

Social capital and targeted beneficiaries of a development project: A lab in the field experiment in rural Zimbabwe

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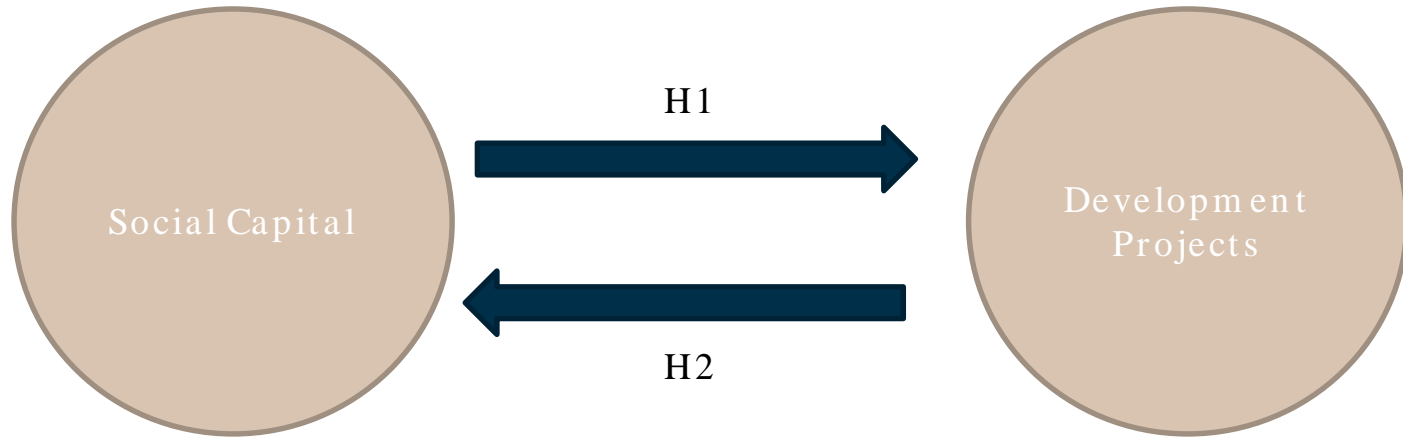
The Problem of Causal Inference

- In development, when implementing a policy, programme or project, we wish to know if it made a difference in people lives i.e. if it had an impact on the outcomes of interest
 - To do so, we compare individuals that participated in the project (treated) and individuals that did not (control)
 - To ensure that the differences found between these individuals is due to the project
 - Beneficiaries should be similar in both observed and unobserved characteristics (internal validity)
 - Ex- ante and ex- post measurement
 - **BUT** it in « real life » tricky
 1. People cannot be coerced into participating to development programs
 2. Collecting both ex- ante and ex- post data is costly
- ➔ beneficiaries may be different from non- beneficiaries even before the implementation of the program

