimental Results

## 5.1 Descriptive statistics

Descriptive statistics is in Table 1 below. Refugees were on average 38 years and hosts were on average 37 years. There was no difference in age between treatments within the host and refugees. 80 and 40 percent of all refugees and hosts respectively were female. On average, refugee household heads were younger and widowed while household heads of the hosts tended to be older and married. A significant proportion of refugees hardly had any education. Specifically, 40 percent of the refugees had not attended any school, only 38 percent had attended primary education and 12 percent had a secondary education and above. Refugees also had more household members than hosts. Average household size was 6.5 compared to an average household size of 5.4 for hosts and no significant differences within treatment. As expected, hosts own more assets than refugees with no significant difference in wealth index within treatment. Regarding risk preferences, refugees and hosts tended to be risk neutral. Refugees on average had a risk preference measure of 2.55 while hosts had a risk preference measure on 2.90 on a scale of one to four – one being high risk loving and four being high risk averse. Lastly, 72 percent of refugee households reported that they had been affected by war compared to 45 percent of all hosts.

**Table 1: Summary statistics of variables used in the study**

| Variable | Receivers (Refugees) | | | | Senders (Host community) | | | |
|---|---|---|---|---|---|---|---|---|
| **Treatment (Information on who you play with)** | Refugees (N=104) | Host community (N=154) | All (N=257) | t | Refugees (N=112) | Host community (N=159) | All (N=271) | t |
| *Characteristic of Players* | | | | | | | | |
| Age | 38.17(13.86) | 38.61(14.53) | 38.35(14.11) | 0.241 | 37.92(14.52) | 36.60(14.25) | 37.38 (14.40) | -0.74 |
| Player is female | 0.77 (0.41) | 0.85(0.35) | 0.80(.39) | 1.588 | 0.51(0.50) | 0.43 (0.49) | 0.48 (0.50) | -1.4 |
| *Education* | | | | | | | | |
| None | 0.37 (0.48) | 0.46 (0.50) | 0.4(0.49) | 1.515 | 0.11(0.32) | 0.1(0.30) | 0..10(0.31) | -0.41 |
| Primary | 0.38(0.49) | 0.41(0.49) | 0.38(0.49) | 0.484 | 0.67(0.03) | 0.57(0 .50) | 0.63(0 .48) | -1.65 |
| Secondary and Above | 0.25 (0.43) | 0.12(0.33) | 0.12(0.33) | -2.47 | 0.21(0.41) | 0.32(0.47) | 0.25(0.43) | 2.11 |
| Average years of schooling | 4.53(4.70) | 3.26(4.02) | 4.01(0.28) | -2.241 | 5.16(3.68) | 6.17(3.57) | 5.57(3.66) | 2.25 |
| *Characteristic of Households* | | | | | | | | |
| Age of the Household head | 40.86(14.62) | 43.3 (16.03) | 41.84(4.47) | 1.25 | 55.00(12.06) | 41.75(13.07) | 49.56(18.03) | -0.91 |
| Household Head is Single or separated | 0.15(0.35) | 0.17(0.38) | 0.16(0.36) | 0.49 | 0.09(0.30) | 0.1(0.31) | 0.1(0.30) | 0.207 |
| Household head is widowed/widower | 0.34(0.47) | 0.35(0.47) | 0.34(0.02) | 0.121 | 0.18(0.38) | 0.13(0.34) | 0.16(0.36) | -1.01 |
| Household head is married | 0.50(0.50) | 0.47(0.50) | 0.49(0.50) | -0.48 | 0.72(0.45) | 0.75(0.42) | 0.73(0.44) | 0.7 |
| Household size | 6.6(3.62) | 6.22(2.86) | 6.45( 3.33) | -0.88 | 5.45(2.85) | 5.33(2.81) | 5.4(2.83) | -0.33 |
| Wealth | -0.12(0.88) | -0.23(0.74) | -0.17(0.82) | -1.028 | 0 .19 ( 1.13) | 0.01(1.08) | 0 .12(1.11) | -1.30 |

| Variable | Receivers (Refugees) | | | | Senders (Host community) | | | |
|---|---|---|---|---|---|---|---|---|
| Risk preference | 2.66( 1.14) | 2.38(1.17) | 2.55(1.16) | -1.859 | 3.03(1.12) | 2.72(1.03) | 2.90(1.09) | -2.27 |
| Household had a death or accident shock | 0.29(0.45) | 0.23(0.42) | 0.27(0.44) | -1.11 | 0.19(0.40) | 0.26(0.44) | 0.22(0.41) | 1.33 |
| Household has experienced war | 0.76(0.42) | 0.66(0.47) | 0.72(0.44) | -1.63 | 0.49(0.50) | 0.40(0.49) | 0.45(0.49) | -1.45 |
| Household's perception of Refugee influx (Index) | | | | | 0.002(1.00) | 0.07(0.96) | 0.03(0.986) | 0.589 |
| *Characteristics by Community* | | | | | | | | |
| Presence of shops | 0.973(0.160) | 0.990(0.098) | 0.98(0.14) | 0.936 | 0.763(0.425) | 0.75(0.434) | 0.76(0 .43) | 0.264 |
| Distance to the district (Km) | 6.69( 3.67) | 6.98(3.62) | 6.8( 3.64) | 0.62 | 8.98(5.17) | 9.74(4.72) | 9.29(5.0) | 1.23 |
| Distance to the nearest tarmac (Km) | 8.98(6.44) | 9.41(6.91) | 9.15(6.63) | 0.52 | 8.37(7.39) | 10.03(7.77) | 9.06(7.58) | 1.78 |
| Distance to SACCO (Km) | 1.42(0.45) | 1.33(0.47) | 1.39(0.48) | 1.33 | 1.55(0.49) | 1.54(0.50) | 1.54(0.49) | -0.09 |

Wealth of households was measured as an index from principal component analysis of total productive household assets, value of livestock, possession of charcoal stove, radio, bicycle and phone. Numbers in parenthesis are standard deviations

## 5.2 Randomization check

Using equation 3, we test for the significance of the covariates on the regression of the likelihood to be treated. $y_i$ is the dependent variable of the kind of treatment respondent $i$ received. $\beta$ is the coefficient of the variables used in the regression and includes: gender of the player, gender of the household head, education of the player, level of risk aversion, wealth, household size and if household had been affected by war or not.

$$y_i = \beta Co\,\mathrm{var}\,iate + \varepsilon_i$$ .....Equation 3

Table 2 shows results from logistic regression (margins). Overall, there was a balance on treatment for both refugees and hosts on several variables. Also, we fail to reject the likelihood ratio chi square test that all of the coefficients in the logistic model are zero showing that our randomization was successful for both groups and suggesting that treatment was successfully randomized. Therefore, any observed outcomes such as parochialism can only be attributed to the treatment and not to other factors. As a robustness check, we use alternative probit models and find similar results of non-significance of the variables in the model (Appendix 2).

