

# Supplementary Online Material

How migrants benefit poor communities:  
Evidence on collective action in rural Zambia

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July 2, 2019

This Appendix is intended for online publication along the original article and contains additional information for interested readers. The supplementary appendices contain descriptive statistics, several robustness tests and the experimental protocol.

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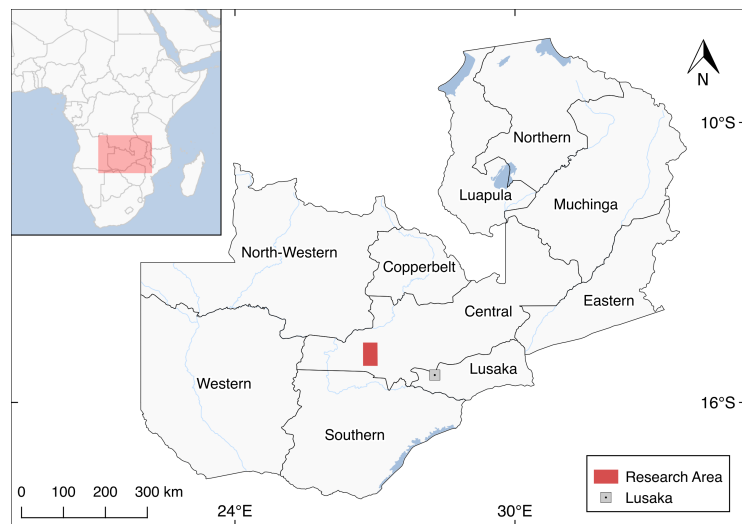
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## Appendix A

### Location of Research Area



**Figure A.1:** Location of the Research Area (Source: Own Illustration)

## Appendix B

# Individual Cash Income

If migrants would only gain a higher income after migration, this effect would most likely increase with time and it is unclear why migrants would be more successful farmers as they all tend to grow similar crops with similar farming techniques. On the contrary, migrated households are for example required to clear forest areas for agriculture, which commonly takes several years and they don't possess the local knowledge of the soils and climate as locals might do. Nevertheless, we carried out an analysis to see whether wealth of migrants differs with the number of years they migrated. In line with our arguments above we find that migrants, who just recently migrated (0 to 2 years ago) do not have a significant different cash income than migrants who moved earlier (3 to 5 and 6 to 10 years ago, see Column 1, Table B.1). In addition, we can control for other individual characteristics that might influence that migrants have a higher income than locals such as age and education. Through regression analysis we find that age has a quadratic relationship with cash income: above an age of 57.5 years the average cash income declines again. After controlling for such individual characteristics, we find that migrants still have a significant higher cash income than locals (see Column 2, Table B.1 below). We interpret these findings as supportive (but not conclusive) evidence that migrants were better-off before migration than locals in the host communities.

**Table B.1:** Regression Results Individual Cash Income

	<i>Dependent variable:</i>	
	Migrants (1)	Cash Income Overall (2)
Migrated 3-5 Years	-170.407 (972.107)	
Migrated 6-10 Years	-122.393 (723.596)	
Migrant		328.079** (144.076)
Age	118.981*** (49.837)	67.609*** (20.484)
Age2	-1.035** (0.479)	-0.614*** (0.214)
Gender: Male	402.465 (573.963)	238.943 (173.280)
Household Head	-163.265 (739.297)	-160.943 (180.871)
Education (Years)	95.038 (131.306)	64.559 (39.389)
Observations	109	292
R <sup>2</sup>	0.080	0.089
Adjusted R <sup>2</sup>	-0.182	0.011
F Statistic	1.048 (df = 7; 84)	4.356*** (df = 6; 268)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only)  
village fixed effects);  
'rigged' Standard Errors in Parentheses

*Land Economics* 96(1), February 2020  
“How Migrants Benefit Poor Communities: Evidence on Collective Action in  
Rural Zambia” by Tobias Vorlauffer and Björn Vollan

## Appendix C

# Correlation - Village Characteristics

**Table C.1:** Correlations Between Village Characteristics

	Size (Households)	Share of Migrated Households (0-10 years)	Share of Migrated Households (>10 years) <sup>a</sup>	Share of Indigenous Households <sup>a</sup>	Ethnic Fractionalization <sup>b</sup>	Ethnic Fractionalization (Locals) <sup>b</sup>	Ethnic Fractionalization (Migrants) <sup>b</sup>	Gini Coefficient Income <sup>b</sup>
Size (Households)	-0.38							
Share of Migrated Households (0-10 years)		0.94***						
Share of Migrated Households (>10 years) <sup>a</sup>		0.71**	0.91***					
Share of Indigenous Households <sup>a</sup>		-0.49*	0.23	-0.37				
Ethnic Fractionalization <sup>b</sup>	0.22	-0.09	0.23	-0.37				
Ethnic Fractionalization (Locals) <sup>b</sup>	0.20	0.30	-0.14	-0.08	0.51*			
Ethnic Fractionalization (Migrants) <sup>b</sup>	0.29	-0.39	0.30	-0.15	0.20	-0.50*		
Gini Coefficient Income <sup>b</sup>	0.22	-0.27	0.33	-0.34	-0.21	-0.04	0.02	
Income Gap (Migrants, Locals) <sup>b</sup>	0.44	-0.42	0.42	-0.34	-0.07	0.05	0.25	0.74***

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ; (Somers Rank Correlation), <sup>a</sup> Estimated shares by combining village level data and sample data; <sup>b</sup> Based on sample.

## Appendix D

# Socio-Economic Characteristics in Villages Below and Above the Median Income Ratio

**Table D.1:** Socio-Economic Characteristics of Migrants by Villages Below and Above the Median Income Ratio

Variable	Above	Below	P-Value
Age (Years)	45.62	40.55	0.083*
Education (Years)	7.55	6.95	0.276
Cash Income (USD, Year)	1135.95	477.71	0.147
Cash Income/ Village Average	1.93	0.95	0.325
Socio-Economic Status <sup>b</sup>	0.16	0.10	0.986
Risk Aversion	5.44	5.11	0.674
Real Public Good Contributions (USD, Year)	7.14	4.68	0.759
Migrant Perception Index <sup>c</sup>	0.29	0.35	0.483
Group Membership	1.05	1.00	0.973
Friendship Ties	1.38	1.36	0.828
Kinship Ties	0.85	1.21	0.33
Male (Share) <sup>a</sup>	76.36	82.14	0.605
Household Head (Share) <sup>a</sup>	87.27	85.71	1.000
Multi-Ethnic Households (Share) <sup>a</sup>	41.82	28.57	0.207
		Joint F-Test	0.450

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).



**Table D.2:** Socio-Economic Characteristics of Locals by Villages Below and Above the Median Income Ratio

Variable	Above	Below	P-Value
Age (Years)	44.84	42.87	0.871
Education (Years)	6.16	6.30	0.934
Cash Income (USD, Year)	238.82	512.01	0.00***
Cash Income/ Village Average	0.49	1.07	0.00***
Socio-Economic Status <sup>b</sup>	-0.16	-0.08	0.383
Risk Aversion	5.15	5.24	0.716
Real Public Good Contributions (USD, Year)	3.92	4.70	0.049**
Migrant Perception Index <sup>c</sup>	-0.06	-0.29	0.111
Group Membership	0.79	1.06	0.09*
Friendship Ties	1.54	1.49	0.301
Kinship Ties	1.55	1.91	0.158
Male (Share) <sup>a</sup>	73.91	77.42	0.863
Household Head (Share) <sup>a</sup>	83.70	79.57	0.122
Multi-Ethnic Households (Share) <sup>a</sup>	40.22	54.84	0.814
		Joint F-Test	0.001***

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

## Appendix E

# Balancing Tests between Treatments

**Table E.1:** Pairwise F-Tests for Differences in Socio-Economic Characteristics between Treatments

Pairwise Comparison	P-Value <sup>a</sup>	
	Locals	Migrants
MIG1 – MIG2	0.6257	0.8437
MIG1 – MIG3	0.0770*	0.3964
MIG2 – MIG3	0.4122	0.9941
MIG0 – MIG1	0.378	–
MIG0 – MIG2	0.5994	–
MIG0 – MIG3	0.8841	–

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ ; <sup>a</sup> Derived from F-Tests for Lineal Probability Models with Age, Education, Cash Income, Relative Cash Income to Village, Socio-Economic Status, Risk Aversion, Real Public Good Contributions, Migrant Perception Index, Group Membership, Friendship Ties, Kinship Ties, Gender, Household Head and Multi-Ethnic Household as independent variables and treatment as dependent variable.

**Table E.2:** Differences in Socio-Economic Characteristics between Treatments MIG1 and MIG2 - Migrants

Variable	MIG1	MIG2	P-Value
Age (Years)	45.11	42.08	0.352
Education (Years)	7.44	7.58	0.529
Cash Income (USD, Year)	632.80	719.68	0.55
Cash Income/ Village Average	1.18	1.50	0.586
Socio-Economic Status <sup>b</sup>	0.35	0.15	0.557
Risk Aversion	4.67	5.37	0.398
Real Public Good Contributions (USD, Year)	4.20	5.58	0.79
Migrant Perception Index <sup>c</sup>	0.38	0.36	0.689
Group Membership	1.28	1.00	0.444
Friendship Ties	1.00	1.26	0.358
Kinship Ties	0.78	0.89	0.864
Male (Share) <sup>a</sup>	72.22	81.58	0.654
Household Head (Share) <sup>a</sup>	72.22	89.47	0.211
Multi-Ethnic Households (Share) <sup>a</sup>	50.00	31.58	0.301

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.3:** Differences in Socio-Economic Characteristics between Treatments MIG1 and MIG3 - Migrants

Variable	MIG1	MIG3	P-Value
Age (Years)	45.11	43.07	0.405
Education (Years)	7.44	6.95	0.969
Cash Income (USD, Year)	632.8	922.2	0.435
Cash Income/ Village Average	1.18	1.48	0.517
Socio-Economic Status <sup>b</sup>	0.35	0.04	0.255
Risk Aversion	4.67	5.40	0.418
Real Public Good Contributions (USD, Year)	4.20	6.68	0.767
Migrant Perception Index <sup>c</sup>	0.38	0.27	0.498
Group Membership	1.28	0.96	0.467
Friendship Ties	1.00	1.56	0.166
Kinship Ties	0.78	1.22	0.588
Male (Share) <sup>a</sup>	72.22	80.00	0.716
Household Head (Share) <sup>a</sup>	72.22	89.09	0.175
Multi-Ethnic Households (Share) <sup>a</sup>	50.00	32.73	0.3

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.4:** Differences in Socio-Economic Characteristics between Treatments MIG2 and MIG3 - Migrants

