

# Preferences for Community-based Targeting - Field Experimental Evidence from Zambia

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**Summary.** — Community-based targeting is frequently used in low-income countries to identify the poor. Yet evidence about its performance is inconclusive and factors of success are understudied. Drawing on controlled field experiments, this paper studies how individual targeting preferences translate into group outcomes and which determinants of progressiveness prevail in rural Zambia. It finds that individuals pursue poverty motives but act selfishly if not restrained. Egalitarianism and favoritism are not as pronounced as critics suggest. Even if individual and group allocations vary considerably, this does not result in individuals' dissatisfaction. Better access to information and greater trust make targeting outcomes more progressive.

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## 1. INTRODUCTION

In low-income countries, targeting is one way of ensuring that limited fiscal resources are spent on the poor or vulnerable. Finding a targeting mechanism that is cost-effective, considered fair by the communities, and politically acceptable presents a challenge, and countries usually face trade-offs across these different dimensions. Most African countries have opted for a targeting mechanism that involves the community, with varying degrees to which actual decision-making power is decentralized (Garcia & Moore, 2012). Mechanisms range from those that allow the community to determine and weigh targeting criteria and select beneficiaries according to others that restrict the engagement of the community to a more administrative function of data collection and verification.<sup>1</sup> This paper analyzes under what conditions the full decentralization of targeting is an optimal choice for social cash transfer (SCT) programs in low-income countries. For this purpose, it scrutinizes local preferences for targeting, the aggregation process of preferences in the community as well as determinants of progressiveness in community-based targeting (CBT).

Different arguments have been advanced to broaden or restrict the role of the community in targeting. Proponents of CBT argue that decentralized decision-making ensures direct accountability and empowerment of communities, making it easier for communities to understand and accept targeting choices. Communities often opt for a multi-dimensional and contextualized interpretation of poverty, which might be more adequate than a centrally defined pure income-based poverty measure. CBT is believed to guarantee less costly access to more accurate and complete information helping to overcome the information asymmetry that often presents a challenge in targeting.

Critics of CBT argue that CBT cements existing power structures with local elites using this mechanism to their own advantage. Marginalized groups risk being excluded or stigmatized. CBT might disrupt social cohesion, in particular in fairly homogeneous societies with egalitarian principles. Furthermore, critics argue that the lack of standardization creates greater loopholes for corruption and misappropriation and makes it extremely difficult for individual community members to claim their entitlements. They are also more skeptical

about the potential gains in administrative costs as costs are often shifted from the administration to the individual community member.

According to two meta-studies by Coady, Grosh, and Hoddinott (2004) and Yusuf (2010) and further evaluations of CBT programs (Handa *et al.*, 2012; Kkonya, Phillip, Mogues, Pender, & Kato, 2012; Slater & Farrington, 2009; Watkins, 2008), CBT has produced (at least mildly) progressive targeting outcomes for the most part.<sup>2</sup> Compared to alternative targeting mechanisms in the meta-study by Coady *et al.* (2004), programs with CBT transferred more resources to the poor than the median program. While proving less effective than (proxy-) means testing in the meta-study (Coady *et al.*, 2004) and in a targeting experiment (Alatas, Banerjee, Hanna, Oken, & Tobias, 2012), CBT outperformed more quantitative targeting approaches in other country contexts (Banerjee, Duflo, Chattopadhyay, & Shapiro, 2007; Nguyen & Rama, 2007).

Despite the fact that CBT in general proves progressive, performance of CBT varies considerably across programs<sup>3</sup> and determinants of progressiveness are contested. Transparency and accountability are both unanimously cited as factors for success in the meta studies (Coady *et al.*, 2004; Yusuf, 2010). The role of inequality,<sup>4</sup> quota-arrangements,<sup>5</sup> experience, and discretion of the community in CBT<sup>6</sup> are more controversially debated.

Looking at the concerns raised by critics of CBT, we see mixed evidence. Regarding the social effects of CBT on recipients and the community, there is evidence of CBT resulting in discriminatory practices as well as community friction and

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divisiveness (Haenn, 1999; Slater & Farrington, 2009; Watkins, 2008). The incompatibility of CBT with egalitarian preferences of communities has also been problematized (Chininga, 2005; Köhler, Cali, & Stirbu, 2009). Clear entitlements for beneficiaries do not seem always guaranteed: different community groups arrived at different ratings of households, introducing confusion and a degree of arbitrariness in several countries (Bergeron, Morris, & Banegas, 1998; Carletto, 2001). In other instances, however, CBT ensured greater acceptance and satisfaction than alternative or previous targeting mechanisms, corresponding to communities' understanding of poverty and interest in participating in the selection (Alatas *et al.*, 2012; Ridde, Yaogo, Kafando, Sanfo, *et al.*, 2010).

The evidence on favoritism and elite capture is equally not unambiguous. Favoritism and political connections seem to have biased the targeting process in some programs (Miller, Tsoka, & Reichert, 2010; Pan & Christiaensen, 2011; Park & Wang, 2010; Platteau, 2004; Watkins, 2008) while there is very little evidence on elite capture in others (Alatas *et al.*, 2012; Ridde *et al.*, 2010; Yusuf, 2010). Furthermore, the occurrence of elite capture is not necessarily related to the discretion that the community or the elite was given in the targeting process (Yusuf, 2010).

The great variability of CBT performance and acceptance across programs calls for a better understanding of the factors of success. This paper therefore tests a number of hypotheses (see Table 1) that help to systematically unpack the black box of CBT. It starts off by studying targeting preferences in rural communities in greater depth (Hypotheses 1–3). Whether community members are for instance primarily driven by egalitarian or progressive motives, by favoritism or selfishness determines the extent to which CBT resonates with local social norms and preferences and gives us an indication of whether CBT could be successful in the first place. The paper then looks into how individual targeting preferences are aggregated at the group level, whether group outcomes are compatible with individual choices and whether individuals are satisfied with the group outcome (Hypothesis 4). This gives us important insights into the effects of group dynamics on the performance and acceptability of CBT. In a last step, the paper distills determinants of progressiveness of CBT at the individual and group levels (Hypotheses 5–7), considering factors from the literature such as transparency and experience but also exploring new ones.

In order to study stated and revealed targeting preferences of community members, the compatibility of individual targeting preferences with group outcomes, and determinants of progressiveness of CBT, we draw on controlled field experiments, carried out in rural communities in Zambia. Experimental data has been increasingly used to study the

effects of different design choices in social cash transfer programs (Baird, McIntosh, & Özler, 2011; Filmer & Schady, 2011; de Brauw *et al.*, 2013). However, little attention has been given to exploit this methodology to assess the performance of CBT. The experiments enable us to rigorously test different variants of CBT and break down the decision-making process into controllable and measurable steps, mimicking real-life decision-making processes. We therefore not only obtain information about the final targeting outcome but also get a better understanding of the underlying processes. By incentivizing participants' choices through monetary pay-offs, the experiment elicits revealed rather than stated targeting preferences. This contrasts with for instance the community mock-tests by Chininga (2005) or the choice experiment on allocation preferences of microloan officers by Sagamba, Shchetinin, and Yusupov (2013).

We find that community members pursued poverty motives when allocating limited funds. Identification with recipients and sympathy for them equally mattered for givers from communities with prior targeting experience. Neither favoritism to family members, members' concerns about social capital nor preferences for egalitarianism prevailed to the extent suggested by critics of CBT. Egalitarianism surfaced primarily as a pragmatic choice rather than an innate preference, either caused by peer pressure, lack of information and exposure to targeting, and possibly by community members' aversion to making mistakes. Although constrained through the group decision-making process, community members, in particular those coming from communities with greater CBT experience, behave more selfishly if they have the option of favoring themselves. Those who are better-off or have an important position in the community do not come out as particularly selfish, making us question whether elite capture is not an over-emphasized problem of CBT.

We see that individual and group allocation decisions differ considerably, although this does not lead to dissatisfaction with the decisions made as a group. Analyzing the different factors that make CBT outcomes more progressive, we conclude that CBT has the greatest chances of success in communities where cohesion, trust, and information levels are high, where knowledgeable community members are involved, where peer pressure is dampened, and where targeting rules curb individuals' self-interests.

The following section gives a brief introduction to the set-up of the experiments as well as to the characteristics of the participants in the experiment. Section 3 empirically tests the prevalence and relevance of the different targeting motives. Section 4 assesses whether and how they translate into group outcomes. Section 5 looks more closely at factors that provoke more progressive outcomes for the (very) poor and Section 6 concludes.

