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When the state gives back: trust and trustworthiness after a land restitution programme

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When the State Gives Back: Trust and
Trustworthiness After a Land Restitution Program

*Cuando el Estado devuelve: confianza y confiabilidad después
de un programa de restitución de tierras*

Francesco Bogliacino, Gianluca Grimalda, Laura Jiménez,
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WHEN THE STATE GIVES BACK: TRUST AND TRUSTWORTHINESS AFTER A LAND RESTITUTION PROGRAM[∞]

Francesco Bogliacino¹, Gianluca Grimalda², Laura Jiménez³, Daniel Reyes Galvis⁴, Cristiano Codagnone⁵

Abstract

Recent research in Economics has sought to understand the effects of exposure to violence on individual preferences, including pro-social behavior. Here, we assess the impact on pro-social behaviour of a governmental program to compensate victims of forced displacement. All our subjects have been officially recognized as victims of a conflict, and, as such, are eligible to apply for restitution of their land within the "Victims' Law" (Ley de Víctimas, Bill 1448/2011). The key independent variable of our analysis is whether a subject has obtained land back within this or similar programs. Our dependent variables are a subject's trust and trustworthiness in unknown persons, as measured in a modified version of a Trust Game. We focus on inter-personal trust and trustworthiness because of their well-documented positive effect on economic development. Our design includes a treatment in which subjects vote on their most preferred outcomes to understand whether forms of consultative democracy can engender higher mutual trust. We find that land restitution significantly raises trustworthiness, while there is no effect on trust. This confirms previous insights that trust and trustworthiness tap into different aspects of pro-sociality. Voting does not improve either trust or trustworthiness. The results are robust to controlling for socio-economic status within regression analysis and to the omitted variable bias.

Keywords: trust, trustworthiness, displacement, reparations

JEL Classification: C93, I38, Q15

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CUANDO EL ESTADO DEVUELVE: CONFIANZA Y CONFIABILIDAD DESPUÉS DE UN PROGRAMA DE RESTITUCIÓN DE TIERRAS

Resumen

Investigaciones recientes en economía han intentado identificar los efectos de la exposición a violencia sobre las preferencias individuales, incluyendo el comportamiento pro-social. En este artículo, medimos el impacto de un programa de compensación para las víctimas de desplazamiento, sobre el comportamiento pro-social.

Nuestros participantes han sido reconocidos como víctimas por el estado y como tales, pueden aplicar a medidas de restitución de acuerdo a la Ley de Víctimas (1448/2011).

La variable independiente en nuestro análisis es si el sujeto recibió la tierra dentro de algún programa. Las variables dependientes son la confianza y confiabilidad en desconocidos, medidos en una versión modificada del juego de confianza. Nos enfocamos en confianza y confiabilidad por sus efectos positivos sobre el desarrollo económico. Nuestro diseño incluye un tratamiento en el cual los sujetos votan sobre sus resultado preferido, para entender si la democracia consultiva puede alimentar la confianza.

Encontramos que la restitución de tierra incrementa la confiabilidad pero no la confianza. Esto confirma resultados anteriores que la confianza y la confiabilidad se vinculan a mecanismos diferentes. Votar no afecta ni la confianza ni la confiabilidad. Estos resultados son robustos a variables socio-demográficas y al sesgo de variable omitida.

Palabras claves: confianza, confiabilidad, desplazamiento, reparaciones

Clasificación JEL: C93, I38, Q15

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1. Introduction

According to official statistics (IDMC, 2015; Contraloría, 2014), there are around 7 million victims in Colombia, due to the longstanding internal conflict, involving left-wing guerrillas, paramilitary groups and governmental actors. According to the same source, 83% of the victims are Internally Displaced Persons (IDP hereafter), ranking Colombia as the second most affected country after Syria.

In 2011, the government passed a historic bill (*Ley de Víctimas*, Bill 1448 of 2011) whose aim is provide victims with the rights to the truth, the safety against re-victimization and integral reparation, including land restitution (in case there is willingness to return, safety and dignity). This creates the conditions for a large-scale social experiment, for restoration of victims' rights at this scale is unprecedented (Sikkink et al. 2014).

The aim of this paper is to provide a preliminary evaluation of the results of the ongoing process. At the moment in which the fieldwork was conducted, the implementation of the law was still limited in scale, which makes it early for evaluating long-term outcomes such as household investment and educational attainment. Nevertheless, there is already space to assess differential impact on social capital. By social capital, we mean the network of relationships that provide normative obligations and access to resources (Bourdieu, 1986; Coleman, 1988): we focus on generalized trust, i.e. the capacity to *bridge*, opening up new links with unknown persons.

We perform a field experiment using a simple version of the trust game. The trust game (or investment game) was introduced by Berg et al. (1995): basically, it is a transaction between two parties, where the trustor is able to create surplus by sharing some of the initial endowment, and the trustee is allowed to free ride in the second step. In its simplicity, it captures the two main features of trust, its efficiency and its exposure to free riding. This strategic interaction has been widely used, since standard survey questions, e.g. the one proposed by the World Value Survey, have been criticized for the lack of construct validity (Glaeser et al., 2000; Lazzarini et al. 2003). In the trust game, trust is usually measured as the share of endowment transferred to the counterpart, and trustworthiness as the amount shared by the latter.

In our analysis, we provide both statistical tests and econometric analysis to identify the impact of land restitution on both trust and trustworthiness. We also assess the impact of a consultative vote on experimental measure. Consultative democracy is the simplest and most widely-used institutional mechanism to promote empowerment in communities, thus framing our results as particularly telling.

This paper contributes to three strands of literature. On the one hand, it provides new evidence on how to strengthen social capital for development. There has been increasing interest in community-based development, i.e. the empowerment of communities to define strategic priorities for institutional support and interventions (Mansuri and Rao, 2004). Social capital is the key ingredient to improve community building and empowerment (Putnam et al., 1994; Banfield, 1967). Through the discussion of the effectiveness of institutional mechanisms, we also highlight some key difficulties facing intervention in communities affected by violence.

Most of the existing development literature has been primarily focused on the issue of *property rights for the poor* (Galiani and Shargrotsky, 2010). From an economic perspective, a property right defines the residual claimant of the product of an asset (Demsetz, 1967; North, 1981). Since it will increase the incentives at the margin, it becomes efficient from a social perspective. In the development literature, Galiani and co-author's paper is a major contribution, showing through a natural experiment in post-dictatorship Argentina that land titling significantly induces households to invest more in their house and in education (Galiani and Shargrotsky, 2010). As previously mentioned, in the present context, it is still too early to detect an impact on investment and educational attainment.

Secondly, this paper contributes directly to the literature on trust and social capital. There has been an increasing interest in measuring levels of trust through experiments. Cardenas and Carpenter (2008) provide a detailed review of existing studies. The main stylized facts are as follows. Ashraf et al. (2006) show that Russian and South African students are essentially worse off when they trust, due to observed free riding, but the results are not consistent with those in East Asia (Buchan et al., 2006), where a 50% gain on investment is observed. Trustworthiness is higher among non-students and varies significantly across

countries, but mistrust is not systematic among ethnic groups (Burns, 2004; Wilson and Bahry, 2002). Holm and Danielson (2005) show that the survey questions do not predict experimental behavior in Tanzania (which differs from Glaeser et al. 2000 and Johansson-Stenman et al. 2004). Studies on trust-building go beyond the pure interest of development economists, including research by both anthropologists and psychologists: Bogliacino et al. (2015) reviews some of the evidence related with gender, socio-demographic characteristics, and institutions. One of the key lessons is that reducing social distance increases trust and trustworthiness.

Finally, with this paper, we contribute to the literature on the relationship between IDP (and exposure to violence) and social capital. Displacement has been studied because it is one of the most common consequences of conflicts, and there has been alarming evidence that its consequences are long-lasting (Ibañez and Moya, 2010). Among those studies that opt for an experimental method, we find the following key results. Barr (1999; 2003) finds that trust is lower in resettled villages in Zimbabwe than in traditional villages. Cassar, Grosjean y Whitt (2014) document negative impact of violence on trust. Nevertheless, some studies show positive impact of violence on pro-social behavior (Voors et al., 2012) and political participation (Blattman, 2009).

The fieldwork related with this paper was conducted in *Montes de María*, a region in northern Colombia that has been witness to massacres and mass killings, especially in the 1990s: its location as a corridor for drug and weapons trafficking made it a strategic target for illegal groups, and the very poor governmental control left open space for any kind of human rights violation (GMH, 2013; 2009). Up to 42 massacres orchestrated by paramilitary groups have been documented, and as a result of killings and systematic threats, entire communities decided to abandon their homes (Aguilera, 2013). We involved different communities, both claiming their rights recipients of governmental land restitution programs by the government. Unfortunately, since we could not access official records, the land restitution status is self-reported, and we interpret our results with some caution and as preliminary evidence. Still, we are not aware of any published result on the process, and this is clearly a major contribution of this work. Our identification strategy is based on

regression analysis, using available control for socio-economic status and applying Oster's (2014) results to control for omitted variable bias.

We use a simple version of the trust game based on Charness et al. (2011). We first show that although there is no effect on trust, we do have a positive and significant effect of land restitution on trustworthiness, even after controlling for socio-demographic characteristics and omitted variable bias.

We have experimental data from the same protocol in both rural and urban Colombia; thus, we are able to present comparative evidence that allows for an assessment of the effect size: we show that trustworthiness catches up with the level observed in rural, and not exposed to violence, Colombia.

We also examine the effect of consultative democracy as a means of restoring trust and trustworthiness, but we detect no significant effect, which differs from the effect observed in rural areas, where this intervention seemed promising. This result raises a serious issue for public policy, for consultative voting appears to be the most obvious mechanism for community building.

This paper proceeds as follows: Section 2 discusses the ethnographic and institutional context; Section 3 presents the materials and methods; Section 4 discusses the main results; Section 5 presents conclusions. The full protocol is included in the Appendix.

2. Institutional and ethnographic background

2.1 The role of land in the Colombian internal conflict

Providing a detailed explanation of the Colombian internal conflict would clearly exceed the scope of this paper. As a specific historical process, still ongoing after 60 years, it is clearly overdetermined, especially since it is the only one in the region that continues to this day. As such, it is self-evident that multiple causes contributed to the continuation across different political regimes and historical phases. However, we think it is important to highlight the role of land in the conflict in order to understand the importance of the land restitution process from both a social and a development point of view.