Variable	MIG2	MIG3	P-Value
Age (Years)	42.08	43.07	0.935
Education (Years)	7.58	6.95	0.578
Cash Income (USD, Year)	719.68	922.20	0.994
Cash Income/ Village Average	1.50	1.48	0.949
Socio-Economic Status <sup>b</sup>	0.15	0.04	0.737
Risk Aversion	5.37	5.40	0.941
Real Public Good Contributions (USD, Year)	5.58	6.68	0.462
Migrant Perception Index <sup>c</sup>	0.36	0.27	0.594
Group Membership	1.00	0.96	0.712
Friendship Ties	1.26	1.56	0.544
Kinship Ties	0.89	1.22	0.575
Male (Share) <sup>a</sup>	81.58	80.00	1
Household Head (Share) <sup>a</sup>	89.47	89.09	1
Multi-Ethnic Households (Share) <sup>a</sup>	31.58	32.73	1

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.5:** Differences in Socio-Economic Characteristics between Treatments MIG0 and MIG1 - Locals

Variable	MIG0	MIG1	P-Value
Age (Years)	43.28	42.42	0.462
Education (Years)	6.58	6.35	0.699
Cash Income (USD, Year)	361.37	329.97	0.302
Cash Income/ Village Average	0.78	0.69	0.429
Socio-Economic Status <sup>b</sup>	-0.11	-0.07	0.9
Risk Aversion	4.93	5.12	0.746
Real Public Good Contributions (USD, Year)	5.30	4.07	0.638
Migrant Perception Index <sup>c</sup>	-0.22	-0.22	0.913
Group Membership	0.80	1.23	0.015**
Friendship Ties	1.43	1.56	0.168
Kinship Ties	1.43	2.16	0.041**
Male (Share) <sup>a</sup>	78.38	71.93	0.518
Household Head (Share) <sup>a</sup>	81.08	73.68	0.424
Multi-Ethnic Households (Share) <sup>a</sup>	51.35	43.86	0.5

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.6:** Differences in Socio-Economic Characteristics between Treatments MIG0 and MIG2 - Locals

Variable	MIG0	MIG2	P-Value
Age (Years)	43.28	45.91	0.321
Education (Years)	6.58	4.97	0.017**
Cash Income (USD, Year)	361.37	295.53	0.529
Cash Income/ Village Average	0.78	0.67	0.642
Socio-Economic Status <sup>b</sup>	-0.11	-0.25	0.418
Risk Aversion	4.93	5.88	0.166
Real Public Good Contributions (USD, Year)	5.30	2.35	0.182
Migrant Perception Index <sup>c</sup>	-0.22	0.07	0.051*
Group Membership	0.80	0.88	0.468
Friendship Ties	1.43	1.62	0.817
Kinship Ties	1.43	1.74	0.629
Male (Share) <sup>a</sup>	78.38	76.47	1
Household Head (Share) <sup>a</sup>	81.08	88.24	0.517
Multi-Ethnic Households (Share) <sup>a</sup>	51.35	44.12	0.623

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.7:** Differences in Socio-Economic Characteristics between Treatments MIG0 and MIG3 - Locals

Variable	MIG0	MIG3	P-Value
Age (Years)	43.28	46.50	0.296
Education (Years)	6.58	6.75	0.8
Cash Income (USD, Year)	361.37	696.58	0.509
Cash Income/ Village Average	0.78	1.20	0.4
Socio-Economic Status <sup>b</sup>	-0.11	-0.03	0.592
Risk Aversion	4.93	5.20	0.775
Real Public Good Contributions (USD, Year)	5.30	4.69	0.365
Migrant Perception Index <sup>c</sup>	-0.22	-0.36	0.485
Group Membership	0.80	0.65	0.856
Friendship Ties	1.43	1.55	0.938
Kinship Ties	1.43	1.65	1
Male (Share) <sup>a</sup>	78.38	75.00	0.985
Household Head (Share) <sup>a</sup>	81.08	95.00	0.244
Multi-Ethnic Households (Share) <sup>a</sup>	51.35	50.00	1

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.8:** Differences in Socio-Economic Characteristics between Treatments MIG1 and MIG2 - Locals

Variable	MIG1	MIG2	P-Value
Age (Years)	42.42	45.91	0.15
Education (Years)	6.35	4.97	0.049**
Cash Income (USD, Year)	329.97	295.53	0.727
Cash Income/ Village Average	0.69	0.67	0.784
Socio-Economic Status <sup>b</sup>	-0.07	-0.25	0.465
Risk Aversion	5.12	5.88	0.244
Real Public Good Contributions (USD, Year)	4.07	2.35	0.097*
Migrant Perception Index <sup>c</sup>	-0.22	0.07	0.184
Group Membership	1.23	0.88	0.173
Friendship Ties	1.56	1.62	0.26
Kinship Ties	2.16	1.74	0.27
Male (Share) <sup>a</sup>	71.93	76.47	0.818
Household Head (Share) <sup>a</sup>	73.68	88.24	0.166
Multi-Ethnic Households (Share) <sup>a</sup>	43.86	44.12	1

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.9:** Differences in Socio-Economic Characteristics between Treatments MIG1 and MIG3 - Locals

Variable	MIG1	MIG3	P-Value
Age (Years)	42.42	46.50	0.122
Education (Years)	6.35	6.75	0.615
Cash Income (USD, Year)	329.97	696.58	0.18
Cash Income/ Village Average	0.69	1.20	0.209
Socio-Economic Status <sup>b</sup>	-0.07	-0.03	0.646
Risk Aversion	5.12	5.20	0.912
Real Public Good Contributions (USD, Year)	4.07	4.69	0.594
Migrant Perception Index <sup>c</sup>	-0.22	-0.36	0.497
Group Membership	1.23	0.65	0.053*
Friendship Ties	1.56	1.55	0.443
Kinship Ties	2.16	1.65	0.177
Male (Share) <sup>a</sup>	71.93	75.00	1
Household Head (Share) <sup>a</sup>	73.68	95.00	0.089*
Multi-Ethnic Households (Share) <sup>a</sup>	43.86	50.00	0.831

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

**Table E.10:** Differences in Socio-Economic Characteristics between Treatments MIG2 and MIG3 - Locals

Variable	MIG2	MIG3	P-Value
Age (Years)	45.91	46.50	0.844
Education (Years)	4.97	6.75	0.057*
Cash Income (USD, Year)	295.53	696.58	0.419
Cash Income/ Village Average	0.67	1.20	0.333
Socio-Economic Status <sup>b</sup>	-0.25	-0.03	0.858
Risk Aversion	5.88	5.20	0.48
Real Public Good Contributions (USD, Year)	2.35	4.69	0.06*
Migrant Perception Index <sup>c</sup>	0.07	-0.36	0.101
Group Membership	0.88	0.65	0.465
Friendship Ties	1.62	1.55	0.81
Kinship Ties	1.74	1.65	0.809
Male (Share) <sup>a</sup>	76.47	75.00	1
Household Head (Share) <sup>a</sup>	88.24	95.00	0.732
Multi-Ethnic Households (Share) <sup>a</sup>	44.12	50.00	0.892

\*\*\* p < .01, \*\* p < .05, \* p < .1; <sup>a</sup> Chi-Square Test (otherwise Mann-Whitney-U-Test), <sup>b</sup> Index based on asset and livestock ownership (see Appendix P), <sup>c</sup> Index based on statement approvals. The higher the score the more positive the perception of migrants (see Appendix Q).

## Appendix F

# Experimental Protocol

Instructions for experimenters in [...]

Instructions given in private to participants in grey

### **Registration**

[PRIVATE BRIEFING]

Good morning, we are glad that you have followed our invitation and came to this workshop. This morning we will do several group activities. You will shortly learn more about these activities. We have invited in total 16 people, for which we have to wait now.

The workshop this morning will take about 4 hours, including waiting time. Afterwards we have organized some snacks and drinks.

In addition, we have some further questions for you. These questions will be asked in an individual interview, which takes roughly 1 hour. The interview will take place after the workshop. You have to wait until you will be called to the interview. As mentioned in the invitation you will receive some money for compensation. Consider that you only receive the money if we have also interviewed you.

If you find that this workshop is something that you do not wish to participate in for any reason, or you already know that you will not be able to stay for the whole day, please let us know immediately so that you can leave.

[REGISTER PARTICIPANTS IN THE REGISTRATION FORM.  
EVERY PLAYER SELECTS AN ID CARD FROM TWO BAGS DEPENDING  
ON HIS/HER MIGRATION STATUS. MIGRANT ID: 3,4,7,9,12,14]

[ONCE 16 PARTICIPANTS HAVE BEEN REGISTERED, SAVE THE FILE  
AND GO TO NEXT PAGE.]

[PREPARE 4 PARTICIPANT LISTS FOR INTERVIEWS]

### **General Introduction**

[ASSIGN EVERYONE A SEAT ACCORDING TO THE ID FROM HIGH TO



*Land Economics* 96(1), February 2020

“How Migrants Benefit Poor Communities: Evidence on Collective Action in Rural Zambia” by Tobias Vorlauffer and Björn Vollan

LOW NUMBERS.]

[PREPARE THE DECISION CARDS AND CONDITIONAL DECISION CARDS BY FILLING IN PLAYER ID.]

Thank you all for coming to this workshop today. This workshop is organized by the SASSCAL research project from the University of Marburg, Germany. My name is [NAME OF EXPERIMENTER] and this is [NAME OF EXPERIMENTER], who work for this project and conduct this workshop. The information we will gather today will be used for research purposes only. We have conducted and will conduct similar workshops in other villages of this chiefdom.

Today we would like to play several group activities with you. You can earn some money that you are permitted to keep and take home. You must understand that this is not our private money but given to us by the university for research. If you listen to the following instructions carefully, you can, depending on your decisions and the decisions of the other participants, earn between 15 and 55 Kwacha. It is therefore very important that you listen to these instructions with care. We are interested in your decision during the activities. However, there are no “right” or “wrong” answers.

After the activities, you have to answer a few questions. This will take approximately 1 hour. You have to wait until it is your turn for the interview. You will receive your payments only after the interview.

Before we start, I have to make some important remarks:

1. The workshop consists of several rounds. In each round, you will play in groups of four people, but you will never know with whom in this room you play together. In the workshop, you will play in the same group, meaning that you will play with the same three other players.
2. In each round, you will make one or more decisions. Your fellow group members will not come to know your decisions at any point. This is the reason that we will not ask your name in any of the activities. We will identify your decision in the game with an identity card like this [SHOW PLAYER ID CARD]. Please do not lose this card. You have to return the card to us when you are paid.
3. All the decisions you make today will be kept private. Therefore, we will call you one-by-one to make your decisions.
4. You will be paid 5 Kwacha for coming to this workshop. In addition, you will receive the money earned in the rounds. [NAME OF EXPERIMENTER] will be responsible for payments and keep record of all decisions you take, to make sure that you receive the right amount.
5. During these activities, we will not speak in terms of Kwacha, but in points. At the end of the workshop the total amount of points you have earned will be converted to Kwacha. For two points you will receive 1 Kwacha.
6. It is very important that you understand the activities and the decision you can take. Therefore, we will check your understanding by asking each of you test questions about the activities. If you do not understand

something you may always ask [NAME OF EXPERIMENTER] to explain it again.

