Supplementary Material to:
Competition Among Public Good Providers for Donor Rewards

Section 1: First wave of data collection only

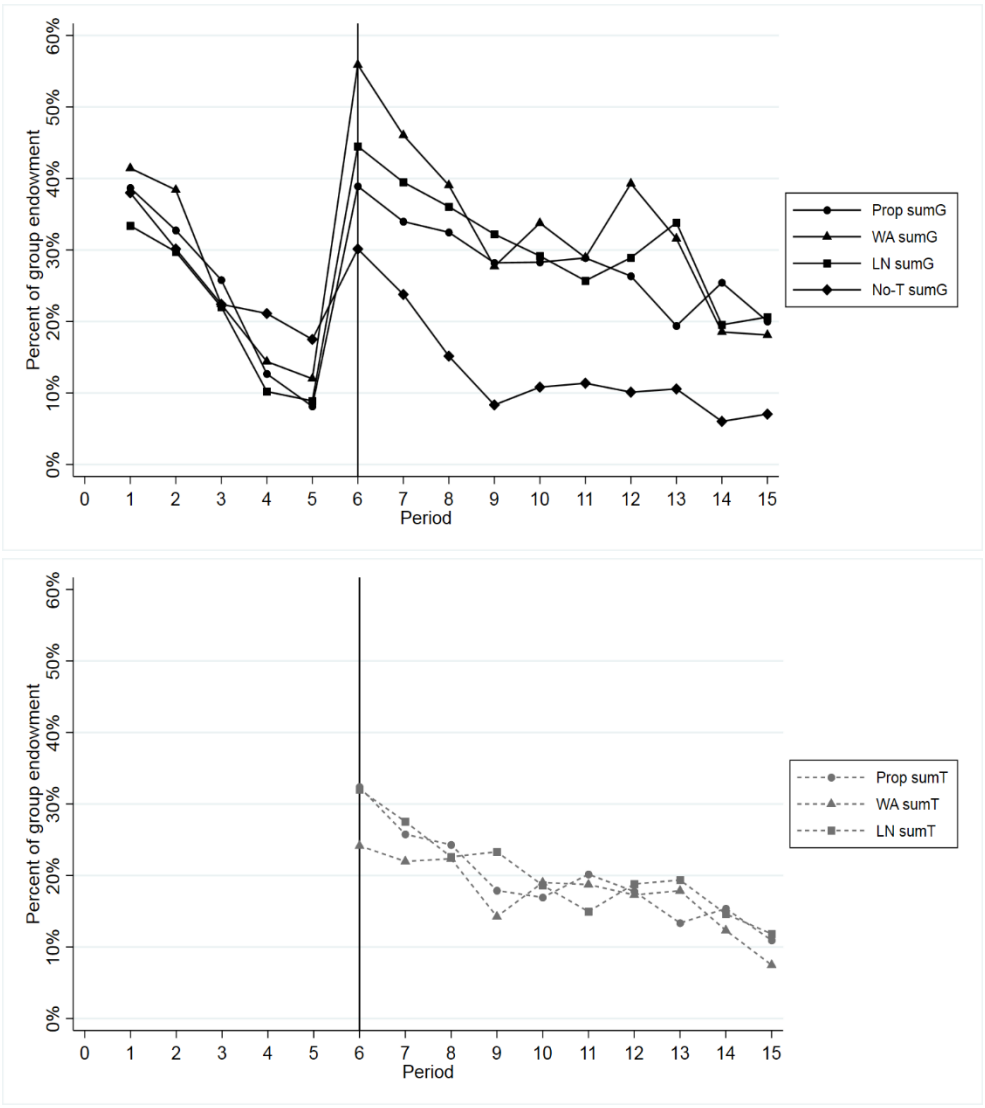


Fig A1. Average group contributions (top figure) and group transfers (bottom figure) across periods, using only first wave of data collections

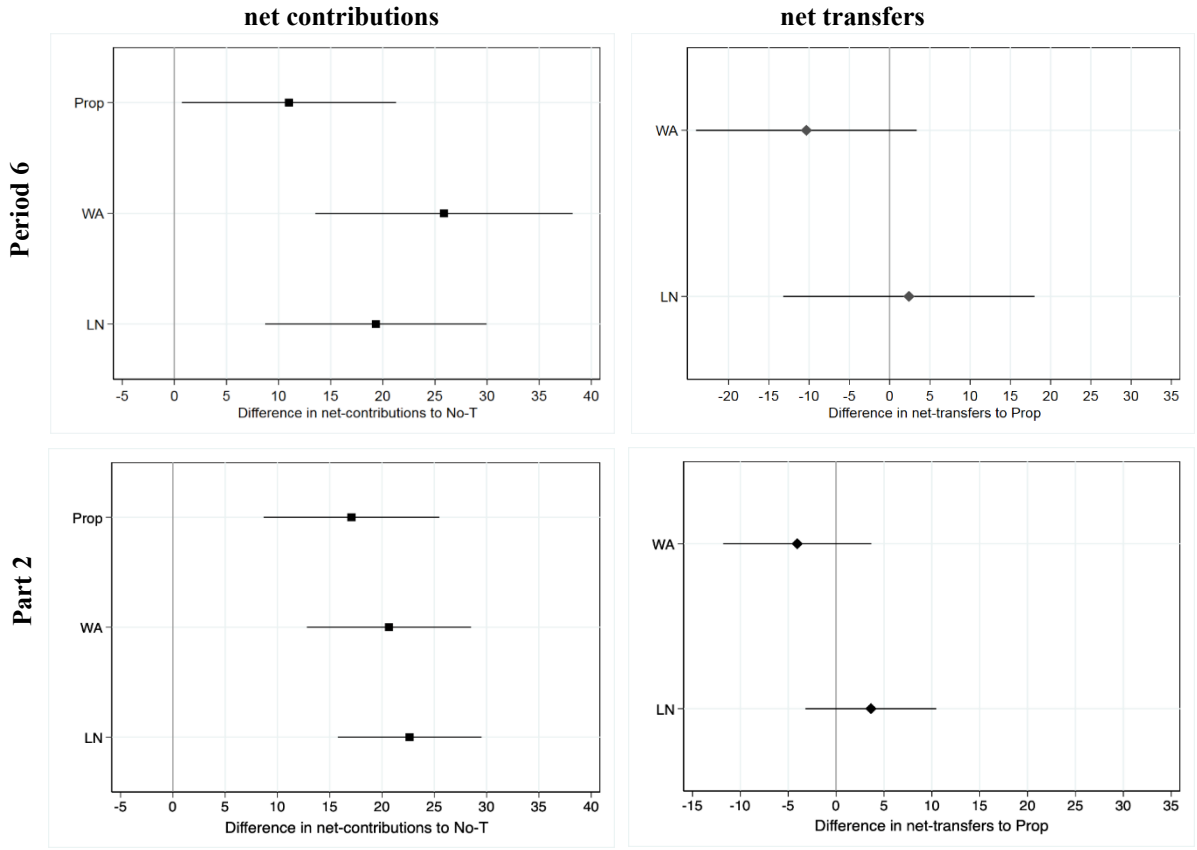


Fig A2. Period 6 Treatment effects for average net contributions and average net transfers, period 6 only, using only first wave of data**.** Point estimates and 95% confidence intervals based on robust standard errors for treatment differences from OLS regressions, clustering on groups. **Part 2:** Treatment effects for average net contributions and average net transfers, all decision periods, using only first wave of data. Point estimates and 95% confidence intervals based on cluster-robust standard errors at the session level for treatment differences from multilevel regressions with random effects on the group and session level.

Note: Considering only the first wave of data (reduced nr. of groups in *Prop*), net contributions in period 6 are significantly higher in all contests as compared to *No-T*. Pairwise comparisons from post-estimation Wald-tests show that the difference in *WA* and *Prop* is significant (p-value = 0.002), while the difference in *LN* and *Prop* (p-value = 0.12) and in *WA* and *LN* (p-value = 0.3) is not significant. Period 6 net transfers are not significantly different in *WA* or *LN* as compared to *Prop*, as well as in *WA* compared to *LN* (p-value = 0.12 from post-estimation Wald test). Considering all decision periods of Part 2, net contributions are significantly higher in all contests as compared to *No-T*, however all pairwise comparisons of net contributions between the different contests are insignificant (all p-values from post-estimation Wald tests > 0.1). Net transfers are as well not significantly different in *WA* and *LN* as compared to *Prop*, but the difference between *WA* and *LN* is significant (p-value = 0.034).