Table 1. *Hypotheses tested in this chapter*

<i>Hypotheses concerning targeting motives</i>	
Hypothesis 1	Community members prefer sharing the benefits equally, obviating the need for CBT
Hypothesis 2	Community members are driven by inter-personal factors such as favoritism
Hypothesis 3	Community members prioritize their own needs and act selfishly when allocating transfers
<i>Hypothesis concerning the aggregation of individual preferences</i>	
Hypothesis 4	CBT outcomes do not reflect majority positions
<i>Hypotheses concerning determinants of progressiveness of CBT</i>	
Hypothesis 5	A more transparent CBT process leads to more progressive outcomes
Hypothesis 6	Experienced communities achieve better targeting outcomes

## 2. METHODOLOGY

### (a) Description of the community experiments

The community experiments (see Table 2 for an overview of the experiment) were designed to test the hypotheses elaborated above, closely mimicking the current practice of CBT in Zambia. The experiment was conducted in 25 different communities in Monze district in Zambia, with a pre-test carried out in one additional community. The 25 communities were randomly selected through stratified cluster sampling, comprising communities already benefiting from the SCT pilot in Monze district as well as communities that had not been integrated into the pilot yet. Including both types of communities (SCT and nonSCT) allowed us to test the impact of prior targeting experience on targeting outcomes. For the experiment, 15 SCT communities and 10 nonSCT communities were selected.

In each community, two groups of 10 members each participated in the experiment. The group size of 10 was chosen as Community Welfare Assistance Committees (CWAC) that select beneficiaries for the SCT scheme and for other in-kind transfers in Zambia, typically involve 10 members. Community members were randomly selected from a pool of volunteers<sup>7</sup> that prior to the experiment participated in a pre-survey. The pre-survey questionnaire recorded basic demographic and socio-economic information of each community member and served to classify each potential participant as very poor, poor, or better-off. The assessment of the poverty status was made by the same person of the research team in collaboration with members of the local CWAC. Every group participating in the experiment was meant to have representation from each poverty classification in order to ensure heterogeneity and also reflect the existing diversity in communities. Three, four, and three community members were then randomly selected from the group of the very poor, poor, and better-off volunteers, respectively.

Community members participating in the experiment were told that the overall objective of the experiment was to alleviate poverty, just like in any poverty-reduction program using CBT. Participants were given discretion in interpreting this in their own way, allowing them to choose and follow their own targeting motives. This follows current practice in Zambia, where programs using CBT do not only use community members to carry out central directives but allow them to identify and rank beneficiaries, using their own understanding of poverty and their own weights of different characteristics.

There were two different treatment conditions in the experiment, which were randomly allocated to SCT and nonSCT communities. Every community and the two groups selected could only participate in one of the two treatment conditions. For treatment condition 1 (TC1), group members made targeting and conditionality decisions for members of their own group including themselves while for treatment condition 2 (TC2), group members made targeting and conditionality decisions for members of the second group playing in the community (see Figure 1). TC2 represents the existing targeting rule in the SCT scheme in Zambia: committee members are not allowed to benefit from the SCT scheme themselves and they decide as an expert committee for the community. TC1 where the entire group, representing the community, decides on how benefits are allocated among themselves, has been previously discussed as an alternative targeting rule for social programs in Zambia. It is therefore interesting to contrast those two different variants of CBT.

In each experiment, irrespective of the treatment condition, two different rounds were played. Participants made decisions in private during the first round and then decided jointly as a group during the second round. In the first round, each participant received 20 tokens, each worth ZMK 50,000 (~US\$ 9.5), that s/he individually had to distribute to either participants of the same group (TC1) or to participants of the other group (TC2). The value of each token in the experiment was set at ZMK 50,000 as it represents the maximum amount that the SCT scheme in Monze gives to eligible households with children per month. For every potential beneficiary, the participant had to decide (1) whether to give any tokens, (2) how many tokens to give, (3) whether to make the transfer conditional, and (4) which condition to choose out of an education, growth monitoring, vaccination, training, and community work condition.<sup>8</sup> After all individuals had made their choices concerning the distribution of tokens and conditionality, they were interviewed about their motives for doing so. The results of the first round distribution were not publicly disclosed to the participants and participants did not get the chance to discuss them before the second round started.

For the second round of the experiment, all group members had to agree jointly on how to allocate a total of 200 tokens (10 × 20 tokens), worth ZMK 10,000,000, to either their own group members (TC1) or the members of the other group in the community (TC2). The enumerators observed the decision-making process from a distance and the moderator only assisted with counting or time-keeping when the group took longer than half an hour. After the group decision-making

Table 2. Set-up of the experiment (experiment locations, experiment treatment conditions, and experiment rounds)

SCT communities		Non-SCT Communities	
Treatment condition 1 – intra-group	Treatment condition 2 – inter-group	Treatment condition 1 – intra-group	Treatment condition 2 – inter-group
	1. Pre-survey among volunteers		
	2. Random selection of participants		
	3. Instructions & Introduction of participants		
	4. <b>Round 1:</b> individual allocation round		
	5. Survey I		
	6. <b>Round 2:</b> group allocation round		
	7. Survey II		

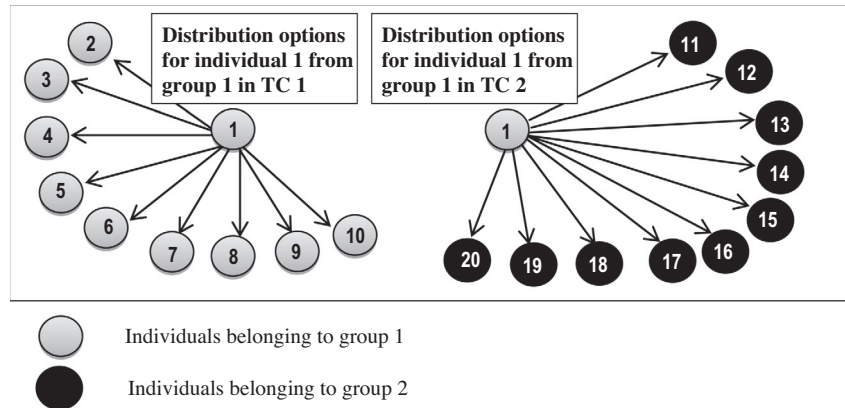


Figure 1. Illustration of treatment conditions of the experiment for individual 1 from group 1.

process, each group member was again interviewed individually about his/her satisfaction with the group outcome, his/her preferences for education and health, his/her risk and time preferences, attitudes about trust, reciprocity, sources of poverty, government assistance etc. Recipients in TC1 knew the outcome of the group round when being interviewed as they were directly involved in the decision-making. Recipients in TC2 were not informed about the final distribution decision that the other group made.

In order to incentivize choices, there was a real monetary gain for participants. Each token-receiving individual, irrespective of the treatment condition, was awarded 1% of the value of the tokens received during round 1 and round 2 of the experiment (i.e., ZMK 500 for each ZMK 50,000 token received). This and other rules of the experiment were clearly communicated to the participants prior to the commencement of the experiment. Participants were asked to repeat some of the rules and also make some simple calculations together. To make it easier, cards with graphic illustrations for the tokens as well as for the different conditions were shown throughout the instruction round. As participants could also ask clarifying questions to the enumerator, we can safely assume that the basic rules of the experiment were understood.

The external assessment of the poverty status was not revealed to the participants to keep their choices authentic and to reconstruct a realistic scenario for CBT. Most of the participants knew each other; in fact only 3% claimed not to know the other person. Some basic information about the other participants such as the number of children and their occupation was furthermore revealed during the round of introduction.

Cross talks and other ways of lobbying or allying were prevented by all possible means. Participants were only informed about the details of the experiment and the monetary pay-off right before the experiment started. During the round of introduction, participants were not given the opportunity to openly classify themselves as poor or deserving of assistance. Usually all individuals within the same group started the experiment at the same time and individuals were seated in a way that nobody could see the decisions they made. Special attention was paid to ensuring that groups deciding for each other in TC2 also did not have the opportunity to interact.