**Table 2: Randomization balance of treatment within refugees and member of host community**

| Dependent variable (Treatment is whether one has information that they play with refugees or host community) | Refugees | Host Community |
|---|---|---|
| Death/Accident of Household member [+] | 0.062 | -0.086 |
| | (0.07) | (0.07) |
| Affected by war [++] | 0.146* | 0.104 |
| | (0.07) | (0.06) |
| Gender of Household head[+++] | -0.098 | 0.049 |
| | (0.09) | (0.07) |
| Gender of Player[+++] | -0.038 | -0.021 |
| | (0.09) | (0.07) |
| Age of player | 0.001 | 0.00 |
| | (0.00) | (0.00) |
| Age of household head | -0.001 | 0.001 |
| | (0.00) | (0.00) |
| Household size | 0.006 | -0.001 |
| | (0.01) | (0.01) |

| Dependent variable (Treatment is whether one has information that they play with refugees or host community) | Refugees | Host Community |
|---|---|---|
| Primary Education (Cf: No Education) | 0.07 | -0.004 |
| | (0.08) | (0.11) |
| Secondary Education and Above (Cf: No Education) | 0.228* | -0.119 |
| | (0.11) | (0.12) |
| Medium Risk Lover (Cf: Highly Risk Lover) | 0.153 | -0.144 |
| | (0.08) | (0.10) |
| Medium Risk Averse (Cf: Highly Risk Lover) | -0.018 | -0.079 |
| | (0.09) | (0.11) |
| Highly Risk averse (Cf: Highly Risk Lover) | 0.175* | 0.081 |
| | (0.08) | (0.10) |
| Wealth | 0.02 | 0.042 |
| | (0.04) | (0.03) |
| Duration of Refugee Status | -0.001* | |
| | 0.00 | |
| No. Observations | 235 | 253 |
| Wald chi2 | 23.8 | 21.56 |
| Pseudo R2 | 0.085 | 0.068 |

+ Dummy, 1= yes, 0=no; ++ dummy 1= yes, 0=no; +++ dummy 1= female, 0=, male

## 5.3 Experimental outcomes for refugees

In this section, we present results of the differences in trustworthiness/reciprocity and altruism of refugees towards fellow refugees and towards hosts. We hypothesize that refugees are more likely to be trustworthy and altruistic to fellow refugees than to hosts due to in-group preferences. This is likely to change with increasing remoteness from district headquarters.

## 5.4 Trustworthiness of refugees towards fellow refugees and towards hosts

Using the strategy method, we asked refugees (receivers) to make transfers of the tripled amount received, when trustor sent them UGX 1000 and UGX 2000[2]. The percentage amount returned in both decisions is a measure of the level of trustworthiness.

Refugees send back almost equal amounts to fellow refugees and towards hosts irrespective of treatment. The average percentage returned to fellow refugees is 36.36 percent compared to 38.6 percent returned to hosts (Table 3) in line with proportions sent in similar studies

[2] With an exchange rate of 1 USD = UGX 3685, UGX 1000 is approx. USD 0.27 and UGX 2000 is approx. USD 0.54 cents.

using trust games. For example Johnson & Mislin (2011) find an average of 31.9% in meta-analysis of trust games conducted across Africa while Bauer et al. (2018) in a study amongst former rebels in northern Uganda find that the average percentage returned ranges from 34 percent to 35 percent.

Regarding the relationship between distance of refugees from district headquarters and differences in trustworthiness towards fellow refugees and hosts, Figure 3 shows that the average amounts reciprocated by refugees located 10km or more, is the same but there are variations minimum and maximum amounts sent to fellow refugees and hosts. Figure 3 suggests that refugees seem to reciprocate more to hosts than to fellow refugees irrespective of remoteness from district headquarters. We examine this further by analyzing if discrimination in reciprocating trust differs by refugee remoteness in regression analysis.

**Table 3: Experimental outcomes for refugees: trust and dictator games**

| Experimental outcomes | **Receivers (Refugees)** | | | |
|---|---|---|---|---|
| Treatment[+] | Refugees | Host community | All | t value |
| Trustworthiness: Average percentage returned | 36.36(18.30) | 38.62(18.90) | 37.25(18.47) | 0.9505 |
| Beliefs of expected trustworthiness: perception of what others think they send back (average percentage) | 43.14(17.82) | 41.99(17.89) | 42.66 (17.81) | -0.5 |
| Expected Trust: beliefs of senders transfer in the trust game (UGX) | 1115.65(530.15) | 1048.54(530.97) | 1088(530.45) | 0.984 |
| Altruism : transfer in the dictator game (UGX) | 785.71(604.60) | 839.62 (649.34) | 807.69 (622.56) | -0.685 |
| Expected Altruism: expectation of sender's transfer in dictator game (UGX) | 980.51(491.37) | 1084.90(619.03) | 1000 (547.38) | -1.512 |

[+] Treatment is the knowledge of whether one plays with a refugee or host. Numbers in parenthesis are standard errors

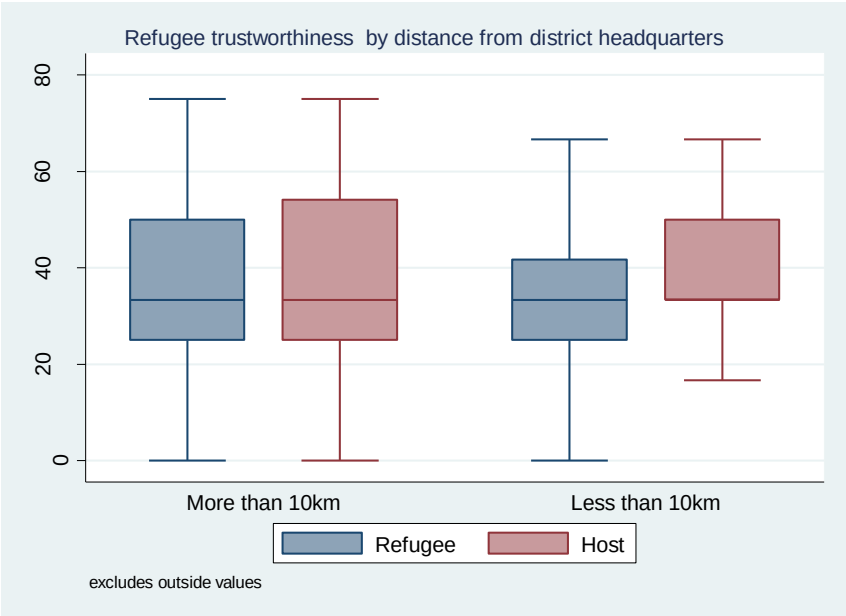


**Figure 3: Variation in trustworthiness of refugees by remoteness from district headquarters**

Remoteness is proxied by distance from district headquarters and we represent it with a dummy (10km or less or otherwise) and as a continuous variable in separate regressions. In Table , the first column is the parsimonious regression of effect of treatment on amount reciprocated. The second column includes distance to the district headquarters as a dummy variable and other control variables likely to have influence on trustworthiness such as age, level of education and risk levels of the player, household size, and wealth status of the household. The third column includes an interaction term between the dummy variable for distance to the headquarters and the treatment to predict the effect of remoteness and parochialism; the fourth column includes the distance expressed as a continuous variable and the last column includes an interaction term between distance and treatment.

