SPRINGBOARD FOR SCHOOL READINESS

IMPACT EVALUATION IN BULGARIA

SIEF BASELINE VALIDATION REPORT

January 2015

Prepared by: Joost de Laat (TTL) Elise Huillery (PI), and Robin Audy (STC)

CONTENTS

In 2013, SIEF approved an impact evaluation of a new project (now formally called "the Springboard for School Readiness") in Bulgaria that seeks to increase preschool participation for disadvantaged children, Roma children especially.

IMPLEMENTATION PARTNERS AND INVESTIGATORS

PROPOSAL

The evaluation and project were designed in partnership with the Trust for Social Achievement (TSA) under the America for Bulgaria Foundation and with principal investigators Professor Elise Huillery, Professor Paul Gertler, and World Bank Senior Economist Joost de Laat (then in the World Bank Europe and Central Asia Human Development department). In Spring 2013, the Bulgarian Ministry of Education provided a written confirmation expressing its willingness to cooperate on this project on the basis of its policy relevance.

ACTUAL

Same.

Additionally, written endorsements have been received from the Ministry of Labor and from the Association of Municipalities. The evaluation also received extensive support from Plamen Danchev, Education Specialist in the World Bank Sofia Country Office. And, the World Bank Europe and Central Asia region provided USD 36k in additional financing support.

OBJECTIVE:

PROPOSAL

The primary objective of this impact evaluation is to provide policy relevant information on how to most cost-effectively address pre-school participation, promote quality early learning, and promote full inclusion in the broad sense for poor Roma children in Bulgaria.

ACTUAL

Same.

INTERVENTION DESIGN

ORIGINAL

The proposal included implementing the evaluation in 240 settlements, sampling 25 households in each.

The original proposal included the following intervention arms, randomly assigned:

A: Free access to pre-school education

B: Free access to pre-school education + financial incentive

C: Information about the benefits of education and promoting interaction between parents and preschool officials

Specifically, the study design proposed:

	No Financial Intervention	Free Pre-School Education	Free Pre-School Education + Financial Incentive	Total
No Information	27 settlements of 25 households	27 settlements of 25 households	27 settlements of 25 households	80 settlements of 25 households
50% of households receive information	53 settlements of 25 households	53 settlements of 25 households	53 settlements of 25 households	160 settlements of 25 households
Total	80 settlements of 25 households	80 settlements of 25 households	80 settlements of 25 households	240 settlements of 25 households

ACTUAL

The actual implementation was nearly the same as the proposed one. 240 settlements were selected, sampling 25 households in each, with the exception of those settlements were there were fewer than 25 eligible households, with eligibility being defined as having a child aged 3-5 by September 2014, the start of the (pre-)school year.

From the target list of 240 communities, TSA carried out a pilot intervention in 4 communities during the 2013-2014 school year, leaving 236 communities as the target population for the impact evaluation.

The actual intervention being evaluated is the same as the one that was proposed, with two minor modifications:

- **Group B "Free access to pre-school education + financial incentive" was divided into two subgroups**: one with a relatively low financial incentive (conditional on attendance, defined as 'no unexcused absences') of 7 Bulgarian leva per month[1] and another with a higher conditional financial incentive of 20 Bulgarian leva per month. This modification was motivated by the fact that the limited existing IE evidence on the *size* of the transfer suggests that it may not actually matter much. Because this has obvious important policy implications, the team decided to have both a low and a higher amount;
- **Group C: "Information about the benefits of education" is targeted at all eligible households;** it proved practically impossible to target '50% of the households"; instead, all households with children ages 3-5 are invited to join the meetings.

---

[1] 1 USD ~ 1.65 BGN LEVA (January 2015)

PROPOSAL

The team proposed a baseline household survey in Spring 2014 and an endline survey in May 2015, as well as a survey of the kindergarten and attendance spot checks.

ACTUAL

A Community Listing survey was carried out in April 2014 to collect information on the communities and the kindergartens. In each eligible community, the mayor was interviewed, the kindergarten director, and a community leader. Basic community and kindergarten information was collected. The 240 eligible communities were identified as follows: Using a list of segregated communities previously created by the Open Society Institute (OSI) several years ago, a preliminary list of 320 segregated vulnerable communities was already available. Supported by SIEF, OSI collected some additional information in April 2014 ("Community Listing") to identify those 240 municipalities that were sufficiently large (target: at least 25 eligible households) and where the local mayor and kindergarten principal provided consent to participate in the evaluation. In practise, there were only 208 municipalities with settlements that had at least 25 eligible households. The remainder 32 had between 10 and 24 eligible households.