7. We would like to keep the game anonymous, therefore, please do not discuss the activities with each other. In case we find that you are talking during the workshop, we will exclude you immediately from the workshop. In this case, you will not receive any money.
8. We want to conduct the same workshop in other villages of this chiefdom. For the success of the project it is very important that participants do not know too many details about the content of the workshop before participating. Therefore, please do not discuss what we have done in this workshop with anybody afterwards.
9. If you have questions, always raise your hand and wait until one of the assistants comes to you. Then you can ask your question and the assistant will answer it. You are not allowed to talk to other participants during the activities. In case you have to leave the room during the workshop, please notify [NAME OF EXPERIMENTER] in advance. It is only allowed that one person at a time leaves the workshop. Please switch off your mobile phones. If you violate these rule, you will be dismissed from the workshop and not receive any money.

Thank you in advance for your effort and time.

[ASK THE GROUP]

Do you have any questions?

### **Basic Instructions**

Each decision in this workshop today will be similar. We will now give you instructions how this activity is played. After the instructions, we will ask you privately few questions to check whether you have understood the activity.

At the beginning of each round, each player will receive 10 points from us. Now you have to decide how many of the 10 points to keep for yourself (and put it in your private account) and how many to contribute for a group project. Both you and your three other group members will benefit from the amount contributed to the project. We will explain later how this works in detail. You may put any amount between 0 and 10 points into the project.

[USE BEANS AND BOWLS FOR ILLUSTRATION]

Now let us assume that out of 10 points, you put 1 point into the project.

[ASK THE GROUP]

How many points does the player have in his private account?

Have you understood this part?

Now, let us assume that out of 10, you put 2 points into the project.

[ASK THE GROUP]

How many points does the player have in his private account?

[CARRY ON WITH EXAMPLES FOR 5, 10 POINTS]

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[ASK THE GROUP]

Have you understood this part?

Do you need additional examples?

As mentioned before you are playing in groups of four participants. However, you do not know who in this room is in your group. Let us see what happens if everyone in the group has decided how much to contribute to the project. Remember that everyone in the group has to decide for him/herself how much to contribute to the project without talking to the other group members.

The following will happen with points you and your fellow group members contributed to the project. [NAME OF EXPERIMENTER] will add 1 point to each point you and the other three group members contributed to the project.

For example, each of the four players have contributed 1 point to the project. We have hence  $1 + 1 + 1 + 1 = 4$  points in the project account. For each point in the project account one additional point will be added. We have hence in the end  $4 + 4 = 8$  points in the project.

[ASK THE GROUP]

Have you understood this part?

Let's have a look at a second example. If each member of your group puts 2 points into the project, we have in total  $2 + 2 + 2 + 2 = 8$  points in the project. The project amount will be increased by 8 points. Now, the final amount of money in the project is 16 points.

[CARRY ON WITH EXAMPLES FOR 5 POINTS]

I repeat, the project amount will be increased by the same number of points that you and your fellow group members put in the project.

[ASK THE GROUP]

Have you understood this part?

If you and the three other group members however decide to put 0 points into the project, no additional points will be put to the project and the project remains with 0 points.

[ASK THE GROUP]

Have you understood this?

Do you need additional examples?

[IF YES, SELECT ANOTHER PERSON AND REPEAT THE EXAMPLES IN THE SAME ORDER.]

After the project money has increased, it will be divided equally between you and the other three players in your group, irrespective of how much you have put into the project.

For example, if the project contains 4 points, it will be increased by 4 points. Now the total value of the project is 8 points, and both you and the three other player get 2 points each from the project.

[CARRY ON WITH EXAMPLES FOR 6, 8, 10 POINTS]

[ASK THE GROUP]

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Have you understood this part?

Let us see what happens if the project contains 0 points. However, since 0 does not increase, both you and the other three players will get 0 points from the project.

[ASK THE GROUP]

Have you understood this part?

Do you need additional examples?

Please remember that any points that you and the three other group members put into the project is first increased by the same number of points and then divided equally among the four players in your group.

Any amount that you put in your pocket remains the same. If you put 1 point in your pocket, it remains 1 point. It neither increases nor it is divided. Your final earning from the game is the amount you have in your pocket plus the additional amount you receive from the project.

[ASK THE GROUP]

Have you understood this part?

### Examples

Let us make a few examples: Please note that since this is an example, we will tell how many points to put into the project. But when we play the actual game, you will have to decide this on your own, without any help from us. However, there is no right and wrong answers as long as you put between 0 and 10 points to the project. Remember you have to decide how many points you want to contribute to the project and how many points you want to keep for yourself.

[SHOW EXAMPLES ON POSTERS]

1. Let us say you and the three fellow players contribute each 5 points to the project. In total, we have thus 20 points in the project. For each point contributed [NAME OF EXPERIMENTER] adds 1 point. Thus, the sum is  $20+20=40$  points. Because everybody of you receives the same income from the project, irrespective of your contribution, we divide the 40 points by 4, which is 10 points. Thus, everybody of you will earn 10 points from the project.

[ASK THE GROUP]

Have you understood this part?

But remember, this is only the first part of your earning. To get your total earning, you have to add the points you kept for yourself. Let's take a look at yours and the other group members' earnings:

You contributed 5 points. Thus, your earning from the private account is 5 points. You get 10 points from the project. In total, you receive  $5 + 10 = 15$  points.

[ASK THE GROUP]

Have you understood this part?

The other three players contributed the same amount like you. Everyone thus earns 5 points from his private account. In addition, everyone receives 10 points from the group project. Thus, everyone receives 15 points each.

[ASK THE GROUP]

Have you understood this part?

2. Let us look at another example. Assume that you contribute 10 points to the project, the second member 4 points, the third member 2 points and fourth member 0 points then the total group contribution is 16 points. For each point contributed [NAME OF EXPERIMENTER] adds 1 point. Thus, the sum is  $16 + 16 = 32$  points. Because everybody of you receives the same income from the project, irrespective of your contribution, we divide the 32 points by 4, which is 8 points. Thus, everybody of you will earn 8 points from the project.

[ASK THE GROUP]

Have you understood this part?

But remember, this is only the first part of your earning. To get your total earning, you have to add the points you kept for yourself. Let's take a look at yours and the other group members' earnings:

You contributed 10 points. Thus your earning from the private account is 0. You get 8 points from the project. In total you receive  $0 + 8 = 8$  points.

[ASK THE GROUP]

Have you understood this part?

The second player contributed 4 points. His/her earning from the private account is therefore  $(10-4) = 6$  points. 6 points plus the 8 points from the project means a total earning of 14 points.

[ASK THE GROUP]

Have you understood this part?

The third player contributed 2 points. His/her earning from the private account is therefore  $(10-2) = 8$  points. 8 points plus the 8 points from the project means a total earning of 16 points.

[ASK THE GROUP]

Have you understood this part?

The fourth member of the group, who contributed nothing to the project, also gets 8 points from the project. Additionally, he/she gets the 10 points he/she kept in his/her private account. His/her total income is therefore 18 points.

[ASK THE GROUP]

Have you understood this part?

3. The other three players decide to contribute 10 points to the project, you decide to contribute nothing. In this case the group contribution is  $(10+10+10+0=)$  30 points. For each point contributed [NAME OF EXPERIMENTER] adds 1 point. The sum is  $30+30=$  60 points. Because

everybody of you receives the same income from the project, irrespective of your contribution, we divide the 60 points by 4, which is 15 points. Thus, everybody of you will earn 15 points from the project.

[ASK THE GROUP]

Have you understood this part?

You will receive 15 points from the project plus the 10 points you kept for yourself = 25 points.

[ASK THE GROUP]

Have you understood this part?

The second, third and fourth member each contributed 10 points to the project, thus they did not keep any points in their private accounts. Their total earnings each are 0 points from the private account plus 15 points from the project is equal to 15 points.

[ASK THE GROUP]

Have you understood this part?

4. Each Player contributes 10 points to the project. Thus, the total contribution is  $4 \times 10 = 40$  points. For each point contributed, [NAME OF EXPERIMENTER] will add 1 point. The sum is  $40+40= 80$  points. 80 points divided by 4 is 20 points. Thus, everybody's earning from the project is 20 points.

Since nobody kept any points for himself, 20 points is also the total earning for everybody.

[ASK THE GROUP]

Have you understood this part?

5. Each player decides to keep his points for himself. Thus, nobody contributes to the project. In that case everybody will earn 10 points from the private account and nothing from the project, because none of you contributed to the project. Thus, the total income of each member is 10 points.

[ASK THE GROUP]

Have you understood this part?

Let us summarize the key results from these examples:

1. If all players put 0 points into the project, everyone earns 10 points.
2. If all players put 10 points into the project, everyone earns 20 points. At this point the group as a whole has earned the maximum points.
3. If you and the other players put the same amount into the project, everyone earns the same amount.
4. If you put less than the other players in the project, you earn more than the other players.

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5. If you put more into the project than the other players, you earn less than the other players.

Remember that for each decision you do not know what the three other group members contribute. You will also not come to know this at any later point.

If you have any questions, you may ask them now. Otherwise, we will call you one by one and ask seven questions to check if you have understood the game or not. Therefore, please tell us if we need to repeat the examples or not.

[IF YES, REPEAT THE EXAMPLES IN THE SAME ORDER.]

### **Control Questions**

[ASK EVERY PLAYER TO GO TO THE SECOND EXPERIMENTER. ASK FOLLOWING QUESTIONS AND FILL ANSWERS INTO QUESTION FORM.]

1. How many points do you get at the start of each round? Answer: 10 points
2. What can you do with the 10 points you receive in the beginning? Answer: I can contribute between 0 and 10 points to the project, and keep the remaining amount for myself.
3. If you put 3 points into the project, how much is left in your private account? Answer: 7 points
4. If the group puts in total 20 points in the project, by how much will it increase? Answer: 20 points
5. If you put 8 points into the project and the other players also put 8 points into the project, who earns more? Answer: All players earn the same.
6. If you put 4 points into the project and the other players put 8 points each into the project, who earns more? Answer: I earn more.

[RECORD ANSWERS. FOR THOSE WHO DID NOT ANSWER CORRECTLY, REPEAT EXPLANATIONS AND REPEAT QUESTIONS. RECORD ANSWERS FOR SECOND AND THIRD TIME.]

[CONTINUE WITH NEXT SECTION PRIVATELY]

### **Group Composition**

[USE GROUP INFO SHEET AND RESPECTIVE PLAYER ID]

Before the activities start, I would like to give you some information on your group. You do not know with whom you are playing but I can give you some details about your fellow players.

IF HOM:

Your group consists of persons like you who have settled in this village for more than 10 years.

IF MIX:

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Your group consists of 2 persons who have settled in this village for more than 10 years and 2 persons who have settled from outside this chiefdom between 2005 and 2015 in this village.

IF MAJ-NAT:

Your group consists of 3 persons who have settled in this village for more than 10 years and 1 person who has settled from outside this chiefdom between 2005 and 2015 in this village.

IF MAJ-MIG:

Your group consists of 3 persons who have settled from outside this chiefdom between 2005 and 2015 in this village and 1 person who has settled in this village for more than 10 years.