In Table , panel a, the level of trustworthiness is the average percentage of the amount sent back when one receives UGX 1000 and UGX 2000. Panel b (Table ) is the amount returned when a refugee is sent UGX 1000 and panel c is the amount returned when a refugee is sent UGX 2000. Results show that treatment (receiving information on whether your partner is a refugee or member of the host community) has negative but non-significant effect on the average amount returned by refugees.

Next, we analyze the effect of treatment on trustworthiness when individual amounts of UGX 1000 and UGX 2000 is sent in panel b and c of Table 4respectively. We find marginal negative significant effects (at 10 percent) of treatment on amount reciprocated when refugee receives UGX 1000 in the trust game. The negative average treatment effects persist when we control for distance to the district as a measure of remoteness in column two and column four suggesting that refugees are less likely to reciprocate to fellow refugees than to hosts at the intensive margin. Nevertheless, treatment effect is statistically insignificant for larger

amount of UGX 2000 in panel c of Table 4. To analyze the effect of remoteness on the likelihood of parochial reciprocity, we interact distance (both as a dummy and as continuous variable) with treatment and find negative statistically significant effects of the interaction on the amounts sent back by refugees in column 3 and 5 when UGX 1000 and UGX 2000 are transferred. The results suggest that remoteness increases out-group preferences to reciprocate trust by refugees at the extensive margin. This is perhaps due to increased opportunities of interaction in remote areas than in areas close to the district.

**Table 4: Refugees and Trustworthiness**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Panel (a) | **Average percentage returned in trust game** | | | | |
| Dependent variable | | | | | |
| Treatment | -2.438 | -2.835 | -1.679 | -3.012 | -0.248 |
| | (1.98) | (2.19) | (3.28) | (2.23) | (4.67) |
| Distance to district (< 10km) (d) | | 2.276 | 3.806 | | |
| | | (3.89) | (4.93) | | |
| Treatment *Distance (d) | | | -2.679 | | |
| | | | (4.23) | | |
| Distance (Km) | | | | -0.0231 | 0.165 |
| | | | | (0.41) | (0.48) |
| Distance*Treatment | | | | | -0.314 |
| | | | | | (0.40) |
| Constant | 38.70*** | 45.39*** | 44.86*** | 47.27*** | 45.67*** |
| | (2.45) | (6.40) | (6.71) | (7.69) | (8.31) |
| Observations | 249 | 234 | 234 | 234 | 234 |
| R-squared | 0.004 | 0.066 | 0.068 | 0.063 | 0.064 |
| Panel (b) | Percentage of the amount returned when UGX 1000 is transferred | | | | |
| Dependent variable | | | | | |
| Treatment | -4.202* | -4.662* | -5.78 | -4.991* | -8.087 |
| | (2.41) | (2.55) | (3.74) | (2.63) | (5.73) |
| Distance to district (< 10km) (d) | | 0.712 | -0.768 | | |
| | | (4.50) | (5.45) | | |
| Treatment *Distance (d) | | | 2.591 | | |
| | | | (4.84) | | |
| Distance (Km) | | | | -0.281 | -0.491 |
| | | | | (0.44) | (0.51) |
| Distance*Treatment | | | | | 0.351 |
| | | | | | (0.49) |
| Constant | 40.06*** | 54.42*** | 54.94*** | 58.00*** | 59.79*** |
| | (2.83) | (6.61) | (7.03) | (7.58) | (8.40) |
| Observations | 249 | 234 | 234 | 234 | 234 |

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| R-squared | 0.01 | 0.055 | 0.056 | 0.058 | 0.059 |
| Panel (c) | | | | | |
| Dependent variable | Percentage of amount sent back when UGX 2000 is transferred | | | | |
| Treatment | -0.673 | -1.008 | 2.421 | -1.034 | 7.591 |
| | (2.10) | (2.44) | (3.50) | (2.44) | (4.62) |
| Distance to district (< 10km) (d) | | 3.839 | 8.38 | | |
| | | (3.71) | (4.97) | | |
| Treatment *Distance (d) | | | -7.948* | | |
| | | | (4.31) | | |
| Distance (Km) | | | | 0.234 | 0.82 |
| | | | | (0.42) | (0.49) |
| Distance*Treatment | | | | | -0.979** |
| | | | | | (0.40) |
| Constant | 37.34*** | 36.37*** | 34.77*** | 36.54*** | 31.55*** |
| | (2.43) | (7.40) | (7.56) | (8.73) | (9.14) |
| Observations | 249 | 234 | 234 | 234 | 234 |
| R-squared | 0 | 0.077 | 0.085 | 0.071 | 0.081 |

Notes: ** p<0.05, * p<0.1. Numbers in parenthesis are standard errors and the analysis is clustered at settlement level. Treatment is dummy for 1= knowledge that one plays the trust game with a refugee otherwise host. In all the columns except (1), we control for other factors such as age, marital status, risk levels, gender and education level of the player and household size, wealth (from principal component analysis of total household assets like value of livestock, possession of charcoal stove, radio, bicycle and phone) of the household and order of the games.

## 5.5 Refugee's beliefs of partners expected trustworthiness: are there prior expectations in discrimination?

Examining refugee's beliefs of partners expected trustworthiness helps us understand any preconceived existence of parochialism which may affect observed trustworthiness. In this regard, we asked refugees how much they think their partners in the trust game expect from them in return if they were sent UGX 1000 and if they were sent UGX 2000. In Table 5both panel a and panel b, treatment has no significant effect on refugees beliefs ofof partner's expected trustworthiness at the intensive and extensive margins (when they are sent UGX 1000 and UGX 2000) suggesting no preconceived beliefs of parochialism in expected reciprocity. To examine if remoteness may affect these beliefs, we also controlled for distance to the district as a dummy (columns 2 and 3) and as a continuous variable and find no significant effects of its interaction with treatment on reciprocity at the intensive and extensive margin suggesting no link between remoteness and preconceived beliefs in parochialism or discrimination.

**Table 5: Refugees beliefs of partners expected reciprocity**

| Sample | Refugees | | | | |
|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| Panel (a) | | | | | |
| Dependent variable | Refugees beliefs of partners expected reciprocity when to UGX 1000 is sent in trust game (Percentages) | | | | |
| Treatment | 1.915 | 1.622 | -2.483 | 1.792 | -2.063 |
| | (3.78) | (4.05) | (4.48) | (4.06) | (6.75) |
| Distance to district (< 10km) (d) | | -1.529 | -6.982 | | |
| | | (3.85) | (6.05) | | |
| Treatment *Distance (d) | | | 9.485 | | |
| | | | -7.563 | | |
| Distance (Km) | | | | 0.0534 | -0.208 |
| | | | | (0.46) | (0.65) |
| Distance*Treatment | | | | | 0.437 |
| | | | | | (0.78) |
| Constant | 44.66*** | 37.98*** | 39.87*** | 36.30*** | 38.53*** |
| | (3.36) | (11.18) | (10.75) | (11.34) | (10.52) |
| Observations | 249 | 234 | 234 | 234 | 234 |
| R-squared | 0.002 | 0.04 | 0.05 | 0.039 | 0.041 |
| Panel (b) | | | | | |
| Dependent variable | Refugees beliefs of partners expected reciprocity when UGX 2000 is sent in trust game (Percentage) | | | | |
| Treatment | 0.291 | -0.371 | 0.48 | -0.233 | 3.538 |
| | (2.60) | (2.58) | (2.72) | (2.52) | (3.85) |
| Distance to district (< 10km) (d) | | 1.432 | 2.562 | | |
| | | (2.71) | (4.68) | | |
| Treatment *Distance (d) | | | -1.965 | | |
| | | | (5.58) | | |
| Distance (Km) | | | | 0.243 | 0.499 |
| | | | | (0.35) | (0.50) |
| Distance*Treatment | | | | | -0.427 |
| | | | | | (0.53) |
| Constant | 39.32*** | 44.70*** | 44.31*** | 43.08*** | 40.89*** |
| | (2.43) | (7.05) | (7.25) | (7.65) | (7.69) |
| Observations | 249 | 234 | 234 | 234 | 234 |
| R-squared | 0 | 0.077 | 0.077 | 0.079 | 0.081 |