#### (b) Participants

Out of 500 participants, 45 observations were deleted to prevent any implementation or data entry glitches biasing the results. This left us with a total of 455 participants. Women were more likely to participate in the experiment than men (58% vs. 42%) and with an average age of 51 years, the

experiment population is a lot older than the national average (CSO, 2008). The age composition is however not uncommon for community committees as the young usually face higher opportunity costs and might also not command as much respect as older people. Most participants are subsistence farmers who live on their own produce followed by a smaller percentage that declared community assistance and paid labor as their main source of income. This is in line with the findings of the LCMS 2006 (CSO, 2008). Participants play a variety of different roles in the community, including traditional leaders, chairpersons, and members of various community committees, teachers, and health workers.

Participants in the experiment were randomly sampled according to their poverty classification. At least 70% of the respondents were rated as poor or very poor. When looking at differences in household characteristics according to the externally assessed poverty status (see Table 3), poverty assessments appear reasonable. We predominantly find beneficiary households of the SCT scheme among the very poor and the poor, with a few belonging to the group of better-off. The better-off have the greatest share of active households and correspondingly, the lowest number of experiment participants who are too ill or disabled to carry out any work. They also have paid labor as one of the main sources of income next to own produce, have the most spacious accommodation, the best quality housing, the greatest number of livestock and land, and more meals per day than the very poor and poor. When compared to the poor, the very poor are on average 9 years older and have a greater share of women. They have smaller land and livestock holdings, worse housing conditions, and more people who are too ill or disabled to work and who rely on community assistance.

As participants were randomly selected on the basis of a pool of volunteers, we could expect that these volunteers are on average more motivated to attend to the needs of the poorest and/or that they are more selfish, mainly expecting to benefit from the experiment themselves. This is however not likely to be different from the community members who normally volunteer to engage in CBT and therefore unlikely to bias our results.

### 3. INDIVIDUAL TARGETING MOTIVES

#### (a) Stated targeting motives

Poverty alleviation is explicitly stated by participants as one of the main motives. Fifty percentage out of all transfers were given out of this motive. The lack of alternative forms of



Table 3. *Characteristics of experiment participants according to their externally assessed poverty level*

	Very poor	Poor	Better-off	Total		Very poor	Poor	Better-off	Total
<i>Total number</i>	139	180	136	455	<i>Main occupation</i>				
<i>Gender</i>					Farmer/herder	69%	75%	77%	74%
Female	68% <sup>**</sup>	56%	51% <sup>***</sup>	58%	Unpaid family worker	0% <sup>**</sup>	3%	1%	1%
Male	32%	44%	49%	42%	Mining	1% <sup>*</sup>	0%	1%	0%
<i>Average age</i>					Trader	3% <sup>*</sup>	1%	2%	2%
	58 <sup>***</sup>	49 <sup>*</sup>	45 <sup>***</sup>	51	Self-employed	0% <sup>***</sup>	5% <sup>**</sup>	1%	2%
<i>Level of activism</i>					Government	0%	1% <sup>***</sup>	9% <sup>***</sup>	3%
Very active (DR = 0)	12%	9%	10%	10%	Other wage employment	1%	1%	2%	1%
Active (0 < DR < 3)	37% <sup>*</sup>	47%	51% <sup>***</sup>	45%	Piecework	11%	8%	5% <sup>*</sup>	8%
Inactive (3 ≤ DR < 5)	20%	18%	20%	19%	Retired	0%	0%	1%	0%
Very inactive (DR ≥ 5)	32%	27% <sup>*</sup>	18% <sup>***</sup>	26%	Too ill/disabled to work	15% <sup>***</sup>	5% <sup>**</sup>	1% <sup>***</sup>	7%
<i>Average number of meals</i>					Other	1%	1%	1%	1%
	2.4	2.4 <sup>***</sup>	2.8 <sup>***</sup>	2.5	<i>Main source of income</i>				
<i>Average number of hectare cultivated</i>					Community Assistance	25% <sup>***</sup>	11% <sup>***</sup>	2% <sup>***</sup>	13%
	1.0 <sup>**</sup>	1.3 <sup>***</sup>	1.8 <sup>***</sup>	1.4	Government Assistance	2%	3%	2%	2%
<i>Average number of rooms of the main house</i>					Pension	1%	0%	1%	0%
	1.8	1.9 <sup>***</sup>	2.5 <sup>***</sup>	2.1	Own Business	7%	7%	4%	6%
<i>State of housing</i>					Own Produce	61% <sup>**</sup>	72%	73% <sup>**</sup>	69%
Good	6%	6% <sup>**</sup>	14% <sup>**</sup>	8%	Rental income	0%	1%	1%	1%
Average	32% <sup>***</sup>	57%	58% <sup>***</sup>	49%	Paid labor	7%	7% <sup>***</sup>	17% <sup>***</sup>	10%
Bad	62% <sup>***</sup>	37%	29% <sup>***</sup>	42%	Other	0%	0%	0%	0%
<i>Livestock holdings</i>					<i>Status</i>				
Cattle	0.5 <sup>*</sup>	1.0 <sup>***</sup>	2.8 <sup>***</sup>	1.4	Headman	5%	7%	10%	7%
Goats	0.7 <sup>***</sup>	1.5 <sup>***</sup>	3.0 <sup>***</sup>	1.7	Chairperson	1%	1%	2%	1%
Chickens	3.0 <sup>***</sup>	5.34 <sup>**</sup>	7.02 <sup>***</sup>	5.1	Treasurer	0%	1%	1%	0%
<i>Receiving/targeting social welfare</i>					Secretary	0% <sup>**</sup>	3%	6% <sup>***</sup>	3%
% SCT beneficiaries	17%	13% <sup>***</sup>	1% <sup>***</sup>	11%	Committee member	5%	9%	14% <sup>***</sup>	9%
% CWAC members	6%	9%	15% <sup>**</sup>	10%	Teacher	1%	1% <sup>***</sup>	6% <sup>**</sup>	2%
					CHW/TBA	1%	1%	1%	1%
					Councilor	0%	0%	0%	0%
					Court	0%	0%	1%	0%

Statistical differences across participants of different poverty backgrounds are reported as follows: for the difference between the very poor and poor, the significance level is indicated in the column of the very poor; between the poor and the better-off in the column of the poor and between the very poor and better-off in the column of the better-off.

Source: Experiment – pre-survey.

\* 10% Significance level.

\*\* 5% Significance level.

\*\*\* 1% Significance level.

support and the recipient's potential to invest the money also figure high among givers' prime motives (24% and 22%, respectively), while relationships as well as unforeseen events matter less. This observation as such is not surprising as participants knew that the objective of the token allocation in the experiment was to reduce poverty. So participants may have responded with what they believed was a politically correct message. Conditional on motives, the average amount differed. The highest average number of tokens was given to those without any support (2.4 tokens per person on average), followed by those considered poor (2.3 tokens per person on average). The lowest average transfer was given for the motive of proximity (1.5 tokens per person on average) and the capacity of the recipient to invest the transfer productively (1.9 tokens per person on average).<sup>9</sup>

The poverty motive was more often but not exclusively stated for transfers to the (very) poor. Fifty four percentage of transfers going to the very poor were given out of the poverty motive, compared to 48% of transfers to the poor, and 37% of transfer to the better-off. The differences are statistically significant at the 1% level. The fact that 37% of transfers going to the better-off are still characterized as poverty transfers

highlights a difference between stated and revealed targeting motives. This difference could be either due to information constraints and the givers' difficulty of realizing their targeting preferences or due to givers' dishonesty about their true targeting motive. We now analyze to what extent targeting motives are possibly driven by factors other than poverty.

#### (b) Preferences for egalitarianism

**Hypothesis 1.** Community members prefer sharing the benefits equally, obviating the need for CBT.

Looking at the individual choices made, in particular in communities with prior exposure (Table 4), it is difficult to conclude that community members at large have a preference for sharing benefits equally and view all community members to be in a comparable position. The fraction of those who decided against a uniform distribution is statistically significant from zero, which makes us refute Hypothesis 1.

Table 4. *Percentage of individuals opting for a uniform distribution, by community status and treatment condition*

	Percentage	N
<i>SCT communities</i>		
Treatment condition 1	23%	136
Treatment condition 2	25%	152
<i>NonSCT communities</i>		
Treatment condition 1	34%	79
Treatment condition 2	41%	80

Source: Experiment – individual allocation round.

