

Pre-analysis Plan: An Economic Experiment on Preferences for Redistribution

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1 Introduction

Institutions are important determinants of social preferences. This project investigates the causal effects that the organization and structure of property rights institutions have on distributive preferences. Specifically, we study a reform of property rights over land implemented in Benin, West Africa, that transformed collective and informal rights over land in a system akin to formalized private ownership. The reform is the first example of a large-scale property rights reform that was implemented as a randomized control trial at the village level. We test whether experiencing the reform shaped distributive preferences and how different sources of inequality (merit or luck) affect inequality acceptance.

2 Research Strategy

We implement a design similar to Almås et al. (2019), and we combine it to the unique process of implementation of the land rights reform we study. We run a real effort dictator game with a spectator design (Cappelen et al., 2013). The beginning of the data collection for the research project is scheduled for the end of January 2020. The pre-analysis plan was submitted before the data collection started.

There will be two types of participants in the experiment, *workers* and *spectators*. In the following subsections we explain the recruitment process for these participants, before outlining the experimental design in the next session.

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2.1 Recruitment of workers

Workers (whose identity will remain unknown) will be recruited from Amazon Mechanical Turk (AMT), an international online market place. We will post an assignment on the platform in which specify the conditions and reward for completing the task. Workers have to accept the stated conditions to participate. The assignment published in AMT can be found in the appendix.

We plan to recruit 288 workers. Each worker will participate in four different effort tasks. At the completion of each effort task, workers will be randomly paired to determine the endowment received for the specific effort task (before the spectator's redistribution takes place).

2.2 Recruitment of spectators

The spectators 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. Spectator receive a flat participation fee equal to XOF 500 (approximately 0,85 USD) for taking part to the study.

3 Design

We will conduct a real effort dictator game with a spectator design. The workers complete a real effort task, and the spectators make choices that have monetary consequences for the workers but not for themselves. We make use of the peculiar process of implementation of the property rights reform, which was implemented as a randomized control-trial at the village level, in order to elicit spectators' distributive decisions from participants in villages that have been affected by the reform (treated villages) and compare them with decisions from participants in villages belonging to the RCT pool but not selected for having the reform implemented (control villages). Below we explain in details the instructions provided to workers and spectators.

3.1 Workers

After having signed up for the experiment at the AMT website, each worker completes two real effort tasks. The worker does not make distributive choices. For each assignment completed, the worker is randomly matched with another worker who has also completed the same assignment. The pair formed in such a way is then matched with a spectator. In the appendix we provide the complete instructions given to the workers.

3.2 Spectators

The spectators will be recruited by the research assistants in the villages where the fieldwork is conducted. The spectators will take part in an economic experiment in which two distributive choices are taken, and in a post-experimental survey.

3.2.1 Distributive choices

In stating each distributive choice, the spectators will determine the payment of a pair of workers. Each spectator will take two distributive choices, corresponding to different treatments which differ in terms of the source of inequality. Treatment 1 is designed to elicit inequality acceptance when earnings are determined by luck. Treatment 2 is designed to elicit participants' acceptance of inequality when earnings are determined by merit. Half of the spectators will first take the distributive decision relative to Treatment 1 and subsequently the decision relative to Treatment 2. The other half of the subjects will be exposed to the two treatments in reverse order. We provide here an English translation of the exact instructions given to the spectators in the two treatments. These instructions are exactly the same as those used in Almås et al. (2019).

Instructions Treatment 1: Luck. We now ask you to make a choice that has consequences for a real life situation. A few days ago two individuals, let us call them worker A and worker B, were recruited via an international on-line market platform to conduct an assignment. They were each offered a participation compensation of XXX XOF regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by a lottery. The worker winning the lottery would earn XXX XOF for the assignment and the other worker would earn nothing for the assignment. They were not informed about the outcome of the lottery. However, they were told that a third person would be informed about the assignment and the outcome of the lottery, and would be given the opportunity to redistribute the earnings and thus determine how much they were paid for the assignment.

You are the third person and we now want you to choose whether to redistribute the earnings for the assignment between worker A and worker B. Your decision is completely anonymous. The workers will receive the payment that you choose for the assignment within a few days, but will not receive any further information.

