ONLINE APPENDIX FOR

FINDING COOPERATORS: SORTING THROUGH REPEATED INTERACTION

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Tables and Figures

Round:	1	2	3	4	5	6	All
FP Dummy	1.318	0.263	-0.473**	-1.042**	-1.625**	-1.117*	-0.378
(vs B)	(0.841)	(0.534)	(0.195)	(0.318)	(0.543)	(0.504)	(0.524)
	n=518	n=421	n=298	n=244	n=201	n=163	n=2525
B Dummy	1.038	1.642	1.373	1.687	1.332	1.107	1.408
(vs CR)	(0.947)	(1.149)	(1.062)	(0.947)	(0.882)	(1.093)	(1.030)
	n=515	n=424	n=333	n=292	n=264	n=230	n=2769
FP Dummy	2.356*	1.905	0.900	0.645	-0.293	-0.0105	1.030
(vs CR)	(1.100)	(1.055)	(1.048)	(0.969)	(0.887)	(1.033)	(0.986)
	n=521	n=431	n=315	n=260	n=245	n=185	n=2654

Standard errors clustered at the session level are reported in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 1. Coefficients on treatment dummies in 21 round specific OLS regressions of return on treatment dummies. Data from all supergames (not last 4 supergames), pairwise treatment comparisons.

Round:	1	2	3	4	5	6	All
FP Dummy	0.869	-0.182	-1.034**	-2.290***	-3.162***	-2.425**	-1.097*
(vs B)	(0.882)	(0.571)	(0.389)	(0.506)	(0.685)	(0.689)	(0.571)
	n=252	n=211	n=163	n=129	n=108	n=95	n=1442
B Dummy	1.650	2.726*	2.411*	2.874**	2.882**	2.719**	2.425*
(vs CR)	(1.018)	(1.225)	(1.074)	(0.949)	(0.926)	(1.085)	(1.051)
	n=244	n=196	n=173	n=174	n=160	n=139	n=1660
FP Dummy	2.519*	2.544*	1.376	0.585	-0.280	0.294	1.327
(vs CR)	(1.144)	(1.134)	(1.077)	(1.019)	(1.029)	(1.251)	(1.014)
	n=274	n=225	n=158	n=137	n=144	n=110	n=1560

Standard errors clustered at the session level are reported in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2. Coefficients on treatment dummies in 21 round specific OLS regressions of return on treatment dummies. Data after subjects had played at least 20 total rounds (not last 4 supergames), pairwise treatment comparisons.

Round:	1	2	3	4	5	6	All
FP Dummy	1.158	0.252	-0.852*	-2.232**	-2.401***	-1.877***	-1.053*
(vs B)	(0.979)	(0.708)	(0.397)	(0.791)	(0.647)	(0.269)	(0.467)
	n= 55	n= 55	n= 55	n= 55	n= 53	n= 53	n= 366
B Dummy	1.792	2.646*	2.717*	3.071**	3.020**	3.305**	2.716**
(vs CR)	(0.990)	(1.369)	(1.246)	(0.990)	(1.046)	(1.377)	(1.095)
	n= 56	n= 56	n= 56	n= 56	n= 55	n= 55	n= 383
FP Dummy	2.950**	2.898*	1.865	0.839	0.619	1.428	1.664
(vs CR)	(1.104)	(1.308)	(1.209)	(1.213)	(1.154)	(1.373)	(1.098)
	n= 55	n= 55	n= 55	n= 55	n= 54	n= 54	n= 375

Standard errors clustered at the session level are reported in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3. Coefficients on treatment dummies in 21 round specific OLS regressions of return on treatment dummies. Data first averaged by proposer and round, pairwise treatment comparisons.

Round:	1	2	3	4	5	6	All
CR Dummy	-2.356*	-1.905*	-0.900	-0.645	0.293	0.0105	-1.030
	(1.075)	(1.031)	(1.025)	(0.947)	(0.867)	(1.010)	(0.963)
B Dummy	-1.318	-0.263	0.473**	1.042***	1.625**	1.117**	0.378
	(0.822)	(0.522)	(0.191)	(0.311)	(0.530)	(0.492)	(0.512)
Constant	5.286***	5.495***	5.129***	4.943***	4.538***	5.085***	5.251***
	(0.698)	(0.194)	(0.0640)	(0.261)	(0.380)	(0.244)	(0.297)
Obs	777	638	473	398	355	289	3974
F statistic	2.514	1.778	3.507	6.723	4.914	2.610	1.018
R^2	0.0766	0.0519	0.0237	0.0353	0.0304	0.0178	0.0250

Standard errors clustered at the session level are reported in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4. Coefficients on treatment dummies in 7 round specific OLS regressions of return on treatment dummies.