Selection Bias

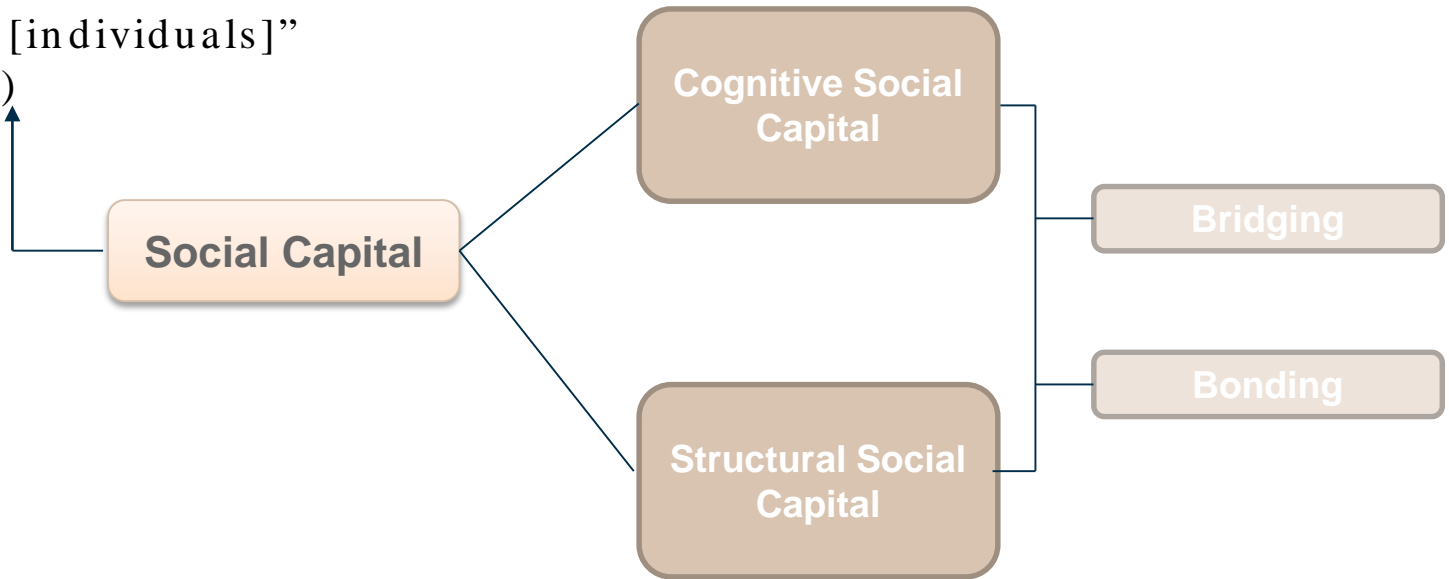
- Hence, are the differences in outcomes identified due to the pre-existing differences and/or to the program?
- ➔ Issue of selection bias (Duflo et al., 2006; White, 2013)
- For this study, we focus on social capital.
- Why?
 - Participatory projects, community driven development etc. - > rely on collaboration between stakeholders (Berthet et al., 2018; Compagnucci et al., 2021)
 - ➔ Social capital is increasingly recognized as an important ingredient for the success of these collaborative projects (Charatsari et al., 2020; King et al., 2019; van Rijn et al., 2012)
 - Through frequent meetings, training and joint activities, the project may also increase trust and cooperation in the treated communities

Social Capital and Development Projects



Concepts

“the social networks and the norms of reciprocity and trustworthiness that arise from [individuals]”
(Putnam, 2000)



Purpose of the Study

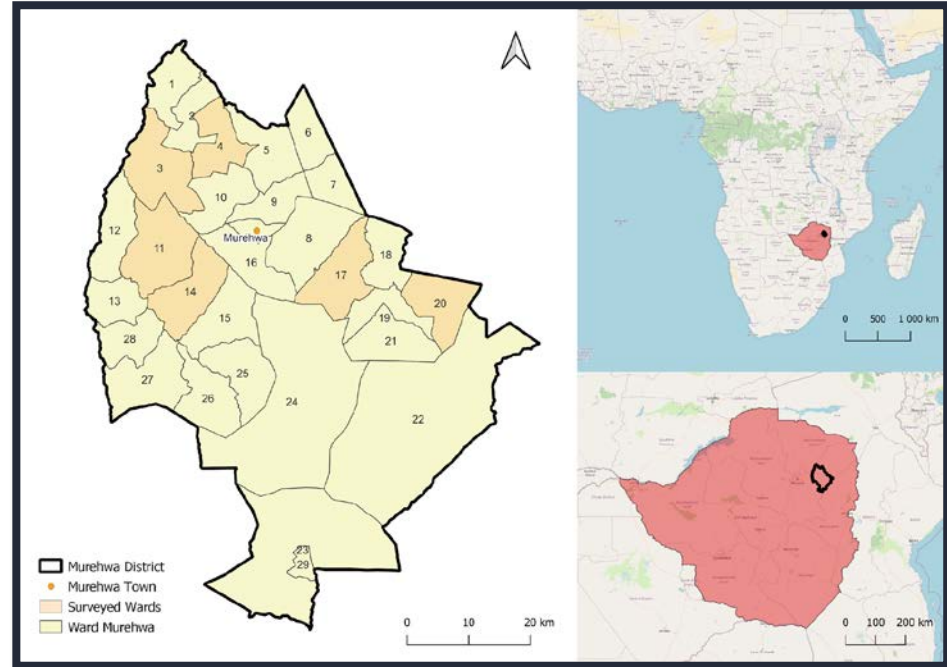
- Investigate if targeted beneficiaries of development projects exhibit higher levels of social capital compared to non-beneficiaries
- **Ex- ante** measurement of social capital
- To the best of our knowledge, no other studies use incentivized games to measure social capital ex- ante the implementation of a dev. project (Ban et al., 2020; Avdeenko and Gilligan, 2015)

