

Online Appendix to The Demand for Bad Policy when  
Voters Underappreciate Equilibrium Effects

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# 1 Instructions

## 1.1 Control

### Welcome to the Experiment

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### Earnings

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the EPs you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### Part 1

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

### Each interaction

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The EPs you will

receive in each interaction will depend on your choice and the choice of the participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the game and procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

### **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of

the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be randomly assigned an alternative table of earnings. This alternative table of earnings arises from implementing a tax of 1 point for a choice of 1 and a tax of 4 points for a choice of 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

Your group will be randomly assigned one of the two earning tables.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar. It is important that you understand the game and procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## 1.2 Reverse Control

### Welcome to the Experiment

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### Earnings

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the EPs you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### Part 1

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

### Each interaction

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The EPs you will receive in each interaction will depend on your choice and the choice of the participant you

are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the game and procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

### **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once

with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be randomly assigned an alternative table of earnings. This alternative table of earning arises from implementing a subsidy of 1 point for a choice of 1 and a subsidy of 4 points for a choice of 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

Your group will be randomly assigned one of the two earning tables.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the game and procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## 1.3 Random Dictator

### Welcome to the Experiment

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### Earnings

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the experimental points you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### Part 1

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

### Each interaction

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The experimental points you will receive in each interaction will depend on your choice and the choice of the

participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion during part 1, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

### **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once

with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be assigned an alternative table of earnings. This alternative table of earning arises from implementing a tax of 1 point for a choice of action 1 and a tax of 4 points for a choice of action 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

The assignment of the table of earnings is as follows. Each member of the group will choose between the original and alternative tables of earnings. One of the participants in the group will be randomly selected and his or her choice of table will be assigned to the whole group. You will be informed of the table of earnings assigned to your group.

### **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will choose between the original and the alternative tables of earnings.

Your group will be assigned the table of earnings chosen by one randomly selected participant in your group.

You will then participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## **1.4 Reverse Random Dictator**

### **Welcome to the Experiment**

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

#### **Earnings**

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points” (EPs) depending both on your actions and those of the other participants. At the end of the experiment the experimental points you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

#### **Part 1**

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the

other five participants in your group)

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The experimental points you will receive in each interaction will depend on your choice and the choice of the participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion during part 1, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

### **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be assigned an alternative table of earnings. This alternative table of earning arises from implementing a subsidy of 1 point for a choice of action 1 and a subsidy of 4 points for a choice of action 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

The assignment of the table of earnings is as follows. Each member of the group will choose between the original and alternative tables of earnings. One of the participants in the group will be randomly selected and his or her choice of table will be assigned to the whole group. You will be informed of the table of earnings assigned to your group.

### **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will choose between the original and the alternative tables of earnings.

Your group will be assigned the table of earnings chosen by one randomly selected participant in your group.

You will then participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## **1.5 Majority Once**

### **Welcome to the Experiment**

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### **Earnings**

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the experimental points you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### **Part 1**

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The experimental points you will receive in each interaction will depend on your choice and the choice of the participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 1 of the experiment. Once the

experiment begins, there will be no further discussion during part 1, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

## **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be assigned an alternative table of earnings. This alternative table of earning arises from implementing a tax of 1 point for a choice of action 1 and a tax of 4 points for a choice of action 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

The assignment of the table of earnings is as follows. Each member of the group will

choose between the original and alternative tables of earnings. The choice of the majority of the group will be assigned to the group. Ties will be randomly broken by the computer. You will be informed of the table of earnings assigned to your group.

## **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will choose between the original and the alternative tables of earnings.

Your group will be assigned the table of earnings chosen by the majority in your group.

You will then participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## **1.6 Majority Repeated**

### **Welcome to the Experiment**

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### **Earnings**

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the experimental points you have earned will be exchanged

into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### **Part 1**

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

#### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The experimental points you will receive in each interaction will depend on your choice and the choice of the participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in any of the first five interactions depending on your choice and the choice of the other participant.

After each interaction, the computer will show your choice and the choice of the other participant, as well as your earnings from that interaction. You will be able to advance from one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

#### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion during part 1, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

## **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group). After the decision-making part of the experiment is over, you will complete a short survey.

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure as in part 1, but the earnings may be different. Some groups will be assigned an alternative table of earnings. This alternative table of earnings arises from implementing a tax of 1 point for a choice of action 1 and a tax of 4 points for a choice of action 2. The table shown in the screen displays the earnings you would obtain in any of the last five interactions depending on your choice and the choice of the other participant under the original and alternative tables of earnings.