	B vs. FP	B vs. CR	FP vs. CR	B vs. FP	B vs. CR	FP vs. CR
	(1)	(2)	(3)	(4)	(5)	(6)
B Dummy	2.528***	5.639***		.131	1.966	
	(.684)	(1.274)		(1.185)	(1.879)	
FP Dummy			3.111**			1.835
			(1.309)			(1.766)
Const.	7.534***	4.423***	4.423***	10.517***	8.682***	8.682***
	(.528)	(1.197)	(1.197)	(.705)	(1.620)	(1.620)
Obs.	1196	1423	1271	1196	1423	1271
F statistic	13.662	19.607	5.653	.012	1.095	1.079
R^2	.023	.099	.029	.0001	.027	.021

Table 5. Coefficients on treatment dummies in OLS regressions of per-period earnings. Columns (1)-(3) test proposer earnings, columns (4)-(6) responder earnings.

Sample Instructions

INSTRUCTIONS

Welcome

You are about to participate in an experiment on decision-making. What you earn depends partly on your decisions, partly on the decisions of others, and partly on chance. Please turn off cell phones and similar devices now. Please do not talk or in any way try to communicate with other participants.

After reading the instructions, we will lead you through a tutorial to get you accustomed to the computer interface. If you have any questions after these, raise your hand and your question will be answered so everyone can hear.

During the experiment you will have the chance to earn experimental points. All points earned will be exchanged into Dollars. The exchange rate will be:

50 points = 1 dollar

You will receive the sum of money that you earned during the experiment in addition to your $ 10 initial show-up fee.

Prior to the experiment the 20 participants were divided into 2 groups: Proposers and Responders. There are 7 Proposers and 13 Responders. Your role will be fixed in this experiment. That is, if you are a Responder/Proposer, you will be a Responder/Proposer throughout the experiment.

General Instructions

In this experiment you will be asked to make decisions in several games. Each game consists of a sequence of rounds.

The length of each game is randomly determined. After each round, there is an 80% probability that the game will continue for at least another round. Specifically, after each round, whether the game continues for another round will be determined by a random number between 1 and 100 generated by the computer. If the number is lower than or equal to 80 the game will continue for at least another round, otherwise it will end. For example, if you are in round 2, the probability that there will be a third round is 80% and if you are in round 9, the probability that there will be a tenth round is also 80%.

At the beginning of each game, all participants will receive an identification number, which they will keep throughout that game. This will allow you to keep track of who you are playing with during a game. However, these identification numbers will be changed once a game ends, before a new game begins. This means that you will not be able to identify who you've played with in previous games. You should treat each game as independent.

Overview of a game

Each round of each game consists of three stages. In Stage 1 Proposers make offers to Responders; in Stage 2 Responders decide on which offers to accept. In Stage 3 Responders, who accepted offers, choose how much to return to the Proposers.

A round of each game

STAGE 1

- Every Proposer and Responder will be given an initial 10 points.
- Each Proposer decides whether or not to make an offer.
- An offer consists of two numbers: a transfer and a request. The transfer (a whole number between 0 and 40) specifies how many points will be transferred to a Responder who accepts the offer. The request (a whole number between 0 and 10) specifies how much the Proposer would like in return from the Responder.
- Each Proposer who decides to make an offer also decides if her offer is public or private. Now we explain the difference between these two kinds of offers.
    - If she chooses to make a **public offer**, it will be observed by all Responders. Additionally, if she wants, the Proposer can block any number of Responders from accepting the offer. These Responders will observe the offer, but will not be able to accept it. Responders will not see if other Responders are blocked from the offer or not.
    - If the Proposer chooses to make a **private offer**, only the Responder who accepted her offer in the last round will observe this offer. This means that it is possible for the Proposer to make a private offer only if her offer was accepted in the previous round. Therefore, private offers are not available in the first round of a game.

STAGE 2

- Each Responder observes both private and public offers available to her.
- If she has a private offer, her first step is to decide whether to accept or reject it. If she accepts, she moves on to Stage 3. She can reject the private offer by clicking "Reject private offer". If the Responder doesn't specify a decision within the time limit, the program assumes she accepts the private offer.
- If a private offer wasn't made, or was rejected, the Responder proceeds to select from public offers available to her. She can also always decide not to accept any offer at all.
- Note that since public offers can be accepted by other Responders they might run out.

STAGE 3

- Responders who have accepted offers decide how much to return to the Proposer (a whole number between 0 and 10). Remember that the Responder is not required to return the amount requested by the Proposer.
- Once Responders have chosen return amounts, individual payoffs are determined.
- If a Proposer does not submit an offer in the time allocated for Stage 1, or her offer is not accepted, she keeps her 10 points and waits for the next round.
- If a Responder does not have available offers, or chooses not to accept any, or doesn't specify a return amount in the time allocated for Stage 3 she keeps her 10 points and waits for the next round.