Section 2: Additional Analyses

Contributions and Transfers by Group:

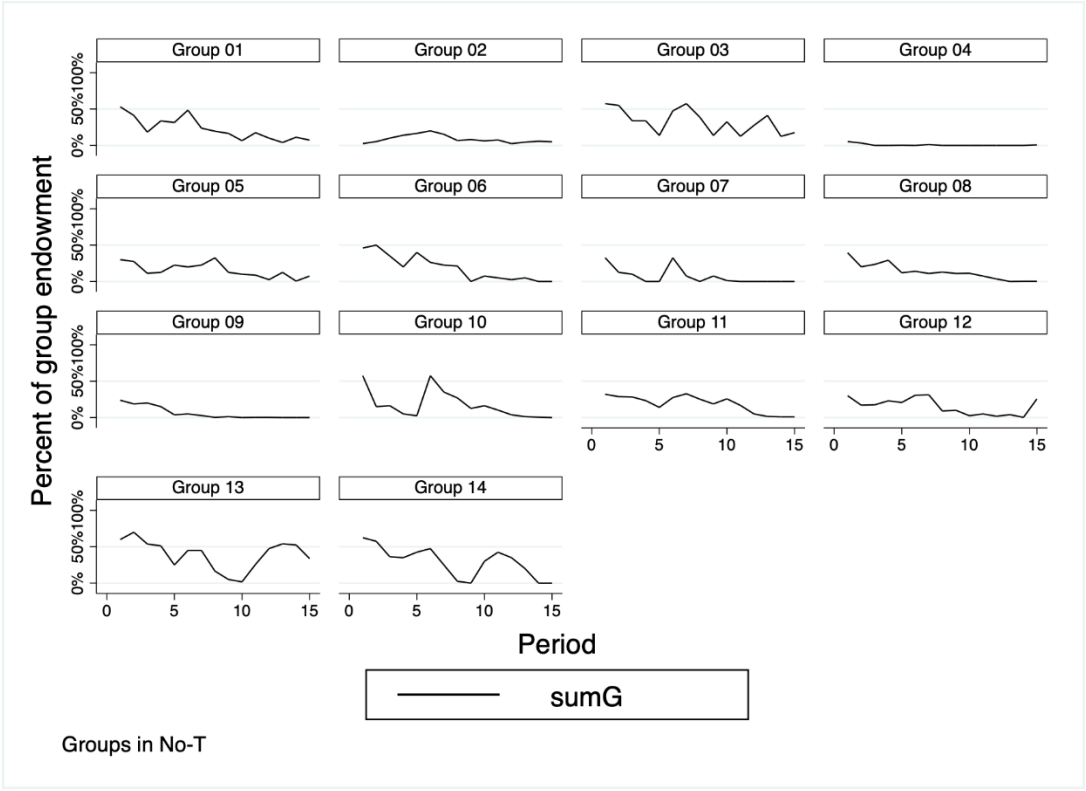


Fig B1. Sum of contributions by group in *No-T*

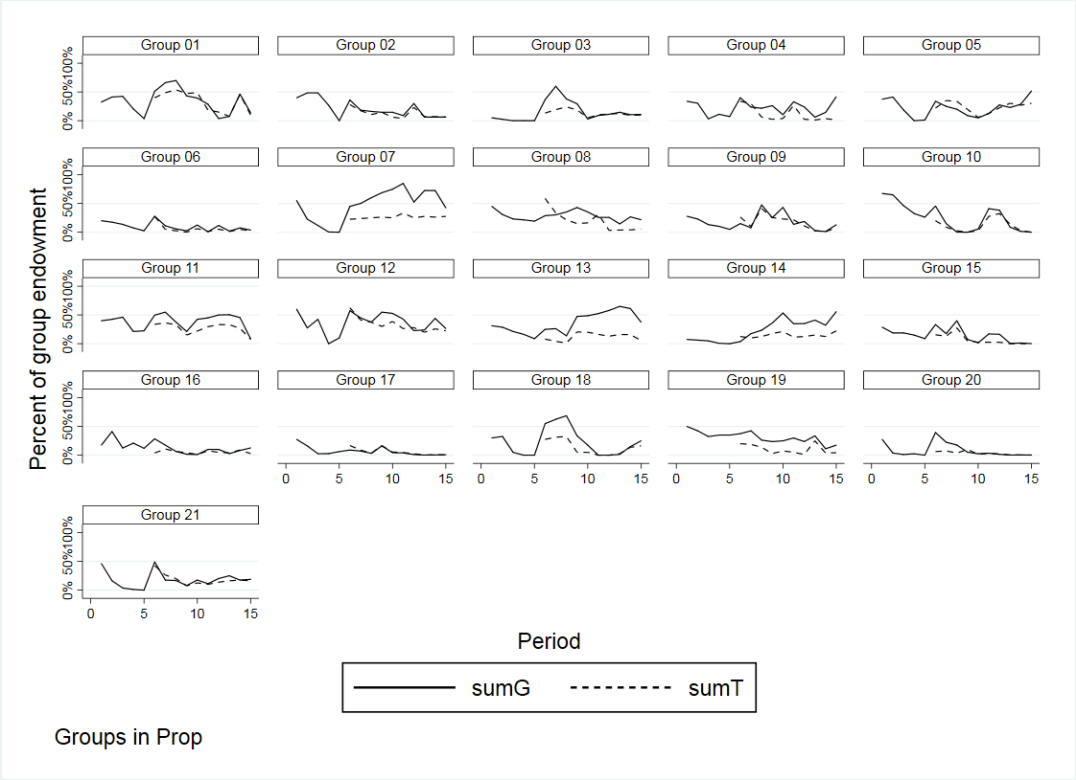


Fig B2. Sum of contributions and transfers by group in *Prop*.

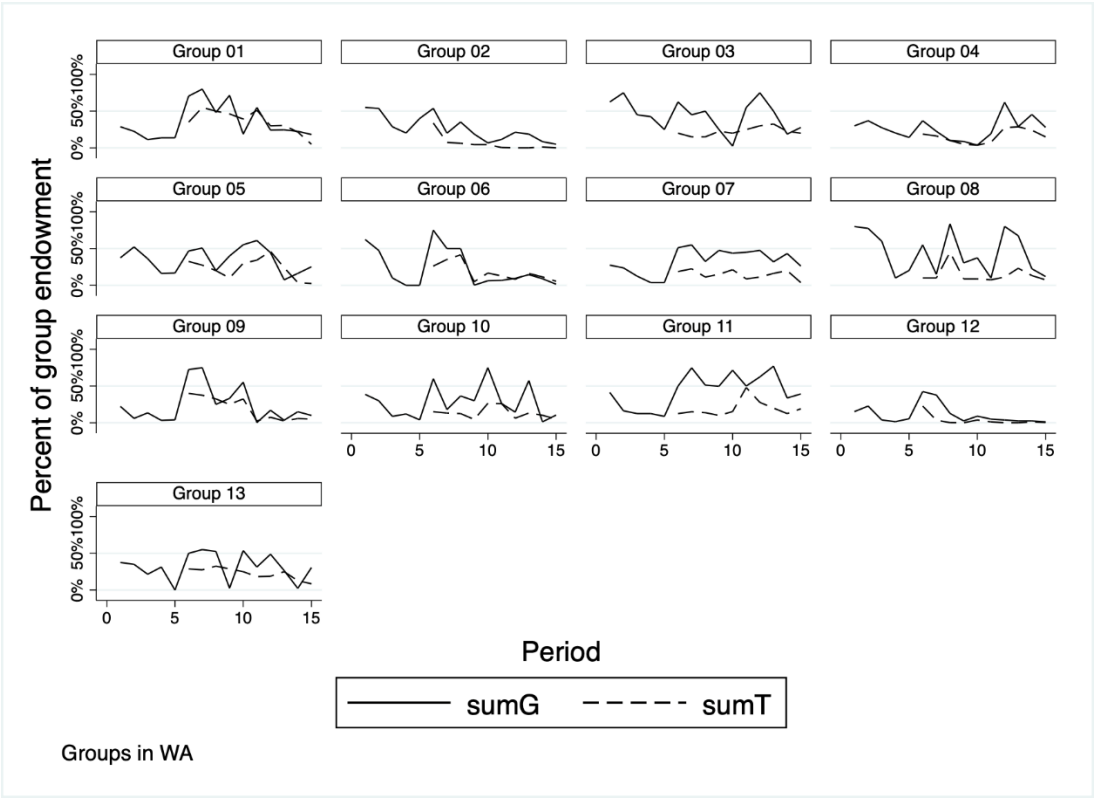


Fig B3. Sum of contributions and transfers by group in *WA*.

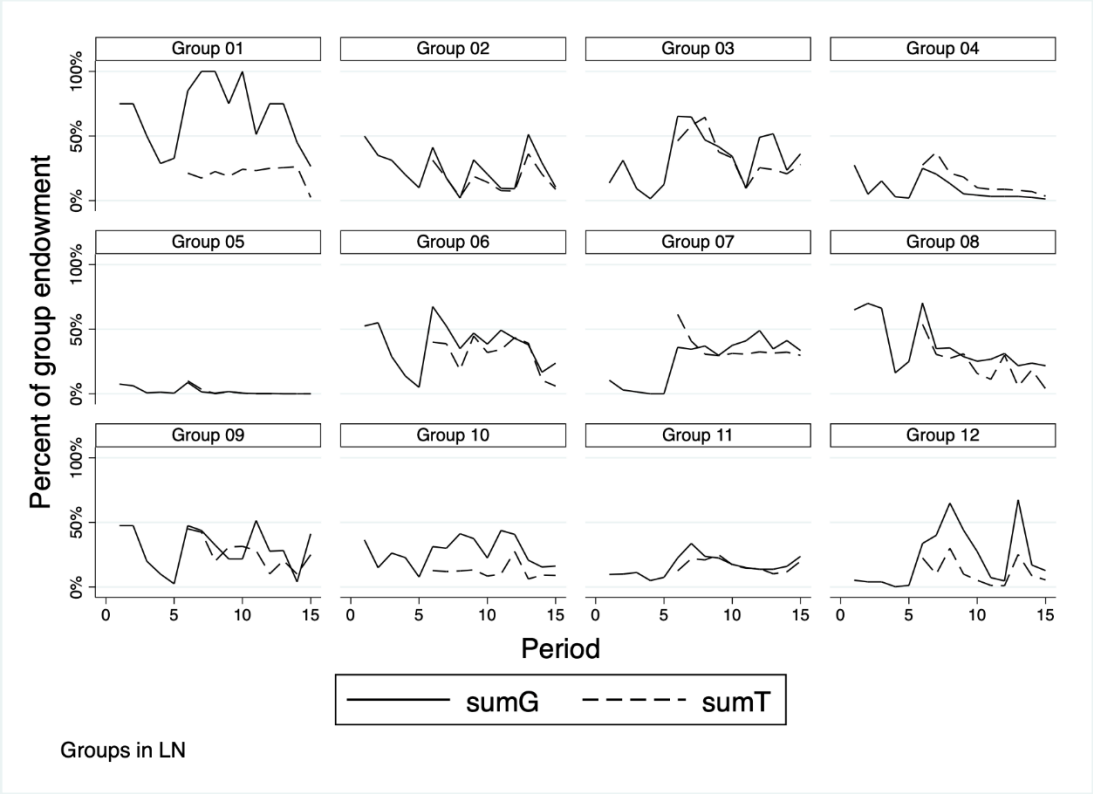


Fig B4. Sum of contributions and transfers by group in *LN*.