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First of all, some definitions: by internal conflict, we mean the clash between government and left-wing guerrilla groups. It started in the first half of the 1960s, when the two main organizations (the Marxist-Leninist FARC and the Guevarist-nationalist ELN) were created. The creation of these organizations was the response to the violent repression of the Government to farmers' organizations, a violent repression inspired by the US regional doctrine (Latin American Security Operation, or LASO Plan) that was essentially oriented to eliminate seeds of left-wing organizations (especially after the Cuban revolution).

Over the decades, the conflict has changed in nature and participants, with different strategies from the Government and new actors involved, from other guerrilla organizations to paramilitary groups.

An official narrative of the conflict has been provided in GMH (2013), a work carried out in the mark of the National Center for Historical Memory (*Centro Nacional de Memoria Histórica*), which is one of the institutions established by the *Ley de Víctimas*.

The report highlights the role of land and the closure of political space as main factors. We think there are at least three reasons why land is a key asset to explain the emergence and endurance of the conflict.

First of all, Colombia has been characterized by the existence of an internal frontier. Many areas, such as the Amazon, do not have property rights and are open to colonization (LeGrand, 1988). The groups that gave rise to the FARC were actually colon organizations. Areas colonized tend to show poor or completely absent State control and are prone to the penetration of illegal groups that tend to enforce rules and codes of conducts (Aguilera, 2014). In many cases, IDPs are those forced to colonize new territories to have access to land, given that coca leaves end up being the only profitable crop, which attracts and strengthens the presence of illegal groups in a sort of vicious cycle (Reyes Posada, 2009).

Secondly, in most rural areas, the most profitable activities are land intensive, from narco-trafficking to illegal mining and agroindustrial production (oil palm, sugar cane etc.). In presence of poorly enforced property rights and contended monopoly of the violence

(Robinson, 2013; Berry, 2002), displacement has traditionally been associated with accumulation in these sectors (Fajardo, 2015).

Finally, land control is the main asset behind the center-periphery political equilibrium, where collusive control of the central power by oligarchic groups is matched by strange alliances and *divide-and-rule* policies in the peripheries, where local bosses control votes and institutions and possibilities of turnover of the elites are allowed (Robinson, 2013).

2.2 Legal context

The *Victims' Law* (Bill 1448/2011) was passed on the 10th of June, 2011. It is considered the most ambitious plan in the country's history to repair the multiple victims of internal conflict (Summers, 2012).

It is not the first attempt to do so, however: recently, in the process of negotiation with paramilitary groups, President Uribe approved many legislative acts to implement a system of transitional justice deemed to restore victims' rights (975/2005, 1421/2010, and 1424/2010), the most important of which was known as the *Justice and Peace Law* (975/2005).

The Victims' Law officially recognized internal conflict, taking a different stance with respect to the predominant governmental position in the Uribe era, which defined and fought illegal groups as terrorists under the influence of the prevailing US orientation (Robinson, 2013; Rojas, 2015).

The Law is oriented towards all victims, considering January 1, 1985 as the starting date. The status of victim is acquired independently of the individualization, apprehension, prosecution or condemnation of the responsible.

Advocacy groups, NGOs and other humanitarian activists have praised the incorporation of a number of strategic issues (Barreto et al. 2016), such as the gender approach and the right to memory (with the creation of the institutions such as the National Center for Historical Memory). A discussion of the institutions and the related decrees can be found in Barreto et al. (2016) and Summers (2012).

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The Law establishes that IDPs have the right to the restitution, which consists of two phases: an administrative one, managed by the *Unidad de Víctimas* (the main agency for the protection of the rights of victims) and a judicial one, where there is the presumption of good faith by the victim and the charge of proof is assigned to the actual owner (who normally occupies large extensions of land, while the victims tend to ask for restitution of very small properties).

If restitution is not possible, an alternative property should be transferred; in cases where neither of the two is available, a compensation will be paid. Ethnic minorities have specific processes, regulated by additional decrees. Additionally, the Law establishes nullity of any administrative act involving legalization of the property without acknowledging the right of the victim, and of course inexistence of contracts celebrated on the property without good faith.

Article 66 of the Law establishes the general rules of the return of the IDPs, or relocation in case there are not proper conditions for return. The main principles to be respected are: willingness, dignity and safety.

It is important to stress that a specific law that put the State in charge of the IDPs exists only beginning in 1997 (Law 387), although no specific requirements were imposed (Summers, 2012). The Justice and Peace Law was more stringent, but victims should report the crime and the perpetrator in order to ask for damages and restitution, which prevent effective implementation due to fear and lack of safety for the victims.

2.3 Ethnographic account

The region in which we conducted the experiments is named *Montes de María*. It is found in Northern Colombia, in the Bolívar Department. It has been a very rich agricultural region due to its climatic and soil features, although the nature of agriculture production has shifted dramatically over the years from diversified production to strong specialization in oil palm, extensive livestock and wood industry. It is a strategic corridor on account of its proximity to the sea, to one of the main rivers (Río Magdalena) and to the harbors of Cartagena and Barranquilla.

Tension in the area has been traditionally high, with organizations of small farmers and colonizers asking for land titling since the 1960s. Penetration of left wing guerrillas was on the rise from the 1990s on, which has been followed by a strong and violent response of paramilitary groups; this led to 42 different massacres and massive displacement (GMH, 2013; 2009).

We involved different communities through Community leaders. We cannot claim external validity of the study. Among the reported communities we have:⁶ Palo Altico, Carmen de Bolívar, Cartagena, Cucal, Bellavista, Mampuján, Ovejas, Palma de Vino, Palmito, Paraiso, San Cristobal, Santafe de Icoté.

Among the reasons for displacement (question 6 in the questionnaire in the Appendix), the main reported cause is threats (47.17%) followed by direct violence (16.85%). Twelve persons reported not having abandoned their land, which means that they belong to the second or third generation of IDPs, which are recorded as displaced by the Law (lack of understanding of the question is also a possibility).⁷ Among the respondents, 74.04% report being officially registered as victims, while 20.19% do not know, 5.77% state not to be officially registered (question 9 in the Appendix).

3. Experimental procedures

3.1 Design

Our lab-in-the-field was in Pava, in the Bolívar department, in Colombia (Figure 2). The recruitment of participants was obtained through different community leaders. The lead experimenter had different meetings with them prior to the study and provided a generic description of the aim of the research. No mention was made of the task or the main hypotheses. We ensure that people from different communities took part in the same session to limit interaction among acquaintances.

⁶ We report only those communities with more than one participant. Data refer to question 8 in the post-experimental questionnaire (Appendix).

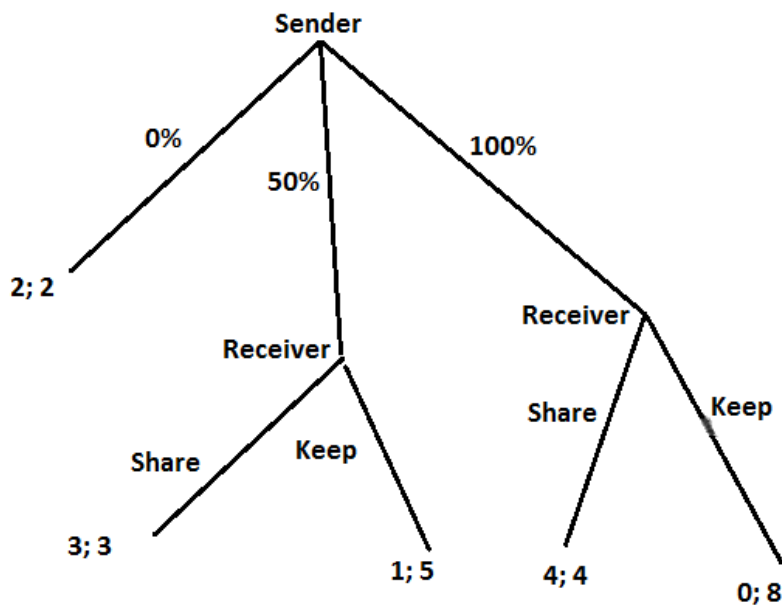
⁷ See question 5 in the post-experimental questionnaire in the Appendix. We confirmed with the community leaders to ensure all the participants were displaced.

Our version of the Trust Game (TG) is similar to Charness et al. (2011) and Ermisch et al., (2009). A close version of this protocol is implemented in Bogliacino et al. (2015) in Cundinamarca (rural Colombia).

The sender and the receiver were given two Experimental Currency Units (ECUs) at the beginning of the interaction; the sender then decided how much she would like to transfer to the receiver. Possible choices were 0, 1, and 2. As customary, the amount transferred was tripled by the researcher. The receiver then decided whether to keep all the tokens in her possession, or to share them equally with the sender. We record receiver's decisions through the strategy method. The keep or share-equally is found to be very easy to understand for a population with very low educational level (Table 1 below).

The extended form of the game is illustrated in Figure 1, with payoffs given in ECUs. Each token was worth 4000 Colombian Pesos (COP). The experiments were performed in July 2014: at that moment, the exchange rate was 1866 USD/COP. The hourly minimum wage was slightly above 2000 COP, and considering that poverty status is overwhelmingly diffused among the displaced (83.9% of monetary poverty according to Contraloría, 2014), stakes were largely above opportunity cost for participants.

Figure 1 The trust game in extended form



Source: Authors' elaboration

Participants received a randomly assigned ID number at the beginning of the session. Half of participants received an odd number and half an even number. Once seated, the lead experimenter (supervising all experimental sections) informed the subjects that they would take a series of decisions, and that one of the decisions would be paid, randomly decided at the end of the session. The lead experimenter then illustrated the rules of the interaction relevant for the first decision on a blackboard. Visual representations of the interactions were also handed out (an example is in Figure A1 in the Annex).

Comprehension was checked through two sets of questions. We could not ask subjects to provide written answers since there was a large set of illiterate participants. As a result, we encourage oral answers and correct mistaken responses, illustrating the correct answer on the board. At the end of the comprehension check, the treatments were administered. We had three conditions: control, vote and message. The control condition is the baseline: under this treatment, subjects just moved to the decision tasks.