Payoffs

Points gained in each round are calculated as follows:

- *If an offer was made and accepted:*
  - $\Rightarrow$ Proposer payoff = 10 (initial points) - transfer + 4 $\times$ return
  - $\Rightarrow$ Responder payoff = 10 (initial points) + transfer - return
- *If an offer wasn't made or accepted:*
  - $\Rightarrow$ Proposer payoff = 10 (initial points)
  - $\Rightarrow$ Responder payoff = 10 (initial points)

The payoff table distributed with your instructions gives you an overview of how payoffs per round depend on transfer and return amounts.

Total payoffs for each game will be the sum of payoffs obtained from each round of that game. Total payoffs for the experiment will be the sum of payoffs for all games played, plus your show-up fee. Any losses will be deducted from your show-up fee.

Timing

In every round of every game:

- Stage 1 (Making offers) will last 30 seconds.
- Stage 2 (Accepting offers) will last up to 30 seconds.
- Stage 3 (Choosing returns) will last 15 seconds.
- The first 5 rounds will last 30 seconds longer to give you extra time to familiarize with the game.
- The first game to end after 70 minutes of play will be the last game

Summary

In each round of each game:

- Proposers make offers, either private or public, which specify a transfer amount and requested return.
- Proposers can only make private offers to Responders who accepted their offer in the last round. Public offers can be made available to any number of Responders.
- Responders decide to accept or reject their private offer (when available).
- If a private offer wasn't made, or was rejected, Responders choose from public offers.
- Responders who accepted offers decide how much to return back to the Proposers.
- Payoffs are calculated as follows:
    - If an offer is made and accepted:
        - Proposer payoff = 10 (initial points) - transfer + 4 × return
        - Responder payoff = 10 (initial points) + transfer – return
    - Otherwise Proposer and Responder receive 10 points.
- The game continues on to another round with an 80% probability. Otherwise the game ends, and a new game begins.

After 10 minutes, with the first new game to start, we will add a new part to the game to be explained then. Your decisions in the games before that do not affect your payoffs in this additional part.

After the tutorial we will ask you to solve some exercises to help you get accustomed to the experiment. Following this phase we will begin the experiment, which will last between 1 to 1.5 hours

Further instructions

We will ask you some additional questions while you're playing the game.

Questions for Proposers

The first question

The first question asks about how well you expect to do in future games. Specifically:

> How much do you expect to earn on average *per round* in the *next game*?

Note that this is **not** a question about the **current** game. It is your best estimate on what your payoff per round will be in the **next** game. You can make use of the payoff tables distributed in order to come up with an estimate; please turn to these now.

Points earned will be calculated according to the formula below:

$$\text{Points} = 9 - [(3/80) \times (\text{estimate} - \text{actual})]^2$$

This formula awards you for the accuracy of your estimate. For example,

- Assume your estimate was 30, and the actual value turned out to be 30 as well. You will earn 9 points.
- Assume your estimate was -30, and the actual value turned out to be 50. You will earn 0 points.

The second question

The second question asks how much return you expect if your offer is accepted. If you have made an offer, you will be asked to guess:

> How much do you expect the Responder who accepts your offer to return to you, assuming that your offer is accepted?

Unlike the previous question, this asks you specifically how you expect a Responder who accepts your **current** offer to behave.

Points will be calculated according to the formula:

$$\text{Points} = 9 - [(3/10) \times (\text{estimate} - \text{actual})]^2$$

As in the previous question, this formula awards you for the accuracy of your estimate.

Question for Responders

As you can see above, we ask Proposers every round:

How much do you expect to earn on average *per round* in the *next game*?

They earn extra points according to how accurate their expectations are. We want to ask **you** the following:

How do you think the Proposer you played with last round answered this question?

Note that this is NOT a question about the **current** game. Rather, it is your best estimate of her beliefs about the **next** game. You can make use of the payoff tables distributed in order to come up with an estimate.

You will earn points depending on how close your estimate is to the actual answer of the Proposer you played with in the previous round. Your points will then be calculated according to the formula:

$$\text{Points} = 9 - [(3/80) \times (\text{your estimate} - \text{actual answer})]^2$$

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You will be asked these questions only if they apply to you. Otherwise you will obtain a payoff of 9 points for sure.

For all of these questions the best payoff you can receive is 9 points, while the worst you can receive is 0 points. You will receive 0 points if you do not answer the questions. Since your prediction is made before actual values are determined, the best thing you can do to maximize your expected payoff from prediction is to simply state your true beliefs.

You will be paid only for estimates from the **final** round of each game. The probability that the current round is the final one, is 20% no matter which round you are currently in. Points earned from belief questions will be calculated, reported and paid to you at the end of the experiment. We will stop asking you about beliefs after 70 minutes.