Case Study

- Murehwa District in Zimbabwe
- Implemented by local NGO
- Purpose of the project: supporting communities in setting up **Village Saving and Loan Associations (VSLA)**

→self- regulated associations

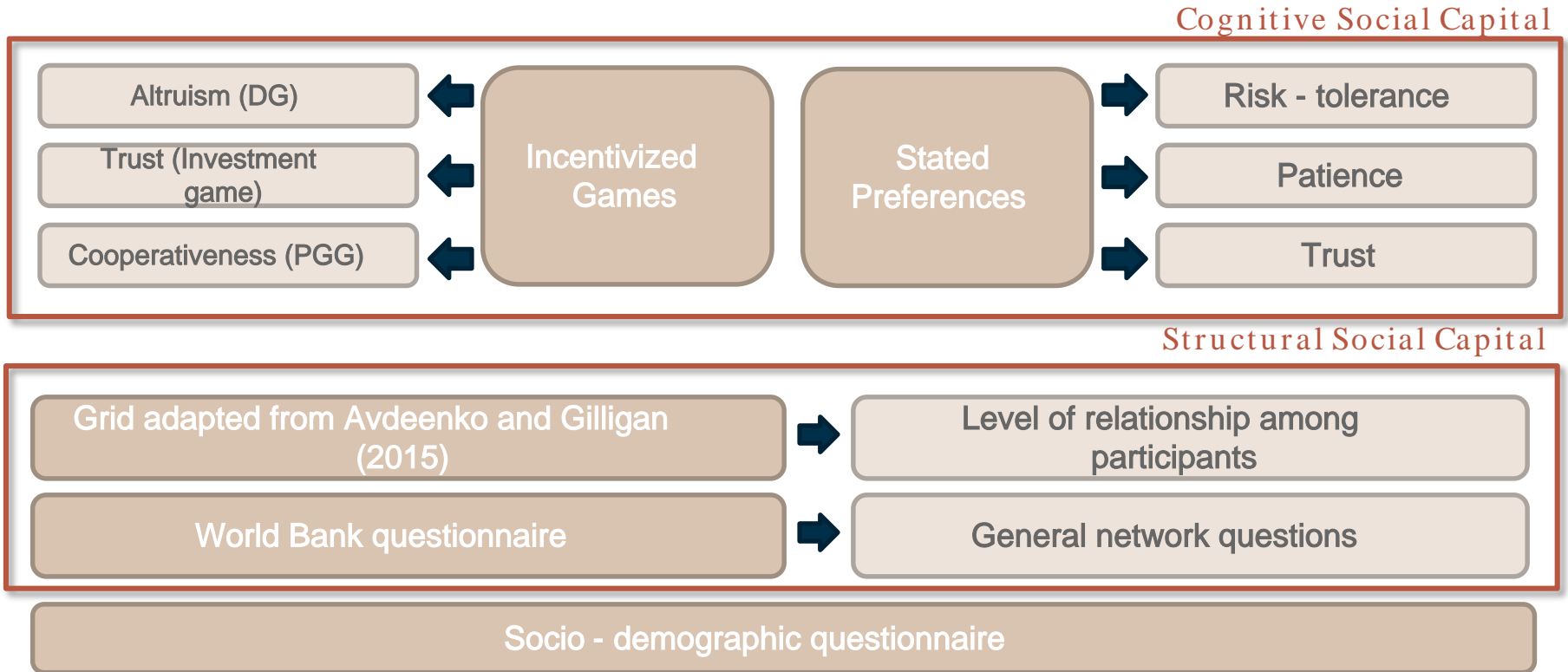
→trust is key to ensure that the money is safeguarded and that loans are repaid