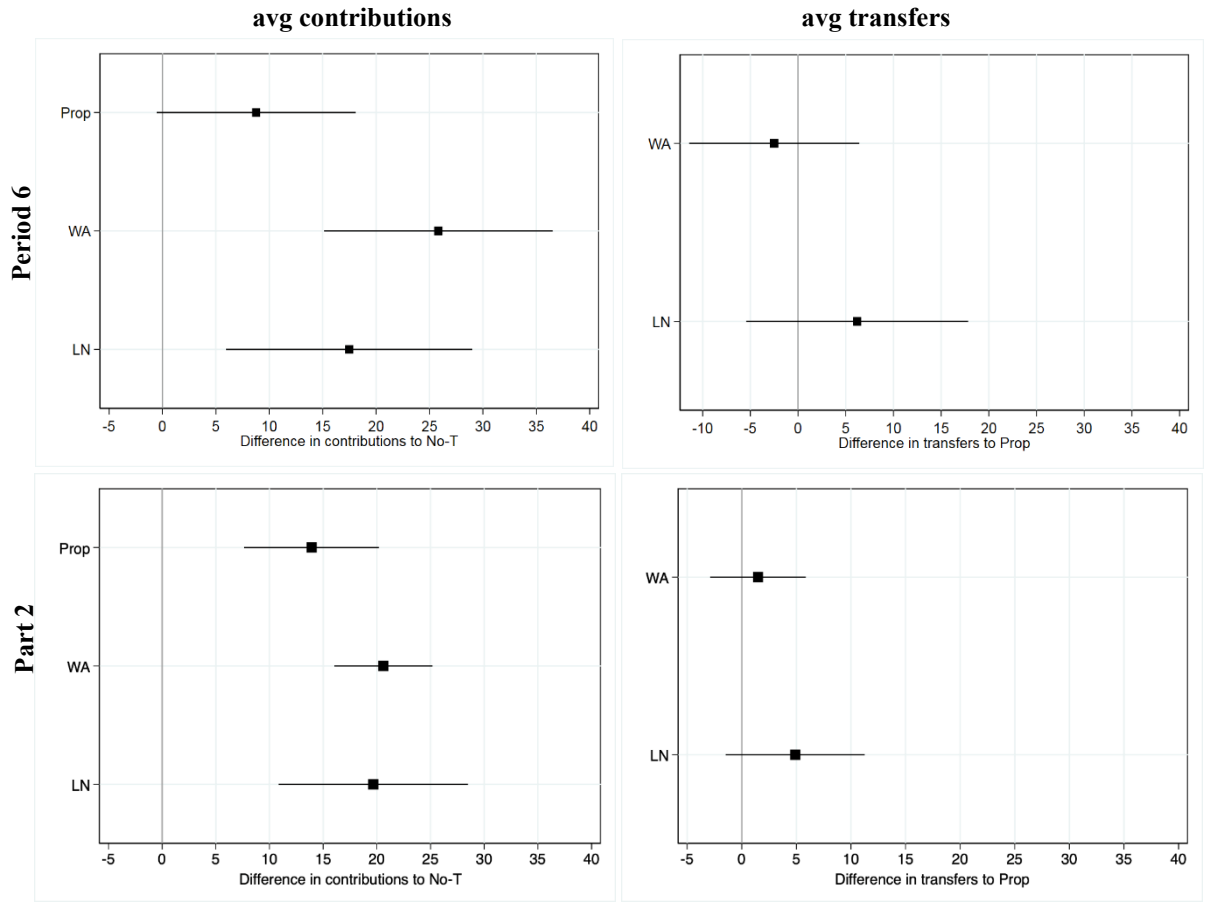


Fig B5. Period 6 Treatment effects for average contributions and average transfers, period 6 only, controlling for average Part 1 group contributions as explanatory variable**.** Point estimates and 95% confidence intervals based on robust standard errors for treatment differences from OLS regressions, clustering on groups. **Part 2:** Treatment effects for average contributions and average transfers, all decision periods, controlling for average Part 1 group contributions. Point estimates and 95% confidence intervals based on cluster-robust standard errors at the session level for treatment differences from multilevel regressions with random effects on the group and session level.

Note: Contributions in Period 6 are significantly higher in *WA* and *LN* as compared to *No-T*, and weakly so in *Prop* compared to *No-T*. Pairwise comparisons from post-estimation Wald-tests show that the difference in *WA* and *Prop* (p-value = 0.001) is significant, while the difference in both *LN* and *Prop* (p-value = 0.1) and in *WA* and *LN* (p-value = 0.17) is not significant. Transfers in *WA* and *LN* are not significantly different as in Prop, as well as in *WA* as compared to *LN* (p-value = 0.11 from post-estimation Wald test). Considering all decision periods of Part 2, contributions are significantly higher in all contests as compared to *No-T*. Further, contributions in *WA* are significantly higher than in *Prop* (p-value 0.02 from post-estimation Wald-tests). Differences in contributions between *LN* and *Prop* (p-value = 0.234) as well as between *WA* and *LN* (p-value = 0.827) are not significant. Average transfers are as well not significantly different in *WA* and *LN* as compared to *Prop*, as is the difference between *WA* and *LN* (p-value = 0.18).

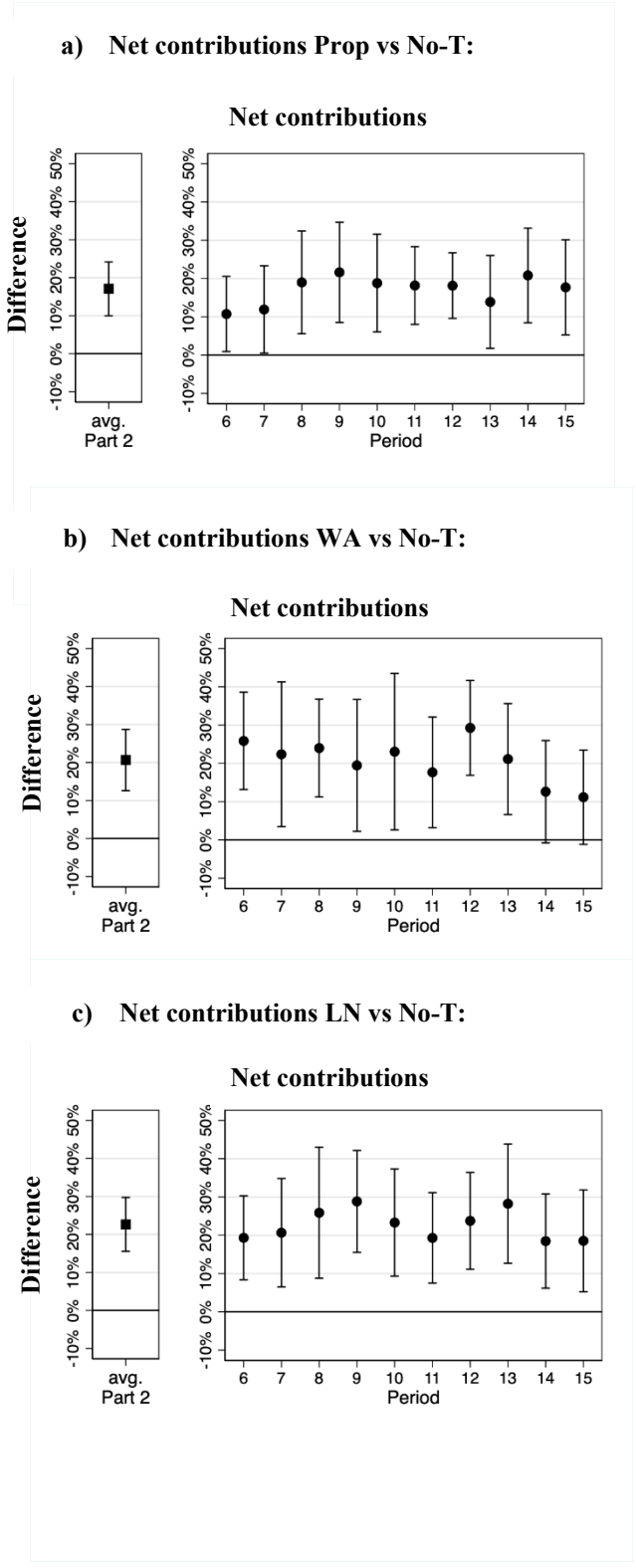


Fig B6: Per-period treatment differences in net contributions in contest treatments as compared to No-T.