Notes: same notes as for Table 4

## 5.6 Are refugees parochial altruistic?

Playing the dictator game with treatment being information on whether one plays with a fellow refugee or host helps us ascertain whether refugees exhibit parochial altruistic behaviors. On average, refugees transfer more money to hosts (UGX 839.62) than to fellow refugees (UGX 785.71) in the dictator game, the difference nevertheless is statistically insignificant (Table 3). Controlling for other variables likely to influence altruistic behavior in Table 6, treatment has no effect on amount transferred (panel a) and in expected altruism (panel b). Nevertheless, the interaction between treatment and distance (measured both as a dummy in columns 2 and 3) and as continuous variable (columns 4 and 5) is negative and significant suggesting that refugees are less likely to be altruistic to fellow refugees with increasing remoteness from district headquarters. The results defies our hypothesis and theory of parochial altruism between people of the same social context (Chen & Li, 2009; Tajfel et al., 1971) and gives more emphasis on the role of remoteness from commercial places such as the district headquarters. We attribute out-group preferences for altruism by refugees in remote areas to increased opportunities for interaction with hosts and opportunities for integration. We also elicited expected altruism by refugees (panel b) and found results that mirror those of altruism in panel a Table 6**.** Nevertheless, the interaction between treatment and distance is not significant suggesting that refugees do not expect their partners to show any discrimination by social status irrespective of their remoteness from the district.

**Table 6: Altruism and expected altruism by refugees**

| Sample | **Refugees** | | | | |
|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| **Panel (a)** | | | | | |
| Dependent variable | Altruism : Transfer in Dictator game | | | | |
| Treatment | -2.446 | -1.795 | 1.682 | -1.617 | 12.00** |
| | (3.62) | (3.23) | (3.15) | (3.23) | (4.85) |
| Distance to district (< 10km) (d) | | 14.00*** | 22.94*** | | |
| | | (3.39) | (3.10) | | |
| Treatment *Distance (d) | | | -15.43*** | | |
| | | | (5.12) | | |
| Distance*Treatment | | | | 1.421*** | 2.624*** |
| | | | | (0.40) | (0.53) |
| Distance (Km) | | | | | -1.966*** |
| | | | | | (0.64) |
| Constant | 41.26*** | 28.00** | 26.28** | 19.43* | 11.18 |
| | (4.04) | (11.56) | (11.52) | (10.10) | (10.08) |
| Observations | 255 | 242 | 242 | 242 | 242 |

| Sample | Refugees | | | | |
|---|---|---|---|---|---|
| | **(1)** | **(2)** | **(3)** | **(4)** | **(5)** |
| R-squared | 0.002 | 0.092 | 0.102 | 0.085 | 0.099 |
| **Panel (b)** | | | | | |
| Dependent variable | Expected Altruism: Elicited expectations of partner's transfer in dictator game | | | | |
| Treatment | -5.685* | -5.422 | -2.832 | -5.348 | 5.942 |
| | (3.18) | (3.38) | (3.18) | (3.31) | (5.99) |
| Distance to district (< 10km, ) (d) | | 8.763** | 15.43** | | |
| | | (3.74) | (6.37) | | |
| Treatment *Distance (d | | | -11.49 | | |
| | | | (11.67) | | |
| Distance (Km) | | | | 0.771 | 1.769** |
| | | | | (0.58) | (0.74) |
| Distance*Treatment | | | | | -1.629 |
| | | | | | (1.08) |
| Constant | 54.37*** | 52.80*** | 51.52*** | 48.50*** | 41.66*** |
| | (3.12) | (4.76) | (5.43) | (6.94) | (8.75) |
| Observations | 255 | 242 | 242 | 242 | 242 |
| R-squared | 0.011 | 0.041 | 0.048 | 0.035 | 0.046 |

Notes are the same as in Table 4

## 5.7 Explanations for observed behavior of refugees

From the foregoing analysis, we found that at the extensive margin, refugees discriminate against in-groups in reciprocating trust and are more altruistic to out-groups than to in-groups, with increasing remoteness. We attribute these results to increased opportunities from social networking and interaction through business opportunities such as shops. Indeed our data shows a 30 percent correlation between distance and number of shops.

It is also likely that with increasing remoteness, out-group preferences for reciprocity and altruism by refugees might be attributed to how refugees perceive relative economic and social status of hosts relative to refugees. Indeed refugees highly regard hosts both socially and economically. We asked refugees to place neighbors who are fellow refugees and hosts on a ten step ladder. The bottom stand people who are completely without free choice and control over the way their lives turn out, and on the highest step, stand those with the highest degree of free choice over their lives. We find that, on average, refugees placed themselves at 3.5, their neighbors who are fellow refugees at 3.7 and hosts at a higher average of 5.9 suggesting that refugees perceive fellow refugees to be at a slightly lower economic and social status than hosts. Refugee's high regard for host relative to fellow refugees is also highly

correlated to distance. Every 10km away from the district is associated with 0.4 percentage point increase in perceived economic social status of host relative to fellow refugees.

However, we rule out the possibility that the higher perceived social economic status of host relative to refugees might explain refugees' out-group preferences for reciprocity. The analysis of the effect of interaction of treatment and distance on expectations of trust in Table 7 shows no statically significant effect suggesting that refugees do not anticipate any discrimination in trust by members of the host community with increased remoteness.

**Table 7: Refugees anticipation of trust**

| Dependent variable | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | Refugees elicited beliefs of expected transfers from senders in trust game | | | | |
| Treatment | 3.395 | 2.28 | -4.494 | 2.135 | -6.686 |
| | (3.95) | (3.92) | (4.58) | (3.98) | (6.94) |
| Distance to district (< 10km, ) (d) | | -0.0585 | -9.057 | | |
| | | (5.57) | (6.76) | | |
| Treatment *Distance (d | | | 15.65** | | |
| | | | (7.44) | | |
| Distance (Km) | | | | -0.148 | -0.748 |
| | | | | (0.60) | (0.84) |
| Distance*Treatment | | | | | 1 |
| | | | | | (0.79) |
| Constant | 52.43*** | 56.15*** | 59.27*** | 57.72*** | 62.83*** |
| | (3.16) | (8.96) | (9.11) | (10.32) | (12.28) |
| Observations | 249 | 234 | 234 | 234 | 234 |
| R-squared | 0.004 | 0.037 | 0.057 | 0.038 | 0.044 |

Notes for the above table are the same as in Table 4

To supplement results from the experiment, we also asked refugees separately whether they trust fellow refugees and host (Appendix 3). 64.2 percent of the refugees indicated that they trust hosts because their ethnicity and cultures were not different. Others felt integrated having stayed long in refugee settlements.