In the voting condition, the set of decisions was preceded by a vote. Each subject was asked to indicate on a sheet which actions she considered the most appropriate for participants to perform.⁸ Subjects were asked to vote for all the three decisions that subjects would make – namely, the sender's transferred amount and the receiver's return conditional on the sender transferred respectively one and two ECUs. The actions that received most votes were then publicly announced. It was explained that the consultation was not binding.

In the signal condition, we read the majority voting of the trust game performed by Bogliacino et al. (2015).⁹ The message was announced to everybody, and it was explained that it was not binding.

⁸ The text of the relative instructions was as follows: "Please, indicate how many tokens you would consider convenient for the sender to send to the receiver" "For each scenario, please indicate if you consider convenient that the receiver send some tokens." See the Appendix for the full version of the instructions.

⁹ The text of the relative instructions was as follows: "According to the sessions previously performed in some Colombian villages, the majority of the participants consider convenient that for the sender to send two tokens to the receiver. According to the same sessions, the majority consider convenient for the receiver to transfer when the sender sent one token. According to the same sessions, the majority consider convenient for the receiver to transfer when the sender sent two tokens." See the Appendix for the full version of the instructions.

Of the nine sessions performed, three sessions were assigned randomly to each condition. In the end, we have 24.32% of the sample under the control condition, 34.23% in the signal treatment, and the remaining 41.44% in the vote treatment.

After the treatment, the roles of sender and receiver were assigned. A random draw was carried out, assigning either people holding an odd ID number or an even ID number the sender role. The other group was assigned the receiver role. Both senders and receivers were asked to submit their decision on a decision sheet. We remind readers that receivers made their decision through the strategy method, i.e. either keep or share equally, conditionally on the sender transferring 1 or 2 ECUs. Assistants helped participants provide a decision when prompted.

Once everyone had made their choices, the decision sheets were collected. Subjects were told that the second decision consisted of another TG, where roles would be swapped. Those who acted as receivers (senders) in the first decision acted as senders (receivers) in the second decision. New pairs were formed. Our matching algorithm ensured that everyone was paired with a different player from the first decision. This was publicly announced. The lack of repeated interaction is necessary to avoid reputation building or any form of form of strategic reciprocity.

Figure 2 A picture of one of the experimental sessions



Source: Authors' elaboration

The overall experiment lasted up to two hours, with minimal variation. Average payment was 13297 COP with standard deviation 7516 COP. Participants received the reimbursement of their travel expenses to reach the experimental site.

3.2 Research hypothesis

We compute the trust variable as the share of ECUs sent to the receiver and the trustworthiness as the share of ECUs given back to the sender. The exact formula for the latter variable is:

$$TW = I(s|1ECU) \cdot \frac{2}{6} + I(s|2ECU) \cdot \frac{4}{6} \quad (1)$$

where TW is the trustworthiness, $I()$ is the indicator function, $I(s|1ECU)$ is equal to one if the receiver decides to share when one ECU is transferred, $I(s|2ECU)$ is equal to one if the receiver decides to share when two ECUs are transferred. Since in the first case two ECUs are shared and in the second case 4 ECUs, we properly weight the two cases.

We label “Land” the dummy equal to one if the respondent self-reports having benefited from a land restitution process.¹⁰

We first assess if there is a significant increase of trust and trustworthiness in the displaced population whose land rights have been restored.

Secondly we aim to assess if the voting mechanism allows for increasing trust and/or trustworthiness. We introduce the voting mechanism because in Bogliacino et al. (2015) we identify a significant effect on both trust and trustworthiness. Being unbinding, the vote is cheap talk (Crawford and Sobel, 1982) and does not affect the theoretical prediction of the Subgame perfect Nash equilibrium, but it may help in coordinating or affecting expectations. In fact, in the discussion of their results, Bogliacino et al. (2015) state that both the formation of social norm (Duffy et al., 2013), or the influence of a signal on

¹⁰ Technically, it is equal to one when the respondent answers affirmatively to one of the following three items: “I have been benefited by the restitution under the Ley de Víctimas”, “I have been benefited by other process of land titles formalizations”, “I have been benefited by a collective process of land titling.” See question 4 in the post-experimental questionnaire in the Appendix. Since we are interested in restitution and not in the policy evaluation of the Law *per se*, we think it is important to include other processes as well.

normative expectations process (Bicchieri and Xiao, 2013) could be in place. As a result, we introduce a third treatment (the result of the voting mechanism in Bogliacino et al. 2015), which is a pure signal and allows for disentangling of the two effects of vote as signal and vote as norm creator.

Since this is a rural environment, although exposed to violence, we would like to see if the positive result of Bogliacino et al. (2015) could be replicated. Moreover, since the Community Building process is a key objective of the policy, consultative democracy is the most widely-used institutional mechanisms for empowerment, and it is important to assess to what extent it works, at least from a social-capital point of view.

We also compare the results of trust and trustworthiness with the result of the same trust game implemented in rural Colombia (Bogliacino et al. 2015) and in Bogotá, in order to discuss effect size with regard to urban and rural environment.

4. Results

4.1 The effect of land restitution

We obtained 111 observations from the trust game, but some of the participants left some post-experimental questions blank, which reduces the amount of observations in the regression analysis.

Some descriptive statistics are reported in the Table below. We have a prevalence of male participants, 58.16% are above 40 years old and two-thirds of the sample have at most primary education.

Among participants, those that received land represent around 20% of the sample, while 52.58% declare not to have received any measure of compensation of any kind (question 10 in the Appendix).

Table 1 Descriptive statistics

Variable	Distribution
Observations	111
Gender	M: 67%
Age	18-24 (10.20%) 25-30 (12.25%) 31-40 (19.03%) 41-55 (27.55%) 56-83 (30.61%)
Marriage status	Married/Civil Partnership: 67.57%
SES	1 or absent: 90.42% 2 or 3: 5.31%
Education	No education: 32.38% Primary: 37.14% Secondary or more: 30.48%
Land	20.72%
Occupation	Farmer: 74% Retired/unemployed: 12%

Source: Authors' elaboration. Land is equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas", "I have been benefited by other process of land titles formalizations", "I have been benefited by a collective process of land titling". SES measures the quality of the dwelling, increasing from one to six.

Randomizations of the three conditions guarantee exogeneity of the treatments. In fact, no socio-demographic characteristics are different across conditions: sex, $\chi^2=.01$ ($p=.99$); marriage status, $\chi^2=1.22$ ($p=.54$); age, $\chi^2=118.65$ ($p=.12$); SES, $\chi^2=10.21$ ($p=.42$); household size greater than four, $\chi^2=4.56$ ($p=.10$).

SES (Socio-Economic Stratum or *estrato* in Spanish) is a Colombian convention for the payment of utilities; it is a number from one to six, increasing in the quality of the surroundings of the dwelling, and it is correlated with income.

Regarding the *Land* variable, socio-demographic characteristics are balanced across conditions: sex, $\chi^2=.10$ ($p=.74$); marriage status, $\chi^2=.53$ ($p=.46$); age, $\chi^2=52.35$ ($p=.42$); household size greater than four, $\chi^2=.00$ ($p=.99$). Obviously, the SES is different, for it describes the condition of the house: $\chi^2=11.98$ ($p=.04$).

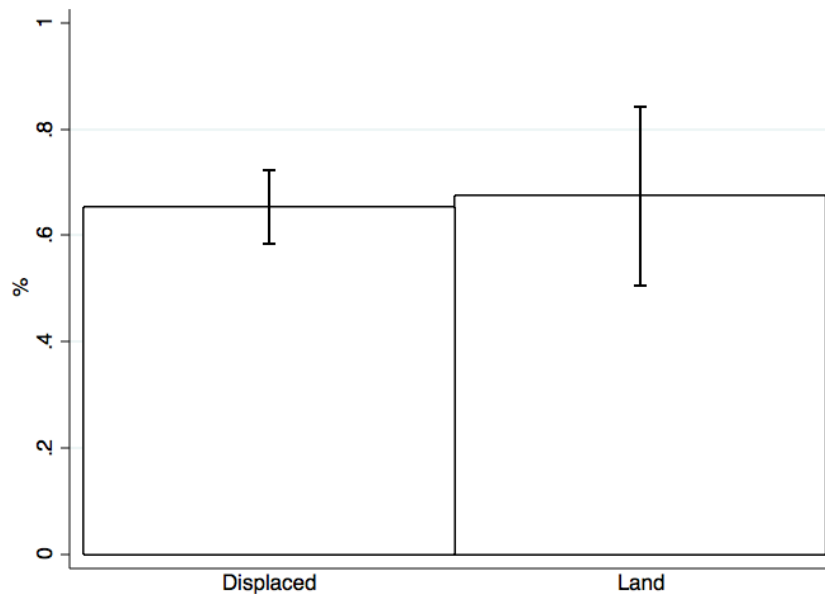
The distribution of the outcome variable is the following: 11.71% sent zero ECUs, 45.05% sent one ECU and 43.24% sent two; 63.06% decided to share conditionally on the trustor

sending one ECU and 63.96% decided to share conditionally on the trustor sending two tokens. Moreover, 47.74% have 100% trustworthiness.

The double decision does not affect the choice significantly (*no order effect*): the null hypothesis that the order of choice and the outcome variables are independent is never rejected (trust, $\chi^2=1.00$, $p=.60$; share when one ECU is transferred, $\chi^2=.01$, $p=.90$; share when two ECUs are transferred, $\chi^2=.21$, $p=.64$). We also check if the payment of only one decision affects behavior: the null hypothesis that the drawn decision (either first or second) and the outcome variables are independent is never rejected (trust, $\chi^2=2.25$, $p=.32$; share when one ECU is transferred, $\chi^2=.42$, $p=.51$; share when two ECUs are transferred, $\chi^2=1.22$, $p=.26$).

In Figure 3 below, we report the level of trust according to the Land variable, together with the confidence interval at 5%. No significant difference emerges, which is confirmed by a Wilcoxon rank sum test ($z=-.47$, $p=.63$).