The baseline survey was conducted by OSI in April-May 2014 and covered the 5,772 households with eligible children across the 236 communities. This followed the Community Listing exercise in April 2014 described above. For those communities with more than 25 eligible households, the enumerators selected the households through a random walk. All participating parents provided written consent. The baseline survey captured information on demographics, education, and employment of all household members, including information on literacy and numeracy, as well as information on child rearing/interaction practices and attitudes toward parenting and education. It also included information on assets and dwelling characteristics. There were 427 refusals.

The survey data have been uploaded in the World Bank's micro data catalogue.

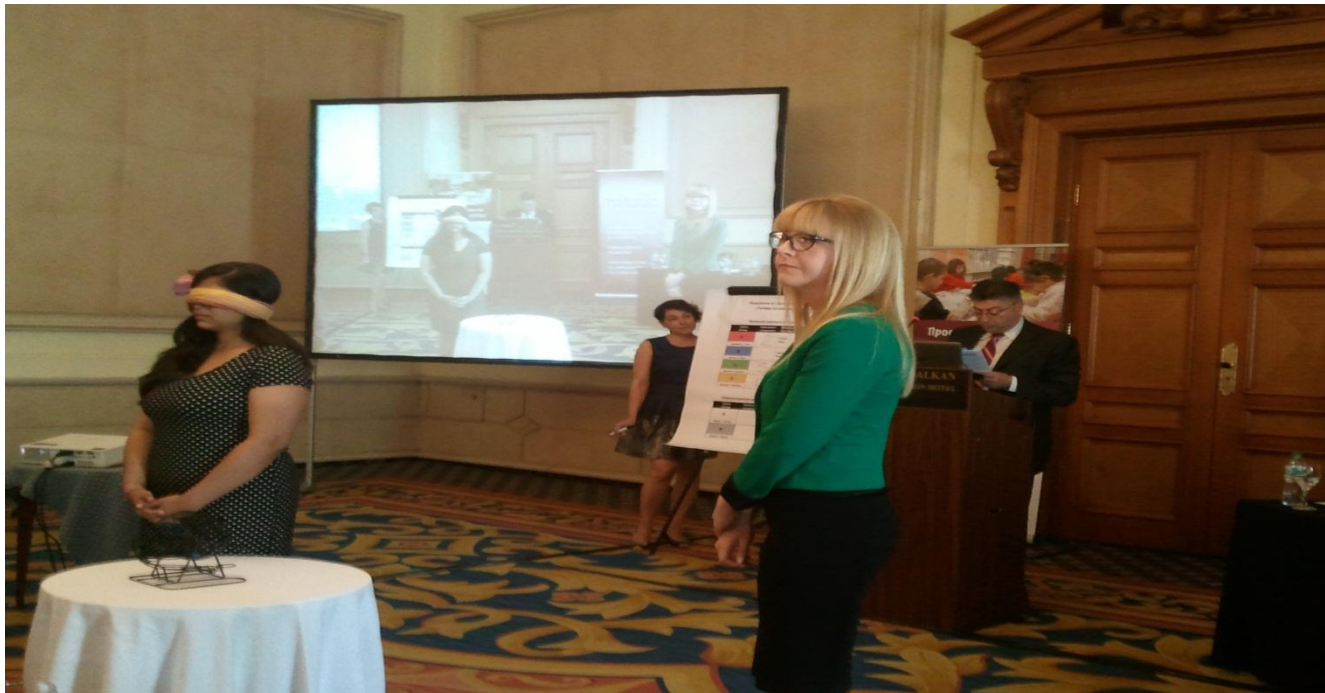## PROGRAM ASSIGNMENT TO TREATMENT AND CONTROL

PROPOSAL

A lottery was proposed to assign the communities to treatment and control.

ACTUAL

A public lottery to assign the interventions was organized on June 30, 2014. The lottery was held at the Sheraton, Sofia hotel, where the 236 communities, many of which are Roma settlements, were randomly assigned to the interventions. Each of the 236 mayors and the kindergartens had provided consent to participating.