## 5.8 Experimental outcomes for hosts

In this section, we explore trust, beliefs of expected trust, expected trustworthiness and altruism of host towards fellow host and refugees. We examine host's differences in social preferences towards refugees and hosts. In the trust games, hosts played as senders. Our

treatment was the provision of information to the players on whether their partner was a refugee or fellow host. To ensure that players remained anonymous, other characteristics of the partner remained uniform with no specific mention of the settlement or village where the partner comes from. A regression controlling for all variables in Table 2 shows that randomization of treatment within host was balanced.

## 5.9 Trust of hosts towards refugees and fellow host

Table 8 provides results of experimental outcomes for host. On average, host transferred slightly more money to fellow host but the t statistical test showed no statistical difference (p=0.313) with the amount transferred to refugees. Of the UGX 2000 endowment that hosts receive, they send on average 47.7 percent of this endowment to refugees and 48.7 percent of this endowment to fellow hosts. Johnson & Mislin (2011) find that players send on average 50 percent of their endowment in the trust game while a similar study amongst former rebels in Northern Uganda find that subjects send on average 55.7 percent of their endowment of UGX 2000 (Bauer et al., 2018). Hosts' expected trustworthiness- the belief of percentage returned by the receivers was higher from fellow host although the result is also not statistically different. Similarly, altruism measured by the amounts transferred in the dictator game was higher towards hosts than towards refugees but the difference is not statistically different. Host's expected altruism – belief of senders transfer in the dictator game was higher from refugees than from fellow host although the difference is also not statistically significant. Regarding experiences of the war, those who had experienced war sent on average 48.9 percent of their UGX 2000 endowment in the trust game while those who had not experienced any war sent 49.7 percent of their UGX 2000 endowment. To confirm the results, we control for other variables such as risk attitude of the player, age, education level of the player and marital status in a regression.

**Table 8: Experimental outcomes (trust and dictator games) for host (UGX)**

| Experimental outcomes | **Senders** | | | |
|---|---|---|---|---|
| Treatment[+] | **Refugees** | **Host community** | **All** | **t test of difference** |
| Trust: transfer in the trust game | 953.48 (600.33) | 973.45 (589.49) | 961.4 (595.1) | -0.277 |
| Expected trustworthiness : belief of average percentage returned | 49.95(20.38) | 51.33(18.81) | 50.5(19.8) | -0.575 |
| Altruism: transfer in the dictator game | 719.51(602.13) | 810.81(667.60) | 756.4(629.8) | -1.18 |
| Expected Altruism: belief of senders transfer in dictator game | 993.90(536.94) | 954.95(562.25) | 978.2(546.6) | 0.579 |

[+]Treatment is the knowledge of whether your partner in the game is a refugee or member of the host community. Numbers in parenthesis are standard errors.

Figure 3 shows histogram of amounts reciprocated in the trust game by host towards refugees and fellow host by location from district headquarters. Hosts located less than 10km from district headquarters send more to fellow hosts than to refugees and send less to fellow hosts than to refugees in localities more than 10km suggesting preferences for out-groups in locations further from district headquarters. We examine this further by analyzing the link between host's trust, parochialism and remoteness in regression analysis.

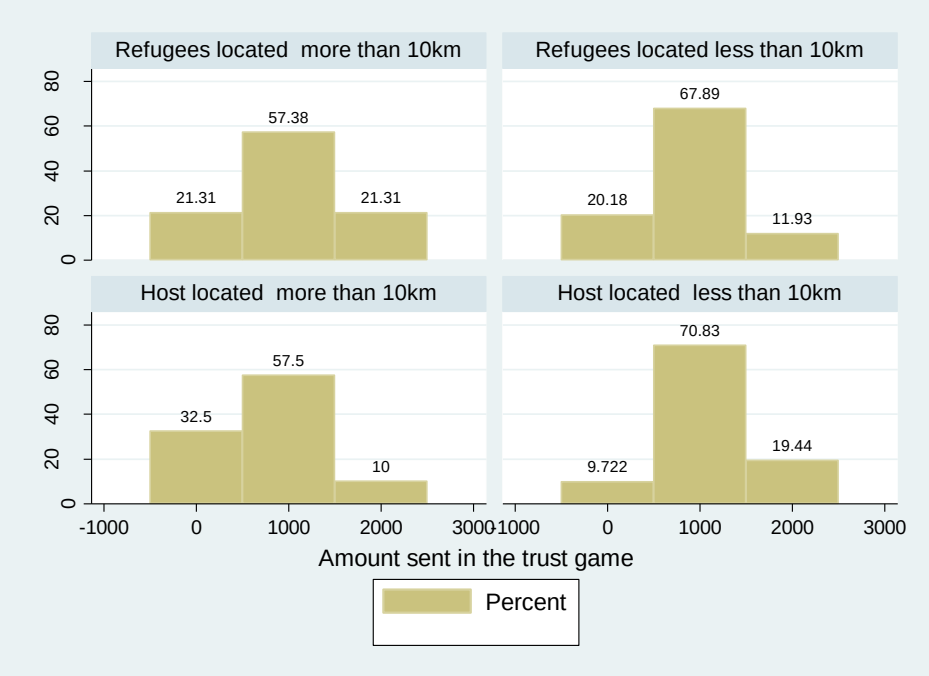


**Figure 3: Amount sent by hosts by treatment and remoteness**

## 5.10 Trust and investments: Do hosts show parochialism in trust and investments?

Is there parochialism in trust by host? Table 9 shows trust (panel a) and investment behavior (panel b) of hosts. Trust is measured by the percentage amount transferred by sender in the trust game while investment is the percentage difference between the amounts transferred in the trust game and the amounts transferred in the dictator game. To measure parochialism in trust, treatment was the knowledge of whether the person that one plays the game with is a host or a refugee. Column (1) in Table 9, is a regression of treatment on the dependent variable while in column (2) and column (4), we control for all variables likely to explain trust including distance as a dummy variable of less than 10km (column 2) or as a continuous variable (column 4 and 5). To examine whether parochialism in trust increases with remoteness, we interact treatment with distance both as a dummy (column 3) and as a continuous variable (column 5).

Results show that treatment has a negative significant effect on the amount transferred in the trust game after controlling for distance and its interaction with the treatment in column 3 and 5 in Table 9. This suggests that host show in-group preferences in trust. Nevertheless, interacting treatment with distance (both as a dummy and as continuous variable) has a positive significant effect. In other words, hosts transfer more to refugees than to fellow hosts with increasing remoteness from the district suggesting that remoteness reduces discrimination of trust and defies parochialism theory of biasness in social preferences towards one's social identity. This we can attribute to increased opportunities of repeated interaction between members of the host community and refugees for places far away from district headquarters.