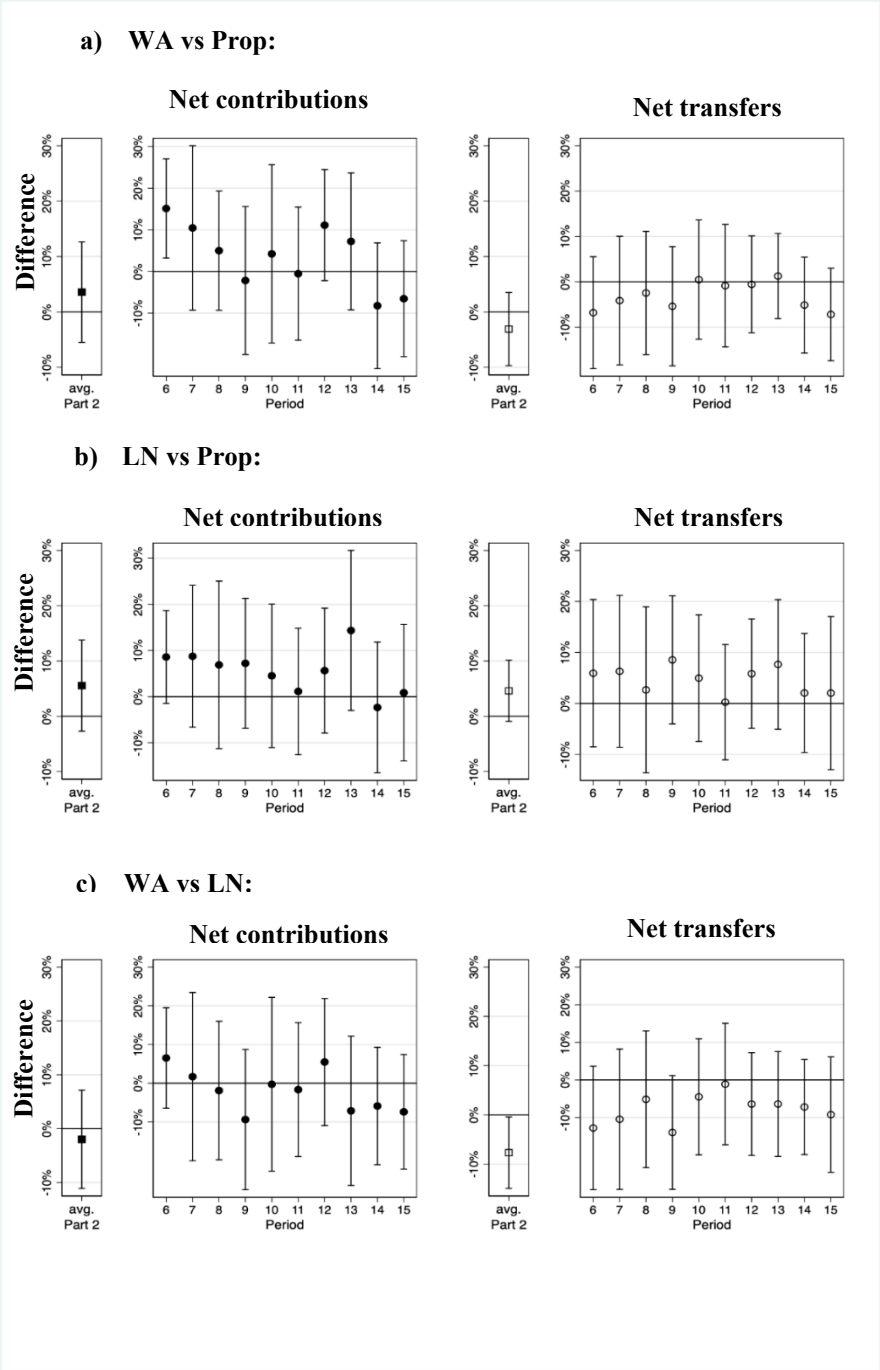
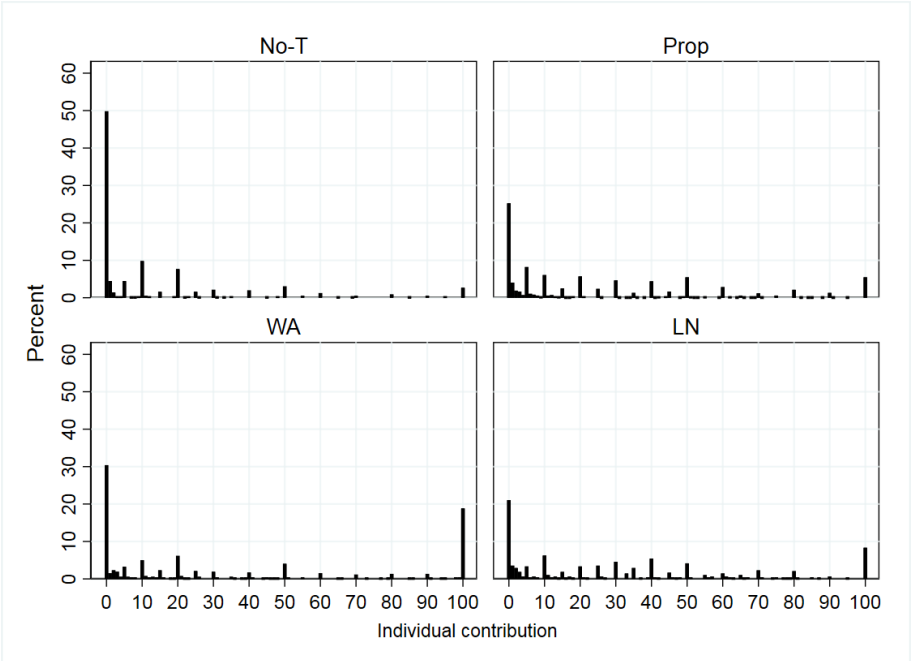


Fig B7: Per-period treatment differences in net contributions and net transfers in contest treatments.

a) insiders



b) outsiders

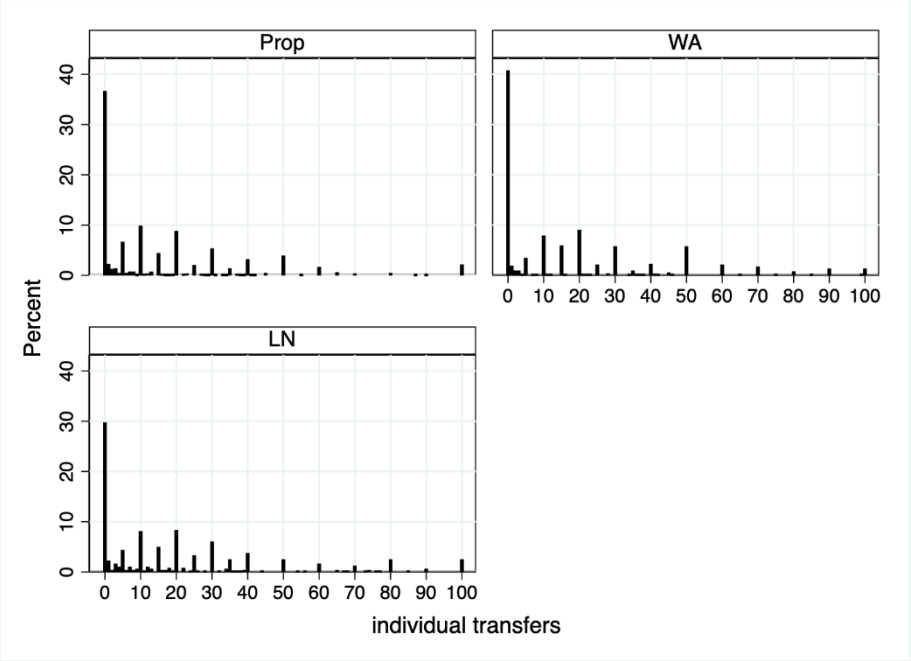
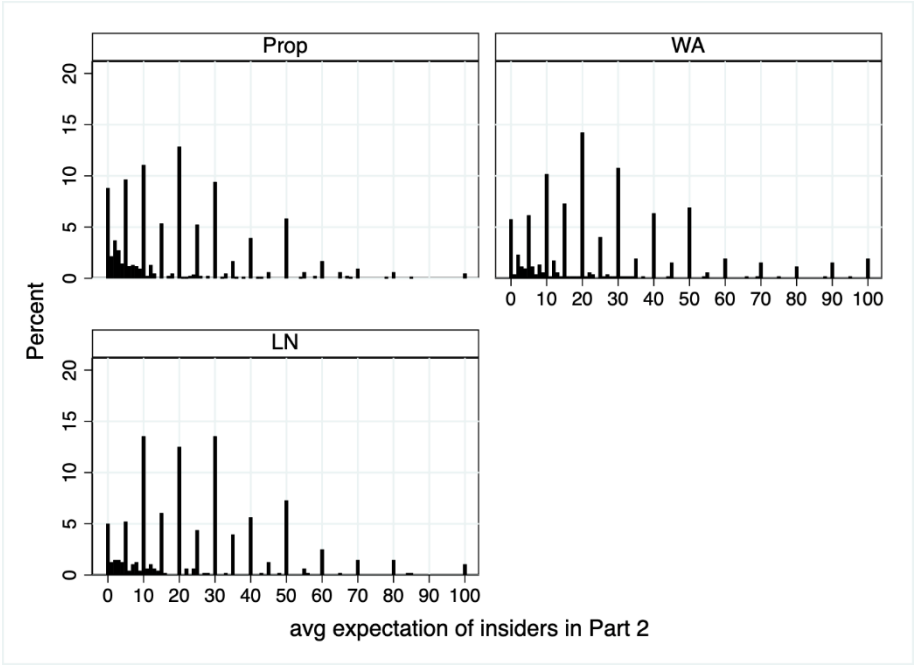


Fig B8. **a)** Distribution of insiders' contributions in Part 2 for each treatment **b)** Distribution of outsiders' transfers in Part 2 for each treatment.