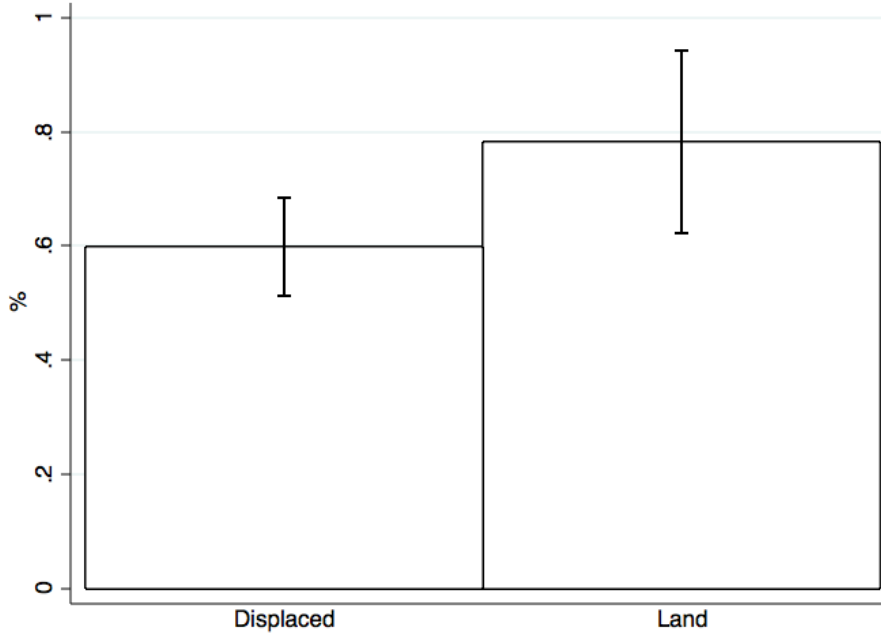
Figure 3 Trust in displaced and restored population



Source: Authors' elaboration. Land is a dummy equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." *Displaced* corresponds to the observations for which *Land* is equal to zero.

In Figure 4, we report the average trustworthiness, computed as in Equation (1), distinguishing by access to land restitution, with the confidence interval at 5%. A significant difference emerges, with land restitution recipients showing higher trustworthiness. The result is robust to a non-parametric test ($z=-2.10$, $p=.03$).

Figure 4 Trustworthiness in displaced and restored population



Source: Authors' elaboration. Land is a dummy equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." *Displaced* corresponds to the observations for which *Land* is equal to zero.

In Table 2 below, we report econometric analysis, using Ordered Logit regressions for both trust and trustworthiness. We control for socio-demographic characteristics in all cases. No significant impact of land restitution on trust is displayed, but there is an effect on trustworthiness. Moreover, this effect is robust when we control for SES and for occupation (with two dummies for farmers and retired). Even controlling for the number of the session does not change the results.

We provide further robustness checks: in Table 3, we first use as the key independent variable the receipt of some form of reparations, and the trustworthiness effect disappears,

showing that land is the key variable. In Columns (2) and (5), we exclude those that declared not to have abandoned their land (Section 2.3 above), yet the Land effect is still robust. Finally, in Columns (3) and (6), we control for the time spent in the current residence (question 7 in the Appendix). Again, the result with regard to trustworthiness is very robust.

Finally, in Table 4 we report separate Logit regressions for the two dummies for trustworthiness: sharing conditioned on 1 ECU transfer, and sharing conditioned on 2 ECU transfer. As Table 4 shows, the results do not change, although the effect seems to be stronger with regard to the sharing of the maximum surplus.

Finally, we provide an estimation of the potential effect of omitted variables, following Oster (2015) and Gonzales and Miguel (2015).

We provide a sensitivity analysis of the effect size of land on trustworthiness, inferring the potential impact of omitted variable bias from the stability of the coefficients of interests when further controls are added. Based on the key (unverifiable) assumption that the selection on observables is the same as the selection on unobservables, after adjusting for differences in the variance of these distributions, we can calculate the bias and estimate the value of the coefficient after correcting for the bias. The formula for this coefficient is:

$$\bar{\alpha} = \hat{\alpha}^* - (\hat{\alpha}^0 - \hat{\alpha}^*) * \frac{R_{max} - R^*}{R^* - R^0} \quad (2)$$

where $\hat{\alpha}^*$ and R^* are the coefficient estimate and R squared from the regression using observable covariates, respectively, and $\hat{\alpha}^0$ and R^0 are the coefficient and R squared from the uncontrolled regression, respectively. The key to understanding this procedure is R_{max} : this is R squared when y is regressed against both observable and unobservable controls, which is clearly unknowable and represents a degree of freedom. In our investigation, we followed a procedure similar to that of Gonzales and Miguel (2015), calculating four different scenarios: (1) a conservative scenario wherein $R_{max} = 1$, which would be the case given zero measurement error; (2) a scenario wherein $R_{max} = 2R^* - R^0$, which corresponds to the assumption that the relationship between the treatment and the observables is the same as the relationship between the treatment and the unobservables

(Bellows and Miguel, 2009); (3) Oster's (2015) proposal of $R_{max} = \text{Min}\{2.2R^*, 1\}$; and, finally, (4) a rule of thumb $R_{max} = .5$, which corresponds to a measurement error of 50%.

We perform OLS because the theoretical result is not derived for nonlinear regressions. The baseline estimation (that for deriving $\hat{\alpha}^*$ and R^*) is the one with treatment dummies, sex, age, education, household size, marriage status and experimental session as controls.

Results are shown in Table 5: we show both the coefficient for the trustworthiness variable and the two sharing dummies. As can be seen, after correcting for the bias the estimates are still above zero; therefore, we can reject the absence of a causal effect.

Before concluding this subsection, we present some minor results. We have two survey-based measures of trust. One is a measure of generalized trust and the other a measure of vertical trust (towards institutions etc.). Both are taken from World Value Survey (questions 15 and 16 in the Appendix).

The first measure is not significantly associated with experimental measures: the independence of the two distributions (χ^2 test) is not rejected; in particular, for trust we have $\chi^2=2.97$ ($p=.22$) and for trustworthiness we have $\chi^2=3.39$ ($p=.33$).

For the measure of vertical trust, we have 13 items. Cronbach's alpha measure of reliability is 85%. Given that reliability is met, we compute the average value of the 13 items. Unfortunately, there are a lot of missing values, for essentially half of the observations are lost. We calculate Spearman correlation: for both experimental variables, independence is largely not rejected ($p=98.95\%$ in both cases).

Table 2 Trust and trustworthiness in displaced and restored population

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Trust	Trust	Trust	Trust	Trustworthiness	Trustworthiness	Trustworthiness	Trustworthiness
Signal	-0.599 (0.628)	-0.705 (0.607)	-0.798 (0.615)	-0.398 (0.594)	0.149 (0.502)	0.169 (0.491)	0.455 (0.520)	0.499 (0.523)
Vote	-0.291 (0.581)	-0.325 (0.579)	-0.648 (0.573)	-0.313 (0.539)	0.566 (0.599)	0.571 (0.595)	0.541 (0.596)	0.907 (0.610)
Land	0.357 (0.585)	0.365 (0.590)	0.515 (0.660)	0.399 (0.666)	1.615** (0.746)	1.618** (0.748)	1.451** (0.736)	1.617** (0.755)
Sex (F)	-0.240 (0.514)	-0.221 (0.522)	-0.351 (0.502)	-0.644 (0.562)	0.0141 (0.487)	0.00609 (0.491)	0.118 (0.524)	-0.115 (0.532)
Age	0.0418** (0.0176)	0.0459** (0.0182)	0.0261 (0.0186)	0.0400** (0.0199)	-0.00895 (0.0193)	-0.0108 (0.0208)	-0.00894 (0.0212)	-0.0105 (0.0195)
Education	0.871*** (0.325)	0.904*** (0.322)	0.677** (0.281)	0.670*** (0.251)	0.331 (0.218)	0.321 (0.224)	0.307 (0.227)	0.311 (0.204)
HH size >4	-0.866* (0.466)	-0.814* (0.477)			0.602 (0.419)	0.577 (0.434)		
Married	-0.382 (0.502)	-0.308 (0.501)	-0.112 (0.555)	-0.421 (0.518)	0.154 (0.497)	0.133 (0.499)	0.410 (0.596)	0.277 (0.488)
Exp Session		0.0775 (0.0806)	0.0349 (0.0792)	0.0937 (0.0757)		-0.0276 (0.0712)	-0.0342 (0.0708)	-0.0192 (0.0725)
SES			0.0180 (0.202)				0.0637 (0.124)	
Farmer				-0.330 (0.528)				-0.500 (0.495)
Retired				0.712 (1.124)				0.505 (1.086)
Observations	91	91	82	95	91	91	82	95

Source: Authors' elaboration. Ordered Logit Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Land is a dummy is equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." SES measures the quality of the dwelling, increasing from one to six. Vote is the dummy for the vote treatment; Signal is the dummy for the signal treatment.

Table 3 Trust and trustworthiness in displaced and restored population. Robustness checks

	(1) Trust	(2) Trust	(3) Trust	(4) Trustworthiness	(5) Trustworthiness	(6) Trustworthiness
Signal	-0.680 (0.634)	-0.923 (0.673)	-0.793 (0.630)	0.307 (0.487)	-0.290 (0.563)	0.106 (0.512)
Vote	-0.189 (0.607)	-0.406 (0.610)	-0.360 (0.598)	0.642 (0.621)	0.467 (0.618)	0.307 (0.631)
Any Reparation	-0.559 (0.462)			-0.179 (0.444)		
Sex (F)	-0.289 (0.544)	-0.330 (0.559)	-0.124 (0.563)	-0.0361 (0.469)	-0.201 (0.568)	0.00178 (0.525)
Age	0.0501*** (0.0184)	0.0446** (0.0188)	0.0473** (0.0201)	-0.000419 (0.0172)	-0.00763 (0.0225)	-0.00361 (0.0244)
Education	0.933*** (0.347)	0.866*** (0.329)	0.867*** (0.333)	0.336 (0.213)	0.408 (0.264)	0.347 (0.263)
HH size >4	-0.782* (0.474)	-0.631 (0.472)	-0.863* (0.498)	0.535 (0.423)	0.671 (0.458)	0.646 (0.475)
Married	-0.285 (0.508)	-0.127 (0.498)	-0.292 (0.590)	0.248 (0.482)	-0.0603 (0.540)	0.346 (0.599)
Exp. Session	0.0814 (0.0812)	0.0773 (0.0833)	0.0540 (0.0851)	-0.0263 (0.0702)	-0.0108 (0.0760)	-0.0100 (0.0732)
Land		0.325 (0.688)	0.283 (0.603)		1.723** (0.779)	2.057*** (0.776)
Time			-0.00807 (0.0150)			-0.00804 (0.0160)
Observations	91	79	85	91	79	85

Source: Authors' elaboration. Ordered Logit Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Land is a dummy is equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." SES measures the quality of the dwelling, increasing from one to six. In columns (2) and (5), we exclude second and third generation displaced persons who declared not to have abandoned their land. Time refers to the time (in years) living in the current house (question 7 in the Appendix). Vote is the dummy for the vote treatment; Signal is the dummy for the signal treatment.