Moreover, when we compare the actual distribution of tokens of 34% going to the very poor, 39% to the poor, and 27.0% to the better-off to a uniform distribution with 30% of the share going to the better-off, 40% to the poor, and 30% to the very poor, we see that the two diverge in a statistically significant way. This confirms our initial conclusion of rejecting Hypothesis 1.

About 29% of all individuals, however, adhered to an equal sharing rule, which shows that egalitarian motives in allocations were present. The inclination toward egalitarian outcomes is stronger in communities that had not been incorporated into the SCT scheme as evidenced by Table 4. The difference between individual distributions in SCT and nonSCT communities of 14% points is statistically significant at the 1% level. This could be partly ascribed to the fact that egalitarian distributions are born out of ignorance or insecurity of deviating from the *default* position. Greater exposure to targeting methods broadens people's targeting motives and might give them the tools and expertise for distributing transfers progressively or regressively.

The need for CBT might therefore not be obviated *per se*. It is, however, still essential to analyze whether those not opting for an egalitarian distribution, favored predominantly the poor as opposed to the nonpoor in their distribution choices.<sup>10</sup> Those who were externally assessed as very poor received on average 22.3 tokens from the different group members, compared to 19.8 tokens that the poor and 18.0 tokens that the better-off received. When we analyze the minimum and maximum number of tokens allocated to people of different poverty status, we can also see differences in favor of the poorest.<sup>11</sup>

Another measure used by Coady, Grosh, and Hoddinott (2004) in their meta-study to judge the pro-poorness of targeting decisions is the following targeting performance indicator (TPI):

$$TPI = \frac{\% \text{ of total benefits allocated to the (very) poor}}{\% \text{ of total benefits to the (very) poor in a neutral distribution}} \quad (1)$$

The TPI analyzes what percentage of a giver's budget (20 tokens) is allocated to the (very) poor, comparing this with the percentage of benefits the (very) poor would have received in a neutral distribution, where everyone would have received identical benefits. A TPI = 1 means that the distribution is neutral. A TPI < 1 indicates a regressive distribution and a TPI > 1 a progressive distribution.

Overall, the very poor obtained 12% more through the distribution than what they would have received through a uniform distribution; the addition they received was predominantly taken from the better-off. When we break down this average of 12% and classify each individual distribution as regressive, neutral, or (mildly) progressive, we note that 47% of all transfers to the very poor was neutral with 17% being regressive, 30% mildly progressive (TPI of 1–2), and

5% being progressive (TPI > 2). In conclusion, targeting was overall pro-poor even though the extent of re-distribution from the better-off to the poor or very poor was not considerable. This result is in line with the finding of the meta-studies by Yusuf (2010) and by Coady, Grosh, and Hoddinott (2004) that the majority of CBT programs were mildly progressive.

In judging the extent of progressiveness, it is important to keep in mind that an experiment with a total of 20 tokens and with 70% of participants being poor limits the pro-poorness of choices. The maximum effect of re-distribution from the better-off to the very poor would lead to a doubling of benefits for the very poor from two to four tokens on average. If we assume that participants would have been reluctant to take away *all* the tokens from the better-off and would have preferred the better-off to have at least one token, the additional benefits for the very poor would amount to a 50% increase from two to three tokens.

We can exploit the fact that not all group compositions were homogenous to test whether a greater proportion of better-off recipients in the group increased the degree of progressiveness. When we compare distributions to groups that had an additional better-off recipient to those that had the required composition or less,<sup>12</sup> we notice a significant change. In groups with an additional better-off recipient, givers distributed on average 34% more to the very poor *vs.* 10% in groups with the required composition or fewer better-off. The difference is statistically significant at the 1% level. This demonstrates that the group composition of recipients could indeed have an influence on the progressiveness of givers' distributions.

Furthermore, we might also misinterpret individuals' preferences for progressiveness. Their assessment of the poverty status of potential recipients does not always coincide with the external assessment. The external poverty assessment, carried out on the basis of a small questionnaire and cross-checked with community informants, might possibly be more complete than the individual assessment of each and everyone's situation. This might be the case as the external assessment combines the information from potential recipients with the knowledge of those community members who are actively engaged in the community and therefore tend to have a good oversight. For that reason, we could assume that progressive allocations would even be stronger if individuals had access to more complete information.

In order to see whether poverty was one of the main drivers of individual targeting decisions, we now contrast preferences for pro-poor distributions with preferences for favoring those belonging to the inner-circle or giving preferential treatment to oneself.

### (c) Preferences for inter-personal distributions

**Hypothesis 2.** Community members are driven by inter-personal factors such as favoritism.

Proximity to other participants figures low on the priority list of participants, even as a potentially hidden motive for transfers going to the better-off in a community. As we can expect that proximity or relationships are rarely cited as official reasons for targeting in an anti-poverty program, we now examine the preferences that participants revealed through the experiments.

Different types of relationships produce different allocation patterns as illustrated by Table 5. Table 5 shows the additional number of tokens that recipients received when they had a relationship with the giver compared to a recipient with no

Table 5. *Additional number of tokens that the recipient received if s/he had a relationship with the giver as opposed to no relationship*

Relationship Recipient is a ... to the giver	Treatment condition 1			Treatment condition 2		
	Additional number of tokens	<i>p</i> -Value of <i>t</i> -test	<i>N</i>	Additional number of tokens	<i>p</i> -Value of <i>t</i> -test	<i>N</i>
Self	2.85	0.00	214	–	–	–
Family member	0.08	0.10	422	0.10	0.04	483
Friend	0.00	0.97	113	–0.04	0.66	132
Neighbor	0.05	0.31	359	0.08	0.14	364
Church	0.03	0.91	11	0.02	0.88	32
Work	–0.57	0.07	8	–0.42	0.17	9
Prominent	–0.75	0.00	18	–0.58	0.00	23
Other	0.52	0.03	14	–0.03	0.88	17
Compared to	Number of tokens		<i>N</i>	Number of tokens		<i>N</i>
No Relationship	1.70		982	1.98		1248

Source: Experiment – individual allocation round and Experiment – survey II.

relationship. In experiments with TC1, the highest and unparalleled allocation is to givers themselves with an average of 4.55 tokens. When we compare this with the allocation to recipients to whom the giver has no relationship,<sup>13</sup> the difference of 2.85 tokens is statistically significant at the 1% level. Allocations to prominent community members as well as workmates lead to a statistically significant decrease in the number of tokens given. Transfers to family members are only marginally higher than to people who are unrelated but the difference is statistically significant. In experiments with TC2, we again see lower and statistically significant contributions to prominent community members, pointing to the fact that community members do not sense any obligation to give to people in the community with a particular status. As in TC1, family members also receive a slightly higher transfer. This might be a sign of favoritism when it comes to the inner circle. When we look at the correlation between how well the giver knows the recipient and the average number of tokens given, we cannot see a clear trend.

Thinking about inter-personal factors, we could also hypothesize that not only relationship status and proximity but also resemblance in terms of background characteristics plays a role. Givers might identify more with recipients they are close to in terms of gender, age, and poverty status. They seemingly do: recipients who are in the same poverty group, of the same gender, and in the same age bracket as the giver receive 2.11 tokens on average, which is 0.25 tokens more than those who are not a match.<sup>14</sup> The difference is statistically significant at the 1% level.

As higher transfer amounts might be driven by other factors that are correlated with the variables on relationship, we now resort to multi-variate analysis, using the following model:

$$Y_{ij} = \alpha + \beta \mathbf{P}_j + \gamma \mathbf{R}_{ij} + \delta \mathbf{C}_{ij} + \varepsilon \mathbf{X}_j + u_{ij} \quad (2)$$

where  $Y_{ij}$  – number of tokens that giver  $i$  gives to recipient  $j$ ,  $\mathbf{P}_j$  – vector of variables describing the poverty status of recipient  $j$ ,  $\mathbf{R}_{ij}$  – vector of relationship variables between giver  $i$  and recipient  $j$ ,  $\mathbf{C}_{ij}$  – vector of different giver and recipient combinations  $i, j$ ,  $\mathbf{X}_j$  – vector of background characteristics of recipient  $j$ ,  $\alpha$  – constant,  $\beta, \gamma, \delta, \varepsilon$  – vectors of coefficients to be estimated, and  $u_{ij}$  – error term.

We use ordinary least squares (OLS) for this purpose.<sup>15</sup> We run regressions separately by treatment condition and community status as we assume that the opportunity to give tokens to oneself significantly influences targeting motives and that experience with targeting might also alter targeting priorities. We first begin with TC2 where participants did not have the possibility to distribute any tokens to themselves.