Following Cox, (2004) we identified pure behavioral trust by taking the difference between the amount of money sent in the trust game and the amount sent in the dictator game. This difference is the 'investment portion' of the trust game allocation or the strategic element of the trusting behavior (Bauer et al., 2018; Cox, 2004a; Ernst Fehr, 2009). Controlling for all factors likely to affect investment (Table 9; panel b), hosts will invest in refugees more than fellow hosts the further they are from the district headquarters suggesting that remoteness increases investments of hosts towards refugees than towards fellow host.

**Table 9: Trust and Investment behavior by hosts**

| Sample | Hosts as senders | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Panel (a) | | | | | |
| Dependent variable | Trust – Percentage amount sent in the trust game | | | | |
| Treatment | -1.48 | -2.536 | -10.07** | -2.583 | -19.48** |
| | (5.29) | (5.18) | (4.81) | (5.23) | (8.54) |
| Distance to district (< 10km) (d) | | -3.933 | -17.50** | | |
| | | (5.48) | (7.78) | | |
| Treatment *Distance (d) | | | 22.23*** | | |
| | | | (6.54) | | |
| Distance (Km) | | | | -0.461 | -1.886** |
| | | | | (0.52) | (0.70) |
| Distance*Treatment | | | | | 2.217*** |
| | | | | | (0.73) |
| Constant | 49.10*** | 43.19*** | 46.86*** | 45.94*** | 55.32*** |
| | (4.40) | (12.44) | (12.34) | (12.82) | (13.22) |
| Observations | 279 | 262 | 262 | 262 | 262 |
| R-squared | 0.001 | 0.034 | 0.064 | 0.035 | 0.063 |
| Panel (b) | | | | | |
| Dependent variable | Investment: percentage difference between trust and dictator allocations | | | | |
| Treatment | 0.997 | 0.839 | -10.29 | 0.736 | -22.47* |
| | (7.34) | (7.60) | (6.42) | (7.74) | (10.96) |
| Distance to district (< 10km) (d) | | -9.110** | -29.16*** | | |
| | | (4.00) | (8.83) | | |
| Treatment *Distance (d) | | | 32.85*** | | |
| | | | (9.20) | | |
| Distance (Km) | | | | -0.912** | -2.868*** |
| | | | | (0.39) | (0.81) |
| Distance*Treatment | | | | | 3.043*** |
| | | | | | (0.87) |
| Constant | 4.955 | 4.747 | 10.17 | 9.745 | 22.63* |
| | (5.76) | (11.41) | (11.56) | (11.18) | (13.03) |
| Observations | 279 | 262 | 262 | 262 | 262 |
| R-squared | 0 | 0.035 | 0.072 | 0.034 | 0.064 |

Notes are same as that for Table 4

## 5.11 Hosts beliefs of partners expected trust and expectations of trustworthiness: are there prior expectations in discrimination?

To understand what hosts think others perceive of them, we asked them what they think their partners would expect from them as senders in the trust game. Results in Table 10, column 3 and 5 panel a, after controlling for distance and its interaction with treatment is negative and statistically significant. It reveals that hosts expect their partners to be parochial in trust. In other words, hosts believe that refugees expect less from them in trust and fellow hosts expect positive transfers. In addition, hosts beliefs of expected trust decreases with increasing remoteness and there is no effect of remoteness on parochial trust. Nevertheless, hosts perceived expectations of trust by the partners are not reflected in their actual behavior measured in the trust game.

Theory suggests that the amounts sent by the trustor reflects both expectations of trustworthiness as well as social preferences towards the receiver (Ashraf et al., 2006; Ernst Fehr, 2009) such that the combined effect might produce a non-result in the trust game (Bauer et al., 2018). On the one hand, hosts might think that refugees are not trustworthy because they belong to another ethnicity or are likely to go back to South Sudan. On the other hand, it is also likely that hosts may not discriminate against refugees, because of altruistic reasons. In such circumstances, negative and positive considerations that host communities have about refugees may cancel out in the trust game.

These considerations are explored more in Table 10, panels' b and c where expectations of reciprocity are assessed when hosts send UGX 1000 and UGX 2000 controlling for other factors likely to influence expectations of trustworthiness such as age, gender, education level, and wealth status of the household. Results show no significant effect of treatment and remoteness on expectations of trustworthiness at intensive and extensive margins. This suggests that hosts have no prior beliefs of expected discrimination in reciprocity by either refugees or fellow hosts but believe that fellow hosts expect more from them in trust.

**Table 10: Host's beliefs of expected trust and their expectations of trustworthiness**

| Sample | Hosts | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| **Panel (a)** | | | | | |
| Dependent variable | **Elicited beliefs of partners expected trust** | | | | |
| Treatment | -2.897 | -3.532 | -4.409*** | -3.631 | -8.442*** |
| | (1.79) | (2.41) | (1.15) | (2.36) | (2.86) |
| Distance to district (< 10km) (d) | | -10.29** | -11.87*** | | |
| | | (3.69) | (2.20) | | |
| Treatment *Distance (d) | | | 2.599 | | |
| | | | (7.00) | | |
| Distance (Km) | | | | -0.852** | -1.256*** |
| | | | | (0.35) | (0.26) |
| Distance*Treatment | | | | | 0.632 |
| | | | | | (0.57) |
| Constant | 55.86*** | 59.30*** | 59.72*** | 63.31*** | 66.03*** |
| | (1.97) | (6.37) | (6.06) | (7.91) | (6.89) |
| Observations | 280 | 263 | 263 | 263 | 263 |
| R-squared | 0.003 | 0.07 | 0.071 | 0.057 | 0.061 |
| **Panel (b)** | | | | | |
| Dependent variable | **Elicited beliefs of expected trustworthiness when sent UGX 1000** | | | | |
| Treatment | 1.715 | -0.175 | -2.283 | -0.182 | -5.661 |
| | (3.20) | (3.48) | (3.27) | (3.45) | (5.93) |
| Distance to district (< 10km) (d) | | -2.419 | -6.223 | | |
| | | (2.28) | (5.05) | | |
| Distance*Treatment | | | 6.25 | | |
| | | | (7.54) | | |
| Distance (Km) | | | | 0.044 | -0.418 |
| | | | | (0.20) | (0.59) |
| Distance*Treatment | | | | | 0.719 |
| | | | | | (0.82) |
| Constant | 50.75*** | 43.34*** | 44.37*** | 42.21*** | 45.23*** |
| | (2.84) | (10.31) | (10.67) | (10.44) | (11.27) |
| Observations | 280 | 263 | 263 | 263 | 263 |
| R-squared | 0.001 | 0.037 | 0.041 | 0.035 | 0.04 |

| Sample | Hosts | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| **Panel (c)** | | | | | |
| Dependent variable | **Elicited beliefs of expected trustworthiness when sent UGX 2000** | | | | |
| Treatment | -2.831 | -3.471 | -3.21 | -3.441 | -4.196 |
| | (3.16) | (3.46) | (2.71) | (3.33) | (5.24) |
| Distance to district (< 10km) (d) | | 0.615 | 1.086 | | |
| | | (3.08) | (5.68) | | |
| Treatment *Distance (d) | | | -0.774 | | |
| | | | (9.26) | | |
| Distance (Km) | | | | 0.44 | 0.376 |
| | | | | (0.26) | (0.56) |
| Distance*Treatment | | | | | 0.0991 |
| | | | | | (0.84) |
| Constant | 51.35*** | 41.58*** | 41.45*** | 37.99*** | 38.41*** |
| | (2.58) | (6.82) | (6.61) | (7.16) | (7.49) |
| Observations | 280 | 263 | 263 | 263 | 263 |
| R-squared | 0.005 | 0.043 | 0.043 | 0.052 | 0.052 |