Sampling

- From a list of newly registered associations provided by the NGO: random selection of 10 associations
 - 5 that were not organized in the past
 - 5 that were previously organized in similar initiatives
- Each association is composed of 15 to 25 members
- One association = one experimental session (targeted beneficiaries)
- One experimental session with targeted beneficiaries = one experimental session with control in nearby village
- Sample is balanced
- $N = 340$

Measurement



Hypothesis

Hypothesis 1: targeted beneficiaries (treatment group) have a higher level of social capital than non-beneficiaries

Hypothesis 2: targeted beneficiaries that have previously participated in projects or initiatives similar to the project at stake exhibit higher social capital than targeted beneficiaries that have not

Methodology

- Treatment effects are computed through:
 - Ordinary least squares (OLS)

$$Y_i = \alpha + \beta T_i + \varepsilon_i$$

Where Y_i is the outcome of interest, α the constant, β the treatment effect (ATT), T_i equal to 1 if subject i is treated, 0 otherwise, and ε_i the error term. The constant reports the mean for the control group. (Avdeenko & Gilligan, 2015)

- Ordered Probit

Hypothesis 1

Targeted beneficiaries (treatment group) have a higher level of social capital than non-beneficiaries

Results (OLS – with controls)

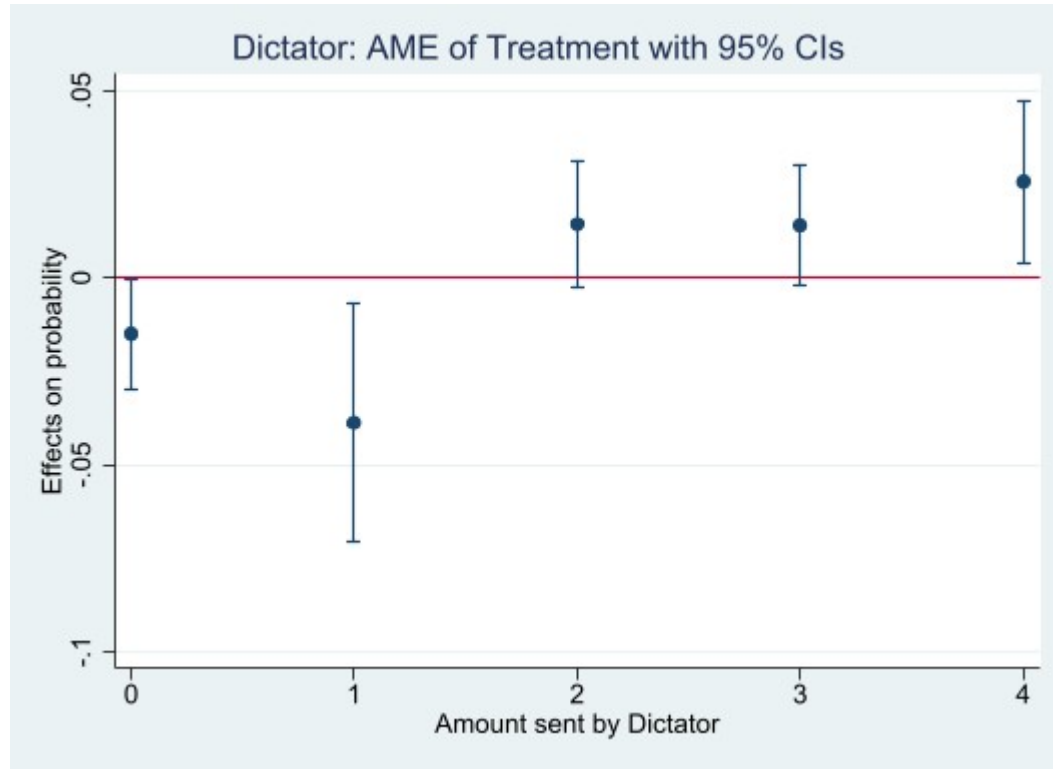
Table 3: Behavioral Measures

	Dictator		Trust sent	Trust		Public Good	
	Give to P2	Expect from P1		Returned (6)	Returned (12)	Contribution	Expected Contribution
Treatment	0.109*	-0.0172	0.144	0.438**	0.474*	-0.109	-0.0426
Control Mean	1.859***	1.524***	2.079***	2.584***	4.732***	3.073***	8.394***
<i>N</i>	340	340	340	340	340	340	340

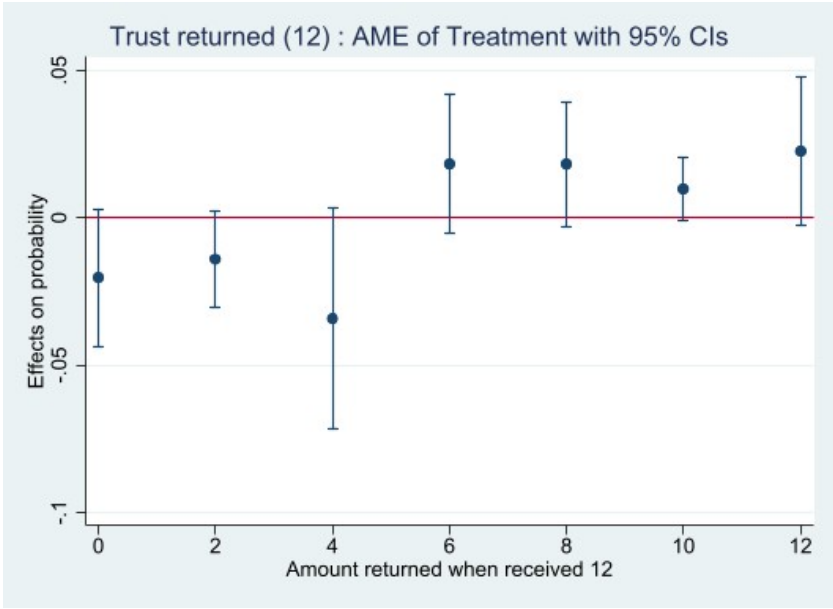
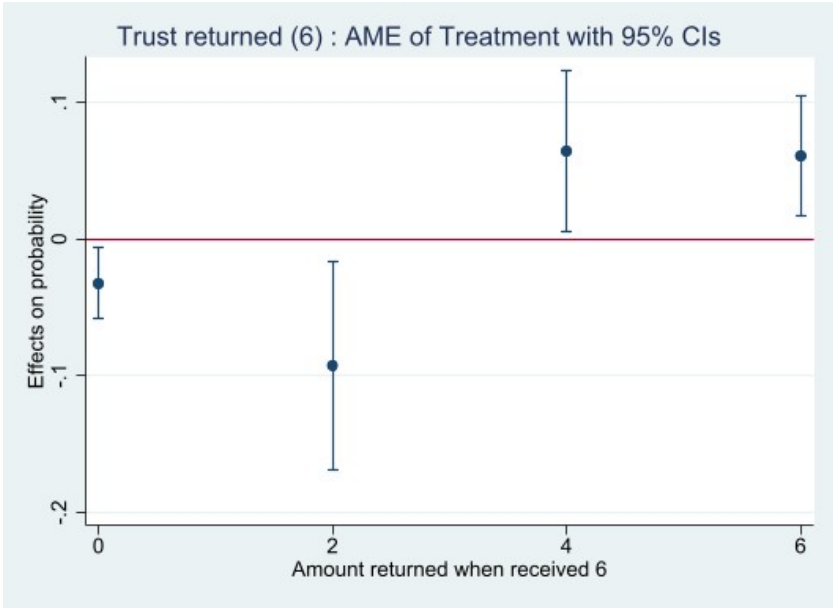
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

→ Targeted beneficiaries are more altruistic and trustworthy than non-beneficiaries.

