Pre-analysis Plan: An Experiment on Property Rights and In-group vs. Out-group Taking Aversion

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1 Introduction

A well functioning system of property rights is a key component of the rule of law and ultimately of development. An important trend in development policies has emphasized the need to establish formalized property rights of land (De Soto, 2000, Sjaastad and Cousins, 2009). However, a well-functioning property rights' system is built both on formal and efficient public institutions that guarantee top-down public enforcement as well as on the bottom-up emergence of coordination on the Hume's property convention where people find it privately convenient to respect each others entitlements (Sugden, 1989, Fabbri et al., 2019). An effective property system thus blends third-party enforcement of formal titles with second-party enforcement, (social norms whereby owners are willing to fight to defend and enforce their entitlements) and first-party enforcement (social norms suggesting non-owners to resist taking). The interplay between the formalization of of property rights and the development of social norms that favour the respect of others' entitlements is the subject of the present research project.

Indeed there is a growing experimental literature showing how the respect for others' entitlements emerges in the lab where no second or third party enforcement is possible and this preference/norm has been labelled "taking aversion" (Korenok et al., 2018, Faillo et al., 2019).

In this project, we study whether an institutional reform formalizing land's rights carried out ten years before influenced individuals' willingness to respect others' property A previous study by Fabbri and Dari-Mattiacci (2019) indeed shows that formalizing property rights does

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increase the propensity to respect each others' property however it is not clear whether this behavior spans beyond the boundaries of the small community.

This is why the main experimental manipulation in our follow-up experiment concerns whether the property rights to be taken belong to either i) members of the same close-knit community or ii) individuals from a different unknown village.

2 Research Strategy

We will run a lab-in-the-field experiment that uses a modified dictator game with takings (Faillo et al., 2019). In this version of the game, each dictator takes the decision on whether to take an amount of tokens from another subject twice; the two decisions differ in the identity of the passive player: in one decision it is a fellow villager and in the other decision it is a villager from another community in the country.

To achieve identification, we combine the present lab-in-the-field experiment with a previous Randomized Control Trial implemented by a West African country between 2009-2011 by with the support of the World Bank and Millenium Change Corporation to study the formalization of lands' property rights in rural villages.

In addition to our main research question, we also investigate whether the propensity to respect property rights of members of the same village vis-á-vis members of another village is affected by the way in which property over the resources have been generated (luck vs. merit).

The beginning of the data collection for the research project is scheduled for the end of January 2020. This pre-analysis plan has been submitted before the data collection started. The participants will be recruited during fieldwork sessions in Beninese rural villages. A team of research assistants will visit 32 villages and request voluntary participation in the research study to the local population. We plan to recruit 18 participants (9 males and 9 females) for each village, for a total of 576 participants.

3 Design

3.1 The experiment

We will implement a modified dictator game in which the dictator can choose to take part or all of the endowment of a passive player. More specifically, in the game the passive player has an initial endowment equal to 10 tokens worth XOF 50 each (in total, approximately $ 0,85). The dictator has the possibility to take some or all of the tokens belonging to the passive player and transfer them to her account. Final earnings are determined by the amount of tokens possessed by each of the two players. Notice that in any dictator game one player has only a passive role and, taking no decision, does not provide any observation for the statistical analysis. Therefore, in order to increase the number of observations, each participant in our sample, plays both

the dictator and the passive player's role. Only after the taking decision is made, the pool of participants will be randomly divided in two halves and the decisions taken by the participants in the first half (the dictators) will determine both their own payoffs and the payoffs of the matched passive participants in the other half of the pool.

The main objective of the study is to test whether the land rights reform affects the willingness to respect the property rights of another member of the same close-knit community vis-á-vis the property rights of an individual from a different village in the country. Each participant will have to take two decisions in the role of dictator: in one decision, the paired passive player belongs to the same village of the dictator, and in the other decision the passive player belongs to a different village in Benin.

To control for possible order and moral edging effects, half of the participants will be read the instructions and will take the decision as dictator paired with a passive player from the same village first. Participants will not be informed that a second decision as dictators will be taken. After having taken the first decision as dictator, participants will then be announced that they will have to take a second decision as dictator. They will then receive the instructions explaining that the paired passive player belongs to a village in Benin different than the one in which they are resident. For the other half of the participants, the order of the dictator's decisions is reverted.

In addition to our main analysis, we implement also a treatment variation that concerns the way the endowment, both for the Dictator and for the passive player is acquired. In the *Luck* treatment, the endowment of the passive player comes as windfall money. Participants are informed that they received an endowment equal to 10 tokens from the experimenters.

In the *Merit* treatment, the passive player has to complete an effort task in order to acquire the endowment. In this effort task, each participant will receive a plastic box and 200 toothpicks. The plastic box has a little hole on top. The participant has ten minutes to place all the 200 toothpicks inside the box from the top hole in order to receive the 10 tokens. If a participant does not complete the task within the time limit, she does not receive any endowment.