Worker A won the lottery and earned XXX XOF for the assignment, thus worker B earned nothing for the assignment.

Please state which of the following alternatives you choose:

I do not redistribute:

- worker A is paid 600 XOF and worker B is paid 0 XOF.

I do redistribute:

- worker A is paid 500 XOF and worker B is paid 100 XOF.
- worker A is paid 400 XOF and worker B is paid 200 XOF.
- worker A is paid 300 XOF and worker B is paid 300 XOF.
- worker A is paid 200 XOF and worker B is paid 400 XOF.
- worker A is paid 100 XOF and worker B is paid 500 XOF.
- worker A is paid 0 XOF and worker B is paid 600 XOF.

Instructions Treatment 2: Merit. We now ask you to make a choice that has consequences for a real life situation. A few days ago two individuals, let us call them worker A and worker B, were recruited via an international on-line market platform to conduct an assignment. They were each offered a participation compensation of 600 XOF regardless of what they were paid for the assignment. After completing the assignment, they were told that their earnings from the assignment would be determined by their productivity. The most productive worker would earn 600 XOF for the assignment and the other worker would earn nothing for the assignment. They were not informed about who was the most productive worker. However, they were told that a third person would be informed about the assignment and who was the most productive worker, and would be given the opportunity to redistribute the earnings and thus determine how much they were paid for the assignment.

You are the third person and we now want you to choose whether to redistribute the earnings for the assignment between worker A and worker B. Your decision is completely anonymous. The workers will receive the payment that you choose for the assignment within a few days, but will not receive any further information.

Worker A was most productive and earned 600 XOF for the assignment, thus worker B earned nothing for the assignment.

Please state which of the following alternatives you choose:

I do not redistribute:

- worker A is paid 600 XOF and worker B is paid 0 XOF.

I do redistribute:

- worker A is paid 500 XOF and worker B is paid 100 XOF.
- worker A is paid 400 XOF and worker B is paid 200 XOF.
- worker A is paid 300 XOF and worker B is paid 300 XOF.

- worker A is paid 200 XOF and worker B is paid 400 XOF.
- worker A is paid 100 XOF and worker B is paid 500 XOF.
- worker A is paid 0 XOF and worker B is paid 600 XOF.

3.2.2 Survey questions

In addition to the distribution choices, 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.

4 Empirical Strategy

4.1 Hypotheses

The experiment is designed to study whether the property rights reform determined different distributive preferences compared to non-selected villages. In particular, we are testing whether the acceptance of inequality that is determined by different sources (merit and luck) is affected by the formalization of land rights. Since theoretical reasoning and existing evidence (see for instance Almås et al., 2019) provide no reasons to believe that merit or exposure to different property-right institutions could cause a reduction in inequality acceptance, we will apply two-sided tests of significance.

4.1.1 Merit and luck

We start by testing whether merit causes increased inequality acceptance compared to luck *both* in treated and control villages.

Hypothesis 1 *Merit is not causing increased inequality acceptance in treated or control villages*

4.1.2 Comparison of treated and control

Second, we will test whether there are systematic difference in the levels of inequality acceptance between treated and control villages. Moreover, we will test whether merit considerations work differently in villages where the land rights formalization took place compared to control villages. Following Almås et al. (2019), we will consider a difference in inequality acceptance as systematic if the level of inequality resulting from the distributive allocations is higher or lower for both treatments in treated than in control villages.

Hypothesis 2 *There is no systematic difference in the level of inequality acceptance in villages that experienced the property rights reform compared to control villages.*

Hypothesis 3 *Merit considerations do not work differently in treated villages than in control villages.*

Additionally, we will test whether, for the individual subject, the *difference* between the levels of inequality acceptance determined by the two sources of inequality is larger or smaller in treated than in control participants.

Hypothesis 4 *The difference between the levels of inequality acceptance when inequality is determined by luck and when inequality is determined by merit is the same in treated and control.*

4.1.3 Heterogeneity

We will study heterogeneity in distributive preferences in the treated and control villages 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:

$$e_i = \alpha + \alpha_M M_i + \delta_T T_i + \delta_M M_i T_i + \mathbf{x}_i + \epsilon_i \quad (1)$$

where e_i is the inequality level chosen by the spectator (calculated as the Gini coefficient within the pair of workers), M_i is a dummy equal to one when the subject takes decisions in the merit treatment, T_i is a dummy equal to 1 for subjects in treated villages, and \mathbf{x}_i is a vector the individual characteristics specified in the post-experimental survey.