Table 4 Trustworthiness in displaced and restored population: Analysis of the strategy method- odd phrasing/combination of these two words

	(1) I(s 1 ECU)	(2) I(s 2 ECU)	(3) I(s 1 ECU)	(4) I(s 2 ECU)	(5) I(s 1 ECU)	(6) I(s 2 ECU)	(7) I(s 1 ECU)	(8) I(s 2 ECU)	(9) I(s 1 ECU)	(10) I(s 2 ECU)
Signal	0.495 (0.732)	-0.148 (0.634)	0.672 (0.744)	0.218 (0.644)	0.692 (0.688)	0.0305 (0.655)	-0.317 (0.798)	-0.267 (0.708)	0.466 (0.738)	0.466 (0.738)
Vote	0.209 (0.722)	0.677 (0.642)	0.424 (0.701)	0.965 (0.661)	0.270 (0.704)	0.719 (0.649)	-0.189 (0.799)	0.785 (0.669)	0.142 (0.764)	0.142 (0.764)
Land	1.087* (0.620)	1.497** (0.734)	1.143* (0.650)	1.433** (0.728)			1.187* (0.676)	1.696** (0.768)	1.530** (0.666)	1.530** (0.666)
Sex (F)	-0.347 (0.529)	-0.000569 (0.539)	-0.399 (0.560)	-0.174 (0.567)	-0.361 (0.518)	-0.0410 (0.513)	-0.460 (0.637)	-0.0759 (0.590)	-0.512 (0.568)	-0.512 (0.568)
Age	-0.0159 (0.0199)	-0.00427 (0.0204)	-0.00717 (0.0181)	-0.00680 (0.0189)	-0.00748 (0.0181)	0.00553 (0.0182)	-0.00674 (0.0219)	-0.00360 (0.0217)	-0.00451 (0.0229)	-0.00451 (0.0229)
Education	0.455 (0.321)	0.363 (0.284)	0.467 (0.294)	0.313 (0.258)	0.470 (0.323)	0.353 (0.286)	0.914** (0.358)	0.283 (0.277)	0.479 (0.334)	0.479 (0.334)
Farmer			-0.857 (0.782)	-0.421 (0.647)						
Retired			0.278 (1.447)	0.158 (1.060)						
Married	-0.279 (0.571)	0.298 (0.545)	0.0237 (0.560)	0.301 (0.540)	-0.155 (0.547)	0.413 (0.517)	-0.577 (0.644)	0.176 (0.590)	-0.0459 (0.624)	-0.0459 (0.624)
Exp Session	-0.282*** (0.109)	0.103 (0.102)	-0.230** (0.107)	0.0798 (0.102)	-0.277*** (0.103)	0.103 (0.101)	-0.219* (0.116)	0.0882 (0.107)	-0.253** (0.108)	-0.253** (0.108)
HH size >4	0.523 (0.518)	0.511 (0.492)			0.480 (0.504)	0.476 (0.478)	0.654 (0.568)	0.599 (0.516)	0.527 (0.555)	0.527 (0.555)
Any Reparation					-0.236 (0.519)	-0.329 (0.470)				
Time									-0.0270 (0.0213)	-0.0270 (0.0213)
Constant	1.720 (1.491)	-1.081 (1.520)	1.564 (1.447)	-0.330 (1.311)	1.465 (1.371)	-1.249 (1.364)	1.233 (1.713)	-1.179 (1.628)	1.275 (1.650)	1.275 (1.650)
Observations	91	91	95	95	91	91	79	79	85	85

Source: Authors' elaboration. Logit Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. I(s|1ECU) is equal to one if the receiver decides to share when one ECU is transferred, I(s|2ECU) is equal to one if the receiver decides to share when two ECUs are transferred. Land is a dummy is equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations", "I have been benefited by a collective process of land titling." SES measures the quality of the dwelling, increasing from one to six. In column (7) and (8) we exclude second and third generation displaced which declares did not experience abandoning their land. Time refers at the time (in years) living in the actual house (question 7 in the Appendix). Vote is the dummy for the vote treatment; Signal is the dummy for the signal treatment.

Table 5 Estimating the impact of omitted variable bias on trustworthiness

(A) Trustworthiness	BM	OS	CO	RE
alpha*	0.244	0.244	0.244	0.244
alpha0	0.1841	0.1841	0.1841	0.1841
R*	0.1235	0.1235	0.1235	0.1235
R0	0.0345	0.0345	0.0345	0.0345
Rmax	0.2125	0.2717	1	0.5
Alpha corrected	0.3039	0.3437	0.8339	0.4973
(B) I(s 1 ECU)	BM	OS	CO	RE
alpha*	0.2078	0.2078	0.2078	0.2078
alpha0	0.1916	0.1916	0.1916	0.1916
R*	0.1776	0.1776	0.1776	0.1776
R0	0.0259	0.0259	0.0259	0.0259
Rmax	0.3293	0.3907	1.0000	0.5000
Alpha corrected	0.2240	0.2306	0.2956	0.2422
(C) I(s 2 ECU)	BM	OS	CO	RE
alpha*	0.2621	0.2621	0.2621	0.2621
alpha0	0.1803	0.1803	0.1803	0.1803
R*	0.1074	0.1074	0.1074	0.1074
R0	0.0232	0.0232	0.0232	0.0232
Rmax	0.1916	0.2363	1.0000	0.5000
Alpha corrected	0.3439	0.3873	1.1293	0.6435

Source: Authors' elaboration. The Table refers to the impact of land on trustworthiness (panel A); the dummy is equal to one if the receiver decides to share when one ECU is transferred (B), and the dummy is equal to one if the receiver decides to share when two ECUs are transferred (C) in the profits equation. All regressions are OLS with robust standard errors. The regressors in panel (A) are those of column (6) in Table 2; for panel (B) and (C) are columns (2) and (7) in Table 4. Alpha* and R* are the coefficient estimate and R squared from the regression using observable covariates, and alpha0 and R0 are the coefficient and R squared from the uncontrolled regression. Rmax is the R squared of a regression of the outcome variables over observables and unobservables. In CO, Rmax=1 (zero measurement error); in BM, $R_{max} = 2R^* - R^0$ (Bellows and Miguel, 2009); in OS, $R_{max} = \min\{2.2R^*, 1\}$ (Oster, 2015), and, finally, in RE, $R_{max} = .5$ (measurement error equal to 50%). Alpha corrected is the estimated coefficient after the correction for the bias (equation (2)).

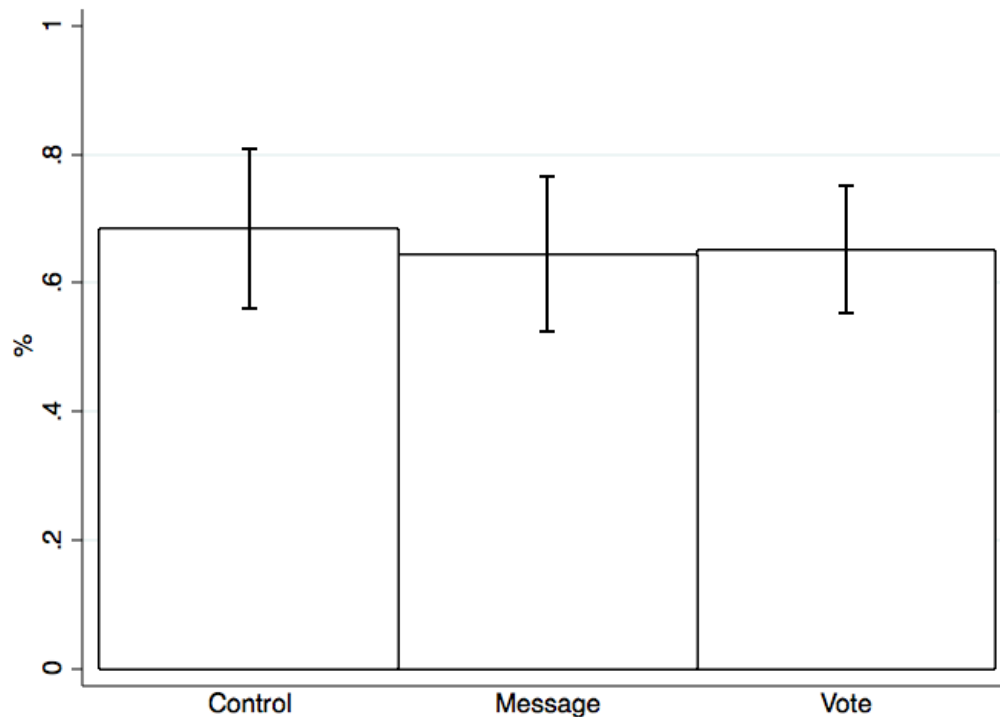
4.2 The effect of the voting mechanism

In Figures 5 and 6 below we report the results of the two treatments (Vote and Signal) respectively on trust and trustworthiness. We report the average trust and trustworthiness, together with the confidence interval at 95%.

As can be seen, the two treatments do not have significant impact on behavior. The dummies for Voting and Signal are never significant in the regressions in Table 2-4, which implies that consultative democracy does not seem to be viable to promote social capital in the displaced population.

Interestingly enough, 52.63% vote to send two ECUs, and 63.16% and 65.79% vote to share in the case of one and two ECUs, respectively, which means that consultations do provide coordination on efficient behavior, without affecting decisions in this context.