This treatment variation follow a between subject design so each participant only takes part to either the *Luck* or the *Merit* treatment. Notice that in the merit treatment the effort task is repeated twice as the subject is assigned the endowment both for the In-group and out-group decision. We provide here an English translation of the instructions given to the participants in the two treatments[1].

[1]During the fieldwork sessions, we will randomize the order in which participants are matched with peers from the same village or with participants from another village. Below we provide the instructions received by participants who interact with peers from the same village first.

3.1.1 Instructions (interaction within village first)

General instructions

Thank you for coming to today's meeting. Please note that, if you do not feel comfortable, you are free to leave this meeting at any point of time. Today's meeting starts with some activities in which you have to make choices. During the activities, you will have the chance to earn a substantial amount of money. The money you earn, together with the 500 XOF for showing up today, will be paid out in cash at the end of the meeting.

The meeting will last for some hours, and to receive the payment it is necessary that you attend the meeting until the end. All the choices you will make will remain strictly anonymous. No one other than me will know what you earn today. The payment will be private. You should know that the money comes from research funds and not from our own pockets or from the pocket of politicians. Please note that there is no right or wrong in making the decisions, this is not a test. During today's session you will receive a code. This ensures that everything you do (your decisions and your answers in questionnaires) will remain anonymous.

During the activities, we will speak of tokens. 1 token is worth 50 XOF.

3.2 Activity 1

In this activity there are two types of participants: Participant A and Participant B.

Merit treatment

Participant A has the possibility to work in order to earn 10 tokens. To earn the 10 tokens, Participant A will need to successfully complete a work assignment. Specifically, Participant A will receive a plastic box and 200 toothpicks. The plastic box has a little hole on top. Participant A has ten minutes to place all the 200 toothpicks inside the box from the top hole. If Participant A manages to complete the work assignment within the ten minutes, he/she receives the ten tokens. Otherwise, he/she will not receive any token for this part of the study.

Participant B initially has zero tokens. If Participant A earned the 10 tokens, Participant B can take 0, 1, 2, etc. up to 10

Luck treatment

Participant A receives 10 tokens from the experimenter for free.

Participant B initially has zero tokens. Participant B can take 0, 1, 2, etc. up to 10 tokens from Participant A. 5R

tokens from Participant A.

The final outcome of this activity is: for Participant A, the tokens left by Participant B. For Participant B, the tokens taken from Participant A. If Participant A did not manage to complete the work assignment within the ten minutes, both Participants get zero.

The final earnings of this activity are: for Participant A, the tokens left by Participant B. For Participant B, the tokens taken from Participant A. 10R

Which is your role?

We do not know yet whether you will be the Participant A or B. We ask you to *work and complete the work assignment as if you are the Participant A, and we also ask you to*[2] choose how many tokens you want to take from your partner as if you were the Participant B. At the end of the assignment, we will randomly assign you either the role of Participant A or the role of Participant B.

Who is your partner in this activity?

In this activity you are going to be asked to make decisions with people from this village participating to the research project today. At the end of the activity, we will randomly match you with another participant in this village who has been assigned the other role.

How are your earnings in this activity calculated?

Yours and your partner's earnings will be determined by the actions you made in the assigned role; actions made in the other role will not affect final earnings and will be discarded. Your earnings in this activity will be paid cash at the end of today's study.

Activity 2

The decisions you will make and the earnings you will collect in this second activity are completely unrelated to those of the activity that you have just completed.

As in the previous activity, in this activity there are again two types of participants: Participant A and Participant B.

Merit treatment

As before, Participant A has the possibility to work in order to earn 10 tokens: Participant A has ten minutes to place all

Luck treatment

As before, participant A receives 10 tokens from the experimenter for free.

[2]Merit treatment only.

the 200 toothpicks inside the box from the top hole, and he/she will receive zero tokens if the work assignment will not be completed within the ten minutes.

As in the previous activity, Participant B initially has zero tokens. If Participant A earned the 10 tokens, Participant B can take 0, 1, 2, etc.,up to 10 tokens from Participant A.

As before, the final outcome of this activity is: for Participant A, the tokens left by Participant B. For Participant B, the tokens taken from Participant A. If Participant A did not complete the work assignment, both will earn zero.

Which is your role?

As before, we do not know yet whether you will be the Participant A or B. We ask you to *work and complete the work assignment as if you are the Participant A, and we also ask you to choose how many tokens you want to*[3] choose how many tokens you want to take from your partner as if you were the Participant B. At the end of the assignment, we will randomly assign you either the role of Participant A or the role of Participant B.

Who is your partner in this activity?

In this project you are going to be asked to make decisions with people from other villages in Benin. Many people have already made their decisions and other groups are doing the same research this week.

At the end of the assignment, we will match you with another participant from another village in Benin who has been assigned the other role in order to calculate your earnings.

How are your earnings in this activity calculated?

Yours and your partner's earnings will be determined by the actions you made in the assigned role; actions made in the other role will not affect final earnings and will be discarded. Your earnings in this activity will be paid cash at the end of today's study.