Picture: Public Lottery (Sofia, June 30, 2015)

The lottery was held in the presence of representatives of the Ministry of Education, the National Association of Municipalities in Bulgaria, mayors, directors of kindergartens, NGOs and others. Each community had both an "A", "B", "C", or "D" randomly assigned to reflect the three financial incentives (or control group), and had a "X" or "Y" randomly assigned. Using information from the Community Listing done in April 2014, random assigned was stratified by the implementing NGO and the number of available spots in the kindergarten.

This created the following groups:

   A. **Financial intervention:**
      59 free preschool communities
      59 free preschool + 7 leva communities
      59 free preschool + 20 leva communities
      59 comparison (no financial intervention)

   B. **Information and Community Outreach**
      118 information and outreach communities
      118 comparison (no info and outreach)

Since each community was randomly assigned to one of the Financial options and one of the Information and outreach options, there are effectively 8 subgroups altogether of (236/8=) 39 communities each.
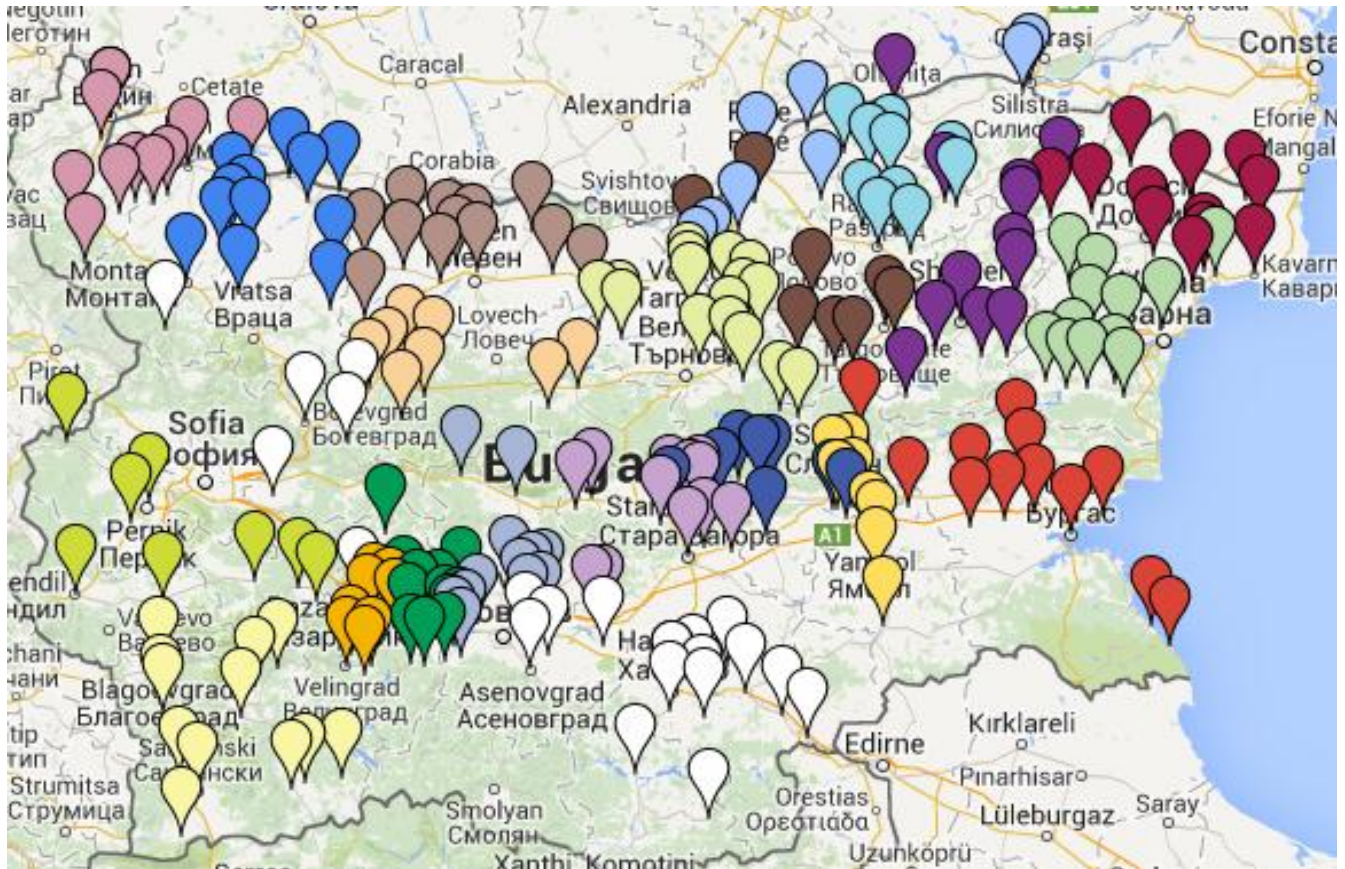
PROGRAM LAUNCH

PROPOSAL

The project was expected to be launched in Summer 2014.