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

$$e_{i,L} - e_{i,M} = \alpha + \delta_T T_i + \mathbf{x}_i + \epsilon_i \quad (2)$$

where $e_{i,L}$ and where $e_{i,M}$ are the Gini coefficient that an individual determined by the decision in the luck and merit treatments, respectively.

The heterogeneity analysis will add to this specification 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

4.3 Power Analysis

We plan to collect two distributive decisions from each of the 576 participants to our fieldwork as spectators. Setting the power to 0.80 and using a significance level of 0.05, we are able to detect a change in the outcome variable of at least 1/6 of a standard deviation.

References

- Almås, I., Cappelen, A., and Tungodden, B. (2019). Cutthroat capitalism versus cuddly socialism: Are americans more meritocratic and efficiency-seeking than scandinavians? *NHH Dept. of Economics Discussion Paper*, (4).
- Cappelen, A. W., Konow, J., Sørensen, E. Ø., and Tungodden, B. (2013). Just luck: An experimental study of risk-taking and fairness. *American Economic Review*, 103(4):1398–1413.

Appendix: Invitation and Instructions on Amazon Mechanical Turk

General Instructions

Please read the instructions below carefully.

The results from this experiment will be used in a research project. It is therefore important that you carefully read and follow all instructions. Note that you will remain anonymous throughout the experiment. We will only use your Worker ID to assign payments and check that you have not participated in this experiment before.

You will be paid a fixed participation fee of \$1.00 and you may, depending on the actions you and others take, earn additional money. During the experiment you will earn points. The conversion rate is 6 points = \$1.

You will be given detailed instructions on your screen before each part of the experiment. Please read the instructions to each part carefully.

If you have any questions regarding this experiment, you may contact projectMC2020@gmail.com.

I have read and understood the the above and want to participate in this study.

Yes No

Next

Part 1 - Production Phase

The first part of the experiment is a production phase where you are given four assignments to work on. Go on to the next page to receive instructions for the first assignment.

[Next](#)

Instructions Assignment 1

In the first assignment you are asked to work on a sentence unscrambling task for 5 minutes. Your performance will not be measured as there is no right or wrong answer, but we do ask you to work continuously on this assignment.

Description of the assignment:

You will be shown five English words and are asked to form a sentence or an expression by using four of these words. This means that each sentence or expression must only contain four words.

For example, if the words given to you are "**sky blue is the old**", then you can construct the following sentence:

the sky is blue

Write the sentence or expression that you form into the blank space using your keyboard. Your answer will be submitted automatically after 20 seconds and you will auto-advance to five new words. This assignment will last for 5 minutes and we ask you to work continuously. When you have read and understood the instructions press Next to start the assignment.

Next

Word Unscrambling Task

Time left for this sentence: **0:04**

Time left for this task: **02:37**

red coat the was cows

Please form a sentence of four words with the above words.

the coat was red

Next

Instructions Assignment 2

In the second assignment you are once again asked to work on a sentence unscrambling task for 5 minutes. As before, your answer will be submitted automatically after 20 seconds and you will auto-advance to five new words.

Your performance will still not be measured as there is no right or wrong answer, but we do ask you to work continuously on this assignment as well.

Press Next to start the second assignment.

Next

Instructions Assignment 3

In the third assignment you are asked to work on a code recognition task for 5 minutes. For this assignment we will measure your performance by the number of points you receive. You will be informed about your score at the end of the assignment.

Description of the assignment:

On top of the page you will be shown a 3-digit code that you must find and check off from a matrix of 3-digit codes in random order. The assigned code will occur multiple times in the same matrix and you will be given 1 point for each correct marking. You will be subtracted 1 point if you check off a wrong code, but you will not lose any points for failing to check off all occurrences of the correct code.

Remark: The conversion rate is 6 points = \$1.