After each interaction, the computer will show your choice and the choice of the other

participant, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

The assignment of the table of earnings is as follows. Each member of the group will choose between the original and alternative tables of earnings before each decision-making interaction. The choice of the majority of the group will be assigned to the group. Ties will be randomly broken by the computer. You will be informed of the table of earnings assigned to your group.

### **Overview of Part 2**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

Before each interaction you will choose between the original and the alternative tables of earnings.

Your group will be assigned the table of earnings chosen by the majority in your group.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## **1.7 Shocked Beliefs**

### **Welcome to the Experiment**

This is an experiment on decision-making. How much you will be paid will depend on what you and others do during the experiment. Each of you will be paid at the end of the

experiment. All interactions in the experiment will be anonymous and through computers. Your identity will be kept private.

### **Earnings**

On top of the 5 dollars paid for participating, during the experiment you will earn “Experimental Points’ (EPs) depending both on your actions and those of the other participants. At the end of the experiment the experimental points you have earned will be exchanged into dollars at the rate of 1 dollar per 3 EPs.

This experiment is divided in two parts. We will now review instructions for Part 1, and instructions for Part 2 will be reviewed at the beginning of Part 2.

### **Part 1**

Participants will be randomly divided into groups of six. That means you will be randomly assigned to one group with five other participants for this part of the experiment. You will not know who these participants are, nor will they know who you are. You will then participate in five consecutive decision-making interactions. For each of the five interactions you will be matched with a different participant from your group (once with each of the other five participants in your group)

### **Each interaction**

The five decision-making interactions in which you will participate will have the same structure. In each interaction you will choose between actions 1 and 2. The experimental points you will receive in each interaction will depend on your action and the action of the participant you are matched with for that interaction.

The table shown in the screen displays the total earnings you obtain in each of the five interactions depending on your action and the action of the other participant.

After each interaction, the computer will show your action and the action of the other participant, as well as your earnings from that interaction. You will be able to advance from

one interaction to the next by clicking the “continue’ button at the bottom of your screen. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

### **Overview of Part 1**

Participants will be randomly divided in groups of 6.

You will participate in a total of 5 interactions.

For each interaction, you will be matched with a different participant in your group.

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 1 of the experiment. Once the experiment begins, there will be no further discussion during part 1, and no communication of any kind among the participants is permitted, apart from the transmission of the decisions by computer. So please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will begin.

### **Part 2**

Participants will be randomly divided into new groups of six. This means you will be randomly assigned to one group with five other participants for this part of the experiment. As in part 1, you will not know who these participants are, nor will they know who you are. You will then participate in five consecutive interactions. After the decision-making part of the experiment is over, you will complete a short survey.

### **Each Interaction**

The five interactions in which you will participate will have a similar structure to the ones in part 1, but with three main differences.

First, the table of earnings may be different. Some groups may be assigned an alternative table of earnings. The alternative table of earnings arises from implementing a tax of 1

point for a choice of action 1 and a tax of 4 points for a choice of action 2. The slide shown in the screen displays the earnings you would obtain in any of the five interactions in Part 2 depending on the actions taken by you and your counterpart under the original and alternative tables of earnings.

Second, you will not be free to choose between actions 1 and 2 in Part 2. Your action will be action 2 under the original table of earnings and action 1 under the alternative table of earnings.

Third, you will not be matched with another participant in Part 2. Instead, you will be matched with a computerized counterpart. The computerized counterpart you are matched with will independently choose between actions 1 and 2 in each interaction. It will follow the choice rates of four groups of human participants who were free to choose between actions 1 and 2 in a similar, previous experiment. For example, if those participants selected action 1  $x\%$  of the time under your assigned table of earnings, the computerized counterpart will select action 1 with  $x\%$  probability in each interaction. To give you some information about the computerized counterparts' likely actions under each table of earnings, you will be shown the choice rates of a fraction of the human participants in that previous experiment. In particular, you will be shown the choice rates of participants in two of the four groups in the previous experiment, one that was assigned the original table of earnings, and one that was assigned the alternative one. That experiment was analogous to this one, but in that experiment there were no computerized counterparts, and participants were free to choose between actions 1 or 2.

After each interaction, you will observe your action, the action of the computerized counterpart, as well as your earnings from that interaction. Your earnings from all five interactions in which you participate will be added up and will be exchanged for dollars at the end of the experiment.

The assignment of the table of earnings is as follows

Each member of the group will choose between the original and alternative tables of earnings. One participant of the group will be randomly selected, and his or her choice of table will be assigned to the whole group. You will be informed of the table of earnings assigned to your group.