While a lot of variation in the number of tokens remains unexplained, Table 6 shows that the poverty status of the recipient has a statistically significant influence on the transfer allocation, regardless of whether the community had prior exposure to targeting or which targeting rule they had to follow. The only exception are nonSCT communities with TC1 where no clear targeting motives emerge. We can therefore conclude that the poverty status of the recipient definitely enters into the giver's allocation equation. Focusing on givers who could not benefit themselves, we see that those coming from nonSCT communities particularly prioritized poverty motives: the very poor who were too old/sick to work received almost a token more. Knowledge of a recipient's situation also positively influenced the distribution of tokens. Givers coming from SCT communities still allocate more to the poor or to those they potentially consider more vulnerable such as older recipients, women, or large households but they also follow other motives. They allocated more to participants who resembled them in terms of poverty status, gender, and age group, showing support for the argument that it is easier to redistribute if one identifies with the recipient. We also observe older givers giving more to younger female recipients.

The regression coefficient for family members is not statistically significant, showing that favoritism to family members did not seem to be one of the leading motives. We also do not find any evidence that participants felt compelled to give more to community members with a status position in order to maintain their social capital. Recipients with a special role in the community such as members of social committees, headmen, school teachers, health workers, or pastors actually received less. We consequently do not find compelling evidence that community members were exclusively motivated by inter-personal factors in their allocation decisions. While identification with recipients played a role in givers' allocation decisions, partly confirming Hypothesis 2, it is difficult to equate CBT with favoritism to the inner circle.

#### (d) Preferences for selfishness

**Hypothesis 3.** Community members prioritize their own needs and act selfishly when allocating transfers.

The first treatment condition, where individuals had the opportunity to allocate any out of the 20 tokens to themselves, enables us to test for the influence of selfishness. Participants in TC1 made use of this opportunity: the average transfer to

Table 6. *OLS regression on distribution motives of individuals in Round 1*

Explanatory variables	Dependent variable: number of tokens given by individuals in Round 1			
	SCT communities		NonSCT communities	
	TC1	TC2	TC1	TC2
Coefficients				
Very poor recipient (1 = Yes, 0 = No)	0.34*** (0.13)	0.22*** (0.09)	0.19 (0.14)	0.52*** (0.16)
Poor recipient (1 = Yes, 0 = No)	0.13*** (0.05)	0.14** (0.06)	0.04 (0.05)	0.25*** (0.09)
Recipient being too old/sick to work (1 = Yes, 0 = No)	0.00 (0.23)	0.08 (0.13)	-0.13 (0.35)	0.38*** (0.14)
Recipient being a family member (1 = Yes, 0 = No)	0.08 (0.08)	0.08 (0.05)	0.05 (0.09)	0.10 (0.07)
Knowing the recipient (0 = not really → 4 = very well)	0.05 (0.04)	-0.00 (0.02)	0.03 (0.05)	0.07*** (0.02)
Important position in the community of recipient (1 = Yes, 0 = No)	-0.22** (0.10)	-0.10 (0.06)	0.06 (0.16)	-0.11 (0.07)
Recipient shares the same characteristics with giver (poverty status, gender, age bracket: 19–30, 31–40, 41–50, 51–60, 61–70, 71–80, 81–100)	0.32** (0.15)	0.35*** (0.13)	0.29 (0.31)	-0.06 (0.17)
Very poor giver and very poor recipient (1 = Yes, 0 = No)	-0.25 (0.15)	-0.07 (0.09)	-0.13 (0.14)	-0.06 (0.12)
Female giver and very poor recipient (1 = Yes, 0 = No)	-0.22 (0.18)	0.10 (0.09)	-0.10 (0.14)	0.02 (0.13)
Young giver (<45) and old (>65) poor receiver (1 = Yes, 0 = No)	-0.08 (0.13)	0.06 (0.16)	0.16 (0.14)	0.09 (0.19)
Old (>65) male giver and younger (<45) female recipient (1 = Yes, 0 = No)	-0.01 (0.17)	0.20** (0.09)	0.07 (0.13)	0.06 (0.20)
Self (1 = giver is the recipient)	2.13*** (0.65)		0.13 (0.75)	
Interaction Self * Poverty Status = very poor	2.63*** (1.19)		1.84 (1.21)	
Interaction Self * Poverty Status = better off	0.12 (0.89)		0.51 (0.53)	
Self * Gender	0.48 (0.82)		0.76 (0.89)	
Age recipient	0.01* (0.00)	0.00** (0.00)	-0.00 (0.00)	0.00 (0.00)
Gender recipient (0 = male, 1 = female)	0.19*** (0.07)	0.08* (0.04)	-0.04 (0.06)	-0.18*** (0.09)
No. of children 0–4 in the recipient's household	-0.04 (0.04)	0.03** (0.01)	0.06* (0.04)	0.00 (0.02)
Constant	1.05*** (0.19)	1.62*** (0.11)	1.62*** (0.34)	1.54*** (0.19)
R <sup>2</sup>	0.30	0.04	0.16	0.11
N	1348	1498	781	797

OLS regression estimates. In parentheses, robust standard errors, adjusted for clustering on givers. \*10% Significance level. \*\*5% Significance level. \*\*\*1% Significance level. Reference group TC2 = non(very) poor male recipients who are not too old/sick to work, are not a family member of the giver, whom the giver does not really know, who do not have an important position in the community, do not share the same characteristics with the giver, do not match any of the giver/receiver combinations, and who are part of a group that does not have an additional better-off person.

Reference group TC1 = non(very) poor male recipients who are not too old/sick to work, are not a family member of the giver, whom the giver does not really know, who do not have an important position in the community, do not share the same characteristics with the giver, who do not match any of the giver/receiver combinations, are not giver and recipient at the same time, and who are part of a group that does not have an additional better-off person.

Source: Experiment – pre-survey, Experiment – individual allocation round and Experiment – survey II.

oneself was 4.55 tokens compared to an average transfer to other participants of less than two tokens. There were only four out of 214 people who did not allocate any tokens to themselves. Forty percentage of givers in TC1 allocated two tokens to themselves—the average in a uniform distribution. A little more than half of all givers opted for a higher number of tokens. Participants from SCT communities allocated on average 1.6 tokens more to themselves than participants from nonSCT communities, which might be a sign that they had learned to game the system.

If we considered any distribution as selfish where the giver did not distribute a comparable number of tokens to at least one more person in the group, about 39% of participants in TC1 would classify as selfish. The self-allocation pattern varies by poverty status. While the very poor allocated on average 6.0 tokens to themselves, the poor and the better-off allocated both 3.9 tokens respectively to themselves. The relationship between poverty status and selfishness, however, has to be put into perspective. When we factor in what someone would be entitled to according to his/her poverty status, the picture changes<sup>16</sup>: 33% of the very poor classify as selfish, 51% of the poor, and 45% of the better-off.

Looking at the regression output in Table 6, we notice that the possibility of giving tokens to oneself accounts for a relatively large part of the token allocation in SCT communities, in particular for the very poor. The effects are statistically significant and comparatively large with poor self-givers receiving 4.8 tokens in addition. Considering that volunteers were not told about the monetary pay-offs in the initial community meeting, we can assume that the selfishness motive

might even be more prevalent among those community members who explicitly join community committees, expecting to benefit through this engagement. We can therefore confirm Hypothesis 3 that community members indeed have a tendency of prioritizing their own needs. There is, however, little evidence for a stronger inclination among the better-off to enrich themselves if we were to assume that they had more knowledge or fewer reservations about favoring themselves.

#### 4. GROUP DYNAMICS

##### Hypothesis 4. CBT outcomes do not reflect majority positions

Individual allocation behavior differed from group choices in the second round with respect to egalitarianism. The group decision process made targeting outcomes more egalitarian as 19 out of 46 groups (41%) opted for a uniform distribution. In nonSCT with TC1, egalitarianism changes from a minority to a majority position. We can see that individuals in TC1 face greater difficulties in arguing out their preferences. This is an indication that group pressure, which is higher in instances where the group is directly concerned by the decisions it takes, might be an important determinant for egalitarian outcomes. Similar to the individual distribution, we also observe that greater experience in SCT communities leads to less egalitarian group outcomes.