Notes are same as that for Table 4

## 5.12 Are hosts parochial altruistic?

In this section, we analyze if hosts have parochial altruistic behavior or have a prior expectation of parochial altruism. Hosts send on average 40.5 percent and 36 percent of their UGX 2000 endowment to fellow hosts and refugees respectively in dictator game (Table 3). Using t test, the difference in the amount sent by treatment is nevertheless not statistically significant (p=0.228) and using the Kolmogorov–Smirnov test, we find no statistical difference in the distribution of the amount sent in the dictator game by hosts to either refugees or fellow hosts. We also find that those who had experienced war sent on average 33.33 percent of their UGX 2000 compared to 42.1 percent sent by those who had not experienced war.

The results are confirmed by regression analysis in Table 11, panel a, which shows that treatment has no significant effect on amount transferred by host in the dictator game suggesting no discrimination in altruism by host. Remoteness also does not seem to influence altruistic parochial behavior.

**Table 11: Altruistic behavior and Expectations of Altruism by hosts**

| Sample | Host (Senders) | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Panel a | | | | | |
| Dependent variable | Host's Altruism | | | | |
| Treatment | -4.6 | -6.36 | -1.026 | -6.55 | 1.437 |
| | (3.87) | (4.23) | (5.43) | (4.20) | (8.97) |
| Distance to district (< 10km) (d) | | -6.835* | -0.923 | | |
| | | (3.60) | (6.42) | | |
| Treatment *Distance (d) | | | -10.09 | | |
| | | | (7.14) | | |
| Distance (Km) | | | | -0.706** | -0.175 |
| | | | | -0.328 | -0.691 |
| Distance (Km)*Treatment | | | | | -0.853 |
| | | | | | -0.827 |
| Constant | 40.63*** | 54.64*** | 52.14*** | 57.19*** | 52.81*** |
| | (3.06) | (8.78) | (9.48) | (8.75) | (10.87) |
| Observations | 273 | 254 | 254 | 254 | 254 |
| R-squared | 0.005 | 0.032 | 0.038 | 0.033 | 0.037 |
| Panel (b) | | | | | |
| Dependent variable | Host's expectations of Altruism | | | | |
| Treatment | -5.685* | 2.128 | -2.832 | 1.984 | 1.305 |
| | (3.18) | (2.08) | (3.18) | (2.04) | (5.45) |
| Distance to district (< 10km) (d) | | -8.805* | 15.43** | | |
| | | (4.52) | (6.37) | | |
| Treatment *Distance (d) | | | -11.49 | | |
| | | | (11.67) | | |
| Distance (Km) | | | | -0.747 | -0.793 |
| | | | | (0.44) | (0.51) |
| Distance (Km)*Treatment | | | | | 0.0725 |
| | | | | | (0.46) |
| Constant | 54.37*** | 67.92*** | 51.52*** | 69.74*** | 70.11*** |
| | (3.12) | (5.63) | (5.43) | (5.84) | (5.61) |
| Observations | 255 | 254 | 242 | 254 | 254 |
| R-squared | 0.011 | 0.067 | 0.048 | 0.059 | 0.059 |

## 5.13 Discussion of the experimental results for host

Results reveal that hosts show in-group preferences for trust and perceive that their partners expect them to be parochial in trust. These results change with remoteness from district headquarters where they show out-group preferences for trust and investment. Results can be explained by host communities' increased opportunities for interaction with increased remoteness from district headquarters, perceived relative social and economic status of refugees to host, and perceived benefits from refugee influx (Appendix 4). If increased distance from district headquarters is associated with increased opportunities for interaction between refugees and members of the host community, then avenues for interaction such as shops should increase with increasing distance. Indeed, there is a high correlation between distance and the number of shops. Nevertheless, we find no association between perceived relative socioeconomic status of refugees to hosts and remoteness or perceived association between remoteness and perceived benefits of refugee influx. Indeed, we attribute our findings to increased opportunities for interaction and integration in remote areas than in urban areas.

## 5.14 Concerns for self-selection

On the one hand, remoteness seems to increase out-group preferences by refugees to reciprocate trust and increases parochial altruism. On the other hand, hosts show in-group preferences in trust but out-group preferences with increasing remoteness from urban areas. It can be argued that if refugee placement in different settlements involves self-selection and systematic screening and is thus nonrandom, behavior of both refugees and hosts may be correlated to location. For Uganda, refugee settlements have been established sequentially as per the influx into the country. Any batch of people fleeing from war at a given point in time get settled in a particular locality. Until the settlement can no longer take in any more refugees, another batch are settled in another settlement. In this case, refugees cannot choose the settlement they are placed in, thus eliminating the possibilities of self-selection and screening to a given locality. It can also be argued that refugee influx into Uganda has been nonrandom with the possibility that only refugees who are trustworthy, empathetic and altruistic decide to move into Uganda following a conflict. Nevertheless, this is unlikely given the nature of conflict and displacements from South Sudan which have been numerous, spontaneous and random leaving households, irrespective of social status and behavior with no option but to flee to other countries as refugees.

# 6. Conclusion

In the paper, we examined trust, trustworthiness and altruism between hosting communities and refugees who have been exposed to armed conflicts. We hypothesize that there are in-group preferences or parochialism regarding trust, trustworthiness and altruism and that these parochial tendencies change with remoteness from district headquarters. The assumption is that remoteness from urban areas such as district headquarters allows for the emergence of small business operations such as shops that allow for increased and repeated interactions between the two or increased integration. To examine these, we conducted trust and dictator games in eleven refugee settlements in Adjumani district and two randomly selected host community villages in close proximity to the refugee settlements. We randomly assigned host communities and refugees to treatment, which was the knowledge of whether the partner, with whom one plays the games, is either a refugee or a host. Other characteristics of the partner remained anonymous for all the players. For example, we did not mention the village or the settlement from which a player was.

We find that refugees show out-group preferences for reciprocating trust and altruism with increasing remoteness from urban areas, specifically district headquarters. In other words, refugees reciprocate trust and are more altruistic to hosts with increasing remoteness from district headquarters compared to fellow refugees. The possibility that refugee's behavior may be attributed to beliefs of partner's expectations of parochialism ceases to be, as we find no prior expectations in discrimination even with increasing remoteness. We attribute the findings mainly to increased opportunities for interaction from small business opportunities like shops. Host communities on the other hand, show parochial preferences for trust which changes with increasing remoteness from urban areas but we find no parochial altruistic behavior even with increasing remoteness. Hosts also anticipate that their partners expect them to be parochial in trust but are indifferent on whether their partners will be parochial in reciprocating their trust.