Your matrix will be submitted automatically after 60 seconds and you will auto advance to the next page. This assignment will last for 5 minutes and after 5 minutes you will be taken to the fourth assignment.

Below you are shown a simplified example to make sure you understand the assignment. When you have read and understood the instructions press Next to start the assignment.

For example, the code you must check off is: 123

- 123
- 231
- 952
- 864
- 123
- 791

- 283
- 123
- 641
- 820
- 462
- 123

Next

Code Recognition Task

Time left for this matrix: **0:47**

Time left for this task: **04:03**

The code you must check off is: 600

- 226 709 119 173 763 506 553 375 715 170 262 918 137 252 926 926 599
- 962 673 641 275 150 250 989 387 764 333 126 265 600 904 818 787 368
- 374 769 638 338 476 187 516 582 408 486 139 270 821 233 449 690 593
- 620 714 681 883 196 555 330 926 983 604 625 699 130 259 128 238 101
- 880 952 979 502 455 286 702 212 785 570 200 210 786 299 463 201 191
- 151 668 449 477 164 635 279 582 508 921 788 277 543 324 244 327 947
- 879 864 137 313 566 307 578 132 677 234 147 769 564 114 103 723 874
- 858 793 278 678 258 481 775 654 732 181 804 967 760 226 600 780 853
- 375 695 648 749 906 503 489 196 709 824 174 884 251 592 509 228 873
- 353 301 771 973 534 598 111 650 344 334 866 766 116 572 184 642 652
- 133 372 801 440 484 229 710 941 319 299 670 759 995 216 913 193 352
- 820 578 288 695 115 256 945 743 817 848 294 226 283 824 518 561 952
- 433 608 171 996 903 200 862 285 199 757 669 199 896 429 494 561 629
- 124 739 756 248 912 600 621 927 127 264 977 260 543 724 326 925 720
- 172 600 954 895 589 102 148 584 907 919 178 694 784 903 442 869 569
- 108 795 734 768 758 430 234 380 359 173 852 832 125 794 753 390 643
- 653 383 427 431 545 961 577 600 882 161 600 866 479 855 950 745 352

Next

Instructions Assignment 4

In the fourth assignment you are once again asked to work on a code recognition task for 5 minutes. For this assignment we will measure your performance by the number of points you receive. You will be informed about your score at the end of the assignment.

On top of the page you will be shown a 3-digit code that you must find and check off from a matrix of 3-digit codes in random order. The assigned code will occur multiple times in the same matrix and you will be given 1 point for each correct marking. You will be subtracted 1 point if you check off a wrong code, but you will not lose any points for failing to check off all occurrences of the correct code.

Remark: The conversion rate is 6 points = \$1.

Your matrix will be submitted automatically after 60 seconds and you will auto advance to the next page. This assignment will last for 5 minutes and after 5 minutes you will be taken to the second part of the experiment.

Press Next to start the fourth assignment.

Next

Part 2 - Determination of Payments

You have now completed your work on all four assignments. We will now explain how you will be paid for this work. After you have completed this HIT we will, for each assignment, match you with another participant who has completed the same assignment. The payment to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

First Stage:

Assignment 1: For this assignment, your earnings are determined by a lottery where each of you wins with equal probability 6 points or 0 points.

Assignment 2: For this assignment, your earnings are determined in the same way as for assignment 1.

Assignment 3: For this assignment, your earnings are determined by how productive you are. The participant with the highest score earns 6 points and the other participant earns 0 points. If you both have the same score, you will be matched with another participant.

Assignment 4: For this assignment, your earnings are determined in the same way as for assignment 3.

Remark: The conversion rate is 6 points = \$1.

Second Stage:

For each assignment, a randomly selected third person will be given the opportunity to redistribute the earnings between you and the other participant. This person will not know the identity of you or the other participant, but will be informed about the nature of the assignment and your earnings for this assignment.

For each assignment, either you or the other participant earn 6 points and the other participant earns 0 points. If the third person chooses not to redistribute, each of you will be paid your earnings from the assignment. If the third person chooses to redistribute earnings, increasing the payment of the participant with the low earnings by 1 point decreases the other participant's payment by 1 point.

You will receive your payments for the four assignments within three weeks and it will be paid separately from your fixed participation fee of \$1.00.