For the very poor, fewer group distributions were regressive compared to the individual distributions (7% *vs.* 17%) and more distributions were progressive (48% *vs.* 35%), with the tendency for uniform distributions remaining at the same level (46% *vs.* 47%). This could have various explanations. First of all, individuals faced more constraints in benefiting themselves as all allocations had to be openly discussed and also negotiated with other group members. Secondly, information about different participants was probably more complete in a group of 10 people and there were more checks and balances in terms of preventing allocations to the nonpoor.

The overall depth of progressiveness of group choices was however slightly lower with the very poor receiving 10% (*vs.* 12% in individual distributions) more than what they would have received through an equal distribution. We could hypothesize that group outcomes would be even more progressive in instances where a committee such as the CWAC is composed of people who have greater access to information than our participants. This is partly the reason why the CWACs are supposed to have representatives from every village and also literate members. In this way, it is easier for them to have and/or acquire information about community members.

As we are also interested in the relative effect size of poverty alongside motives such as favoritism, we replicate similar modeling for group choices on targeting, using OLS regressions:

$$Y_{ij} = \alpha + \beta P_j + \gamma R_{ij} + \delta X_j + u_{ij} \quad (3)$$

where  $Y_{ij}$  – number of tokens that group  $i$  gives to recipient  $j$ ,  $P_j$  – vector of poverty status variables of recipient  $j$ ,  $R_{ij}$  – vector of relationship variables between group  $i$  and recipient  $j$ ,  $X_j$  – vector of background characteristics of recipient  $j$ ,  $\alpha$  – constant,  $\beta$ ,  $\gamma$ ,  $\delta$  – vectors of coefficients to be estimated, and  $u_{ij}$  – error term.

When looking at the results of the group distribution in Table 7, similar motives emerge compared to the individual distributions. Groups gave more to poorer and older recipients and

to those households with a greater number of children under five. This shows that poverty and vulnerability concerns definitely influenced allocation decisions. The poverty motive prevails, even when we run separate regressions by TC or community status.

Groups allocated a lot less to people with an important position in the community, which shows that the group distribution was not skewed to directly favor those in power. Recipients with a family member in the giver group benefited more. Looking at the effect size, we see however that favoritism does not drive the allocation: 90% of committee members would have to be family for an individual to benefit from favoritism in the same way as from extreme poverty. Favoritism disappears as a motive in groups in TC1; the variable is not statistically significant and close to zero when we run separate regressions by TC. This could be due to the greater mutual control that is exerted in groups in TC1 where decisions are made transparent to all recipients. Favoritism equally disappears as a motive in SCT communities when we run separate regressions by community status.

Even if motives were similar across individual and group distributions, the group round produced a different outcome for the individual when compared to the sum of all individual rounds. Differences ranged from 23 tokens less to 19 more through the group distribution with an absolute difference of 4.3 tokens on average.<sup>17</sup> Differences could be due to better information<sup>18</sup> and greater containment of self-interests in the group round.

The discrepancy between individual and group decisions did not, however, result in greater dissatisfaction of individuals. Participants were overall very satisfied with the group outcome and the group process. They felt comfortable with the decision taken by the group (average of 6.3 on a satisfaction scale from 1-7 with 1 = complete disagreement to 7 = complete agreement); thought that the decision-making process was fair (average of 6.3), that everybody had an equal chance of influencing the outcome (average of 6.2) and that nobody dominated the decision-making process (average of 5.7). The high satisfaction levels highlight that the majority of community members appreciated the group exchange and regarded the group outcome as fair.

Satisfaction levels did not vary by poverty status, meaning that the poor or very poor did not feel more dominated or ignored than the better-off. People did not seem more content in communities with an egalitarian distribution. We can see a difference in satisfaction by treatment condition. Satisfaction levels for TC1, where everybody knew in the end whether the distribution was in his/her favor, were slightly but statistically significantly lower than for TC2.<sup>19</sup> This might be due to the fact that satisfaction for TC1 does not only capture satisfaction with the overall process but also (dis)satisfaction with the final outcome for oneself.

Despite the fact that group decisions do not reflect individual preferences in all instances, which confirms Hypothesis 4, they still follow similar patterns, satisfy individual group members, and lead to superior results if we use the percentage of progressive group distributions as a performance criterion.

## 5. DETERMINANTS OF PROGRESSIVENESS

### (a) *The role of transparency*

**Hypothesis 5.** A more transparent CBT process leads to more progressive outcomes.

Table 7. OLS regression on distribution motives of groups

Dependent variable: number of tokens given by the group in Round 2	
Explanatory variables	Coefficients
Recipient poverty assessment: very poor (0 = No, 1 = Yes)	2.32*** (0.72)
Recipient poverty assessment: poor (0 = No, 1 = Yes)	0.61** (0.28)
Too old/sick to work (0 = No, 1 = Yes)	0.09 (1.27)
Important position in the community (0 = No, 1 = Yes)	-1.68** (0.81)
Number of family members of recipient in the giver group	0.27** (0.14)
Age recipient	0.04* (0.02)
Gender recipient (male = 0, female = 1)	0.67 (0.56)
Number of children 0-4 in the recipient's household	0.25*** (0.10)
Number of children 5-18 in the recipient's household	-0.23 (0.17)
Constant	16.78*** (1.05)
$R^2$	0.13
$N$	442

OLS regression estimates. In parentheses, robust standard errors, adjusted for clustering on groups. \*10% Significance level. \*\*5% Significance level. \*\*\*1% Significance level. Reference group: male non(very) poor recipients who are not too old/sick to work and do not have an important position in the community.

Source: Experiment – pre-survey and Experiment – group allocation round.

Table 8. *Depth and incidence of progressiveness of group distributions, by treatment condition*

	TC1	TC2
<i>Depth of progressiveness (average TPI across various poverty groups)</i>		
Very poor participants	1.07	1.13
Poor participants	1.02	0.98
Better-off participants	0.91	0.91
<i>Incidence of progressiveness to the very poor (classification of group distributions to the very poor according to the TPI)</i>		
Regressive	5%	8%
Neutral	55%	38%
Mildly progressive	41%	54%
N	22	24

Source: Experiment – group allocation round.

In both meta-reviews about CBT, transparency and accountability were cited as key factors that lead to more progressive targeting results in CBT. Involving the entire community and presenting the results to those who are concerned, is one way of rendering the process more transparent and more accountable. The two treatment conditions of the experiment and the two rounds of the experiment allow us to test the influence of making decisions in public (group *vs.* individual) as well as making decisions together with people concerned (group TC1 *vs.* group TC2).

Because of access to better information and more checks and balances, we would expect to see more progressive outcomes of decisions taken in public, in particular for the group process in TC1 where decisions are revealed to everyone. As we have observed in Section 4, a higher percentage of groups distributed tokens more progressively and less regressively to the very poor than the individuals. This shows that greater transparency in terms of deciding jointly on a distribution can lead to more progressive outcomes.

When looking at the outcomes of the group distributions by TC, we observe that the more transparent TC1 does not produce the most progressive outcomes (Table 8). Both the depth of progressiveness (TPI of 1.07 *vs.* 1.13) as well as the incidence of progressiveness (41% of distribution are progressive *vs.* 54%) are smaller. One possible explanation is that involving those concerned in the decision-making process leads to more egalitarian results, an outcome which is confirmed by Section 4. Greater peer pressure within the group might dampen the depth of progressiveness.

Transparency influences targeting outcomes through different channels, which makes it difficult to draw a definite conclusion about its effects and Hypothesis 5. Transparency can lead to an informational advantage, producing more progressive results. It can also introduce better checks and balances which limit selfish behavior as well as more regressive choices. More transparency might, however, also translate into greater peer pressure, producing more egalitarian outcomes, and therefore influencing progressiveness in a negative way.

#### (b) *The role of experience*

**Hypothesis 6.** Experienced communities achieve better targeting outcomes.

As all SCT communities had participated in training on targeting within the last two years, we can assume that members from these communities had more exposure and recent practice in selecting community members into an anti-poverty pro-

Table 9. *Depth and incidence of progressiveness of group distributions, by community status*

	SCT communities	NonSCT communities
<i>Depth of progressiveness (average TPI across various poverty groups)</i>		
Very poor participants	1.09	1.12
Poor participants	1.01	0.98
Better-off participants	0.90	0.92
<i>Incidence of progressiveness to the very poor (classification of group distributions to the very poor according to the TPI)</i>		
Regressive	7%	6%
Neutral	40%	56%
Mildly progressive	53%	38%
Progressive	0%	0%
N	30	16

Source: Experiment – group allocation round.

gram. We have previously seen that nonSCT communities leaned more toward an egalitarian distribution, which could be an effect of not having had any (recent) experience with poverty targeting in the community. We will now assess whether previous exposure translated into more progressive poverty targeting.