a) insiders



b) outsiders

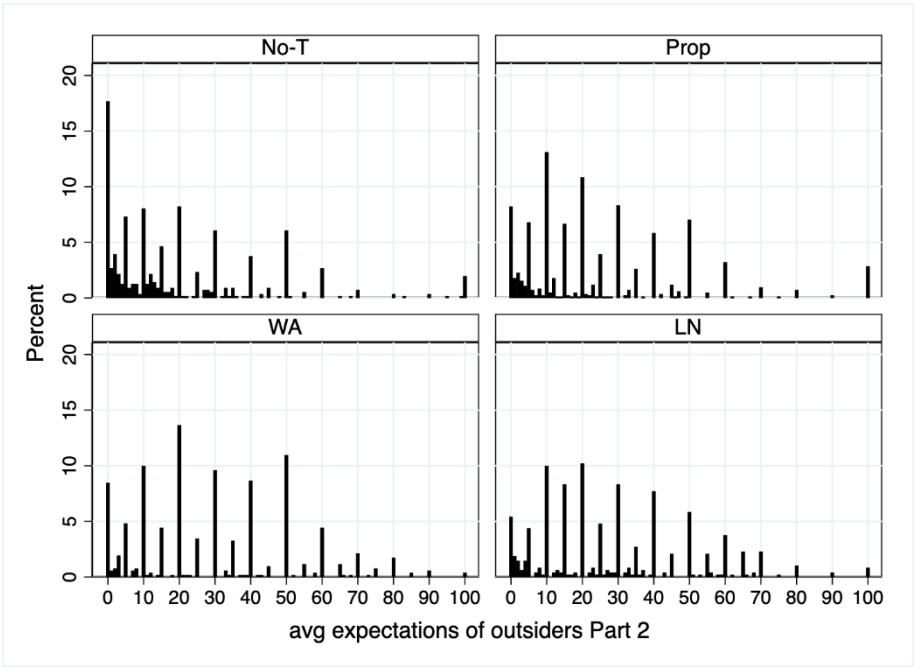


Fig B9. **a)** Distribution of insiders' expectations in Part 2 for each contest treatment. **b)** Distribution of outsiders' expectations in Part 2 for each treatment.

Table B1. Average expectations of insiders and average transfers offered by outsiders across treatments. Standard errors in parentheses. Within treatment differences based on paired t-tests, denoted by *** p<0.005, ** p<0.05. All reported means and t-tests are computed using one observation per subject, pooled over periods.

Treatment	**Avg. expectation Part 2, in % of endowment**	**Avg. transfers offered Part 2, in % of endowment**	**Difference (avg. exp. – avg. transfers)**
Prop	20.06 (1.36)	15.44 (0.95)	4.62*** (1.15)
WA	26.28 (2.11)	17.54 (1.11)	8.74*** (1.76)
LN	25.10 (2.21)	20.37 (1.41)	4.72** (1.96)

Table B2. Determinants of insiders' contribution behavior in contests, controlling for avg. transfers offered, Periods 6-15, from multilevel mixed-effects regressions with random effects on the subject and group level. Cluster-robust standard errors at the group level in parentheses. *** p<0.005, ** p<0.05, * p<0.1

	(I)	(II)	(III)	(IV)	(V)
Dep. Variable: individual contribution in period t, in % of endowment	*Prop*	*WA*	*WA*	*LN*	*LN*
other insiders$_{t-1}$	0.194**	-0.162**	-0.166***	0.0302	0.0278
	(0.0695)	(0.0588)	(0.0588)	(0.0807)	(0.0781)
avg_transfers$_t$	0.925***	1.140***	1.136***	0.769***	0.776***
	(0.163)	(0.175)	(0.167)	(0.144)	(0.141)
avg$_{1-5}$	0.373***	0.427***	0.420***	0.479***	0.485***
	(0.117)	(0.0795)	(0.0733)	(0.0847)	(0.0877)
share transfers$_{t-1}$	15.74***	7.709	-	14.31**	-
	(4.193)	(6.514)		(6.022)	
winner$_{t-1}$	-	-	6.196	-	-
			(5.334)		
#winners$_{t-1}$	-	-	-0.947	-	-
			(2.284)		
loser$_{t-1}$	-	-	-	-	-6.735***
					(1.810)
period	-0.112	-1.842***	-1.846***	-0.861	-0.884
	(0.362)	(0.494)	(0.492)	(0.675)	(0.673)
Constant	-4.231	25.72***	27.25***	9.904	14.84
	(4.697)	(8.265)	(9.195)	(9.191)	(9.402)
Observations	*840*	*520*	*520*	*480*	*480*
Number of groups	*21*	*13*	*13*	*12*	*12*
Number of subjects	*84*	*52*	*52*	*48*	*48*

Table B3. The effects of winning or losing the contest on the difference in contributions from period t-1 to period t. Results from multilevel mixed-effects regressions with random effects on the subject and group level Cluster-robust standard errors at the group level in parentheses. *** p<0.005, ** p<0.05, * p<0.1.

	(I)	(II)
Dep. Variable: change in contribution from t-1 to t	*WA*	*LN*
other insiders$_{t-1}$	-0.544***	-0.643***
	(0.0894)	(0.0948)
winner$_{t-1}$	-37.58***	-
	(7.611)	
#winners$_{t-1}$	5.655**	-
	(2.683)	
loser$_{t-1}$	-	17.87***
		(3.925)
period	-3.498***	-2.545***
	(0.496)	(0.602)
constant	61.78***	44.46***
	(9.744)	(8.938)
Observations	*520*	*480*
Number of subjects	*52*	*48*
Number of groups	*13*	*12*

Note: In the *WA* treatment the case of 4 insiders winning did not occur.

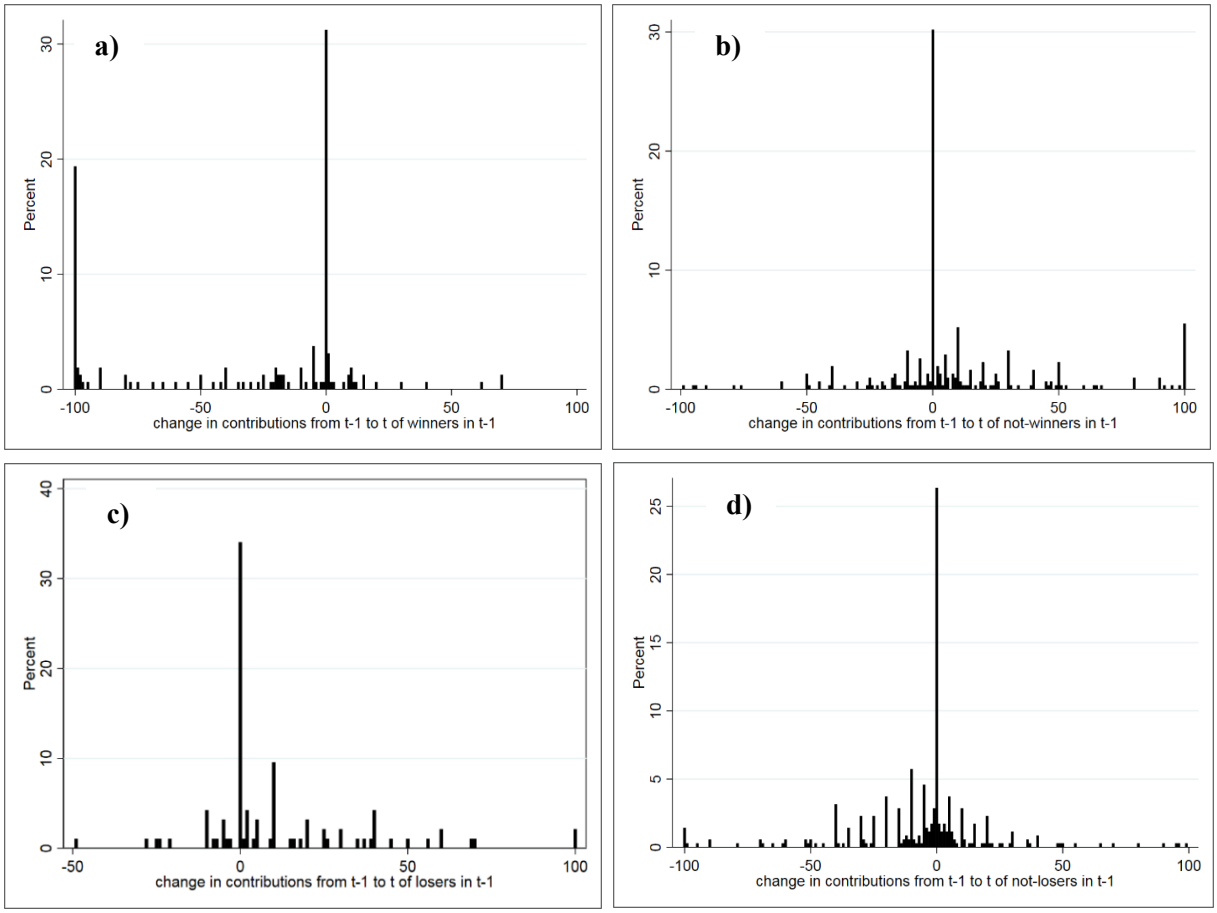


Fig B10. Histogram of change in contributions from t-1 to t of winners in *WA* in t-1 (**Panel a**) and not-winners in *WA* in t-1 (**Panel b**), and losers in *LN* in t-1 (**Panel c**) and not-losers in *LN* in t-1 (**Panel d**), excluding period 6.