### **Practice Round**

[ENTER QUESTIONS FORMS IN LAPTOP]

Now we start with the practice round. This round does not affect your earnings today. In this round, you will get familiar with the decisions you will take later.

Each player writes his decision on a decision sheet like this. [SHOW DECISION POSTER] Please remember that you will not come to know the identity of your fellow group members or the amount they put in the project.

You have to decide how many of your 10 points you want to contribute to the project. You can contribute any amount from 0 to 10. Your contribution will be put into the project account and the remaining amount will be stored in your private account.

[ASK THE GROUP]

Do you have any questions?

Even though you do not know the contributions of the other three group members, you might have an expectation what they are contributing. In this field of your decision card [SHOW FIELD FOR EXPECTATION ON POSTER] you can fill in what you think the others contribute. It is important that you do not write down what you want the others to contribute, but what you think they contribute. Since they can also contribute between 0 and 10 points, you can fill in a number between 0 and 10.

[ASK THE GROUP]

Do you have any questions?

We will now call you one-by-one to one of the experimenters. There you make your decisions and then put your decision card into a bag. Remember that this decision does not yet affect your earnings. Please remain seated and do not talk in the meantime.

[CALL PARTICIPANTS ONE BY ONE TO THE EXPERIMENTERS.]

Please fill in your contribution to the group project in the upper box on the card. Since you have 10 points in the beginning, you can put in any amount between 0 and 10 points. Remember, that nobody will ever come to know your decision.



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Have you filled in your contribution?

Please fill in what you expect your fellow three group members to contribute each to the project. Use the lower box for this. Since they can each put between 0 and 10 points in the project, you can fill in a number between 0 and 10. Remember that nobody will get to know your decisions.

Have you filled in your expectation?

Please put the card into the bag.

[CALL NEXT PARTICIPANT]

### **Round 1**

[ENTER QUESTIONS FORMS IN LAPTOP]

Now we start with the first round. From now on your decisions will affect the amount of money you will earn today. Please remember that you will not come to know the identity of your fellow group members or the amount they put in the project. You have to decide how many of your 10 points you want to contribute to the project. You can contribute any amount from 0 to 10.

We will now call you one-by-one to the experimenters, where you make your decision. Please remember that from now on your decision will affect your earnings. Remember that you play with the people, as we indicated earlier after the test questions. Please remain seated and do not talk in the meantime.

[CALL PARTICIPANTS ONE BY ONE TO THE EXPERIMENTERS.]

Please fill in your contribution to the group project in the upper box on the card. Since you have 10 points in the beginning, you can put in any amount between 0 and 10 points. Remember, that nobody will ever come to know your decision.

Have you filled in your contribution?

Please fill in what you expect your fellow three group members to contribute each to the project. Use the lower box for this. Since they can each put between 0 and 10 points in the project, you can fill in a number between 0 and 10. Remember that nobody will get to know your decisions.

Have you filled in your expectation?

Please put the card into the bag.

[CALL NEXT PARTICIPANT]

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**DECISION CARD**

PLAYER ID

**OWN CONTRIBUTION**

**EXPECTATION**

**Figure F.1:** Decision Sheet (translated to English)

## Appendix G

### Rounds 2 – 4

**Table G.1:** Average Contributions by Treatment and Migrant Status (Round 2 - 4)

Status Treatment	Locals				Migrants		
	MIG0	MIG1	MIG2	MIG3	MIG1	MIG2	MIG3
Round 1	0.56	0.58	0.61	0.58	0.62	0.53	0.54
Round 2	0.58	0.62	0.62	0.60	0.60	0.59	0.55
Round 3	0.61	0.62	0.54	0.66	0.56	0.61	0.60
Round 4	0.64	0.65	0.57	0.66	0.61	0.65	0.60

Table G.2: Regression Results Round 2 - Migrants

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	-0.012 (0.034)		-0.004 (0.039)	
MIG1		0.002 (0.097)		-0.012 (0.107)
MIG2		-0.020 (0.088)		-0.011 (0.092)
Belief	0.443*** (0.096)	0.445*** (0.099)	0.423*** (0.096)	0.422*** (0.090)
Age	-0.003 (0.023)	-0.003 (0.022)	-0.009 (0.023)	-0.009 (0.022)
Age2	-0.00002 (0.0002)	-0.00002 (0.0002)	0.0001 (0.0002)	0.0001 (0.0002)
Gender: Male	0.060 (0.090)	0.061 (0.092)	0.001 (0.054)	-0.00002 (0.051)
HH Head	-0.045 (0.081)	-0.048 (0.077)	-0.036 (0.070)	-0.035 (0.076)
Education (years)	0.004 (0.005)	0.004 (0.005)	0.006 (0.006)	0.006 (0.006)
Socio-Economic Status	0.056 (0.067)	0.056 (0.065)	0.030 (0.078)	0.030 (0.079)
Cash Income (USD, year)	-0.00004 (0.00003)	-0.00004 (0.00003)	-0.00003 (0.00002)	-0.00003 (0.00002)
Village Size	0.006** (0.003)	0.006** (0.003)		
Migrant Share Village	0.001 (0.002)	0.001 (0.002)		
Ethnic Fractionalization Village	0.057 (0.738)	0.052 (0.773)		
Constant	0.187 (1.002)	0.172 (0.937)		
Observations	109	109	109	109
R <sup>2</sup>	0.284	0.284	0.189	0.189
Adjusted R <sup>2</sup>	0.195	0.186	-0.069	-0.082
F Statistic	3.176*** (df = 12; 96)	2.904*** (df = 13; 95)	2.117** (df = 9; 82)	1.883* (df = 10; 81)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 'rigged' Standard Errors in Parentheses

**Table G.3:** Regression Results Round 2 - Locals

	<i>Dependent variable: Contribution</i>			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	0.012 (0.024)		0.012 (0.024)	
MIG1		0.022 (0.042)		0.020 (0.038)
MIG2		-0.0005 (0.070)		0.006 (0.067)
MIG3		0.057 (0.085)		0.048 (0.086)
Belief	0.377*** (0.079)	0.382*** (0.080)	0.343*** (0.084)	0.346*** (0.084)
Age	0.012* (0.008)	0.012 (0.008)	0.013* (0.007)	0.013* (0.008)
Age2	-0.0001* (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
Gender: Male	0.016 (0.114)	0.019 (0.109)	-0.021 (0.091)	-0.019 (0.092)
HH Head	0.003 (0.132)	0.002 (0.138)	0.020 (0.130)	0.019 (0.148)
Education (years)	0.004 (0.009)	0.003 (0.008)	0.007 (0.008)	0.007 (0.008)
Socio-Economic Status	0.020 (0.054)	0.021 (0.056)	0.031 (0.062)	0.031 (0.062)
Cash Income (USD, year)	-0.0001*** (0.00005)	-0.0001*** (0.00005)	-0.0001** (0.0001)	-0.0001** (0.0001)
Village Size	0.001 (0.003)	0.001 (0.003)		
Migrant Share Village	-0.001 (0.002)	-0.001 (0.002)		
Ethnic Fractionalization Village	0.689*** (0.271)	0.687*** (0.252)		
Constant	-0.421 (0.380)	-0.421 (0.400)		
Observations	183	183	183	183
R <sup>2</sup>	0.238	0.239	0.189	0.190
Adjusted R <sup>2</sup>	0.184	0.176	0.053	0.042
F Statistic	4.413*** (df = 12; 170)	3.775*** (df = 14; 168)	4.031*** (df = 9; 156)	3.278*** (df = 11; 154)

*Note:* \*p<0.1; \*\* p<0.05; \*\*\* p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 'rigged' Standard Errors in Parentheses

**Table G.4:** Regression Results Round 3 - Migrants

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	0.025 (0.035)		0.032 (0.034)	
MIG1		0.047 (0.103)		0.037 (0.100)
MIG2		0.058 (0.091)		0.065 (0.082)
Belief	0.450*** (0.097)	0.452*** (0.097)	0.427*** (0.105)	0.428*** (0.108)
Age	0.012 (0.014)	0.012 (0.013)	-0.004 (0.017)	-0.004 (0.017)
Age2	-0.0001 (0.0002)	-0.0001 (0.0002)	0.00004 (0.0002)	0.00004 (0.0002)
Gender: Male	0.074 (0.078)	0.075 (0.079)	0.018 (0.045)	0.018 (0.048)
HH Head	-0.072 (0.075)	-0.077 (0.074)	-0.078 (0.099)	-0.079 (0.089)
Education (years)	0.008 (0.007)	0.008 (0.006)	0.007 (0.009)	0.007 (0.008)
Socio-Economic Status	0.016 (0.072)	0.016 (0.073)	0.020 (0.088)	0.020 (0.077)
Cash Income (USD, year)	-0.00003 (0.00002)	-0.00003 (0.00002)	-0.00002 (0.00002)	-0.00002 (0.00002)
Village Size	0.005* (0.003)	0.005* (0.003)		
Migrant Share Village	0.002 (0.002)	0.002 (0.002)		
Ethnic Fractionalization Village	1.032*** (0.424)	1.024*** (0.422)		
Constant	-0.984*** (0.319)	-0.964*** (0.305)		
Observations	109	109	109	109
R <sup>2</sup>	0.326	0.327	0.185	0.185
Adjusted R <sup>2</sup>	0.242	0.234	-0.073	-0.087
F Statistic	3.868*** (df = 12; 96)	3.543*** (df = 13; 95)	2.068** (df = 9; 82)	1.839* (df = 10; 81)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 'rigged' Standard Errors in Parentheses

Table G.5: Regression Results Round 3 - Locals

	<i>Dependent variable: Contribution</i>			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	-0.021 (0.016)		-0.023 (0.017)	
MIG1		-0.048 (0.036)		-0.049 (0.042)
MIG2		-0.169***		-0.165***
MIG3		0.044 (0.069)		0.033 (0.067)
Belief	0.519*** (0.074)	0.555*** (0.059)	0.513*** (0.092)	0.552*** (0.072)
Age	0.007 (0.013)	0.007 (0.014)	0.008 (0.013)	0.007 (0.014)
Age2	-0.0001 (0.0002)	-0.00005 (0.0002)	-0.00004 (0.0001)	-0.00004 (0.0002)
Gender: Male	0.044 (0.069)	0.061 (0.069)	0.024 (0.068)	0.037 (0.073)
HH Head	-0.043 (0.077)	-0.061 (0.071)	-0.046 (0.075)	-0.065 (0.072)
Education (years)	-0.004 (0.008)	-0.009 (0.007)	0.0001 (0.008)	-0.004 (0.007)
Socio-Economic Status	-0.022 (0.038)	-0.018 (0.038)	-0.024 (0.045)	-0.020 (0.036)
Cash Income (USD, year)	-0.00001 (0.00004)	-0.00003 (0.00004)	0.00000 (0.0001)	-0.00001 (0.00005)
Village Size	0.002 (0.001)	0.002 (0.002)		
Migrant Share Village	0.0005 (0.001)	0.0003 (0.001)		
Ethnic Fractionalization Village	1.062*** (0.283)	1.053*** (0.287)		
Constant	-0.717* (0.395)	-0.654* (0.387)		
Observations	183	183	183	183
R <sup>2</sup>	0.323	0.357	0.251	0.288
Adjusted R <sup>2</sup>	0.275	0.304	0.127	0.159
F Statistic	6.746*** (df = 12; 170)	6.668*** (df = 14; 168)	5.820*** (df = 9; 156)	5.668*** (df = 11; 154)