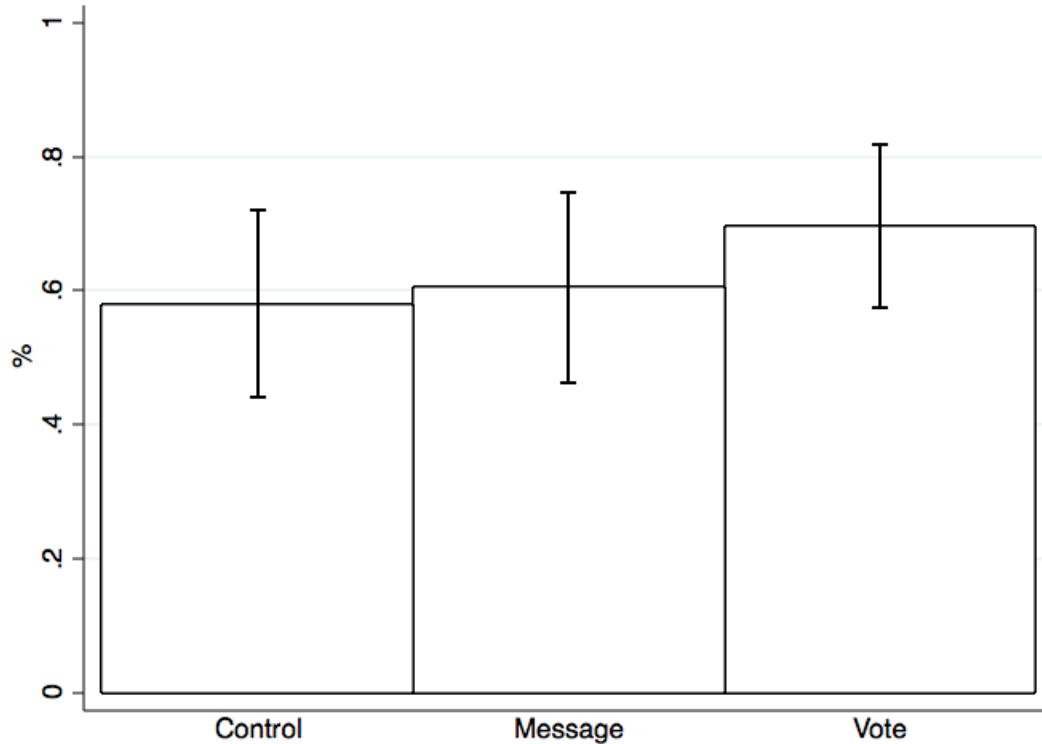
Figure 5 Trust per experimental condition



Source: Authors' elaboration. Vote is the subsample under the vote treatment; Signal is the subsample under the signal treatment.

The null hypothesis of independence of the distribution of voting and trust is rejected, $\chi^2=14.95$ ($p=.00$), but it is not rejected for sharing contingent upon the transfer of one ECU, $\chi^2=2.89$ ($p=.08$) or sharing contingent upon the transfer of two ECUs being transferred, $\chi^2=.36$ ($p=.54$).

Figure 6 Trustworthiness per experimental condition



Source: Authors' elaboration. Vote is the subsample under the vote treatment; Signal is the subsample under the signal treatment.

4.3 Comparative evidence

In order to have some comparative evidence, we use data from two different samples. The first is the sample of 91 observations from Bogliacino et al. (2015). In that study, rural farmers (Cundinamarca, Colombia) took part in a trust game with a voting condition. The structure of the interaction is the same; however, in the 2015 research, two double rounds were played, separated by treatment. For that reason, we rely on the second round data for the purposes of the present study.

The second sample is from Bogotá (224 observations) related to a trust game with a third party punishment treatment (Fehr and Fischbacher, 2004; Charness et al., 2008).

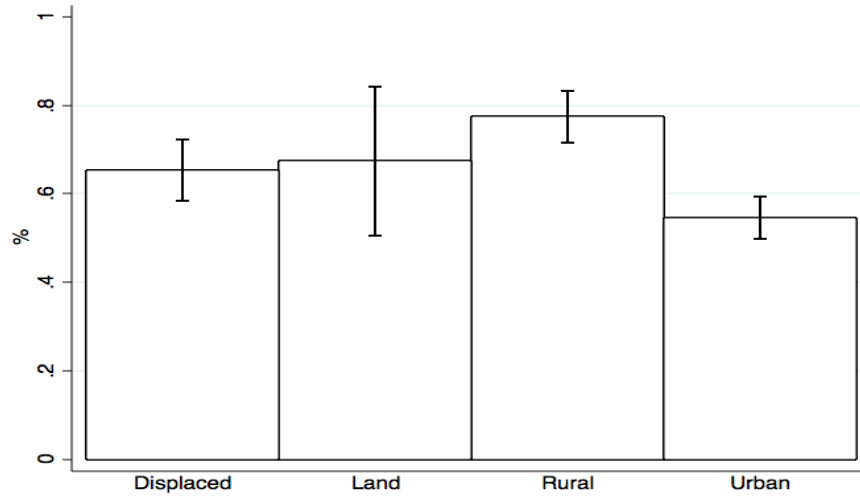
We report the level of trust and trustworthiness (calculated using Equation (1)) in Figures 7 and 8, respectively. In both cases, we report the average level of the variable with the confidence interval at 95%. The first two bars (*Displaced* and *Land*) show the average level of the variable in Montes de María for the displaced population and the one receiving restitution. The third bar shows the level for rural (not exposed to violence) participants. The fourth bar shows the urban level for Colombia's capital (Bogota).

A one-way analysis of variance rejects the null hypothesis of absence of difference in trust between groups ($F=10.11$, $p=.00$). Pairwise comparisons using Bonferroni corrections show difference between IDPs and rural ($p=.10$), between IDPs and urban ($p=.08$) and between urban and rural ($p=.00$). The low level of trust in the urban environment can be attributed to prevalence of one-shot interactions.

In the case of trustworthiness, the null hypothesis of absence of difference between groups is rejected (4.59 , $p=.00$). The level of trustworthiness in IDPs is lower than both rural ($p=.00$) and urban ($p=.04$). It is policy relevant here that those receiving restitution reach same levels of trustworthiness as the rural population.

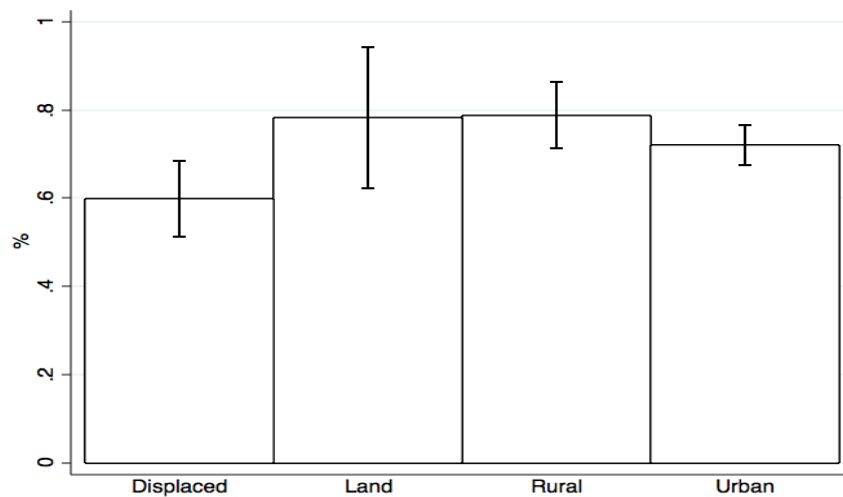
In Table 6, we report the results of Ordered Logit regressions on the pooled data from the three samples. The effect of land restitution on trustworthiness appears robust. These regressions confirm that the rural environment is characterized by stronger ties.

Figure 7 Trust among displaced and restored participants, compared with rural and urban Colombia



Source: Authors' elaboration. *Displaced* and *Land* refer to the Montes de María sample. *Land* is a dummy equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." *Displaced* corresponds to the observations for which *Land* is equal to zero. *Rural* is the sample in Bogliacino et al. (2015), while *Urban* is a sample from Bogotá.

Figure 8 Trustworthiness among displaced and restored participants, compared with rural and urban Colombia



Source: Authors' elaboration. *Displaced* and *Land* refer to the Montes de María sample. *Land* is a dummy equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." *Displaced* corresponds to the observations for which *Land* is equal to zero. *Rural* is the sample in Bogliacino et al. (2015), while *Urban* is a sample from Bogotá.

Julio de 2016

Table 6 Trust and trustworthiness: displaced, restored, rural and urban population

	(1) Trust	(2) Trust	(3) Trust	(4) Trustworthi ness	(5) Trustworthi ness	(6) Trustworthi ness
Land	0.225 (0.508)	0.214 (0.536)	0.239 (0.586)	1.107** (0.538)	1.563** (0.700)	1.443** (0.709)
Rural	0.693** (0.271)	0.565* (0.314)	0.329 (0.320)	1.142*** (0.328)	1.014*** (0.357)	0.730** (0.353)
Urban	-0.551** (0.231)	-0.499 (0.368)	-0.719* (0.374)	0.539** (0.236)	0.364 (0.352)	0.116 (0.355)
Sex (F)		-0.282 (0.201)	-0.265 (0.201)		0.0470 (0.203)	0.0669 (0.207)
Age		0.0109 (0.00914)	0.00483 (0.00901)		-0.00338 (0.0109)	-0.00443 (0.0114)
HH >5		-0.277 (0.204)			0.136 (0.215)	
Married		0.110 (0.277)	0.298 (0.281)		0.245 (0.295)	0.367 (0.314)
Education		0.159* (0.0946)	0.143 (0.0950)		0.137 (0.0964)	0.111 (0.0967)
SES			0.0718 (0.103)			0.120 (0.0933)
Observations	425	391	381	425	391	381

Source: Authors' elaboration. Ordered Logit Regression with robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Land is a dummy equal to one when the respondent answers affirmatively to one of the following three items: "I have been benefited by the restitution under the Ley de Víctimas," "I have been benefited by other process of land titles formalizations," "I have been benefited by a collective process of land titling." SES measures the quality of the dwelling, increasing from one to six. *Rural* is equal to one if the observation belongs to the sample of Bogliacino et al. (2015), while *Urban* is equal to one if the observation belong to the Bogotá sample.

5. Discussions and concluding remarks

In this paper, we assess the impact of land restitution on trust and trustworthiness. Measures of the latter were collected though a simple version of the trust game, designed specifically for populations with low formal education.

The interest driving this research is to monitor the ongoing process of land restitution to IDPs in Colombia in compliance with Law 1448/2011 or *Victims' Law*. Although land titling is expected to affect a large array of behaviors, such as education and investment, at present, it is still too early to detect such effects. Moreover, from a development perspective, community-building through the establishment of social ties is a necessity for the implementation of more specific programs.