As shown in the projector screen now, your computer screen will show both the original and the alternative tables of earnings, together with the reminder of your fixed action under each table of earnings. As shown in the projector screen, you will also see the choice rates between actions 1 and 2 by two of the four groups in the previous analogous experiment. In this screen you will choose between the original and the alternative tables of earnings. This will be the main decision you make in Part 2 of the experiment, since your actions in each interaction will be fixed once the table of earnings is assigned.

### **Overview of Part 2**

Participants will be randomly divided into groups of 6.

You will choose between the original and the alternative tables of earnings.

Your group will be assigned the table of earnings chosen by one randomly selected participant in your group.

You will then participate in a total of 5 interactions.

Your action is fixed to be action 2 under the original table of earnings and action 1 under the alternative table of earnings.

For each interaction, you will be matched with a computerized counterpart that will choose actions according to the choice rates of human participants who used your assigned table of earnings in a previous experiment.

You will be shown the choice rates under each table of earnings of a fraction of the human participants in the previous experiment (two out of four groups)

You will be paid your total earnings from all five interactions.

3 EPs are exchanged for 1 dollar.

It is important that you understand the procedures of part 2 of the experiment. Please review the experiment in your mind now and raise your hand if you have any questions. Once all questions have been answered, the experiment will continue.

## **2 Belief Elicitation Screens**

The next two pages display screenshots of the belief elicitation. The first of the two pages shows the screen used in the Random Dictator, Reverse Random Dictator, and Majority Once Treatments. The second page shows the screen used in the second experiment, where beliefs were shocked.

## Part 2

What is your belief about the chances that a randomly selected participant would choose action 1 when playing under each of the tables of earnings? Please state your belief in terms of a number between 0 and 100 (for example, 0 corresponds to no chance of a participant choosing 1, 50 corresponds to equal chances of a participant choosing 1 vs. 2, and 100 corresponds to full certainty that a participant would choose 1). In order to incentivize accurate reports of beliefs, you will be compensated according to the following scheme, which will be followed for each of the two reports you make. This scheme makes it in your best interest to report your true belief about likely choice under each table of earnings. After you report a number between 0 and 100 for a table of earnings, the computer will randomly choose a number between 0 and 100. If this number (call it  $n$ ) is lower than the number you report, then you will be paid 1 experimental point if a randomly selected participant in a similar experiment chose action 1 under that table of earnings, and you will be paid 0 if that participant chose action 2. If the random number  $n$  is greater than the number you reported, then you will earn 1 experimental point with a chance of  $n\%$  and 0 experimental points with a chance of  $(1-n)\%$ .

### Original table of earnings

Your choice	Other's choice	Earnings
1	1	9
2	1	11
1	2	3
2	2	5

From 0 to 100, I believe a randomly selected participant under the original table of earnings would choose action 1 with a chance of

### Alternative table of earnings

Your choice	Other's choice	Earnings
1	1	8
2	1	7
1	2	2
2	2	1

From 0 to 100, I believe a randomly selected participant under the alternative table of earnings would choose action 1 with a chance of

## Part 2

What is your belief about the chances that a computerized counterpart in Part 2 would choose action 1 when playing under each of the tables of earnings? Please state your belief in terms of a number between 0 and 100 (for example, 0 corresponds to no chance of a computerized counterpart choosing 1, 50 corresponds to equal chances of a computerized counterpart choosing 1 vs. 2, and 100 corresponds to full certainty that a computerized counterpart would choose 1). In order to incentivize accurate reports of beliefs, you will be compensated according to the following scheme, which will be followed for each of the two reports you make. This scheme makes it in your best interest to report your true belief about likely choice under each table of earnings. After you report a number between 0 and 100 for a table of earnings, the computer will randomly choose a number between 0 and 100. If this number (call it  $n$ ) is lower than the number you report, then you will be paid 1 experimental point if a randomly selected participant in the analogous experiment chose action 1 under that table of earnings, and you will be paid 0 if that participant chose action 2. If the random number  $n$  is greater than the number you reported, then you will earn 1 experimental point with a chance of  $n\%$  and 0 experimental points with a chance of  $(1-n)\%$ .

### Original table of earnings

Your action	Other's action	Earnings
1	1	9
2	1	11
1	2	3
2	2	5

From 0 to 100, I believe a computerized counterpart under the original table of earnings would choose action 1 with a chance of

### Alternative table of earnings

Your action	Other's action	Earnings
1	1	8
2	1	7
1	2	2
2	2	1

From 0 to 100, I believe a computerized counterpart under the alternative table of earnings would choose action 1 with a chance of

### 3 Robustness to Social Preferences

In this section, we study how our predictions about rational people's rankings of the two games would change if people had one of two different types of social preferences (Fehr and Schmidt, 1999, or Charness and Rabin, 2002) or a taste for reciprocal altruism (Rabin, 1993).