We conclude that refugees do not consider the social differentiation of "us refugees" and "them host" in their interactions as much as hosts do particularly in areas remote from urban areas which offer opportunities for increased interactions.

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# Appendix 1: Variable Description

| Concept | Variable name | Description |
|---|---|---|
| Trust behavior | | Amount trustors send in the trust game |
| Trustworthy | | Average amount trustees would send back if they are sent UGX 1000 and UGX 2000 |
| Altruism | | Amount dictator sends in the dictator game |
| Beliefs of expected trust | | What trustees believe trustors will send in the trust game |
| Beliefs of expected trustworthiness | | What trustors expect trustees to return measured as the average amount expected to be returned when the trustors sends UGX 1000 and UGX 2000 |
| Beliefs of partners expected trustworthiness | | What trustees believe trustors expect in return measured as an average |
| Treatment | Treatment | Having information on whether ones partner is a host or is a refugee |
| Risk | Risk level | Measured as a dummy variable of risk lover or risk averse |
| Total assets | Total assets | Assets is an measured as an index from principal component analysis of total productive household assets (agriculture and non-agriculture assets), value of livestock, and possession of charcoal stove, radio, bicycle and phone following principal component analysis |
| Marital status | Marital status | Dummy variable of whether the household head was married or not (separated, widowed or single) |

# Appendix 2: Randomization balance of treatment within refugees and members of the host community

| Dependent variable (Treatment whether one is informed in advance that they play with refugees or host community) | **Refugees** | **Host Community** |
|---|---|---|
| Death/Accident of Household member (Cf: Yes) | 0.178 | -0.236 |
| | (0.20) | (0.20) |
| Affected by war | 0.418* | 0.292 |
| | (0.20) | (0.17) |
| Gender of the player | -0.299 | 0.134 |
| | (0.27) | (0.19) |
| Age of player | 0.003 | 0 |
| | (0.01) | (0.01) |
| Education_~2 | 0.186 | -0.021 |
| | (0.21) | (0.30) |
| Education_~3 | 0.614* | -0.339 |
| | (0.31) | (0.35) |
| Risk_level2 | 0.437 | -0.401 |
| | (0.24) | (0.29) |
| Risk_level3 | -0.058 | -0.215 |
| | (0.26) | (0.30) |
| Risk_level4 | 0.497* | 0.23 |
| | (0.24) | (0.27) |
| Bartlett | 0.058 | 0.114 |
| | (0.12) | (0.08) |
| Duration of Refugee Status | -0.003* | |
| | (0.00) | |
| Age of household head | -0.003 | 0.001 |
| | (0.01) | 0.00 |
| Gender of Household head(Cf: Female) | -0.106 | -0.061 |
| | (0.25) | (0.19) |
| Household size | 0.013 | -0.002 |
| | (0.03) | (0.03) |
| Constant | -0.201 | 0.221 |
| | (0.51) | (0.51) |
| Pseudo R2 | 0.09 | 0.07 |
| No. observations | 235 | 253 |

# Appendix 3: Regression results from survey measure of trust

| | Dependent variable | | | |
|---|---|---|---|---|
| | Trust by Host (Dummy) | | Trust by Refugees (Dummy) | |
| | Fellow Host | Refugees | Host | Fellow Refugees |
| Treatment | 0.364* | 0.056 | -0.009 | 0.117 |
| | (0.15) | (0.22) | (0.21) | (0.09) |
| Experience of war | 0.064 | -0.001 | | |
| | (0.04) | (0.06) | | |
| Experience of war interacted with treatment | -0.068 | 0.177 | | |
| | (0.06) | (0.10) | | |
| Years of schooling | 0.009 | 0.009 | -0.003 | -0.014** |
| | 0.00 | (0.01) | (0.01) | 0.00 |
| Gender of the player | 0.027 | -0.069 | -0.038 | 0.012 |
| | (0.03) | (0.05) | (0.05) | (0.05) |
| Age of the player | 0.002 | 0.00 | 0.001 | 0.000 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Logarithm of Assets | 0.009 | 0.028*** | 0.033*** | -0.043 |
| | 0.00 | (0.01) | (0.01) | (0.04) |
| Death/Accident | 0.004 | 0.160* | 0.035 | -0.022 |
| | (0.04) | (0.06) | (0.08) | (0.05) |
| Treatment interacted with death | -0.015 | -0.290* | 0.08 | -0.047 |
| | (0.06) | (0.12) | (0.10) | (0.06) |
| Household size | -0.006 | -0.011 | -0.018* | -0.008 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| Marital Status of household head (Dummy: 1= Married, 2= Widowed) | 0.041 | 0.095 | -0.034 | 0.016 |
| | (0.06) | (0.07) | (0.10) | (0.05) |
| Marital status interacted with treatment | -0.016 | -0.113 | 0.083 | 0.029 |
| | (0.07) | (0.14) | (0.15) | (0.06) |
| Risk level (dummy: Risk averse) | -0.072 | 0.104 | -0.116 | -0.079 |
| | (0.04) | (0.05) | (0.09) | (0.04) |
| Treatment *Risk | -0.172** | 0.142 | -0.012 | -0.072 |
| | (0.06) | (0.07) | (0.11) | (0.05) |
| Distance to district | 0.003 | 0.013 | | |
| | 0.00 | (0.01) | | |
| Treatment interacted with distance to district | -0.007 | -0.019 | | |
| | (0.01) | (0.01) | | |

| | Dependent variable | | | |
|---|---|---|---|---|
| | Trust by Host (Dummy) | | Trust by Refugees (Dummy) | |
| | Fellow Host | Refugees | Host | Fellow Refugees |
| Presence of phone network | 0.032 | -0.089 | | |
| | (0.03) | (0.05) | | |
| Presence of shops in village | 0.025 | 0.062 | | |
| | (0.06) | (0.07) | | |
| Treatment interacted with presence of shop | -0.001 | -0.061 | | |
| | (0.09) | (0.11) | | |
| Possession of phone | -0.01 | 0.022 | | |
| | (0.03) | (0.04) | | |
| Constant | 0.775*** | 0.606** | 0.822*** | 1.065*** |
| | (0.09) | (0.21) | (0.15) | (0.09) |
| R squared | 0.088 | 0.1462 | 0.05 | 0.105 |
| Number of Observations | 250 | 250 | 233 | 239 |

# Appendix 4: Perception of members of the host community on influx of refugees

| Impact of refugee influx | Proportion saying yes |
|---|---|
| Land wrangles increased | 39.27 |
| Health services have improved | 90.63 |
| Education | 91.24 |
| Inequality increased | 36.86 |
| Business opportunities have improved | 82.18 |
| Livelihood loss | 38.67 |
| Access to improved water | 80.66 |
| Increased theft impact | 61.63 |
| Increased prostitution | 39.88 |
| Increased opportunities for NGO | 51.96 |