The Trust of Social Achievement (under the America for Bulgaria Foundation (ABF)) launched the project in August 2014. It is being implemented through 20 local NGOs. The map below shows the allocation of communities across the 20 NGOs.

Figure: Allocation of Implementing NGOs (20) across the 236 communities

Reports from the field indicate that the implementation is going well. TSA trained all the 20 NGOs and each of the 236 – 39 (pure control) = 197 kindergarten principals. An implementation constraint in some communities is that there is not enough room to enroll all the eligible children that would like to enroll. This is not a constraint for the evaluation as this is something that is part of the reality on the ground.

BASELINE BALANCE CHECKS

The baseline sample is very well balanced across all program assignment groups. This is shown in the table in the appendix. Forty-one key variables were tested, covering demographics, education, livelihoods, and parental care practices. For each of these, means were calculated for the 8 intervention sub-groups; 1 pure control and 7 groups that receive some combination of financial incentives and (no) information. Clustering for community, a t-test is carried out between the mean of the pure control and each of these 7 groups for each of the 41 variables; i.e. 287 t-tests. In 13 out of the 287 (two-sided) t-tests, the means are significantly different (with p-values <0.10); in comparison, if these means were all randomly drawn from <u>identical</u> underlying distributions, we would expect nearly 30 significant differences by pure chance.

PLANS AHEAD

Conform the original proposal, the following impact evaluation activities are planned:

1. January 2015: contracting follow-up survey work with OSI
2. February-May 2015: random attendance spot checks by OSI for all 5,772 children
3. May 2015: endline survey

For the endline survey the team will partner with Save Children, which has granted use of its new survey called IDELA (International Development and Early Learning Assessment) to measure motor skills, emergent math, emergent literacy, and socio-emotional skills of 3-6 year old children. Save will provide training to OSI enumerators.