To incorporate social preferences into our analysis, we must specify whose money payoff affects each subject's utility. Each subject in our experiment interacts with five others in part 1 before being randomly assigned to a new group of six for part 2 of the experiment. To whom does the subject apply social preferences? Following the literature, which quite reasonably assumes that people care about the money payoffs of people with whom they interact on an ongoing basis, we model subjects at the time of voting as caring about the material payoff of the people with whom they interact in part 2 of the experiment. To simplify our analysis, we abstract from the fact that each subject interacts with five different people in part 2 of the experiment and formally address the simpler case in which each subject only interacts with one other subject in part 2. Note that if subjects applied their social preferences on a piecemeal basis, then this simplification would in fact best represent their behaviour.

Let Player  $i$  receive material payoff  $x_i$  and Player  $j$  receive material payoff  $x_j$ . We define the utility of Player  $i$  over these material payoffs to be the following:

$$U_i(x_i, x_j) = \begin{cases} x_i + \rho(x_j - x_i) & \text{if } x_i \geq x_j \\ x_i + \sigma(x_j - x_i) & \text{if } x_i < x_j. \end{cases}$$

Player  $i$  cares about her own material payoff as well as how much higher the other player's material payoff is than her own.

Table 15 shows the two players' utilities in the two games, when their material payoffs

Table 15: The Prisoners' Dilemma and Harmony Games with Social Preferences

Prisoners' Dilemma (PD)			Harmony Game (HG)		
	C	D		C	D
C	9, 9	$3 + 8\sigma, 11 - 8\rho$	C	8, 8	$2 + 5\sigma, 7 - 5\rho$
D	$11 - 8\rho, 3 + 8\sigma$	5, 5	D	$7 - 5\rho, 2 + 5\sigma$	1, 1

are transformed into utilities by the above utility function. The models of social preferences proposed by Fehr and Schmidt (1999) and Charness and Rabin (2002) in this simple two-person environment both have utilities of this form but differ in the range of parameters that they allow for  $\rho$  and  $\sigma$ .

### 3.1 Robustness to Inequity-Aversion Preferences as in Fehr and Schmidt (1999)

In their model of inequity aversion, Fehr and Schmidt (1999) assume that  $0 \leq \rho < 1$  and  $\sigma \leq -\rho$ .<sup>1</sup> The first parametric assumption implies that a Player  $i$  who comes out ahead in material payoff wants to increase Player  $j$ 's payoff ( $\rho > 0$ ) but cares less about this difference in payoff than her own material payoff ( $\rho < 1$ ). The second parametric assumption implies a Player  $i$  who comes out behind in material payoff wants to lower Player  $j$ 's payoff ( $\sigma < 0$ ) and cares more about the difference in payoff than she would if she came out ahead ( $\sigma \leq -\rho$ ).

Fehr-Schmidt preferences can move subjects away from choosing their dominant strategies in terms of material payoffs. Because  $\sigma \leq 0$ , (D,D) remains a Nash equilibrium with Fehr-Schmidt preferences in PD; because  $\rho \geq 0$ , (C,C) remains a Nash equilibrium with Fehr-Schmidt preferences in HG. However, inequity aversion can introduce other equilibria to the

<sup>1</sup>The more customary expression of Fehr-Schmidt preferences as

$$U_i(x_i, x_j) = x_i + \sigma \times \max\{x_j - x_i, 0\} - \rho \times \max\{x_i - x_j, 0\},$$

is plainly equivalent.

two games. If  $\rho \geq \frac{1}{4}$ , mutual cooperation is a Nash equilibrium of the Prisoners' Dilemma. If  $\sigma \leq -\frac{1}{5}$ , mutual defection is a Nash equilibrium of the Harmony Game. (We focus on pure-strategy equilibria, although mixed-strategy equilibria will exist as well.)

As a consequence, players with inequity-averse preferences may prefer the Prisoners' Dilemma to the Harmony Game if they expect enough subjects to cooperate in the Prisoners' Dilemma, or enough subjects to defect in the Harmony Game.