In our trust game, we implement two different treatments: a non-binding vote, designed as a tool to establish social norms, and a signal, reporting the result of the vote in other communities. The latter was introduced in order to separate the simple coordination effect from the normative expectations related to social norms.

The experiments were conducted in Montes de María, in northern Colombia, with 111 participants recruited by community leaders.

The main results are as follows. Land restitution significantly affects trustworthiness but not trust. The result does not hold when we consider generic compensation from the government, thus land *per se* is very important. The impact of land restitution is robust to a sensitivity analysis for omitted variable bias.

In comparative terms, the use of two samples from rural and urban Colombia demonstrates that land restitution ensures that IDPs reach the same level of trustworthiness as the inhabitants of rural villages, the highest measured in our data.

Nevertheless, there is no significant treatment effect of consultative voting, which differs from evidence in rural areas (Bogliacino et al. 2015). Given the relatively easy implementation and popularity of consultations in developing communities, this raises an important policy issue for future research.

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Appendix: The experimental protocol

All the session were led by a fluent Spanish speaker, with the help of assistants who would hand out materials, entry individuals' decisions in the computer, and provide assistance to subjects with literacy problems.

When the participants arrive at the session they are received one by one. They receive the informed consent form and should return it signed before proceeding. They have to draw an envelope from either an even-numbered ID deck or an odd-numbered ID deck. The envelopes are identical except for the code appearing on them, which is not shown to the participants. Previously we had randomly drawn whether the odd-numbered ID deck or the even-numbered ID-deck would be shown first to participants. For example, if we draw "even", the first participant has to select among the even-numbered ID deck, then the second among the odd-numbered ID deck, etcetera. This ensures an equal number of senders and receivers in the TG. We explain that the code is important to guarantee participants' anonymity throughout the study. We report the ID numbers that are selected into an Excel spreadsheet and collect the informed consent form. Participants can only show their ID-number to the researchers. We explain that the ID number is required only for their identification when final payments are handed out. Finally participants sit at the sector that is associated with the "even" or "odd" ID-numbers.

Welcome. We thank you for your participation in this exercise, as part of a research about individual decision-making. This session will last approximately two hours. Let's get started.

This exercise is an entertaining way to participate to a project regarding individual decision-making. Depending on the decisions made by you and other participants, you may win an important amount of money, and that is why you should pay attention to these instructions.

The money has been donated by a University. If you have any question, you may ask to anyone of us (*present the rest of the team*).

You may ask yourself why we are using money. We are using money because we need people to take economic decisions, with consequences for the wallet, as it happens in real life.

It is important for you to know that you can leave at any time. However, you can receive the final payment only if you take part to all the decisions and fill in the final questionnaire.

All the information given by you to this research is absolutely confidential and will be used only for academic purposes. Your name or ID won't be shown in any report of this research.

Now I am going to tell you how the final payments are determined: these payments are the result of the decisions you make over four activities. At the end you will receive the payment of only one of these activities. The activity that is going to be paid will be chosen randomly in front of you once everybody completes all the activities. It is important that you think carefully at your decisions on each one of the activities, because you will only know which one of the activities is going to be paid at the very end. Once you finish all the activities and the activity among the four that is paid is chosen, we will pass you a questionnaire while we calculate your payment. We will distribute the payments at the end of the session.

GROUP INSTRUCTIONS FOR THE FIRST CHOICE

- 1) Each one of you will interact with another person. You will not know the identity of your counterpart. How much money you will earn depends on the decisions made by you and your counterpart. The final payment will be delivered to you privately at the end of the session.
- 2) We call the two persons Sender and Receiver. Both of them are inside this room. Before we start, we will tell you whether you will be the Sender or the Receiver.
- 3) *[The instructor explains the interaction on the blackboard while speaking]* This is the representation of the interaction. At the beginning, the Sender and the Receiver receive two tokens. Each token is worth \$4000 Colombian Pesos (COP).

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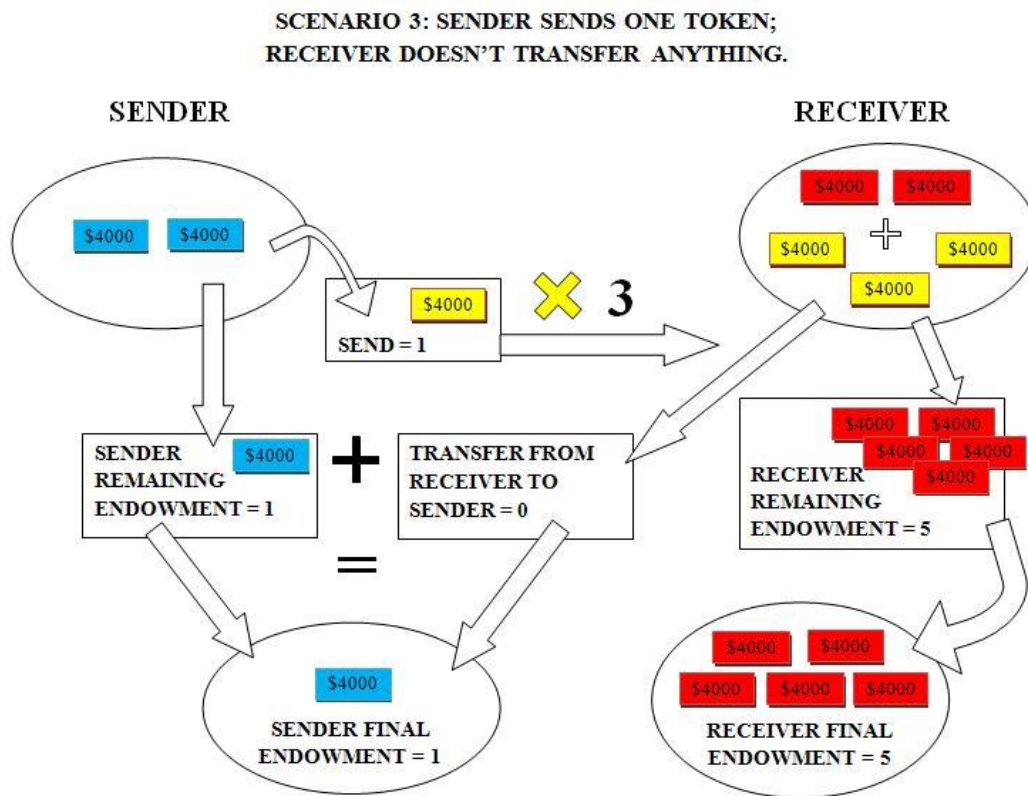
- 4) There are two stages in this interaction. In the first stage, the Sender will make the decision; in the second stage, the Receiver decides. The final payoff is determined according to the decision of both players assigned to the same group.
- 5) First, we will explain the decision of the sender. The Sender decides whether to send 0 tokens, 1 token or 2 tokens to the Receiver.
- 6) If the Sender doesn't send anything, the interaction is over and both (Sender and Receiver) remain with the money assigned at the beginning of the interaction. In other words, two tokens for the Sender and two tokens for the Receiver.
- 7) If the Sender sends one token to the Receiver, the researchers will add two more tokens, so that the receiver is going to get three additional tokens.
- 8) If the Sender sends two tokens to the Receiver, the researchers will add four more tokens, so that the receiver will get six additional tokens.
- 9) In other words, the Receiver will always get three times the number of tokens sent by the Sender.
- 10) Then it is time for the Receiver to make her decision. The Receiver has to decide whether to transfer or not some of the tokens. If she does not transfer, the Receiver keeps everything she has at the end of first stage. If the Receiver decides to transfer, then Receiver and Sender will end up with exactly the same amount of tokens.
- 11) Let's explain this again. If the sender sends **1 token**, the sender owns one token and the Receiver owns **5 tokens** at the end of the first stage. If the Receiver doesn't transfer anything, they both will end up with this allocation. The Sender's final endowment is one token, while the receiver's one is 5 tokens.
- 12) If the receiver transfers money, then two tokens will be passed to the Sender. As a result, the Sender's final endowment becomes three tokens (one that he owns plus two that are transferred), and the Receiver's final endowment become of three tokens (five tokens minus two that are transferred).
- 13) If the Sender sends two tokens, the Sender's endowment at the end of the first stage is zero tokens, and the Receiver's endowment is eight tokens. If the Receiver doesn't transfer, then the final allocations remain the same. The final payoff is **Zero Tokens** for the Sender and the **8 Tokens** for the Receiver.

14) If the Receiver decides to transfer, then four tokens will be passed to the Sender. As a result, the Sender has now a final payoff of **four tokens** (he owned nothing and got four transferred); the Receiver has a final endowment of **four tokens** (eight minus the four passed to the Sender).

Is it clear what the sender and the receiver can do? There are five possible scenarios between Senders and Receivers. These are represented in these graphs.

The assistants distribute the handouts with the graphs of the different scenarios and stress that they can keep them. The instructor illustrates again the five possible scenarios of the interaction, referring to the graphs.

Figure A1: An example of the graphs with the scenarios of the interaction



15) Now we are going to see how the sender decision-sheet looks like. Please open the envelope and take off sheet number three. Please don't write anything because you still don't know if you will be Sender or Receiver. The Sender has to indicate if she/he wants to send zero, one or two tokens.

SHEET 3

Code:

Please indicate how many tokens you want to send to the receiver. Remember that each token is equal to \$4000 COP. Mark clearly just one of the options of the table below.

0	1	2
---	---	---

16) Now let's look at the receiver's decision-sheet. Please take off sheet number 4. Please don't write anything because you still don't know if you will be sender or receiver. The Receiver has to indicate her decision in the next table. The Receiver doesn't know how much the Sender decided to send her, so she has to make a choice for each of the two possible situations. Please mark just one of the two options in each row.

SHEET 4



Code:

For each scenario, mark with a cross if you want or not to transfer some tokens to the receiver:

Scenario 1: If sender sends me one token, then:

I don't transfer anything, we will end up with: - 1 token (\$4000 COP) for the sender; - 5 tokens (\$20000 COP) for me <div style="text-align: center; margin-top: 20px;"><input type="checkbox"/></div>	I transfer some tokens. We will end up with: - 3 tokens (\$12000 COP) for the sender; - 3 tokens (\$12000 COP) for me <div style="text-align: center; margin-top: 20px;"><input type="checkbox"/></div>
---	--

Scenario 2: If sender sends me two tokens, then:

I don't transfer anything, we will end up with: - 0 token (\$0 COP) for the sender; - 8 tokens (\$32000 COP) for me 	I transfer some tokens. We will end up with: - 4 tokens (\$16000 COP) for the sender; - 4 tokens (\$16000 COP) for me 
--	--

Examples

Now let's look at some examples. Please try to answer these questions individually. Then we are going to explain the correct answers on the blackboard. Your answers do not affect the payments or the assignment to the role of the sender or the receiver.