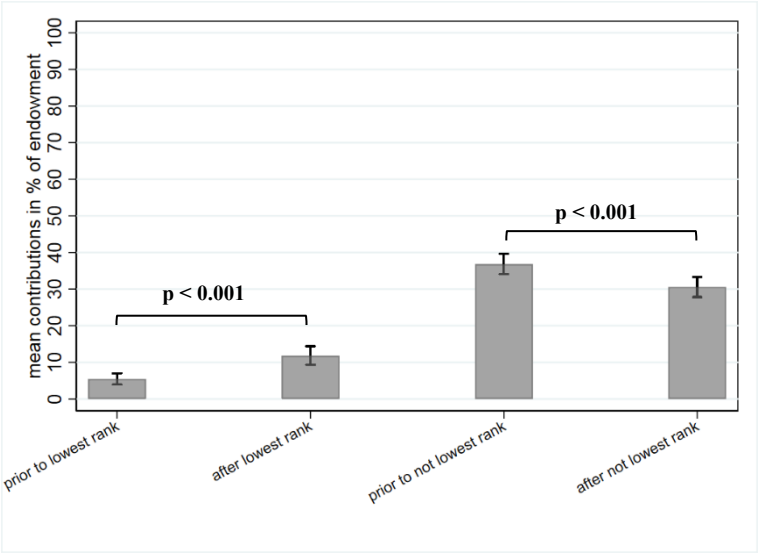


Fig B11. Mean contributions and 95% confidence intervals indicated by error bars of insiders in *Prop* prior to (not) having the lowest rank in contributions in a group in t-1, as well as in period t after (not) having the lowest rank, thus excluding period 6. P-values based on paired t-tests.

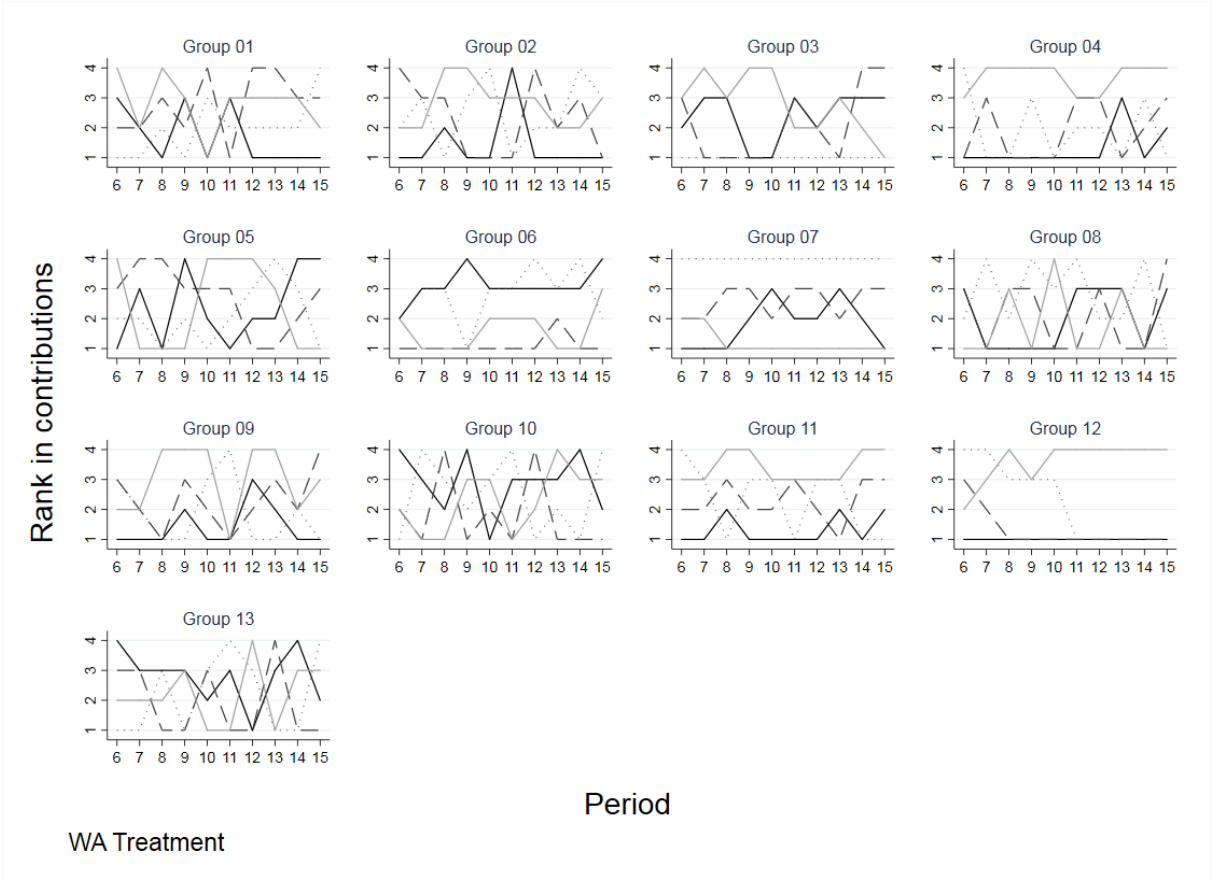


Fig B12. Evolution of insiders' ranks over time, by group in *WA*

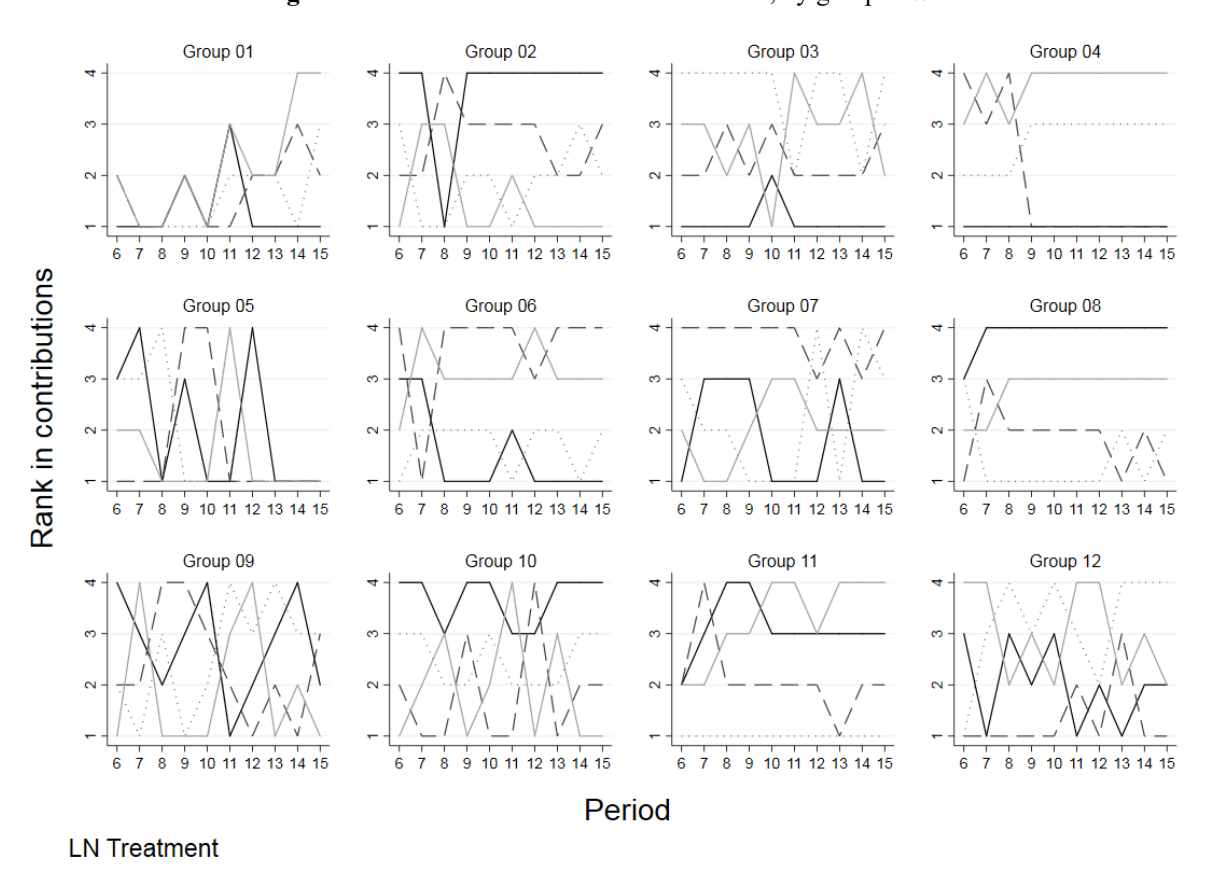


Fig B13. Evolution of insiders' ranks over time, by group in *LN*

Table B4. Determinants of outsiders' behavior in contests, Periods 6-15, controlling for avg. contributions in the previous period. Results from multilevel mixed-effects regressions with random effects on the subject and group level. Cluster-robust standard errors at the group level in parentheses. *** p<0.005, ** p<0.05, * p<0.1

	(I)	(II)	(III)
Dep. Variable: individual transfers in period t, in % of endowment	Prop	WA	LN
other outsiders$_{t-1}$	0.126	-0.0375	0.122
	(0.0831)	(0.0709)	(0.0920)
insiders$_{t-1}$	0.124***	0.169***	0.0319
	(0.0414)	(0.0401)	(0.0621)
period	-1.284***	-1.269***	-1.605***
	(0.295)	(0.431)	(0.447)
constant	23.81***	25.97***	33.54***
	(4.417)	(5.765)	(7.514)
Observations	*840*	*520*	*480*
Number of groups	*21*	*13*	*12*
Number of subjects	*84*	*52*	*48*

Section 3: Experimental Instructions

The instructions were in German. Below we present English translations. We first present the instructions on Part 1 of the experiment which is the same for all treatments. We then present instructions for Part 2 of the No-T and the Prop treatment and the relevant word variations in Part 2 for all other treatments. All instructions are available from the authors upon request.

General Information

This is an experiment on decision making. You will have the chance to earn money based on your decisions and the decisions of others in your group. It is extremely important that you put away all materials including external reading material and turn off your cell phones. Now that the experiment has begun, we ask that you do not talk. If you have a question, please raise your hand and I will come by and answer your question privately. Please do not write in these instructions.