Looking at the depth of progressiveness with regard to the very poor, groups in nonSCT communities appear slightly more progressive, even if the difference between SCT and nonSCT communities (1.09 compared to 1.12) is rather small (see Table 9). The incidence of progressiveness of the different group distributions is higher in SCT communities than in nonSCT communities. In SCT communities, 53% of all distributions were mildly progressive for the very poor, compared to 38% of all distributions to the very poor in nonSCT communities. Experience seems to have had a positive even if subtle effect on the incidence of progressiveness in group distributions.

#### (c) *Determinants of progressiveness*

We now conduct a multi-variate analysis to examine the relative effect size of the different experiment conditions and the influence of other factors related to the giver. For this purpose, we use the following model, running separate logistic regressions<sup>20</sup> for each TC, starting with the individual round:

$$\text{Prob}(Y_i = 1) = \alpha + \beta E_i + \gamma A_i + \delta X_i + u_i \quad (4)$$

where  $\text{Prob}(Y_i = 1)$  – probability of giver *i* being progressive (TPI > 1) vis-à-vis the very poor,  $E_i$  – vector of experiment conditions for giver *i*,  $A_i$  – vector of attitude variables of giver *i*,  $X_i$  – vector of background characteristics of the giver *i*,  $\alpha$  – constant,  $\beta$ ,  $\gamma$ ,  $\delta$  – vectors of coefficients to be estimated, and  $u_i$  – error term.

Table 10 shows that the treatment condition, attitude as well as background characteristics of the giver prove decisive. If we restrict our sample to individuals in TC1, being very poor or having an important position in the community leads to more progressive results. The poverty status of the giver is only statistically significant for the sub-sample of individuals in TC1. Rather than pointing to a higher degree of progressiveness among the very poor, this effect might simply signal that the very poor in TC1 benefitted themselves.<sup>21</sup> In order to factor out self-regarding interests from the determinants for progressiveness, we now focus on the regression output for individuals in TC2.

Givers with an important position in the community have a 20% point higher probability of being progressive at the mean. This might be due to the fact that they have better access to

Table 10. *Logistic regression on determinants of progressiveness of individual distributions, by treatment condition*

Explanatory variables	Dependent variable: indicator variable that equals 1 when the giver is progressive (TPI>1) vis-à-vis the very poor	
	TC1	TC2
	Coefficients	
SCT community (0 = nonSCT, 1 = SCT)	0.29 (0.39)	-0.07 (0.31)
Recipient group has an additional better-off person than prescribed (0 = No, 1 = Yes)	0.53 (0.83)	-0.03 (0.44)
Giver agrees in general that government is responsible for the poor (0 = No, 1 = Yes)	-0.05 (0.69)	-1.77** (0.77)
Giver completely agrees that the community is responsible for the poor (0 = No, 1 = Yes)	0.25 (0.43)	-0.62* (0.33)
Giver agrees in general that the poor are responsible for their situation (0 = No, 1 = Yes)	-0.53 (0.38)	-0.79** (0.32)
Giver agrees in general with helping people who cannot do anything in return (0 = No, 1 = Yes)	0.30 (0.62)	0.78 (0.50)
Giver strongly agrees that overall, one cannot trust people (0 = No, 1 = Yes)	-0.34 (0.80)	-2.10*** (0.81)
Giver is very unhappy about community life (0 = No, 1 = Yes)	-1.85 (1.16)	-1.33* (0.81)
Giver is old (<65 = 0, 65 & above = 1)	-0.04 (0.40)	-0.09 (0.38)
Gender Giver (male = 0, female = 1)	-0.71* (0.39)	0.09 (0.33)
Giver poverty assessment: very poor (0 = No, 1 = Yes)	1.92*** (0.46)	0.39 (0.45)
Giver poverty assessment: poor (0 = No, 1 = Yes)	-0.73 (0.46)	0.57 (0.38)
Giver has an important position in the community (0 = No, 1 = Yes)	1.13*** (0.45)	0.86** (0.37)
Constant	-1.25 (0.95)	0.58 (0.90)
Pseudo $R^2$	0.24	0.11
N	212	226

Logistic regression estimates. In parentheses, standard errors. \*10% Significance level. \*\*5% Significance level. \*\*\*1% Significance level. Reference group = younger male non(very) poor givers from a nonSCT community with no important position in the community, who do not agree in general that government is responsible for the poor, do not completely agree that the community is responsible for the poor, do not agree in general that the poor are responsible for their situation, do not agree in general with helping people who cannot do anything in return, who do not strongly agree that overall one cannot trust people, who are not very unhappy about community life, and who give to a group that does not have an additional better-off person.

Source: Experiment – pre-survey, Experiment – individual allocation round and Experiment – survey II.

information about recipients or are simply more sympathetic to the destiny of the very poor given their position in the community. Next to progressive community members with a status position, there were a number of other factors that influenced progressiveness among individuals in TC2. Givers who thought that the poor were responsible for their own situation as well as givers who were very unhappy about community life or very distrustful of people in general, were less progressive.<sup>22</sup> The same holds for givers who thought in general that the government or the community should take responsibility for the poor. Those givers might have sensed less responsibility on their own part to redistribute in a progressive way.

When we use the same regression framework to identify determinants of progressiveness in the group round, using experiment conditions (experiment location and treatment condition) and the group characteristics (average age, share of very poor, share of women, share of CWAC members, or the share of people with an important position in the community) as explanatory variables, only a few variables that are statistically significant at the 10% level emerge for groups in TC2. This is probably due to the fact that there is not a great deal of systematic variation across groups because of the random selection of group participants and the fact that we have a limited number of 46 observations. Groups in TC2 that were on average older and groups with a higher share of very poor members proved less progressive. These groups might have had fewer literate members and less information about other community members.

## 6. CONCLUDING REMARKS

Using experimental research in rural Zambia, we have been able to enlarge the evidence base for CBT. The first interesting finding is that preferences for redistribution prevail over egalitarian motives of individuals, which is startling in a high-poverty context with relatively subtle differences across community members. Egalitarianism is much less a preference

in rural community settings than a pragmatic choice, in reaction to pressure, and practical constraints such as little exposure to targeting and subsequent uncertainty.

The second noteworthy finding is that, when individuals and groups make decisions for other community members neither favoritism to close relatives nor favoritism to those in the community with an important social position seems to drive the token allocation. The only effect in terms of inter-personal relations is the inclination of givers to give preference to those who share similar characteristics. This confirms the theory that people are more willing to redistribute to those with whom they can identify. The motives behind the group distribution are similar, with outcomes not being tweaked in favor of those with a status position in the community and poverty prevailing over favoritism. On the basis of the experimental evidence, we therefore cannot conclude that CBT is mainly used as a vehicle for favoritism to family members or for the maintenance of one's social network.

A finding that critics of CBT might have expected is that poverty disappears as the main motive when the experiments allow participants to behave selfishly, at least in communities with prior exposure to targeting. This finding resonates with the criticism that CBT opens up the potential for self-enrichment. Selfishness is however constrained in the group decision-making process. Selfishness is not more prevalent among givers who are better-off or who have an important position in the community, raising the question as to whether elite capture is not an over-emphasized problem of CBT.

Overall, there is very little consistency across individual and group allocations for the same recipient. This demonstrates that community members are either informed to varying degrees about the situation of the individual, that they do not share the same assessment or have different motives. Despite these discrepancies, participants were overall very satisfied with the group outcomes and process, implying that the majority did not feel that the group decision was imposed on them. Satisfaction levels were slightly lower in communities where participants decided for members of their own group

and in this way also expressed their satisfaction with the group outcome for themselves.

Unlike the findings by the meta-study on CBT, we do not find any conclusive evidence that greater transparency produces more progressive outcomes. This could be mainly related to the fact that transparency influences targeting choices through different channels: it limits regressive choices through more checks and balances, facilitates progressive choices through better collective information but can also inhibit more progressive choices through greater peer pressure. Prior exposure to targeting seems to have an impact on the incidence but not on the depth of progressiveness of group distributions. There are also other determinants of progressiveness that surface at the individual level: givers who enjoy a particular social status in the community are more progressive, while unhappiness with the community life, distrust vis-à-vis other community members as well as a strong belief in individual responsibility for one's destiny, produce less progressive choices.