Note: \*p<0.1; \*\* p<0.05; \*\*\* p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 'rigged' Standard Errors in Parentheses

Table G.6: Regression Results Round 4 - Migrants

	<i>Dependent variable:</i>			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	0.0002 (0.049)		-0.006 (0.045)	
MIG1		0.060 (0.061)		0.035 (0.061)
MIG2		0.022 (0.092)		0.002 (0.085)
Belief	0.389*** (0.074)	0.394*** (0.074)	0.370*** (0.090)	0.374*** (0.093)
Age	0.016 (0.019)	0.016 (0.019)	0.013 (0.027)	0.013 (0.029)
Age2	-0.0002 (0.0002)	-0.0002 (0.0002)	-0.0002 (0.0003)	-0.0002 (0.0004)
Gender: Male	0.150 (0.129)	0.153 (0.134)	0.168* (0.103)	0.172* (0.102)
HH Head	-0.198*** (0.089)	-0.210*** (0.098)	-0.196*** (0.074)	-0.205*** (0.071)
Education (years)	0.010 (0.008)	0.010 (0.008)	0.001 (0.008)	0.001 (0.008)
Socio-Economic Status	-0.003 (0.083)	-0.003 (0.085)	-0.018 (0.089)	-0.018 (0.094)
Cash Income (USD, year)	-0.00003 (0.00002)	-0.00003 (0.00002)	-0.00001 (0.00002)	-0.00001 (0.00002)
Village Size	0.008** (0.003)	0.008** (0.004)		
Migrant Share Village	0.001 (0.003)	0.001 (0.003)		
Ethnic Fractionalization Village	0.131 (0.555)	0.111 (0.544)		
Constant	-0.308 (0.360)	-0.320 (0.362)		
Observations	109	109	109	109
R <sup>2</sup>	0.271	0.275	0.165	0.168
Adjusted R <sup>2</sup>	0.180	0.176	-0.100	-0.110
F Statistic	2.974*** (df = 12; 96)	2.773*** (df = 13; 95)	1.800* (df = 9; 82)	1.630 (df = 10; 81)

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 triggered' Standard Errors in Parentheses



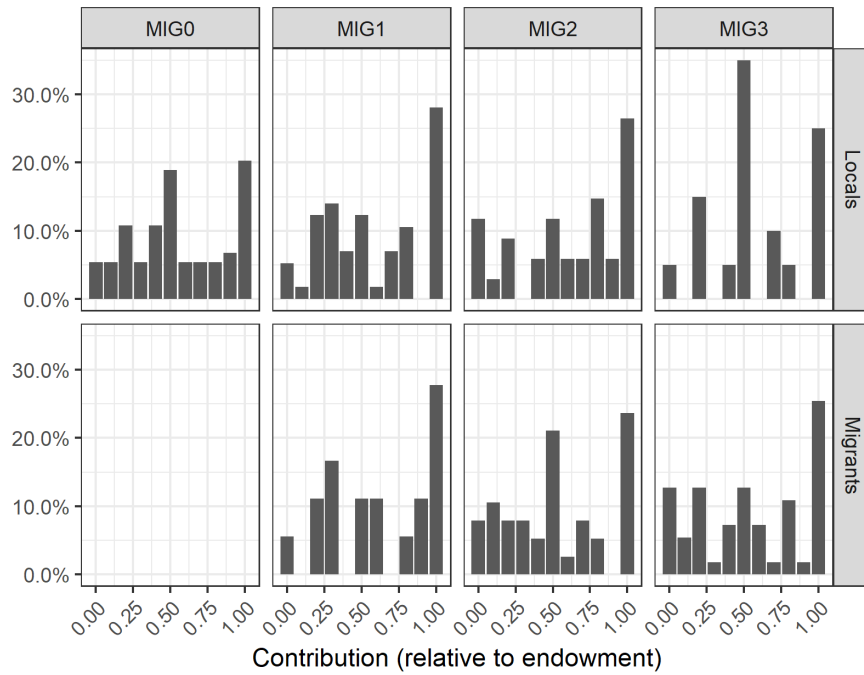
Table G.7: Regression Results Round 4 - Locals

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
Treatment: No of Migrants	-0.013 (0.029)		-0.013 (0.028)	
MIG1		-0.010 (0.069)		-0.014 (0.073)
MIG2		-0.115* (0.072)		-0.111 (0.075)
MIG3		0.035 (0.110)		0.032 (0.096)
Belief	0.334*** (0.078)	0.355*** (0.085)	0.291** (0.108)	0.316*** (0.110)
Age	0.001 (0.012)	0.001 (0.012)	0.0003 (0.010)	0.0002 (0.011)
Age2	-0.00001 (0.0001)	-0.00001 (0.0001)	0.00001 (0.0001)	0.00002 (0.0001)
Gender: Male	-0.029 (0.104)	-0.018 (0.087)	-0.058 (0.098)	-0.048 (0.088)
HH Head	0.027 (0.142)	0.017 (0.128)	0.009 (0.148)	-0.002 (0.154)
Education (years)	0.002 (0.007)	-0.001 (0.007)	0.004 (0.006)	0.001 (0.006)
Socio-Economic Status	-0.034 (0.050)	-0.032 (0.048)	-0.017 (0.049)	-0.015 (0.058)
Cash Income (USD, year)	-0.00003 (0.00004)	-0.00004 (0.00004)	-0.00004 (0.00005)	-0.0001 (0.0001)
Village Size	0.001 (0.003)	0.001 (0.003)		
Migrant Share Village	-0.001 (0.002)	-0.001 (0.003)		
Ethnic Fractionalization Village	0.852*** (0.316)	0.845*** (0.335)		
Constant	-0.213 (0.544)	-0.185 (0.665)		
Observations	183	183	183	183
R <sup>2</sup>	0.159	0.177	0.102	0.121
Adjusted R <sup>2</sup>	0.100	0.108	-0.047	-0.039
F Statistic	2.687*** (df = 12; 170)	2.578*** (df = 14; 168)	1.975** (df = 9; 156)	1.929** (df = 11; 154)

Note: \* p<0.1; \*\* p<0.05; \*\*\* p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only)  
 Models 3 and 4 with village fixed effects  
 'rigged' Standard Errors in Parentheses

## Appendix H

### Descriptive Statistics



**Figure H.1:** Frequency of Contributions by Treatment and Migrant Status

**Table H.1:** Contributions and Beliefs by Migrant Status and Treatment

Status Treatment	Migrants			MIG0	Locals		
	MIG1	MIG2	MIG3		MIG1	MIG2	MIG3
N	18	38	55	74	57	34	20
Contribution Mean	0.62	0.53	0.54	0.56	0.58	0.61	0.58
Contribution SD	0.34	0.34	0.36	0.32	0.33	0.35	0.31
Belief	0.56	0.52	0.58	0.52	0.61	0.64	0.52
Belief SD	0.35	0.29	0.33	0.30	0.34	0.33	0.33

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## Appendix I

# Regression Results - Pooled Contributions Migrants and Locals

**Table I.1:** Regression Results Pooled Sample - Contributions Experiment

	<i>Dependent variable:</i>			
	Contribution			FE
	OLS			
	(1)	(2)	(3)	(4)
MIG1	-0.005 (0.047)	-0.024 (0.061)	0.0003 (0.041)	-0.039 (0.054)
MIG2	-0.016 (0.044)	-0.051 (0.054)	-0.015 (0.045)	-0.063 (0.053)
MIG3	-0.017 (0.055)	-0.040 (0.056)	-0.010 (0.053)	-0.049 (0.054)
Migrant	-0.014 (0.035)	0.078 (0.069)	-0.011 (0.034)	0.075 (0.062)
Belief	0.508*** (0.048)	0.576*** (0.036)	0.450*** (0.065)	0.523*** (0.059)
Age		0.016*** (0.004)		0.012** (0.005)
Age2		-0.0002*** (0.00004)		-0.0001** (0.0001)
Gender: Male		0.052 (0.040)		0.003 (0.033)
HH Head		-0.019 (0.056)		-0.004 (0.050)
Education (years)		-0.014** (0.006)		-0.012* (0.007)
Socio-Economic Status		-0.011 (0.030)		-0.015 (0.038)
Cash Income (USD, year)		-0.00003** (0.00001)		-0.00002 (0.00001)
Years in Village		0.003 (0.002)		0.003 (0.002)
Village Size		0.003 (0.003)		
Migrant Share Village		-0.00004 (0.004)		
Ethnic Fractionalization Village		-0.051 (0.257)		
Constant	0.296*** (0.031)	-0.131 (0.324)		
Observations	296	239	296	239
R <sup>2</sup>	0.236	0.333	0.196	0.279
Adjusted R <sup>2</sup>	0.223	0.285	0.132	0.175
F Statistic	17.945*** (df = 5; 290)	6.940*** (df = 16; 222)	13.334*** (df = 5; 273)	6.191*** (df = 13; 208)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
'rigged' Standard Errors in Parentheses;  
Models 3 and 4 include village fixed effects

**Table 1.2:** Regression Results Pooled Sample - Real World Public Good Contributions

	<i>Dependent variable:</i>	
	Real PG Contribution	
	(1)	(2)
Age	-0.198 (0.181)	-0.190 (0.175)
Age2	0.002 (0.002)	0.002 (0.002)
Gender: Male	3.919 (2.880)	3.811 (2.886)
HH Head	-4.252 (2.924)	-4.170 (2.799)
Education (years)	-0.012 (0.262)	-0.001 (0.257)
Socio-Economic Status	-0.841 (1.580)	-0.451 (1.357)
Cash Income (USD, year)	0.003 (0.003)	0.001 (0.002)
Group Memberships	1.683*** (0.568)	1.630*** (0.487)
Migrant	0.364 (1.002)	-0.817 (0.948)
Cash Income (USD, year) x Migrant		0.002 (0.002)
Observations	292	292
R <sup>2</sup>	0.180	0.190
Adjusted R <sup>2</sup>	0.099	0.107
F Statistic	6.443*** (df = 9; 265)	6.201*** (df = 10; 264)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses;  
 all models include village fixed effects.