Your decisions will be recorded privately at your computer terminal. Your identity will never be disclosed to other participants.

Structure: This experiment consists of TWO PARTS, Part 1 and Part 2. This set of instructions details Part 1. The instructions for Part 2 will be provided after Part 1 is completed.

Cash Payment: Your earnings in this experiment are expressed in EXPERIMENTAL CURRENCY UNITS, which we will refer to as ECUs. At the conclusion of the experiment you will be paid privately in Euros using a conversion rate of €1 for every 200 ECUs of earnings from the experiment. Your total earnings from the experiment will be the sum of your total earnings from Part 1 and Part 2.

Information for Part 1 of the experiment

Part 1 is comprised of *5 decision periods*, each having the same structure. At the beginning of the section, you will be randomly and anonymously matched with 7 other participants to form a *group of 8*. You will remain in this same group for all of Part 1 and Part 2.

In every group there are *two types* of participants: 4 participants of Type A and 4 participants of Type B. Participant types are determined randomly. Your Type will remain unchanged for all of Part 1 and Part 2.

Initial Endowments:

Private Account: In each period, *participants* of *both types* receive an endowment of *100 ECUs* placed in their Private Account.

Group Account: In each period, each 8 person *group* begins with a Group Account of *0 ECUs*.

Decision Tasks:

Type A participants

Each Type A participant decides how many (if any) of the 100 ECUs he/she wants to allocate to the Group Account. Allocations can range from 0 to 100 ECUs in increments of 1 ECU. For every 1 ECU a Type A participant allocates to the Group Account, each of the 8 participants in his/her group receives 0.4 ECUs**.**

Type B participants

In every period Type B participants will estimate the amount allocated to the Group Account by the Type A participants. The estimate, however, does not have an effect on his/her payoff or the payoff of any group member and it will not be shared with members of their group.

Type B participants cannot make allocations to the Group Account.

Period Earnings:

Type A participants

The period earnings of Type A participants are the sum of the funds remaining in their Private Account after their allocations to the Group Account and the earnings from the Group Account.

Earnings Type A participants =

Private Account (Initial Endowment – Group Account allocations) + Group Account

Type B participants

The period earnings of Type B participants are the sum of their initial endowment of 100 ECUs and their earnings from the Group Account, which depends solely on the decisions of the Type A participants in their group.

Earnings Type B participants =
Private Account (Initial Endowment) + Group Account

Feedback: After every period, all group members will receive information on the total sum of allocations to the Group Account by Type A participants and on their individual earnings for the period.

TOTAL earnings: Your total earnings for Part 1 of the experiment will be the sum of your earnings in all periods of Part 1. Recall, at the conclusion of the experiment you will be paid in Euros using a conversion rate of €1 for every 200 ECUs of earnings from the experiment.

Example:

Suppose the four Type A participants allocate 0, 10, 50, and 90 ECUs respectively to the Group Account. Then the sum of group allocations is 150 and each group member receives 0.4x150=60 ECUs from the Group Account.

The individual payoffs per period of the Type A participants depend on the amounts they allocated to the Group Account:

- for the participant A who allocated 0: (100 – 0) + 60 = 160
- for the participants A who allocated 10: (100 – 10) + 60 = 150
- for the participants A who allocated 50: (100 – 50) + 60 = 110
- for the participant A who allocated 90: (100 – 90) + 60 = 70

The payoff per period for each participant of Type B is 100 + 60 = 160

Control Questions for Part 1

1.1. The starting value of your *Private Account* is ____ ECUs.

Response: 100

1.2. The starting value of the initial *Group Account* is _____ ECUs.

Response: 0

1.3. Each ECU a Type A participant moves to the *Group Account* reduces the value of his *Private Account* by ____ ECUs.

Response: 1

1.4. Each ECU a Type A participant moves to the *Group Account* generates earnings from the Group Account for each member of his/her group of _____ ECUs.

Response: 0.4

1.5. If **every** Type A participant moves **100 ECUs** to the *Group Account*:

a. Different Type A participants get different total earnings.

b. Everyone's total earnings are lower than when all Type A participants move 0ECUs.

c. Everyone's total earnings are higher than when all Type A participants move 0 ECUs.

Response: c.

1.6. If one Type A participant moves **more** ECUs to the *Group Account* than the other Type A participants:

a. All Type A participants get the same total earnings.

b. This participant gets lower total earnings than other Type A participants.

c. This participant gets higher total earnings than other Type A participants.

Response: b.

1.7. Depending on the choices of Type A participants:

a. Different Type B participants get different total earnings.

b. All Type B participants get the same total earnings for any choice of Type A participants.

c. Type B participants' total earnings do not depend on the choices of Type A participants.

Response: b.

No-T Treatment

Information for Part 2 of the experiment

Part 2 will consist of an additional *10 decision periods*. You remain in the *same group of 8 participants* as in Part 1. Your Type also remains unchanged. The decision situation and the calculation of the payoff are also the same as in the first part.

TOTAL earnings: Your total earnings for Part 2 of the experiment will be the sum of your earnings in all periods of Part 2. Recall, at the conclusion of the experiment you will be paid in Euros using a conversion rate of €1 for every 200 ECUs of earnings from the experiment. Your total earnings from the experiment will be the sum of your total earnings from Part 1 and Part 2.

Proportional Treatment

Information for Part 2 of the experiment

Part 2 will consist of an additional *10 decision periods*. You remain in the *same group of 8 participants* as in Part 1. Your Type also remains unchanged. In this part, both participants of Type A and Type B make sequential decisions in every period.

The four Type B participants in a group make their decisions first. Next, the four Type A participants in a group make their decision.

Initial Endowments (same as in Part 1):

Private Account: In each period, *participants of both types* receive an endowment of *100 ECUs* placed in their Private Account.

Group Account: In each period, each 8 person *group* begins with a Group Account of *0 ECUs*.

Task 1:

Type B participants

Each Type B participant is now allowed to support the group of Type A participants in making allocations to the Group Account. That is, Type B participants can choose to make a transfer between 0 and 100 ECUs to a Transfer Account.

The sum of transfers by Type Bs will be split proportionally among the Type A participants, depending on the individual contributions of each Type A participant relative to the total contributions to the Group Account.

That means, the higher the contribution to the Group Account by a Type A participant as compared to the other Type A participants, the larger the share this participant receives from the Transfer Account.

Type A participants should use the transfers sent by Type B participants to increase their allocations to the Group Account.

Type A participants

Each Type A participant will estimate the amount of ECUs transferred to the Transfer Account by the Type B participants. The estimate does not have an effect on his/her payoff or the payoff of any group member and it will not be shared with members of their group.

Task 2:

Type A participants

Each participant of Type A observes the total funds available in the Transfer Account.

Type A participants then decide how many (if any) of the 100 ECUs in his/her endowment he/she wants to allocate to the Group Account.

Remember, Type A participants should use the transfers they receive from Type B participants to increase their allocations to the Group Account. As in Part 1, for every 1 ECU a Type A participant allocates to the Group Account, each of the 8 participants in his/her her group receives 0.4 ECUs**.**

Notice that transfers from Type B participants do not influence maximum possible allocations to the Group Account by participants of Type A, this remains constant at a maximum of 100 ECUs each decision round. However, the transfers made by Type B participants should be viewed as a way for Type B participants to support the Group Allocations made by Type A participants.

Type B participants

As in Part 1, in every period each Type B participant will estimate the amount of ECUs allocated to the Group Account by the Type A participants. Also as in Part 1, the estimate does not have an effect on his/her payoff or the payoff of any group member and it will not be shared with members of their group.

Type B participants cannot make allocations to the Group Account.

Period Earnings:

Type B participants

The period earnings of Type B participants are the sum of the funds remaining in their Private Account after their transfers to the Transfer Account and the earnings from the Group Account.

Earnings Type B participants =

Private Account (Initial Endowment - Transfers) +

Group Account

Type A participants

The period earnings of Type A participants are the sum of the funds remaining in their Private Account after their allocations to the Group Account, the earnings from the Group Account, and their earnings from the transfers made to the Transfer Account by Type B participants in their groups.

Earnings Type A participants =

Private Account (Initial Endowment - allocations) +

Group Account +

Proportional share $\left(\frac{my\ contribution}{Total\ Type\ A\ contributions}\right)$ of total Transfers

Feedback: After every period, both types of participants will receive information on the funds available in the Transfer Account, the total funds available in the Group Account, and their individual earnings for this period. Type A participants will also be informed of their share of the Transfer Account.

TOTAL earnings: Your total earnings for Part 2 of the experiment will be the sum of your earnings in all periods of Part 2. Recall, at the conclusion of the experiment you will be paid in Euros using a conversion rate of €1 for every 200 ECUs of earnings from the experiment.

Example:

Suppose participants of *Type B* transfer 0, 10, 30, and 60 ECUs respectively to the Transfer Account.

Also suppose participants of *Type A* allocate 0, 10, 50, and 90 ECUs respectively to the Group Account.

Group Account: The sum of allocations made by Type A participants is 150. Each participant of Type A and Type B receives 0.4 x 150 = 60 ECUs from the Group Account.

Transfer Account: The sum of transfers from Type B participants is 100 ECUs. These transfers are split proportionally among the participants of Type A. That is, the specific amount each Type A participant receives from the transfers depends on the individual contribution in relation to the group contribution.

