

# Cooperation under the Shadow of the Future: Experimental Evidence from Infinitely Repeated Games

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## Appendix: Instructions for PD2-Dice-UD Session (4/9/02)

### Welcome

You are about to participate in a session on decision-making, and you will be paid for your participation in cash, privately at the end of the session. What you earn depends partly on your decisions, partly on the decisions of others, and partly on chance.

Please turn off pagers and cellular phones now. Please close any program you may have open on the computer.

The entire session will take place through computer terminals, and all interaction between you will take place through the computers. It is important that you not talk or in any way try to communicate with other participants during the session.

We will start with a brief instruction period. During the instruction period you will be given a description of the main features of the session and will be shown how to use the computers. If you have any questions during this period, raise your hand and your question will be answered so everyone can hear.

### General Instructions

In this session one participant will act as a monitor. The monitor will be paid a fixed amount for the session. The monitor will assist in running the session and checking that the session is run correctly. We will select the monitor now.

Open your envelope, and read the record sheet inside. If your sheet says “monitor” you are the monitor. Will the monitor please come to the master computer. If your sheet does not say “monitor” you will use this sheet later to record your participant number that will be assigned by the computer and your final score. Keep your sheet in a safe place, you will need it at the end of the session to receive your payment.

At this time, please pull out the dividers that separate you from your neighbors. During the course of this session, please refrain from communicating with your neighbors.

Please double click on the Dice Icon.

In the dialog box, please enter your full name and select server #128.97.190.171, as shown on the screen at the front of the room, and click OK. This will log you on to the session. In the upper side of your screen you can see you ID number for this session and your color - please look at the example on the screen in the front of the room. Please write your participation ID number in the record sheet that came in the envelope.

Any questions?

The session you are participating in is broken down into 3 separate parts. At the end of the last part, you will be paid the total amount you have accumulated during the course of the 3 parts in addition to the show-up fee. Everybody will be paid in private after showing the record sheet. You are under no obligation to tell others how much you earned.

During the session all the earnings are denominated in points. Your dollar earnings at the end of the session are determined by the points/\$ exchange rate posted on the board in the front and back of the room. This exchange rate is equal to 200points/\$. Therefore, 200 points are equivalent to \$1.

The participants are divided in two groups: Red and Blue.

Red and Blue participants will be matched together to interact in the following way. As you see on the screen at the front of the room, the Red participant can choose between U or D and the Blue participant can choose between L and R.

If the Red participant chooses U and the Blue participant chooses L, both earn 75 points.

If the Red participant chooses U and the Blue participant chooses R, the Red participant earns 10 and the Blue participant earns 100 points.

If the Red participant chooses D and the Blue participant chooses L, the Red participant earns 100 and the Blue participant earns 10 points.

If the Red participant chooses D and the Blue participant chooses R, both earn 45 points.

The points of the Red participants are indicated on the screen in red, and the Blue participant points are indicated in blue.

In addition, the screen will show on the right hand side the result of previous rounds of the current match.

Every ten seconds, we will generate a random number between 1 and 1000 and project this number on the screens in the front of the room. You can use this number to select one of the actions, if you want, like the flip of a coin. For example, if you are a Red participant, you can decide to choose U any time the random number is above, say, 200.

### **Part 1**

We will begin the first part now. This first part will consist of 10 matches. In each match every Red participant is paired with a Blue participant. You will not be paired twice with the same participant during the session or with a participant that was paired with someone that was paired with you or with someone that was paired with someone that was paired with someone that was paired with you, and so on. Thus, the pairing is done in such a way that the decisions you make in one match cannot affect the decisions of the

participants you will be paired with in later matches or later parts of the session.

In this part, after each round the monitor will roll a four sided dice. If the numbers 1, 2 or 3 appear, the participants will interact again without changing pairs. If a 4 appears, the match ends and participants are re-matched to interact with other participants. Therefore, in this part, each pair will interact until a 4 appears. After that, a new match will start with different pairs. Therefore you will interact until a 4 appears, with 10 different participants.

But first, we are going to teach you about this part of the session and how to use the computer by going through one practice match. During the practice part do not hit any keys until you are told to do so. You are not paid for the practice match; it is just for you to familiarize yourself with the session and the computer program.

Your screen shows the possible actions you can choose, the actions the participant you are matched with can choose, and the points. You may choose your action by pressing the desired action at the side of the matrix now. If you are a Red participant you can press the actions in red, U or D, and if you are a Blue participant you can press the actions in Blue, L or R. Make your choices now. Once everyone in the room has made their selections and pressed confirm, your results from this round will appear on the screen.

Monitor, would you please roll the dice?

[1] If a 1, 2 or 3 appeared] A \_\_ appeared therefore this match continues. Now you are in the second (third, fourth, fifth,) round of the same match. You are still interacting with the same participant. Your screen shows all the same information as before. In addition you can see on your right the result of the previous rounds. You may choose your action by pressing the desired action at the side of the matrix now. Make your choices now. Once everyone in the room has made their selections and pressed confirm, your results from this round will appear on the screen. Monitor, would you please roll the dice? [If 1, 2 or 3 appeared go to 1). If 4 appeared go to 2)]

[2) If a 4 appeared] A 4 appeared therefore this match ended. On the screen you see a dialog box with the points you earned during the practice match. Press OK to end the practice match.

We have finished with the practice match. Any questions?

We start now with the first part of the session. You will now participate in 10 matches, each match paired with a different participant. In each match you will interact with the same person until a 4 appears. Remember: your decisions in one match cannot affect the decisions of the people you will interact with in future matches. This is not a practice; you will be paid!

Make your choices now. Remember to press confirm.

Monitor, would you please roll the dice?