Results (Ordered Probit)



Results (Ordered Probit)



Relationships

- Number of subjects in experimental session = heterogenous
- For each questions in the matrix, we calculated the following:

$$\frac{\text{number of subjects related to}}{\text{total number of subjects in session}} - 1$$

For instance, the index I_{family} indicates the proportion of subject i 's family members in subject i 's experimental session.

	Number of participants sitting around you
Basic Social Relationships	
1 - Family members	
2 - Neighbours	
3 - You get together socially with	
4 - You attend the same church with	
Economic Relationships	
5 - You buy or sell products or services with	
6 - You are employed at the same farm or shop with	
7 - You work for	
Voluntary Groups	
8 - You are member of the same producers group with	
9 - You are member of the same water user association with	
10 - You attend parent-teacher association meetings with	
11 - You participate in the same development project with	
Favor Exchange Relationships	
12 - In the last year you have sought advice about an important personal matter from	
13 - In the last year has watched your children for a short period of time	
Trust-based Groups	
14 - You are member of the same savings and loans association	
15 - You exchange labor with	

Results

Table 8: Treatment Effect on Structural Capital

	Basic Social Relationships				Economic Relationships		
	(1) I_family	(2) I_neighbor	(3) I_socially	(4) I_church	(5) I_buy_sell	(6) I_employed	(7) I_work
ATT	0-031	0-034**	0-292***	0-083**	0-050	0-004	0-025**
Constant	0-013***	0-046***	0-209***	0-082***	0-169***	0-071***	0-013**
Mean effect (z-scores)	0.310***				0.0869		
N	341	341	341	341	341	341	341
	Voluntary Groups			Favour Exchange Relationships		Trust-based Groups	All Relations
	(8) I_producers	(9) I_water_user	(10) I_parent_teacher	(11) I_sought_advice	(12) I_watch_children	(13) I_labor	
ATT	0-161***	0-051**	-0-051	0-070***	0-011	0-082***	
Constant	0-073***	0-073***	0-609***	0-045***	0-021***	0-042***	
Mean effect (z-scores)	0.165			0.266***			0-155***
N	341	341	341	341	341	341	341

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The density of relations in the treated group is higher than the one in the control group

Results

Table 9: Structural Capital (WB)

	Groups and Networks				Collective Action and Cooperation	
	(1) Nb of groups member of	(2) Interaction with outside	(3) Nb closed friends	(4) People to borrow from	(5) Participation communal act.	(6) Coop. for water
ATT	1.232***	-0.192*	0.058	0.190	0.038	0.062
Constant	3.439***	1.192***	1.914***	3.929***	0.934***	4.379***
Mean effects		0.0664			0.0701	
<i>N</i>	341	341	341	341	341	341
	Info. and Comm.	Social Cohesion and Inclusion	Empowerment		All Relations	
	(7) Nb of phone calls	(8) Social gathering	(9) Happy	(10) Able to change life		
ATT	1.765	1.838**	-0.089	-0.107		
Constant	9.515***	2.015***	4.525***	4.303***		
Mean effects	0.0762	0.233*	-0.0677		0.0581	
<i>N</i>	341	341	340	341	341	

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

- Targeted beneficiaries are members of more groups and gather socially more often than non-beneficiaries.
- Less interaction with outside
→ more bonding social capital?

Hypothesis 2

Targeted beneficiaries that have previously participated in projects or initiatives similar to the project at stake exhibit higher social capital than targeted beneficiaries that have not

Results

Table 3: Behavioral Measures

	Dictator		Trust			Public Good	
	Give to P2	Expect from P1	Trust sent	Returned (6)	Returned (12)	Contribution	Expected Contribution
TreatMuk2	-0.0784	-0.204*	0.0395	-0.0749	-0.184	-0.199	-0.0833
Control Mean	2.476***	1.204**	2.163**	3.658**	5.584***	3.538***	10.35***
<i>N</i>	143	143	143	143	143	143	143

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

→ No differences in social preferences for targeted beneficiaries that were previously part of similar initiatives.