MEANS AND MEANS DIFFERENCE TEST WITH CONTROL GROUP

Variable	N	Control No info	Control Info	Free No info	Free Info	Twenty lev No info	Twenty lev Info	Seven lev No info	Seven lev Info
Age	5772	3.90 {0.043}	3.85 [0.557]	3.93 [0.675]	3.80 [0.172]	3.86 [0.607]	3.92 [0.786]	3.89 [0.967]	3.91 [0.860]
Female	5772	0.460 {0.020}	0.505 [0.131]	0.491 [0.276]	0.479 [0.520]	0.502 [0.184]	0.502 [0.181]	0.454 [0.828]	0.477 [0.535]
Ethnicity: Bulgarian	5772	0.241 {0.040}	0.220 [0.707]	0.219 [0.709]	0.193 [0.424]	0.154 [0.126]	0.165 [0.181]	0.182 [0.279]	0.202 [0.501]
Ethnicity: Turkish	5772	0.150 {0.048}	0.131 [0.754]	0.143 [0.908]	0.139 [0.858]	0.227 [0.331]	0.212 [0.408]	0.331** [0.021]	0.147 [0.959]
Ethnicity: Roma	5772	0.602 {0.059}	0.629 [0.741]	0.614 [0.882]	0.631 [0.724]	0.614 [0.895]	0.614 [0.881]	0.475 [0.151]	0.611 [0.916]
Ethnicity: Other	5772	0.001 {0.001}	0.016 [0.206]	0.021 [0.158]	0.015 [0.131]	0.001 [0.979]	0.004 [0.399]	0.008 [0.108]	0.031 [0.206]
Language: Bulgarian	5772	0.375 {0.062}	0.379 [0.962]	0.344 [0.723]	0.336 [0.668]	0.341 [0.709]	0.259 [0.176]	0.287 [0.309]	0.441 [0.473]
Language: Turkish	5772	0.218 {0.061}	0.144 [0.345]	0.187 [0.710]	0.173 [0.594]	0.284 [0.471]	0.284 [0.458]	0.417** [0.044]	0.193 [0.759]
Language: Romany	5772	0.401 {0.071}	0.470 [0.499]	0.463 [0.521]	0.453 [0.604]	0.369 [0.746]	0.449 [0.632]	0.293 [0.266]	0.323 [0.406]
Language: Other	5772	0.000 {0.000}	0.003 [0.283]	0.004 [0.174]	0.015 [0.125]	0.000 [.]	0.003 [0.161]	0.000 [.]	0.032* [0.066]
Religion: Orthodox	5772	0.499 {0.070}	0.493 [0.959]	0.467 [0.761]	0.453 [0.643]	0.433 [0.492]	0.420 [0.410]	0.328* [0.084]	0.398 [0.303]
Religion: Protestant	5772	0.085 {0.039}	0.172 [0.220]	0.139 [0.427]	0.125 [0.544]	0.138 [0.383]	0.094 [0.881]	0.092 [0.910]	0.198 [0.123]
Religion: Sunni muslim	5772	0.213 {0.063}	0.224 [0.903]	0.286 [0.446]	0.207 [0.942]	0.276 [0.498]	0.318 [0.273]	0.413** [0.042]	0.209 [0.959]
Religion: No religion	5772	0.091 {0.028}	0.086 [0.889]	0.096 [0.899]	0.133 [0.378]	0.143 [0.315]	0.132 [0.416]	0.122 [0.586]	0.120 [0.478]
Religion: Other	5772	0.103 {0.044}	0.013** [0.048]	0.011** [0.037]	0.058 [0.404]	0.003** [0.020]	0.032 [0.119]	0.031 [0.113]	0.062 [0.486]
Attended KG before	5772	0.711 {0.043}	0.669 [0.506]	0.666 [0.528]	0.661 [0.439]	0.725 [0.809]	0.706 [0.941]	0.638 [0.256]	0.695 [0.808]
Past 3 days child got read books	5683	0.530 {0.043}	0.439 [0.169]	0.499 [0.653]	0.441 [0.191]	0.451 [0.237]	0.499 [0.631]	0.552 [0.734]	0.482 [0.455]
Past 3 days child got told story	5687	0.723 {0.048}	0.605 [0.104]	0.635 [0.224]	0.685 [0.570]	0.622 [0.120]	0.635 [0.197]	0.738 [0.813]	0.661 [0.347]
Past 3 days child sang	5687	0.760 {0.049}	0.690 [0.314]	0.710 [0.471]	0.740 [0.753]	0.732 [0.664]	0.743 [0.783]	0.776 [0.807]	0.749 [0.855]