[1) If 1, 2 or 3 appears] A \_\_ appeared. This match continues. You are still interacting

with the same participant. Make your choices now. Remember to press confirm. Monitor, would you please roll the dice? [If 1, 2 or 3 appeared go to 1). If 4 appeared go to 2)]

[2) If 4 appears] A 4 appeared. This match ends. On the screen you will see a dialog box with the points you earned during this match. Press OK to be matched with the next participant.

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This is the end of Part 1. On your screen you will see a dialog box indicating your point and dollar points for this part. Press OK to move to the next part.

## **Part 2**

We will begin the second part now. This part will consist of 10 matches. In each match every Red participant is paired with a Blue participant. No pair will consist of the same participants as in Part 1. As before, you will not be paired twice with the same participant during the session or with a participant that was paired with someone that was paired with you or with someone that was paired with someone that was paired with someone that was paired with you, and so on. Thus, the pairing is done in such a way that the decisions you make in one match cannot affect the decisions of the participants you will be paired with in later matches or later parts of the session.

In this part, after each round the monitor will roll a four sided dice. If the numbers 1 or 2 appear, the participants will interact again without changing pairs. If 3 or 4 appear, the match ends and participants are re-matched to interact with other participants. Therefore, in this part, each pair will interact until a 3 or 4 appear. After that, a new match will start with different pairs. Therefore you will interact until a 3 or 4 appear, with 10 different participants.

But first, we are going to teach you about this part of the session and how to use the computer by going through one practice match. During the practice part do not hit any keys until you are told to do so. You are not paid for the practice match; it is just for you to familiarize yourself with the session and the computer program.

As before, your screen shows the possible actions you can choose, the actions the participant you are matched with can choose, and the points. You may choose your action by pressing the desired action at the side of the matrix now. Make your choices now. Once everyone in the room has made their selections and pressed confirm, your results from this round will appear on the screen.

Monitor, would you please roll the dice?

[1) If a 1 or 2 appeared] A \_\_ appeared therefore this match continues. Now you are in the second (third, fourth, fifth,) round of the same match. You are still interacting with the same participant. Your screen shows all the same information as before. In addition

you can see on your right the result of the previous rounds. You may choose your action by pressing the desired action at the side of the matrix now. Make your choices now. Once everyone in the room has made their selections and pressed confirm, your results from this round will appear on the screen. Monitor, would you please roll the dice? [If 1 or 2 appeared go to 1). If 3 or 4 appeared go to 2)]

[2) If a 3 or 4 appeared] A \_\_ appeared therefore this match ended. On the screen you see a dialog box with the points you earned during the practice match.

Press OK to end the practice match.

We have finished with the practice match. Any questions?

We start now with the second part of the session. You will now participate in 10 matches, each match paired with a different participant. In each match you will interact with the same participant until a 3 or 4 appear. Remember: your decisions in one match cannot affect the decisions of the people you will interact with in future matches. This is not a practice; you will be paid!

Make your choices now. Remember to press confirm.

Monitor, would you please roll the dice?

[1) If 1 or 2 appear] A \_\_ appeared. This match continues. You are still interacting with the same participant. Make your choices now. Remember to press confirm. Monitor, would you please roll the dice? [If 1 or 2 appeared go to 1). If 3 or 4 appeared go to 2)]

[2) If 3 or 4 appear] A \_\_ appeared. This match ends. On the screen you will see a dialog box with the points you earned during this match. Press OK to be matched with the next participant.

. . . .

This is the end of Part 2. On your screen you will see a dialog box indicating your point and dollar points for this part and your cumulative total points for the first two parts. Press OK to move to the next part.

### **Part 3**

We will begin the third part now. This part will consist of 10 matches. In each match every Red participant is paired with a Blue participant. No pair will consist of the same participants as in Part 1 or 2. As before, you will not be paired twice with the same participant during the session or with a participant that was paired with someone that was paired with you or with someone that was paired with someone that was paired with someone that was paired with you, and so on. Thus, the pairing is done in such a way that the decisions you make in one match cannot affect the decisions of the participants you will be paired with in later matches.

In this part, each pair will interact once. After that, a new match will start with

different pairs. Therefore, you will interact once with 10 different participants.

But first, we are going to teach you about this part of the session and how to use the computer by going through one practice match. During the practice do not hit any keys until you are told to do so. You are not paid for the practice match; it is just for you to familiarize yourself with the session and the computer program.

As before, your screen shows the possible actions you can choose, the actions the participant you are matched with can choose, and the points. You may choose your action by pressing the desired action at the side of the matrix now. Make your choices now. Once everyone in the room has made their selections and pressed confirm, your results from this round will appear on the screen.

You have interacted once so this match ends. On the screen you will see a dialog box with the points you earned during the practice match. Press OK to end the practice match.

We have finished with the practice match. Any questions?

We start now with the third part of the session. You will now participate in 10 matches, each match paired with a different participant. In each match you will interact with the same participant once. Remember: your decisions in one match cannot affect the decisions of the people you will interact with in future matches. This is not a practice; you will be paid!

Make your choices now. Remember to press confirm.

Press OK to be matched with the next participant.

Make your choices now. Remember to press confirm.

Press OK to be matched with the next participant.

. . . . .

Make your choices now. Remember to press confirm.

This is the end of Part 3. On your screen you will see a dialog box indicating your point and dollar points for this part and your cumulative total points for the three parts. Press OK to end this part.

### **Farewell**

The session has ended. On your screen you will see a dialog box indicating your total earnings for the session. Please make sure you record the dollar points in your record sheet. Press OK to end the session. Take this sheet to the counter for payment. This sheet will be matched to our computer print out of results for payment. Your payments will be rounded up to the nearest quarter. Thank you for your participation.