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## Appendix J

# Regression Results Main Treatment Effects - Migrants

**Table J.1:** Regression Results - Migrants - OLS

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
No of Migrants	-0.036 (0.035)	-0.023 (0.033)		
MIG2			-0.072 (0.108)	-0.073 (0.114)
MIG3			-0.085 (0.085)	-0.064 (0.080)
Belief	0.564*** (0.094)	0.610*** (0.128)	0.561*** (0.091)	0.605*** (0.127)
Age		0.011 (0.018)		0.011 (0.019)
Age2		-0.0001 (0.0002)		-0.0001 (0.0002)
Gender: Male		0.121* (0.070)		0.118* (0.072)
HH Head		-0.143 (0.093)		-0.133 (0.103)
Education (years)		-0.011 (0.011)		-0.011 (0.011)
Socio-Economic Status		-0.008 (0.064)		-0.007 (0.055)
Cash Income (USD, year)		-0.00003* (0.00001)		-0.00003* (0.00001)
Years in Village		-0.001 (0.011)		-0.001 (0.010)
Village Size		0.006 (0.004)		0.006 (0.004)
Migrant Share Village		0.001 (0.003)		0.001 (0.003)
Ethnic Fractionalization Village		-0.003 (0.543)		0.018 (0.508)
Constant	0.321** (0.136)	-0.036 (0.439)	0.305** (0.133)	-0.050 (0.435)
Observations	111	109	111	109
R <sup>2</sup>	0.264	0.347	0.265	0.349
Adjusted R <sup>2</sup>	0.250	0.257	0.245	0.252
F Statistic	19.366*** (df = 2; 108)	3.875*** (df = 13; 95)	12.889*** (df = 3; 107)	3.602*** (df = 14; 94)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses



**Table J.2:** Regression Results - Migrants - Village Fixed Effects

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
No of Migrants	-0.025 (0.032)	-0.011 (0.030)		
MIG2			-0.085 (0.105)	-0.077 (0.108)
MIG3			-0.071 (0.076)	-0.045 (0.076)
Belief	0.450*** (0.107)	0.513*** (0.113)	0.445*** (0.121)	0.505*** (0.124)
Age		-0.004 (0.015)		-0.004 (0.017)
Age2		0.00002 (0.0002)		0.00003 (0.0002)
Gender: Male		0.023 (0.076)		0.017 (0.068)
HH Head		-0.108 (0.086)		-0.092 (0.088)
Education (years)		-0.013 (0.015)		-0.013 (0.015)
Socio-Economic Status		-0.001 (0.090)		-0.0005 (0.087)
Cash Income (USD, year)		-0.00002 (0.00003)		-0.00002 (0.00003)
Years in Village		-0.005 (0.013)		-0.005 (0.014)
Observations	111	109	111	109
R <sup>2</sup>	0.188	0.251	0.194	0.258
Adjusted R <sup>2</sup>	0.019	0.001	0.015	-0.002
F Statistic	10.560*** (df = 2; 91)	2.715*** (df = 10; 81)	7.223*** (df = 3; 90)	2.529*** (df = 11; 80)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses;  
 all models include village fixed effects.

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## Appendix K

# Regression Results Main Treatment Effects - Locals

**Table K.1:** Regression Results - Locals - OLS

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
No of Migrants	0.004 (0.020)	0.001 (0.018)		
MIG1			-0.021 (0.044)	-0.024 (0.045)
MIG2			-0.005 (0.071)	-0.028 (0.076)
MIG3			0.023 (0.076)	0.029 (0.071)
Belief	0.475*** (0.102)	0.507*** (0.106)	0.481*** (0.106)	0.519*** (0.100)
Age		0.016* (0.009)		0.016 (0.010)
Age2		-0.0002** (0.0001)		-0.0002* (0.0001)
Gender: Male		0.007 (0.066)		0.011 (0.062)
HH Head		0.031 (0.062)		0.024 (0.063)
Education (years)		-0.008 (0.007)		-0.009 (0.008)
Socio-Economic Status		0.002 (0.056)		0.004 (0.051)
Cash Income (USD, year)		-0.00004 (0.00004)		-0.00004 (0.00004)
Village Size		0.002 (0.002)		0.002 (0.002)
Migrant Share Village		-0.002 (0.002)		-0.002 (0.002)
Ethnic Fractionalization Village		0.192 (0.339)		0.191 (0.354)
Constant	0.304*** (0.052)	-0.210 (0.382)	0.310*** (0.051)	-0.180 (0.370)
Observations	185	183	185	183
R <sup>2</sup>	0.221	0.298	0.223	0.300
Adjusted R <sup>2</sup>	0.213	0.248	0.205	0.242
F Statistic	25.833*** (df = 2; 182)	6.004*** (df = 12; 170)	12.881*** (df = 4; 180)	5.153*** (df = 14; 168)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses

**Table K.2:** Regression Results - Locals - Village Fixed Effects

	<i>Dependent variable:</i>			
	Contribution			
	(1)	(2)	(3)	(4)
No of Migrants	0.005 (0.018)	-0.0003 (0.019)		
MIG1			-0.018 (0.043)	-0.029 (0.048)
MIG2			-0.003 (0.070)	-0.023 (0.082)
MIG3			0.024 (0.074)	0.019 (0.066)
Belief	0.438*** (0.133)	0.480*** (0.136)	0.444*** (0.125)	0.491*** (0.134)
Age		0.015 (0.010)		0.014 (0.010)
Age2		-0.0001 (0.0001)		-0.0001 (0.0001)
Gender: Male		-0.038 (0.062)		-0.035 (0.064)
HH Head		0.032 (0.061)		0.025 (0.059)
Education (years)		-0.002 (0.009)		-0.003 (0.009)
Socio-Economic Status		0.001 (0.058)		0.003 (0.059)
Cash Income (USD, year)		-0.00003 (0.0001)		-0.00004 (0.0001)
Observations	185	183	185	183
R <sup>2</sup>	0.188	0.253	0.189	0.256
Adjusted R <sup>2</sup>	0.094	0.129	0.085	0.121
F Statistic	19.063*** (df = 2; 165)	5.872*** (df = 9; 156)	9.507*** (df = 4; 163)	4.814*** (df = 11; 154)

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses;  
 all models include village fixed effects.

## Appendix L

# Regression Results - Individual Relative Income

**Table L.1:** Regression Results - Migrants - Individual Cash Income

	<i>Dependent variable:</i>					
	Contribution					
	(1)	(2)	(3)	(4)	(5)	(6)
No of Migrants	-0.028 (0.035)	-0.033 (0.051)	-0.028 (0.046)			
MIG2				-0.064 (0.100)	-0.021 (0.100)	0.017 (0.110)
MIG3				-0.068 (0.080)	-0.048 (0.094)	-0.026 (0.087)
No of Migrants x Relative Cash Income (to Locals)		0.002 (0.012)	0.003 (0.021)			
MIG2 x Relative Cash Income (to Locals)					-0.022** (0.010)	-0.046*** (0.011)
MIG3 x Relative Cash Income (to Locals)					-0.012 (0.009)	-0.022 (0.014)
Relative Cash Income (to Locals)	-0.008* (0.005)	-0.014 (0.029)	-0.007 (0.040)	-0.008* (0.004)	0.007 (0.007)	0.043*** (0.013)
Belief	0.571*** (0.103)	0.571*** (0.098)	0.609*** (0.136)	0.568*** (0.107)	0.551*** (0.096)	0.599*** (0.135)
Age			0.011 (0.019)			0.011 (0.019)
Age2			-0.0001 (0.0002)			-0.0002 (0.0002)
Gender: Male			0.113 (0.082)			0.098 (0.076)
HH Head			-0.138* (0.087)			-0.132 (0.088)
Education (years)			-0.011 (0.012)			-0.012 (0.013)
Socio-Economic Status			-0.005 (0.061)			-0.010 (0.061)
Cash Income (USD, year)			-0.00003 (0.0001)			-0.0001* (0.00004)
Years in Village			-0.001 (0.012)			-0.003 (0.014)
Village Size			0.006 (0.004)			0.005 (0.003)
Migrant Share Village			0.001 (0.003)			0.001 (0.003)
Ethnic Fractionalization Village			-0.010 (0.526)			-0.089 (0.442)
Constant	0.323** (0.133)	0.335* (0.175)	-0.015 (0.451)	0.315** (0.139)	0.298** (0.138)	0.026 (0.404)
Observations	109	109	109	109	109	109
R <sup>2</sup>	0.279	0.279	0.347	0.281	0.288	0.372
Adjusted R <sup>2</sup>	0.258	0.252	0.242	0.253	0.246	0.255
F Statistic	13.545*** (df = 3; 105)	10.086*** (df = 4; 104)	3.295*** (df = 15; 93)	10.140*** (df = 4; 104)	6.871*** (df = 6; 102)	3.170*** (df = 17; 91)

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
rigged Standard Errors in Parentheses

**Table L.2:** Regression Results - Locals - Individual Cash Income

	<i>Dependent variable:</i>					
	Contribution					
	(1)	(2)	(3)	(4)	(5)	(6)
No of Migrants	0.007 (0.019)	0.025 (0.023)	0.008 (0.026)			
MIG1				-0.030 (0.044)	-0.046 (0.067)	-0.058 (0.071)
MIG2				-0.002 (0.068)	0.066 (0.095)	0.026 (0.088)
MIG3				0.033 (0.076)	0.089 (0.091)	0.038 (0.096)
No of Migrants x Relative Cash Income (to Migrants)		-0.019*** (0.007)	-0.007 (0.015)			
MIG1 x Relative Cash Income (to Migrants)					0.031 (0.061)	0.056 (0.058)
MIG2 x Relative Cash Income (to Migrants)					-0.096 (0.074)	-0.078 (0.069)
MIG3 x Relative Cash Income (to Migrants)					-0.052** (0.025)	-0.006 (0.043)
Relative Cash Income (to Migrants)	-0.005 (0.027)	0.022 (0.018)	0.055*** (0.016)	-0.006 (0.026)	0.016 (0.022)	0.055*** (0.017)
Belief	0.501*** (0.108)	0.486*** (0.106)	0.496*** (0.107)	0.509*** (0.098)	0.478*** (0.122)	0.488*** (0.108)
Age			0.015* (0.010)			0.014 (0.010)
Age2			-0.0001* (0.0001)			-0.0001* (0.0001)
Gender: Male			-0.001 (0.067)			0.001 (0.070)
HH Head			0.034 (0.064)			0.030 (0.058)
Education (years)			-0.009 (0.007)			-0.010 (0.008)
Socio-Economic Status			0.010 (0.051)			0.014 (0.055)
Cash Income (USD, year)			-0.0001 (0.0001)			-0.0001* (0.0001)
Village Size			0.003 (0.002)			0.003 (0.002)
Migrant Share Village			-0.001 (0.002)			-0.001 (0.001)
Ethnic Fractionalization Village			0.200 (0.322)			0.209 (0.330)
Constant	0.284*** (0.055)	0.270*** (0.055)	-0.264 (0.349)	0.293*** (0.055)	0.292*** (0.058)	-0.231 (0.316)
Observations	183	183	183	183	183	183
R <sup>2</sup>	0.246	0.255	0.310	0.249	0.266	0.324
Adjusted R <sup>2</sup>	0.233	0.238	0.253	0.228	0.233	0.249
F Statistic	19.473*** (df = 3; 179)	15.241*** (df = 4; 178)	5.394*** (df = 14; 168)	11.735*** (df = 5; 177)	7.893*** (df = 8; 174)	4.360*** (df = 18; 164)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
 Wild Cluster Bootstrapped t-Statistics (p-values only);  
 'rigged' Standard Errors in Parentheses