Variable	N	Control No info	Control Info	Free No info	Free Info	Twenty lev No info	Twenty lev Info	Seven lev No info	Seven lev Info
Past 3 days child was taken outside	5694	0.922 {0.026}	0.935 [0.727]	0.923 [0.976]	0.927 [0.881]	0.918 [0.902]	0.941 [0.524]	0.948 [0.373]	0.934 [0.706]
Past 3 days child played with toys	5684	0.759 {0.052}	0.710 [0.534]	0.795 [0.613]	0.728 [0.667]	0.734 [0.720]	0.766 [0.914]	0.800 [0.545]	0.769 [0.882]
Past 3 days naming, counting, drawing	5686	0.671 {0.055}	0.626 [0.560]	0.660 [0.899]	0.717 [0.516]	0.647 [0.765]	0.677 [0.927]	0.760 [0.196]	0.663 [0.910]
Parent School None	5772	0.109 {0.024}	0.183* [0.081]	0.158 [0.273]	0.129 [0.576]	0.159 [0.147]	0.151 [0.265]	0.163 [0.174]	0.116 [0.818]
Parent School Initial	5772	0.298 {0.034}	0.314 [0.770]	0.318 [0.668]	0.370 [0.131]	0.316 [0.667]	0.329 [0.480]	0.267 [0.512]	0.259 [0.409]
Parent School Primary	5772	0.342 {0.025}	0.284 [0.189]	0.307 [0.415]	0.335 [0.865]	0.325 [0.669]	0.323 [0.628]	0.368 [0.487]	0.360 [0.631]
Parent School Secondary	5772	0.208 {0.027}	0.168 [0.335]	0.173 [0.380]	0.129** [0.033]	0.146* [0.082]	0.155 [0.179]	0.161 [0.220]	0.229 [0.636]
Parent School Higher	5772	0.044 {0.009}	0.052 [0.595]	0.044 [0.983]	0.037 [0.568]	0.053 [0.720]	0.042 [0.855]	0.041 [0.833]	0.036 [0.528]
Parent no problem to read anything	5772	0.533 {0.060}	0.538 [0.951]	0.530 [0.968]	0.529 [0.964]	0.556 [0.760]	0.570 [0.634]	0.586 [0.519]	0.565 [0.676]
Parent can read something, but with some problems	5772	0.248 {0.039}	0.189 [0.252]	0.207 [0.442]	0.241 [0.901]	0.223 [0.615]	0.225 [0.650]	0.190 [0.250]	0.232 [0.766]
Parent can read only a little and with big problems	5772	0.142 {0.036}	0.134 [0.870]	0.141 [0.993]	0.122 [0.638]	0.104 [0.369]	0.104 [0.365]	0.107 [0.408]	0.101 [0.309]
Parent cannot read at all	5772	0.066 {0.015}	0.105 [0.156]	0.117 [0.129]	0.097 [0.244]	0.100 [0.189]	0.093 [0.306]	0.107 [0.176]	0.089 [0.342]
Parent no problem to write anything	5772	0.530 {0.060}	0.525 [0.942]	0.520 [0.902]	0.516 [0.855]	0.546 [0.838]	0.562 [0.686]	0.580 [0.539]	0.546 [0.839]
Parent can write something, but with some problems	5772	0.244 {0.039}	0.192 [0.316]	0.211 [0.545]	0.233 [0.841]	0.203 [0.398]	0.215 [0.570]	0.182 [0.219]	0.226 [0.744]
Parent can write only a little and with big problems	5772	0.131 {0.030}	0.146 [0.745]	0.141 [0.786]	0.134 [0.925]	0.121 [0.798]	0.111 [0.590]	0.115 [0.661]	0.116 [0.683]
Parent cannot write at all	5772	0.084 {0.021}	0.105 [0.502]	0.122 [0.325]	0.107 [0.494]	0.113 [0.393]	0.101 [0.580]	0.113 [0.391]	0.098 [0.608]
Total Housheold income	5772	431 {21.549}	369* [0.070]	459 [0.470]	372* [0.087]	387 [0.251]	419 [0.729]	383* [0.093]	399 [0.307]
Asset index (PCA)	5596	-0.092 {0.208}	0.072 [0.591]	-0.221 [0.632]	0.127 [0.445]	0.146 [0.384]	0.116 [0.520]	-0.049 [0.877]	-0.116 [0.932]
Dwelling quality index (PCA)	5697	-0.134 {0.199}	0.082 [0.464]	-0.309 [0.535]	0.156 [0.327]	0.198 [0.237]	0.115 [0.360]	0.037 [0.506]	-0.158 [0.928]
There are reading books in the hh	5750	1.601 {0.051}	1.657 [0.412]	1.577 [0.747]	1.685 [0.173]	1.626 [0.726]	1.614 [0.852]	1.673 [0.265]	1.601 [1.000]
Walking distance to KG is 15 minutes or less	5772	0.401 {0.054}	0.426 [0.714]	0.356 [0.542]	0.412 [0.889]	0.376 [0.737]	0.438 [0.623]	0.327 [0.270]	0.381 [0.781]

Variable	N	Control No info	Control Info	Free No info	Free Info	Twenty lev No info	Twenty lev Info	Seven lev No info	Seven lev Info
Current total KG monthly fees and costs for child	3689	34.5 {2.654}	29.5 [0.172]	34.6 [0.976]	29.3 [0.117]	30.2 [0.253]	28.9 [0.134]	35.0 [0.891]	33.9 [0.864]

Note: Means for each treatment arms. Standard error of the mean in {curly brackets} only for financial control / no-info group. Also two-tailed means difference test p-values in [square brackets], showing the comparison to the financial control / no-info group. Stars signal the null hypothesis of difference between means cannot be rejected (so means are different) when the significance level of the test is set to 10% (*), 5% (**), and 1% (*). All standard errors and test are calculated with clustering at the community level.