Results

Table 15: Structural Capital (WB)

	Interaction with outside	Nb closed friends
ATT	-0.505***	-1.043***
Constant	1.237***	2.461***
<i>N</i>	143	143

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Targeted beneficiaries that were involved in similar initiatives in the past exhibit more bonding social capital.

Conclusion

- Differences in social preferences between targeted beneficiaries and non-beneficiaries (H1)
- Targeted beneficiaries already have higher levels of social capital than non-beneficiaries
- No differences in social capital between respondents that previously participated in similar initiatives and the ones that have not (H2)
- Purely ex-post analysis of social capital → potential bias
- Beyond the question of program evaluation, it is key to reflect on whom participate to development projects, if social capital matters in the participation then how do we target individuals that have lower social capital?

ANNEX



Balancing tests

Table 1: Descriptive Statistics Demographic Variables

	(1)	(2)	(3)	(4)
	Full sample	Treated	Control	Diff.
	<i>mean</i>	<i>mean</i>	<i>mean</i>	<i>b</i>
Gender	0.84	0.86	0.82	-0.04
Age	47.36	48.07	46.84	-1.23
Household size	5.57	5.59	5.55	-0.05
Education	2.62	2.62	2.62	0.01
Marital status	2.39	2.42	2.36	-0.06
Minutes to nearest market	37.17	41.84	33.80	-8.04**
Number of cows owned	0.74	0.84	0.67	-0.17
Number crops cultivated	5.03	5.06	5.01	-0.06
Remittances (dummy)	0.37	0.44	0.32	-0.11*
Off-farm activity (dummy)	0.47	0.44	0.48	0.04
Not enough food (dummy)	0.57	0.55	0.59	0.04
<i>N</i>	341	143	198	341

Note : This table presents the descriptive statistics of demographic variables. Gender is equal to 1 for women. The education variable is a categorical variable with 4 levels (1 = No school, 2 = Primary, 3 = Secondary, 4 = University, 5 = Prefer not to say). Marital status is a categorical variable with 5 levels (1 = Single, 2 = Married, 3 = Divorced, 4 = widowed/widower, 5 = other). The minutes to nearest market are a proxy variable for remoteness of the household. All dummy variables that required a yes/no answer is coded as follow 1 = Yes, No = 0. Not enough food corresponds to: "In the last 12 months since October, did you or other adults in your household ever cut the size of your/their meal or skip meals because there was not enough money for food?"

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Incentivized Games & Control Variables

Table 3: Treatment Effect on Behavioral Measures with Covariates

	Dictator Game			Trust Game		Public Good Game	
	(1) Give to P2	(2) Expect from P1	(3) Expect from P2	(4) Trust	(5) Reciprocity	(6) Contribution	(7) Expected contribution
ATT	0.093	-0.028	-0.063	0.190*	0.048**	-0.100	0.024
Risk general (scale)	0.004	-0.003	0.009	0.025	0.003	0.023*	0.084*
Get phone back (dummy)	-0.005	0.016	0.003	-0.028	0.007**	0.007	0.064
Number of closed friends	0.057	-0.014	0.003	0.049	0.016	0.037	0.224**
People to borrow money from	-0.001	0.027	-0.034	0.078*	0.014	-0.029	-0.115
Number phone calls	-0.004	-0.004	0.004*	0.001	-0.000	0.004	0.008
Gender	0.054	-0.014	0.169	-0.026	-0.003	-0.027	-0.919**
Age	0.001	0.004	0.001	-0.002	-0.000	-0.005	0.002
Education	-0.013	0.027	-0.031	-0.003	0.027**	0.016	0.099
Minutes walk to nearest market	0.002	0.002	0.001	-0.003	0.000	-0.001	-0.007
Not enough food (dummy)	-0.118**	0.035	-0.143	-0.110	0.009	-0.159	-0.163
Remittances	0.046	-0.051	-0.121	-0.219	-0.005	-0.236**	-0.429
Constant	1.816***	1.404***	1.866***	2.051***	0.261**	2.986***	7.752***
<i>N</i>	339	339	339	339	339	339	339

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Pictures of the experiments