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## Appendix M

# Regression Results - Income Ratio

**Table M.1:** Regression Results - Migrants - Village Income Ratio (Migrants/ Locals)

	<i>Dependent variable:</i>					
	Contribution					
	(1)	(2)	(3)	(4)	(5)	(6)
No of Migrants	-0.036 (0.037)	0.094* (0.050)	0.092** (0.037)			
MIG2				-0.073 (0.101)	0.177 (0.140)	0.167 (0.155)
MIG3				-0.085 (0.088)	0.215** (0.098)	0.203** (0.086)
No of Migrants x Village Income Ratio		-0.054*** (0.010)	-0.049*** (0.012)			
MIG2 x Village Income Ratio					-0.101*** (0.031)	-0.102*** (0.031)
MIG3 x Village Income Ratio					-0.122*** (0.019)	-0.114*** (0.022)
Village Income Ratio	-0.015 (0.029)	0.109*** (0.033)	0.086*** (0.032)	-0.015 (0.029)	0.079*** (0.026)	0.062* (0.033)
Belief	0.569*** (0.099)	0.599*** (0.099)	0.638*** (0.137)	0.566*** (0.101)	0.593*** (0.103)	0.634*** (0.138)
Age			0.008 (0.016)			0.009 (0.018)
Age2			-0.0001 (0.0002)			-0.0001 (0.0002)
Gender: Male			0.069 (0.060)			0.046 (0.063)
HH Head			-0.078 (0.102)			-0.045 (0.113)
Education (years)			-0.013 (0.013)			-0.013 (0.013)
Socio-Economic Status			-0.00005 (0.062)			-0.004 (0.061)
Cash Income (USD, year)			-0.00002 (0.00002)			-0.00002 (0.00002)
Years in Village			-0.002 (0.010)			-0.003 (0.010)
Village Size			0.007 (0.005)			0.007 (0.005)
Migrant Share Village			0.0001 (0.003)			0.0002 (0.003)
Ethnic Fractionalization Village			-0.143 (0.610)			-0.135 (0.581)
Constant	0.355*** (0.131)	0.036 (0.159)	-0.094 (0.463)	0.340** (0.139)	0.092 (0.136)	-0.068 (0.513)
Observations	111	111	109	111	111	109
R <sup>2</sup>	0.270	0.312	0.390	0.272	0.322	0.404
Adjusted R <sup>2</sup>	0.250	0.286	0.292	0.244	0.283	0.292
F Statistic	13.196*** (df = 3; 107)	12.035*** (df = 4; 106)	3.965*** (df = 15; 93)	9.881*** (df = 4; 106)	8.244*** (df = 6; 104)	3.623*** (df = 17; 91)

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
‘rigged’ Standard Errors in Parentheses



**Table M.2:** Regression Results - Locals - Village Income Ratio (Migrants/ Locals)

	<i>Dependent variable:</i>					
	Contribution					
	(1)	(2)	(3)	(4)	(5)	(6)
No of Migrants	0.004 (0.019)	-0.034 (0.028)	-0.022 (0.030)			
MIG1				-0.021 (0.042)	-0.039 (0.056)	-0.035 (0.054)
MIG2				-0.005 (0.067)	-0.113 (0.120)	-0.132 (0.121)
MIG3				0.023 (0.072)	-0.062 (0.128)	0.017 (0.124)
No of Migrants x Village Income Ratio		0.016 (0.013)	0.010 (0.014)			
MIG1 x Village Income Ratio					0.008 (0.019)	0.003 (0.013)
MIG2 x Village Income Ratio					0.045 (0.046)	0.042 (0.046)
MIG3 x Village Income Ratio					0.035 (0.030)	0.007 (0.042)
Village Income Ratio	0.004 (0.012)	-0.013 (0.020)	-0.023 (0.025)	0.003 (0.011)	-0.012 (0.025)	-0.025 (0.022)
Belief	0.475*** (0.110)	0.459*** (0.113)	0.498*** (0.101)	0.480*** (0.107)	0.464*** (0.115)	0.512*** (0.093)
Age			0.014 (0.009)			0.013 (0.009)
Age2			-0.0001* (0.0001)			-0.0001 (0.0001)
Gender: Male			0.008 (0.068)			0.001 (0.067)
HH Head			0.020 (0.060)			0.015 (0.059)
Education (years)			-0.009 (0.007)			-0.011 (0.008)
Socio-Economic Status			0.007 (0.058)			0.010 (0.059)
Cash Income (USD, year)			-0.00004 (0.00005)			-0.0001 (0.00004)
Village Size			0.002 (0.002)			0.002 (0.002)
Migrant Share Village			-0.002 (0.002)			-0.002 (0.002)
Ethnic Fractionalization Village			0.141 (0.380)			0.144 (0.352)
Constant	0.296*** (0.070)	0.343*** (0.071)	-0.074 (0.439)	0.302*** (0.061)	0.347*** (0.082)	-0.021 (0.398)
Observations	185	185	183	185	185	183
R <sup>2</sup>	0.221	0.229	0.303	0.223	0.232	0.310
Adjusted R <sup>2</sup>	0.209	0.212	0.244	0.201	0.197	0.235
F Statistic	17.164*** (df = 3; 181)	13.353*** (df = 4; 180)	5.206*** (df = 14; 168)	10.268*** (df = 5; 179)	6.651*** (df = 8; 176)	4.101*** (df = 18; 164)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
rigged Standard Errors in Parentheses

*Land Economics* 96(1), February 2020  
“How Migrants Benefit Poor Communities: Evidence on Collective Action in Rural Zambia” by Tobias Vorlauffer and Björn Volland

## Appendix N

# Regression Results - Income Ratio and Relative Individual Income

**Table N.1:** Regression Results - Migrants - Village Income Ratio (Migrants/ Locals) and Relative Individual Income

	<i>Dependent variable:</i>					
	Contribution					
	(1)	(2)	(3)	(4)	(5)	(6)
No of Migrants	-0.028 (0.034)	0.096** (0.043)	0.088** (0.039)			
MIG2				-0.066 (0.095)	0.166 (0.139)	0.238 (0.163)
MIG3				-0.069 (0.080)	0.232** (0.089)	0.258** (0.092)
No of Migrants x Village Income Ratio		-0.058*** (0.009)	-0.056*** (0.011)			
No of Migrants x Relative Cash Income (to Locals)		0.008 (0.010)	0.012 (0.025)			
MIG2 x Village Income Ratio					-0.080** (0.031)	-0.096*** (0.033)
MIG3 x Village Income Ratio					-0.124*** (0.020)	-0.131*** (0.034)
MIG2 x Relative Cash Income (to Locals)					-0.015 (0.011)	-0.043** (0.014)
MIG3 x Relative Cash Income (to Locals)					-0.002 (0.007)	-0.009 (0.018)
Village Income Ratio	-0.009 (0.030)	0.125*** (0.029)	0.100*** (0.030)	-0.009 (0.031)	0.079*** (0.025)	0.061** (0.030)
Relative Cash Income (to Locals)	-0.007*** (0.002)	-0.026 (0.030)	-0.019 (0.050)	-0.007*** (0.002)	0.001 (0.006)	0.049*** (0.016)
Age			0.006 (0.015)			0.007 (0.016)
Age2			-0.0001 (0.0002)			-0.0001 (0.0002)
Gender: Male			0.051 (0.084)			0.022 (0.073)
HH Head			-0.065 (0.103)			-0.043 (0.105)
Education (years)			-0.010 (0.014)			-0.012 (0.015)
Socio-Economic Status			0.008 (0.064)			-0.0004 (0.059)
Cash Income (USD, year)			-0.0001 (0.0001)			-0.0001*** (0.00004)
Years in Village			0.0001 (0.011)			-0.003 (0.011)
Village Size			0.006 (0.004)			0.006* (0.004)
Migrant Share Village			0.0005 (0.003)			0.0004 (0.002)
Ethnic Fractionalization Village			-0.257 (0.669)			-0.399 (0.495)
Belief	0.572*** (0.099)	0.602*** (0.094)	0.653*** (0.140)	0.569*** (0.099)	0.582*** (0.114)	0.650*** (0.154)
Constant	0.341** (0.141)	0.039 (0.148)	0.011 (0.507)	0.334** (0.134)	0.098 (0.139)	0.153 (0.443)
Observations	109	109	109	109	109	109
R <sup>2</sup>	0.281	0.328	0.398	0.282	0.339	0.437
Adjusted R <sup>2</sup>	0.253	0.289	0.285	0.248	0.279	0.309
F Statistic	10.147*** (df = 4; 104)	8.303*** (df = 6; 102)	3.534*** (df = 17; 91)	8.105*** (df = 5; 103)	5.635*** (df = 9; 99)	3.412*** (df = 20; 88)

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
'rigged' Standard Errors in Parentheses

**Table N.2:** Regression Results - Locals - Village Income Ratio (Migrants/ Locals) and Relative Individual Income

	<i>Dependent variable:</i>					
	(1)	(2)	(3)	Contribution		
				(4)	(5)	(6)
No of Migrants	0.006 (0.021)	0.001 (0.037)	-0.015 (0.048)			
MIG1				-0.030 (0.042)	-0.098 (0.130)	-0.097 (0.119)
MIG2				-0.002 (0.066)	-0.020 (0.165)	-0.066 (0.172)
MIG3				0.031 (0.072)	0.069 (0.195)	0.031 (0.235)
No of Migrants x Village Income Ratio		0.009 (0.014)	0.008 (0.016)			
No of Migrants x Relative Cash Income (to Migrants)		-0.016* (0.009)	-0.003 (0.018)			
MIG1 x Village Income Ratio					0.018 (0.026)	0.014 (0.020)
MIG2 x Village Income Ratio					0.027 (0.057)	0.030 (0.054)
MIG3 x Village Income Ratio					0.007 (0.043)	0.004 (0.058)
MIG1 x Relative Cash Income (to Migrants)					0.047 (0.082)	0.063 (0.074)
MIG2 x Relative Cash Income (to Migrants)					-0.066 (0.078)	-0.051 (0.081)
MIG3 x Relative Cash Income (to Migrants)					-0.049 (0.040)	-0.004 (0.070)
Village Income Ratio	0.005 (0.015)	-0.003 (0.024)	-0.014 (0.029)	0.004 (0.014)	-0.005 (0.025)	-0.016 (0.028)
Relative Cash Income (to Migrants)	-0.002 (0.027)	0.022 (0.026)	0.051*** (0.016)	-0.004 (0.029)	0.013 (0.031)	0.047** (0.020)
Age			0.014 (0.010)			0.013 (0.010)
Age2			-0.0001 (0.0001)			-0.0001 (0.0001)
Gender: Male			0.004 (0.073)			-0.003 (0.072)
HH Head			0.025 (0.067)			0.029 (0.064)
Education (years)			-0.009 (0.008)			-0.011 (0.008)
Socio-Economic Status			0.013 (0.059)			0.016 (0.054)
Cash Income (USD, year)			-0.0001 (0.0001)			-0.0001 (0.0001)
Village Size			0.003 (0.002)			0.003 (0.002)
Migrant Share Village			-0.001 (0.002)			-0.001 (0.002)
Ethnic Fractionalization Village			0.173 (0.348)			0.187 (0.330)
Belief	0.501*** (0.102)	0.479*** (0.117)	0.492*** (0.107)	0.509*** (0.105)	0.476*** (0.115)	0.490*** (0.110)
Constant	0.270*** (0.085)	0.281*** (0.094)	-0.176 (0.403)	0.281*** (0.079)	0.308*** (0.097)	-0.128 (0.365)
Observations	183	183	183	183	183	183
R <sup>2</sup>	0.247	0.258	0.312	0.249	0.270	0.327
Adjusted R <sup>2</sup>	0.230	0.232	0.246	0.224	0.218	0.234
F Statistic	14.573*** (df = 4; 178)	10.188** (df = 6; 176)	4.706*** (df = 16; 166)	9.749*** (df = 6; 176)	5.229*** (df = 12; 170)	3.531*** (df = 22; 160)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only);  
rigged Standard Errors in Parentheses