The instructor asks participants to take off sheet number one, where the example questions are given. The instructor leaves about 4 minutes, then the assistants collect the answers and the instructor shows the solutions on the blackboard.

SHEET 1

Code:

Q1. The sender sends one token to the receiver; the researcher adds two tokens. The receiver transfers two tokens to the sender.

- 1) What is the final endowment of the receiver? _____
- 2) What is the final endowment of the sender? _____

Q2. The sender sends one token to the receiver; the researcher adds two tokens. The receiver doesn't transfer tokens to the sender.

- 1) What is the final endowment of the receiver? _____
- 2) What is the final endowment of the sender? _____

Q3. The sender sends two tokens to the receiver; the researcher adds four tokens. The receiver transfers four tokens to the sender.

- 1) What is the final endowment of the receiver? _____
- 2) What is the final endowment of the sender? _____

[The instructor asks them to take off sheet number two].

In this case too, these questions are only used to check that you have understood. These questions do not affect payments or your assignment to the role of sender or receiver. Please, if you don't understand something, raise your hand.

SHEET 2

Code:

Q1. Suppose that the sender doesn't send any token. What will be the sender and receiver final endowment?

- A) Two tokens.
- B) Zero tokens.
- C) One token.
- D) It depends on the decision of the receiver.

Q2. Suppose that the sender sends two tokens and the receiver doesn't transfer anything. What will be the sender's final endowment?

- A) Two tokens.
- B) Zero tokens.
- C) One token.
- D) Eight tokens.

Q3. Suppose that the sender sends one or two tokens to the receiver. What will be the final endowment of the sender?

- A) Certainly more than two tokens.
- B) Certainly less than two tokens.
- C) It depends on the receiver's decision.

Q4. Suppose that the sender sends one or two tokens to the receiver. What will be the final endowment of the sender?

- A) Certainly more than two tokens.
- B) Certainly less than two tokens.
- C) It depends on the receiver's decision.

Participants are asked to answer the questions in Sheet 2 individually, and to raise their hands when finished. An assistant goes to their place and records the number of correct answers. If all answers are correct, the sheet is collected. If some errors are present, the assistant asks the participant to answer again and to raise again her hand when finished. If the answers are now correct, the sheet is collected. If some errors remain, the lead experimenter illustrated the interaction again and asks the participant to answer again. Only participants who answer correctly the comprehension quizzes are admitted to the experiment.

At this point depending on the condition (determined randomly) we hop ahead or jump to the treatment "Social Norm" or we simply move to decision (control conditions)

<i>Treatment PARTICIPATORY</i>

Please take sheet number five.

Now we are going to determine what you think is the most appropriate decision to take. In this sheet you will find answers for both senders and receivers' decisions. You have to mark your answer for each situation. Later we will state the decisions considered appropriate according to the majority of you. This decision will not determine any payment.

SHEET 5

Code:

Please choose how many tokens you think the sender should send to the receiver. Remember that each token is equal to \$4000 COP. Please mark just one of the options bellow.

0	1	2
---	---	---

For each scenario below, mark if it is appropriate or not for the receiver to transfer some tokens:

Scenario 1: If the sender sends one token, then:

<p>The receiver does not have to transfer anything, they will end up with:</p> <ul style="list-style-type: none"> - 1 token (\$4000 COP) for the sender; - 5 tokens (\$20000 COP) for the receiver; <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> </div>	<p>The receiver has to transfer some tokens, they will end up with:</p> <ul style="list-style-type: none"> - 3 tokens (\$12000 COP) for sender; - 3 tokens (\$12000 COP) for me <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> </div>
---	---

Scenario 2: If the sender sends two tokens, then:

<p>The receiver does not have to transfer anything, they will end up with:</p> <ul style="list-style-type: none"> - 0 token (\$0 COP) for the sender; - 8 tokens (\$32000 COP) for the receiver; <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> </div>	<p>The receiver has to transfer some tokens, they will end up with:</p> <ul style="list-style-type: none"> - 4 tokens (\$16000 COP) for sender; - 4 tokens (\$16000 COP) for me <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> </div>
--	---

When they have finished, the instructor asks them to fold the sheet, taking care that decision side is not visible to researchers. Sheets are then collected. Assistants type the voting data into the computer to calculate automatically the results.

Ok, according to your decisions, the majority of you considers appropriate for the sender to send *[report outcome of decisions]*.

According to your decisions, the majority of you considers appropriate that the receiver TRANSFER/DOESN'T TRANSFER when sender sends one token.

According to your decisions, the majority of you considers appropriate that the receiver TRANSFER/DOESN'T TRANSFER when sender sends two tokens.

<i>Treatment SOCIAL NORM</i>

Please take sheet number five.

Sometimes participants would like to know opinions by other persons who have participated in the past.

The information below has been distributed to everybody in this session.

In Sheet number five you can read the opinions by the majority of participants during previous sessions in some Colombian villages.

This information does not affect final payment and is not binding.

SHEET 5

Code:

Sometimes participants would like to know opinions by other persons who have participated in the past.

The information below has been distributed to everybody in this session.

This information does not affect final payment and is not binding.

According to the results of some previous sessions in some Colombian villages, the majority of participants consider most appropriate that sender send two tokens to receiver.

According to the results of some previous sessions in some Colombian villages, the majority of participants considers appropriate that the receiver TRANSFER when sender sends one token.

Julio de 2016

According to the results of some previous sessions in some Colombian villages, the majority of participants considers appropriate that the receiver TRANSFER when sender sends two tokens.

Ok, now we are going to start. First we are going to draw who will be sender and who will be the receiver. In this bag there are two little cubes: a red one and a black one. We are going to draw one. If we draw the red one, the “even codes” will be the senders and the “odd codes” will be the receivers. If we draw the black one, it will be the other way around. Please remember that the matching between pairs is random.

The instructor asks a volunteer to draw a cube. Senders have to use sheet 3 and receivers have to use sheet 4. The instructor leaves them time to decide. Afterwards the instructor asks them to fold the sheet with the decision inside and the decision sheets are collected. The assistants start entering decisions at the computer.

DECISION NUMBER TWO

Now we move to decision number two. It will follow the same rules as before. We have a sender and a receiver. Those who were senders now will be receivers and vice versa. Don't forget that the matches will be different, so your sender counterpart will be different from your receiver counterpart.

Senders will have to use sheet 3 and receivers will have to use sheet 4. The instructor leaves them time to decide. Afterwards the instructor asks them to fold the sheet with the decision side being non-visible to the researchers, and the decision sheets are collected. The assistants start typing decisions at the computer.

Extract of the Post Experimental questionnaire (relevant questions)

Q1) Sex:

M	F
---	---

Q2) Age: _____

Q3) What is your relationship status?

Married / Free Union / Cohabiting partner	Single	Separated / Divorced / Widower
---	--------	--------------------------------------

Q4) Which of the following situations do you think best represent your actual situation?

- (1) I'm occupying a land without a property title
- (2) I don't have access to land
- (3) I can't come back to my lands to which I have rights because presence of a agro-industrial project
- (4) I ask to guarantee me a collective property title over the land with my community
- (5) I have been benefited by the I have been benefited by the restitution under the Ley de Víctimas
- (6) I have been benefited by other property land title formalization processes
- (7) I have been benefited by a collective land titling process

Q5) Have you ever had to abandon your land?

- (1) Yes
- (2) No

Q6) If you have answered positively to last question, can you indicate reasons? (you can indicate more than one reason)

- (1) Threat
- (2) Blackmail
- (3) Fraud
- (4) Direct violence towards you or a family member (i.e. kidnapping)
- (5) Cession under threat
- (6) Another reason (explain please, _____)

Q7) How many years have you lived in your current home? _____

Q8) What is the village where you lived before you moved? _____

Q9) Are you registered now in the *Registro Único de Víctimas*?

- (1) Yes
- (2) No
- (3) I don't know

Q10) Have you ever been beneficiary for some mechanisms of restoration? (you can indicate more than one answer)

- (1) Health
- (2) Work and qualification
- (3) Credits and debt
- (4) By means of Administrative compensation
- (5) By means of legal or material restitutions of goods divested
- (6) By means of collective reparation
- (7) You have never been repaired

Q11) How many people do you live with? |_|_|_|

Q15) Speaking in general, would you say that is possible to trust most of the people or that you are never sufficiently careful interacting with others?

I can trust in most part of people <input type="checkbox"/>	I am never sufficiently careful interacting with others <input type="checkbox"/>
---	--

Q16) Please indicate the level of trust you feel with regards to each institution that appears in next table in a scale from 1 to 5, where 1 indicate “unreliable” and 5 indicate “very reliable”.

Armed Forces	1	2	3	4	5
Police	1	2	3	4	5
Written press	1	2	3	4	5
Television	1	2	3	4	5
Unions	1	2	3	4	5
Congress	1	2	3	4	5
Government	1	2	3	4	5
Political Parties	1	2	3	4	5
Justice System	1	2	3	4	5
Social Security System	1	2	3	4	5
INCODER	1	2	3	4	5
Employers' Associations	1	2	3	4	5
Rural leaders	1	2	3	4	5

Q30) According to public services bills, what is the *estrato* (SES) of your current house or neighborhood?

1	2	3	4	5	6
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Q31) What is your level of education?

- None
- Primary
- High school
- Some university, but not graduated
- Technician
- Graduate

Q34) What is your job?

- Director or manager
- Scientific, professional or academic
- Middle level professional or technician
- Administrative support staff
- Service worker or salesperson for commerce and market sales
- Farmer or skilled worker agricultural, forestry and fisheries
- Officer, worker or craftsman of mechanical arts and other crafts
- Operator of facilities and assembly machines
- Elementary employee
- Military employee
- Unemployed, retired, homemaker
- Student
- Others (specify _____)



Social Macroeconomics

Working Paper Series

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Rebuilding Macroeconomics