Share of transfers:

- for the participant A who allocated 0: $\left(\frac{0}{150}\right) \cdot 100 = 0\%$
- for the participant A who allocated 10: $\left(\frac{10}{150}\right) \cdot 100 = 7\%$
- for the participants A who allocated 50: $\left(\frac{50}{150}\right) \cdot 100 = 33\%$
- for the participant A who allocated 90: $\left(\frac{90}{150}\right) \cdot 100 = 60\%$

Transfers received, out of the total Transfer Account of 100 ECUs:

- for the participant A who allocated 0: 0% ·100 = 0
- for the participants A who allocated 10: 7%·100 = 7

- for the participants A who allocated 50: 33%·100 = 33
- for the participant A who allocated 90: 60%·100 = 60

The individual payoffs (in ECUs) per period of the Type A and B participants depend on the transfers and the amounts allocated to the Group Account:

- for the participant A who allocated 0: (100 – 0) + 60 + 0 = 160
- for the participants A who allocated 10: (100 – 10) + 60 + 7 = 157
- for the participants A who allocated 50: (100 – 50) + 60 + 33 = 143
- for the participant A who allocated 90: (100 – 90) + 60 + 60 = 130

- for the participant B who transferred 0: (100 – 0) + 60 = 160
- for the participant B who transferred 10: (100 – 10) + 60 = 150
- for the participant B who transferred 30: (100 – 30) + 60 = 130
- for the participant B who transferred 60: (100 – 60) + 60 = 100

Control Questions for Part 2

2.1. Each ECU a **Type B** participant moves to the *Transfer Account* reduces the value of his *Private Account* by ____ ECUs.

Response: 1

2.2. Suppose in total, the Type B participants move 200 ECUs to the *Transfer Account*. In this case

a. Each Type A participant can move up to 150 ECUs to the *Group Account*.

b. Each Type A participant can move up to 300 ECUs to the *Group Account*.

c. Each Type A participant can move up to 100 ECUs to the *Group Account*.

Response: c.

2.3. If one **Type B** participant moves **more** ECUs to the *Transfer Account* than the other Type B participants:

a. All Type B participants get the same total earnings.

b. This participant gets lower total earnings than other Type B participants.

c. This participant gets higher total earnings than other Type B participants.

Response: b.

2.4 Type A participant's total earnings depend on the transfers sent by Type B participants.

a. correct.
b. incorrect.

Response: a.

2.5. All Type A participants get the same transfers from the Transfer Account, irrespective of their own contributions to the Group Account.

a. correct.
b. incorrect.

Response: b.

2.6. The share of ECUs a Type A participant receives from the Transfer Account …

a. depends only on the sum of contributions to the Group Account by all Type A members of the group.
b. depends only on his/her contribution to the Group Account.
c. is proportional to his/her contribution with respect to the sum of contributions to the Group Account by all Type A members of the group.

Response: c.

2.7 If one Type A participant contributes more to the Group Account than all others in his group …

a. he will get a lower share of the transfers

b. he will get a higher share of the transfers

c. it does not affect his payoffs

Response: b

WA Treatment

Relevant variations:

Task 1:

Type B participants

Each Type B participant is now allowed to support the group of Type A participants in making allocations to the Group Account. That is, Type B participants can choose to make a transfer between 0 and 100 ECUs to a Transfer Account. The sum of transfers will be given to the Type A participant who contributes the most to the Group Account in Task 2. All other type A participants will receive nothing from the Transfer Account.

Note: If there is a tie among two or more Type A participants for the highest contribution, transfers will be split equally among those who tied for the highest contribution.

Type A participants should use the transfers sent by Type B participants to increase their allocations to the Group Account.

Period Earnings:

Type A participants

The period earnings of Type A participants are the sum of the funds remaining in their Private Account after their allocations to the Group Account, the earnings from the Group Account, and the full amount of the Transfer Account if his/her contributions to the Group Account are the highest (or, if a tie for highest contributions, split equally among others with the same highest contribution). Otherwise, the participant gets nothing from the Transfer Account.

Earnings Type A participants =

Private Account (Initial Endowment - allocations) +

Group Account +

Transfers IF highest contributor to the Group Account

Feedback: After every period, both types of participants will receive information on the funds available in the Transfer Account, the total funds available in the Group Account, and their individual earnings for this period. Each Type A participant will also be informed of whether he/she was the highest contributor to the Group Account in the group.

Example:

Suppose participants of *Type B* transfer 0, 10, 30, and 60 ECUs respectively to the Transfer Account.

Also suppose participants of *Type A* allocate 0, 10, 50, and 90 ECUs respectively to the Group Account.

Group Account: The sum of allocations made by Type A participants is 150. Each participant of Type A and Type B receives 0.4 x 150 = 60 ECUs from the Group Account.

Transfer Account: The sum of transfers from Type B participants is 100 ECUs. All 100 ECUs will be given to the Type A participant that contributed 90 ECUs to the Group Account.

The individual payoffs (in ECUs) per period of the Type A and B participants depend on the transfers and the amounts allocated to the Group Account:

- for the participant A who allocated 0: (100 – 0) + 60 + 0 = 160
- for the participants A who allocated 10: (100 – 10) + 60 + 0 = 150
- for the participants A who allocated 50: (100 – 50) + 60 + 0 = 110
- for the participant A who allocated 90: (100 – 90) + 60 + 100 = 170

- for the participant B who transferred 0: (100 – 0) + 60 = 160
- for the participants B who transferred 10: (100 – 10) + 60 = 150
- for the participants B who transferred 30: (100 – 30) + 60 = 130
- for the participant B who transferred 60: (100 – 60) + 60 = 100

Control Questions for Part 2

2.5. Whether a Type A participant receives ECUs from the Transfer Account …

a. depends on the sum of contributions to the Group Account by all Type A members of the group.
b. depends on his individual contribution relative to the contributions of the other Type A group members
c. does not depend on the contributions by other Type A group members

Response: b

2.6 If two Type A participants contribute equally high amounts to the Group Account which are higher than the contributions by the other two Type A participants …

a. they will both receive the full amount of ECUs in the Transfer Account

b. all four participants of Type A will receive an equal share of the Transfer Account

c. they will each receive half of the amount of ECUs in the Transfer Account

Response: c

LN Treatment

Relevant variations:

Task 1:

Type B participants

Each Type B participant is now allowed to support the group of Type A participants in making allocations to the Group Account. That is, Type B participants can choose to make a transfer between 0 and 100 ECUs to a Transfer Account. The sum of transfers by Type Bs will be distributed among the three Type A participants who contribute the most to the Group Account in Task 2. The type A that contributes the lowest will receive nothing from the Transfer Account.

For the three highest type A contributors, the sum of transfers by Type Bs will be split proportionally, depending on the individual contributions of these three Type A participant relative to the sum of contributions by them to the Group Account.

That means, the higher the contribution to the Group Account by a Type A participant as compared to the other two Type A participants with the highest contributions, the larger the share this participant receives from the Transfer Account.

Note: If there is a tie among two or more Type A participants for the lowest contribution, the sum of transfers by the Type Bs will be split proportionately to all four Type A participants, depending on the individual contributions of each Type A participant.

Type A participants should use the transfers sent by Type B participants to increase their allocations to the Group Account.

Period Earnings:

Type A participants

The period earnings of Type A participants are the sum of the funds remaining in their Private Account after their allocations to the Group Account, the earnings from the Group Account, and their share of the Transfer Account if his/her contributions to the Group Account are among the top three. The lowest contributor to the Group Account gets nothing from the Transfer Account.

Earnings Type A participants =

Private Account (Initial Endowment - allocations)

+ Group Account

+ Share of Transfers $\left(\frac{my\ contribution}{Sum\ contributions\ top\ three}\right)$ IF among top three contributors

Feedback: After every period, both types of participants will receive information on the funds available in the Transfer Account, the total funds available in the Group Account, and their individual earnings for this period. Each Type A participant will also be informed of whether he/she was among the top three contributors to the Group Account in the group. If they are among the top three contributors, they will additionally be informed about their individual share of the transfer.

Example:

Suppose participants of *Type B* transfer 0, 10, 30, and 60 ECUs respectively to the Transfer Account.

Also suppose participants of *Type A* allocate 5, 10, 50, and 90 ECUs respectively to the Group Account.

Group Account: The sum of allocations made by Type A participants is 155. Each participant of Type A and Type B receives 0.4 x 155 = 62 ECUs from the Group Account.

Transfer Account: The sum of transfers from Type B participants is 100 ECUs. The top three Type A contributors to the Group Account are the participants that allocated 10, 40 and 90. They will share the Transfer Account proportionally to their sum of contributions, 150.

Share of transfers:

- for the participant A who allocated 10: $\left(\frac{10}{150}\right) \cdot 100 = 7\%$
- for the participants A who allocated 50: $\left(\frac{50}{150}\right) \cdot 100 = 33\%$
- for the participant A who allocated 90: $\left(\frac{90}{150}\right) \cdot 100 = 60\%$

Transfers received, out of the total Transfer Account of 100 ECUs:

- for the participants A who allocated 10: 7%·100 = 7
- for the participants A who allocated 50: 33%·100 = 33
- for the participant A who allocated 90: 60%·100 = 60

The Type A participant that allocated 5 will receive nothing in transfers.

The individual payoffs (in ECUs) per period of the Type A and B participants depend on the transfers and the amounts allocated to the Group Account:

- for the participant A who allocated 0: (100 – 0) + 62 + 0 = 162
- for the participants A who allocated 10: (100 – 10) + 62 + 7 = 159
- for the participants A who allocated 50: (100 – 50) + 62 + 33 = 145
- for the participant A who allocated 90: (100 – 90) + 62 + 60 = 132

- for the participant B who transferred 0: (100 – 0) + 62 = 162
- for the participant B who transferred 10: (100 – 10) + 62 = 152
- for the participant B who transferred 30: (100 – 30) + 62 = 132
- for the participant B who transferred 60: (100 – 60) + 62 = 102

Questions for Part 2

2.6 If one Type A participant contributes less to the Group Account than all others in his group …

a. he will get nothing of the transfers
b. he will get a higher share of the transfers
c. it does not affect his payoffs

Response: a