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## Appendix O

# Regression Results - Self-Reported Public Good Contributions

Table O.1: Regression Results - Migrants - Real Public Goods

	<i>Dependent variable:</i>					
	Real Public Good Contribution					
	All	(2)	(3)	(4)	(5)	(6)
Age	-0.305 (0.191)		-0.050 (0.167)		-0.872 (0.746)	
Age2	0.003 (0.002)		0.0002 (0.001)		0.008 (0.008)	
Gender: Male	0.018 (4.885)		2.171 (6.218)		0.994 (9.307)	
HH Head	-2.382 (2.806)		1.154 (3.684)		-7.941 (6.429)	
Education (years)	0.014 (0.390)		-0.388 (0.252)		0.202 (0.739)	
Socio-Economic Status	0.888 (1.994)		0.922 (1.841)		1.028 (3.355)	
Cash Income (USD, year)	0.003 (0.002)	0.003 (0.002)	0.001 (0.005)	0.002 (0.003)	0.003 (0.003)	0.004 (0.003)
Group Membership	2.745** (1.207)	2.507*** (0.852)	3.875** (1.949)	3.631*** (1.141)	2.822 (2.308)	1.631 (1.455)
Years in Village	0.096 (0.331)	0.082 (0.360)	0.118 (0.489)	0.168 (0.484)	-0.048 (0.635)	-0.039 (0.548)
Observations	109	109	55	55	54	54
R <sup>2</sup>	0.389	0.374	0.309	0.269	0.459	0.418
Adjusted R <sup>2</sup>	0.196	0.232	-0.008	0.082	0.204	0.265
F Statistic	5.811*** (df = 9; 82)	17.523*** (df = 3; 88)	1.840* (df = 9; 37)	5.267*** (df = 3; 43)	3.397*** (df = 9; 36)	10.048*** (df = 3; 42)

Note: Wild Cluster Bootstrapped t-Statistics (p-values only) and Village Fixed Effects; 'rigged' Standard Errors in Parentheses  
 \*p<0.1; \*\* p<0.05; \*\*\*p<0.01

**Table O.2:** Regression Results - Migrants - Real Public Goods with Years in Village Interaction

	<i>Dependent variable:</i>					
	All		Real Public Good Contribution		Income Ratio > Median	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	-0.068 (0.172)		-0.095 (0.137)		-0.248 (0.841)	
Age2	0.0004 (0.002)		0.001 (0.002)		0.003 (0.008)	
Gender: Male	0.557 (5.377)		1.583 (5.117)		-0.400 (8.255)	
HH Head	-3.708 (3.186)		1.797 (2.726)		-8.647 (5.925)	
Education (years)	0.386 (0.511)		-0.368 (0.255)		1.051 (0.985)	
Socio-Economic Status	2.516 (2.275)		0.899 (1.776)		4.333 (3.578)	
Cash Income (USD, year)	0.005*** (0.001)	0.005*** (0.001)	-0.002 (0.004)	-0.001 (0.003)	0.006*** (0.001)	0.006*** (0.001)
Group Membership	1.991 (1.526)	2.445*** (0.861)	3.818* (2.062)	3.653** (1.314)	1.322 (3.053)	1.634 (1.218)
Years in Village	0.795** (0.345)	0.615* (0.325)	-0.153 (0.759)	-0.124 (0.786)	0.739 (0.653)	0.689* (0.407)
Cash Income x Years in Village	-0.001*** (0.0002)	-0.001*** (0.0001)	0.0005 (0.001)	0.001 (0.001)	-0.001** (0.001)	-0.001*** (0.0002)
Observations	109	109	55	55	54	54
R <sup>2</sup>	0.487	0.443	0.318	0.280	0.628	0.518
Adjusted R <sup>2</sup>	0.316	0.308	-0.023	0.075	0.437	0.377
F Statistic	7.692*** (df = 10; 81)	17.267*** (df = 4; 87)	1.680 (df = 10; 36)	4.089*** (df = 4; 42)	5.916*** (df = 10; 35)	11.011*** (df = 4; 41)

*Note:* Wild Cluster Bootstrapped t-Statistics (p-values only) and Village Fixed Effects; 'rigged' Standard Errors in Parentheses  
 \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Table O.3:** Regression Results - Locals - Real Public Goods

	<i>Dependent variable:</i>					
	All			Real Public Good Contribution		
	(1)	(2)	(3)	(4)	(5)	(6)
Age	-0.264 (0.172)	-0.369* (0.210)	-0.401 (0.698)	-0.369 (0.897)	-0.158 (0.159)	-0.324* (0.173)
Age2	0.003* (0.002)	0.004* (0.002)	0.004 (0.007)	0.004 (0.009)	0.002 (0.002)	0.004*** (0.001)
Gender: Male	5.842 (3.650)		7.342 (10.375)		5.516 (3.366)	
HH Head	-5.149** (2.213)	-0.826 (1.100)	-8.209 (8.212)	-2.317* (1.341)	-2.211 (2.173)	0.977 (1.674)
Education (years)	-0.039 (0.164)		-0.148 (0.219)		0.024 (0.301)	
Socio-Economic Status	-1.725 (1.162)		-1.433 (1.119)		-1.652 (1.748)	
Cash Income (USD, year)	0.002 (0.002)		0.002 (0.002)		0.003 (0.003)	
Group Membership	1.211* (0.641)	1.016** (0.451)	0.902 (1.165)	0.783 (0.840)	1.412 (1.038)	1.330** (0.517)
Observations	183	185	92	93	91	92
R <sup>2</sup>	0.083	0.028	0.103	0.031	0.096	0.041
Adjusted R <sup>2</sup>	-0.063	-0.097	-0.089	-0.114	-0.100	-0.105
F Statistic	1.781* (df = 8; 157)	1.194 (df = 4; 163)	1.072 (df = 8; 75)	0.638 (df = 4; 80)	0.977 (df = 8; 74)	0.845 (df = 4; 79)

*Note:*

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01  
Wild Cluster Bootstrapped t-Statistics (p-values only) and Village Fixed Effects;  
'rigged' Standard Errors in Parentheses



## Appendix P

# Socio-Economic Status Index

The socio-economic status (SES) index was derived as the first component of a Principal Component Analysis, comprising variables that cover household assets, housing quality and livestock ownership. The respective loadings of the first principal component capture 30% of the overall variance in the data. Table P.1 shows summary statistics for all variables and their respective loadings. Table P.2 summarizes the average SES scores and the respective variable means for the quartiles of the SES index.

**Table P.1:** Summary Statistics and Loadings for Socio-Economic Status Variables

	Type	Average/ Share	Standard Deviation	Loading
Household Assets				
Bicycle	Dummy	0.7600		0.292
Generator or Solar System	Dummy	0.5475		0.572
Mobile Phone	Dummy	0.5825		0.420
Motorized Vehicle	Dummy	0.0475		0.373
Ox Cart	Dummy	0.1500		0.644
Radio	Dummy	0.5175		0.504
TV	Dummy	0.1575		0.454
Housing Material				
Concrete Floor	Dummy	0.1350		0.371
Corrugated Iron Roof	Dummy	0.4775		0.545
Brick Wall	Dummy	0.2475		0.534
Livestock Ownership				
Cattle	Number	3.2650	5.9832	0.794
Goats	Number	3.1125	6.4707	0.562
Trained Oxen	Number	1.0375	1.8247	0.719
Untrained Oxen	Number	0.5000	1.4885	0.610

**Table P.2:** Socio-Economic Variable Means by SES Quartiles

Quartile	Poorest	Second	Third	Richest
Average SES Score	-1.00	-0.48	0.13	1.36
Share of Household with Assets				
Bicycle	0.54	0.76	0.84	0.92
Generator or Solar System	0.05	0.44	0.81	0.91
Mobile Phone	0.22	0.6	0.7	0.85
Motorized Vehicle	0.00	0.02	0.04	0.13
Ox Cart	0.00	0.01	0.06	0.52
Radio	0.07	0.41	0.74	0.84
TV	0.00	0.02	0.13	0.47
Share of Households with Improved Housing Material				
Concrete Floor	0.02	0.04	0.14	0.33
Corrugated Iron Roof	0.06	0.26	0.74	0.84
Brick Wall	0.00	0.08	0.33	0.58
Average Number of Owned Livestock				
Cattle	0.06	1.29	2.11	9.66
Goats	0.69	1.74	3.49	6.76
Trained Oxen	0.01	0.48	0.66	3.01
Untrained Oxen	0.02	0.10	0.34	1.56

## Appendix Q

# Migrant Perception Index

The migrant perception index (MPI) is based on the first component of a Principal Component Analysis (PCA). The PCA includes five statements where respondents indicated their degree of agreement on a scale from 0 (disagree) to 10 (agree). The respective statements and loadings are reported in Table Q.1. Table Q.2 reports the average replies to each statement by MPI quartiles.

**Table Q.1:** Summary Statistics and Loadings for Migrant Perception Variables

Variable	Statement	Loading Component 1	Mean Answer
ST1	I know most of my good friends since childhood.	0.56	3.691
ST2	Migrants look more at their own benefits, compared to old settlers.	0.80	2.653
ST3	Overall it is good for the community, if new migrants settle in this village.	-0.34	8.269
ST4	People who recently migrated here contribute less time or money to community activities.	0.77	2.144
ST5	Long-standing residents of this village can be trusted more than people that migrated here.	0.56	5.775
Proportion of Variance		0.40	

**Table Q.2:** Average Reply to Statements by MPI Quartiles

	MPI Quartile	ST1	ST2	ST3	ST4	ST5
1	(-2.58, -0.886]	6.910	5.603	6.333	5.154	7.462
2	(-0.886, 0.183]	3.654	3.936	8.449	2.808	6.256
3	(0.183, 0.881]	3.282	1.013	8.782	0.500	5.538
4	(0.881, 1.72]	1.051	0.101	9.494	0.051	3.810