3.3 Survey questions

In addition to the choices in the activities, participants will answer a set of non-incentivized survey questions regarding: age, gender, religion, marital status, number of family members, participation to household finance management, education, literacy, village of birth, years of residence in the village, income.

[3]Merit treatment only.

4 Empirical Strategy

4.1 Hypothesis

The project is designed to study whether the institutional reform that changed the structure and organization of land rights institutions influenced the willingness of an individual villager to respect the property rights of members of the same close-knit community vis-a-vis the property rights of individuals from a different unknown village. Previous literature shows that cooperation, contributions to public goods and in general pro-sociality is higher within groups than between groups Bernhard et al. (2006), Sheremeta (2018); that is to say that subjects favour members of the same group over members of other groups. It is thus trivial to expect more takings when the passive player is a member of a different village than when it is a member of the same close-knit community. However, the focus of our research is on the effect of property rights' formalization on the propensity to take. The most interesting questions to ask concern thus whether the formalization of property rights increases or decreases in-group favouritism as measured by the gap between in-group vs out-group gap in takings. Since theoretical reasoning provide no clear prediction we will apply two-sided tests of significance. Notice that we refer to villages where property rights have been previously formalized as *treated* villages and villages where no formalization has been implemented as *control* villages.

4.1.1 Same village (in-group) vs. different village (out-group)

We start by testing whether there are differences in the respect for others' property rights when the individual interacts with partners from their own same village or with partners from different villages. This difference is first analyzed irrespective of whether these are treated or control villages.

Hypothesis 1 *The respect for others' property rights is equal when the partner is from the same village or is from a different village.*

4.1.2 Villages with formalized property rights (treated) and without formalized property rights (control)

Second, we will test whether there are systematic difference in the levels of respect for others' property rights between treated and control villages. We define a difference in respect for others' property as systematic if the level of taking in the dictator game is higher or lower for both same-village and different-village interactions in treated and in control villages.

Moreover, we will test whether different-village interactions work differently in villages where the land rights' formalization took place compared to control villages where it did not take place.

Hypothesis 2 *The respect for others' property rights is equal in treated and control villages.*

Notice that here we do not distinguish between same-village or different-village interactions and thus we are testing whether any systematic difference indeed exists.

Hypothesis 3 *The respect for others' property rights when the partner is from a different village is equal in treated and control villages.*

Notice that here we are only considering different-village interactions.

Additionally, we will test whether the *difference* between the respect for others' property rights in the same-village and different-village conditions is larger or smaller for participants in treated and in control villages.

Hypothesis 4 *The difference between the respect for others' property rights when the partner is from the same village or is from a different village is equal between treated and control villages.*

4.1.3 Heterogeneity

Additionally, we will study whether different processes of endowment's acquisition by the passive player affect the level of respect for others' property rights in both treated and control villages and for same-village and different-village interactions. Specifically, acquiring property by means of luck or merit is an important determinant for our main research hypothesis.

Hypothesis 5 *Merit considerations in acquiring property do not affect respect for others' property rights when the partner is from the same village or is from a different village neither in treated nor in control villages.*

Moreover, we will study heterogeneity in respecting others' property rights in the treated and control villages for same-village and different-village interactions by using data on the level of market integration. As a proxy for market integration, we will use a village distance from the closest paved road (below and above the median in the sample).

We will additionally test whether background data collected in the survey – gender and income – generate differences.

4.2 Specification and analysis

Hypothesis 1-3 will be tested by estimating the following regression equation:

$$t_i = \alpha + \alpha_F F_i + \delta_T T_i + \delta_F F_i T_i + \mathbf{\times}_i + \epsilon_i \tag{1}$$

where t_i is the taking decision made by the dictator, F_i is a dummy equal to one when the subject takes decisions in the interaction with individuals belonging to a different village, T_i is a dummy equal to 1 for subjects in treated villages, and $\mathbf{\times}_i$ is a vector the individual characteristics specified in the post-experimental survey.

Hypothesis 4 will be tested by estimating the following regression equation:

$$t_{i,F} - t_{i,W} = \alpha + \delta_T T_i + \mathbf{\times}_i + \epsilon_i \tag{2}$$

where $t_{i,F}$ and where $t_{i,W}$ are the amount of tokens that the individual dictator chooses to take from individuals from a different village and from individuals within the same village community, respectively.

Hypothesis 5 will be tested by estimating the following regression equation:

$$t_{i,F} - t_{i,W} = \alpha + \delta_T T_i + \gamma_M M_i + \omega_M M_i T_i + \mathbf{\times}_i + \epsilon_i \tag{3}$$

where M_i is a dummy equal to one for subjects in the Merit treatment.

The heterogeneity analysis will additionally add to specification (2) interaction terms with the following variables:

- a dummy variable equal to 1 when the distance of the village from the closest paved road is above the median in the sample of villages
- a dummy equal to one for male subjects
- a dummy equal to one for subjects whose income is above the median in the sample

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