On the basis of this study, we can conclude that CBT leads to at least mildly progressive outcomes and does not produce any conflicts or greater dissatisfaction among participants of the experiment. If the government's intention is to decentralize the targeting mechanism, it seems sensible to have people with a certain authority in the community on the targeting committee as they seem to be more progressive in their choices. A decentralized mechanism also appears to have greater potential in communities where people are generally satisfied with community life, where they know each other better, and where

there is less distrust. It would therefore be advisable for government to either use CBT selectively in communities where there is already a high degree of cohesion and information or to ensure that more information about community members is made publicly available.

Even if the group decision-making process limits the possibilities for self-enrichment, it might be advisable to have additional checks and balances in place. The present rule in Zambia's SCT program of not allowing committee members to register themselves as beneficiaries seems a wise precaution in that sense. The downside is that it might reinforce paternalistic patterns of the rich granting transfers to the poor.

The experiments have proven an insightful methodology to get a more detailed understanding of rural targeting preferences and how they aggregate at group level. The fact that we concentrated on a controlled field experiment as opposed to a policy evaluation, allowing us to vary different parameters of a policy and get a better understanding of the different transmission mechanism, makes our findings even relevant outside of Monze district. In order to strengthen the external validity of the results, it would still be recommendable to replicate the experiment at a broader scale. For studying in greater depth any dynamic effects that develop over time when people learn how to manipulate the system, face the consequences of inappropriate targeting behavior, or when there is more exchange between those selecting and those benefiting, researchers should consider designing multiple targeting rounds in future experiments.

## NOTES

1. In addition, we also need to differentiate between pure CBT and hybrid forms where CBT is combined with other targeting methods such as geographical targeting, categorical targeting, or a proxy-means test to further narrow down the target group, confirm, or rectify targeting choices.

2. Out of the 14 programs with CBT reviewed by [Coady et al. \(2004\)](#), the median program gives 40% more to the poor than a uniform distribution. Looking at 30 programs that use CBT as one of the targeting components, [Yusuf \(2010\)](#) concludes that 10 were considered progressive in targeting and 16 mildly progressive.

3. [Coady et al. \(2004\)](#) report an inter-quartile range of 0.78 for programs using CBT.

4. While CBT appears to have exacerbated inequality in some countries ([Pan & Christiaensen, 2011](#)), [Yamauchi \(2010\)](#) and [Coady et al. \(2004\)](#) find the exact opposite effect.

5. Conning and Kevane (2002) conclude that CBT works best in cases where the program is limited to a small percentage of the population so that the community-based selection committee still manages to behave altruistically toward those worse off. This is contested by a range of other studies ([Adato & Haddad, 2002](#); [Chininga, 2005](#); [Coady et al., 2004](#); [Pan & Christiaensen, 2011](#)) that show that insufficient resources complicate the decision-making process in the communities and lead to benefits either being spread too thinly or in a random way.

6. [Watkins \(2008\)](#) highlights for Zambia that more guidance and supervision, next to high community cohesion and lower extreme poverty rates, leads to better results. [Yusuf \(2010\)](#) in his meta-review however does not find any evidence that more discretion and hence less guidance of communities in making choices translates into poorer results.

7. About 54 people volunteered in each community.

8. A separate paper analyzes individual preferences and group choices with respect to conditionality. To the author's knowledge, there is no theory or evidence showing that targeting preferences are influenced by givers' ability to condition the support. If we were interested in testing in what way the possibility to condition the support influences targeting choices, we would have to design an experiment that asks participants to target with and without the option of conditionality.

9. The amounts given out of the motive to support the poor or those without support are different in a statistically significant way (at the 1% level) from the amounts given out of the investment and proximity motive.

10. For a discussion of different methods, see [Coady et al. \(2004\)](#).

11. Among the very poor only 37% received no tokens from at least one other person, compared to 44% of the poor and 57% of the better-off. The maximum number of tokens that the very poor got from another participant was 5.1 tokens on average, compared to 3.8 tokens for the poor and 3.6 tokens for the better-off.

12. 60% of groups playing the experiments had the desired group composition of three very poor, four poor and three better-off participants. In 14% of all experiments, there was one or two more very poor as envisaged; in 18% of all experiments, there was an additional poor person and in eight percent of all experiments we saw an additional better-off person playing. These differences to the original design can be explained by the fact that in a few cases the poverty status was reconsidered after the randomization and that in a number of groups, participants on the stand-by list were called upon who did not always share the same poverty status.



13. Half of all giver-receiver couples have no relationship. 20% of relationships between giver and recipient were family relationships, followed by neighbor relations (17%) and friendships (6%). Around one percent of givers mentioned a relationship to one of the prominent people in the village (chief, school teacher, and pastor) and church mates. Even if half of all participants had no official relationship with fellow participants, only 3% claimed that they did not really know the other person. About 52% knew the other person very well, 22% well, 14% a bit, and 8% hardly.

14. Givers who were recipients at the same time, were excluded from this analysis.

15. We assume that OLS produces estimators that are unbiased and consistent. First of all, large outliers are absent in our case as both the dependent and explanatory variables have limited ranges. Secondly, despite random sampling, we can see that observations are not independent as every giver makes 10 decisions in the experiment and each allocation decision influences the next. We allow for this dependence by clustering the data by giver, using robust standard errors. In order to test whether the order of the numbering of potential recipients made a difference, we assessed to what extent the first recipient in each poverty category received more. We did not find any consistent ranking so there does not seem to be a systematic bias. Thirdly, with respect to any possible endogeneity bias, we can say the following: the experiments were specifically designed in a way to test the hypotheses around targeting. This limits the chances that any important variables were omitted. There might be different individual effects across givers and across recipients but we do not see any reason for assuming that they systematically bias the other variables included in the model. In addition, it makes sense to opt for a random-effects rather than a fixed-effects model in our case as we are not specifically interested in the individual as such but in the effect of particular characteristics of individuals. We can assume that there are some measurement errors with respect to the poverty classifications but those are not likely to be huge, as discrepancies between the external and self-assessment are moderate and poverty characteristics such as number of livestock, state of housing, number of meals consumed etc. of the experiment participants do vary according to their poverty status. As discussed in the methodology section, volunteers participating in the experiment can be expected to share similar characteristics to community members who volunteer to target beneficiaries for a social transfer program, reducing the likelihood of selection bias. Given that participants made their choices in private and opportunities for information exchange among participants were limited, there is little risk for simultaneous causality bias, in the sense that givers made choices with a particular expectation of reciprocity.

16. The maximum number a very poor person would be entitled to are 20 tokens divided by the number of very poor in his/her group. A poor person in the best case scenario would receive an equal share with all the very poor and poor. A better-off person could hope for an equal share with all the group members.

17. Absolute differences are higher for TC1 (4.8 vs. 3.8 for TC2 with the difference being statistically significant at the 1% level), probably because TC1 allowed individuals to distort results in their favor. This in turn led to greater discrepancies with the group outcome.

18. We observe great variability in poverty assessments across different individuals. There is not a single recipient who received tokens out of the same poverty motive by all givers of his/her group. Only 5.3 givers on average acted out of the same poverty motive for the poorest recipients. There was also considerable variation in the number of tokens that individuals received from different members of the group: on average, each individual transfer deviated from the average group transfer by 0.7 tokens and the maximum difference of tokens came to an average of 2.4.

19. Differences were statistically significant for the first three questions on comfort levels with the group decision, the fairness of the decision-making process, and on everybody having an equal chance to influence the outcome. Satisfaction levels differed on average by 0.25 for these three questions.

20. OLS regression with TPI as the dependent variable produces similar results, in particular for TC2. All variables that are statistically significant in the logistic regression have the same sign in the OLS regression. The variable on the poverty status of the giver for TC1 and the variables on the responsibility of the government, the distrust, and the poor being responsible for TC2 prove statistically significant in the OLS as well as the logistic regression.

21. The very poor did not turn out as particularly progressive givers when this opportunity for self-allocations was denied to them (TC2).

22. The probability of them being progressive is 18, 24, and 32 percentage points lower respectively at the mean, compared to givers who do not think that the poor are responsible, who are happy with the community life, and trustful.

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