We begin by showing that too few subjects cooperate in the PD or defect in the HG for inequity-averse subjects to rationally choose the PD over HG. Given the utility functions described in Table 15, the difference in expected utility between the two games becomes

$$EU(HG) - EU(PD) = -4 + 2\alpha + \alpha' + 6(\beta' - \beta) - \sigma[8\alpha(1 - \beta) - 5\alpha'(1 - \beta')] + \rho[8(1 - \alpha)\beta - 5(1 - \alpha')\beta']$$

where  $\alpha$  and  $\alpha'$  denote the probabilities that the player cooperates in the PD and HG, respectively, and  $\beta$  and  $\beta'$  denote the probabilities that the other player cooperates in the PD and HG, respectively. The advantage of moving to the HG equals the increase in monetary payoff plus two terms that depend on the inequity-aversion parameters as well as the subject's beliefs about cooperation rates in each game. The two terms depend upon both the difference in payoffs for asymmetric outcomes (8 under PD and 5 under HG) and the probabilities of each asymmetric outcome in each game. Fixing the probabilities of cooperation at the observed rates in the experiment ( $\alpha = \beta = 0.23$  and  $\alpha' = \beta' = 0.95$ ), the additional two terms to the difference of expected utility sum to  $1.18\rho - 1.18\sigma$ , which is positive. Therefore, inequity aversion produces greater support for HG, not PD.

Next, we show that subjects expect too few others to cooperate in the PD and defect in the HG to best respond to their own beliefs by voting for PD, even if they are inequity

averse. On average, subjects expect cooperation rates of 44% in the PD and 78% in the HG. If they judge their own propensity to cooperate to be identical, then the additional two terms to the difference of expected utility become  $(\rho - \sigma) \times 0.85$ , which is again positive. If subjects judge their own propensity to cooperate to equal the true rates, then  $\alpha = 0.23$ ,  $\beta = 0.44$ ,  $\alpha' = 0.95$ ,  $\beta' = 0.78$ , in which case

$$\rho[8 \times 0.77 \times 0.44 - 5 \times 0.05 \times 0.78] - \sigma[8 \times 0.23 \times 0.56 - 5 \times 0.95 \times 0.22] = \rho \times 2.52 + \sigma \times 0.0146.$$

This implies that the subject will prefer the HG over PD unless the magnitude of  $\sigma$  exceeds that of  $\rho$  by a factor of more than 172, which is far outside the range of sensible estimates for these parameters. (See, *inter alia*, Bruhin, Fehr and Schunk (2016), who estimate  $\sigma$  to be approximately three times as large as  $\rho$ .)

Finally, could inequity aversion increase support for PD if subjects held beliefs very incongruent with how people actually play the game? It turns out that for this to happen subjects would have to exhibit a tendency to underappreciate how others will respond to the change in games, as postulated by our theory. To see this, notice that if a subject has  $\alpha = 0$  and  $\alpha' = 1$ —she plans to use a dominant strategy under material payoffs in each game—then the two extra terms for the difference in utility functions are  $8\rho\beta + 5\sigma(1 - \beta')$ . For their sum to be negative,  $\beta'$  must be sufficiently small and  $\beta$  sufficiently large. In other words, beliefs about the behavior of others must deviate from Nash predictions in the direction of underestimation of equilibrium effects.

Conceptually, inequity aversion tends to increase, rather than decrease, the appeal of the Harmony Game over the Prisoners' Dilemma for two reasons: first, the differences in payoffs between players are smaller under the Harmony Game for asymmetric outcomes; second, the probabilities of asymmetric outcomes are smaller in the Harmony Game given the observed

cooperation rates, as described above in the context of our second experiment.

In conclusion, inequity aversion should push subjects away from voting for the PD, which does not help explain the pattern of behavior in our experiments.

### 3.2 Robustness to Social Preferences as in Charness and Rabin (2002)

The model of distributional preferences as formalized by Charness and Rabin (2002) differs from that of Fehr and Schmidt (1999) by removing the parametric assumptions of  $\rho$  and  $\sigma$ .<sup>2</sup>

Absent these restrictions, the social preferences of Charness and Rabin (2002) can eliminate the selfish Nash equilibrium in each of the two games for the right range of parameters. If  $\sigma > \frac{1}{4}$ , mutual defection is not a Nash equilibrium of the Prisoners' Dilemma. If  $\rho < -\frac{1}{5}$ , mutual defection is not a Nash equilibrium of the Harmony Game. Moreover, if  $\rho > \frac{1}{4}$  and  $\sigma < -\frac{1}{5}$ , it is possible to have mutual cooperation as a Nash equilibrium of the PD and mutual defection as a NE of the HG.<sup>3</sup>

As a consequence, players with distributional preferences may prefer the Prisoners' Dilemma to the Harmony Game if they expect enough subjects to cooperate under the Prisoners' Dilemma, or enough subjects to defect under the Harmony Game.

We begin by showing that too few subjects cooperate in the PD or defect in the HG for distributional preferences to lead subjects to rationally choose the PD over HG. Given the utility functions described in Table 15, the difference in expected utility between the two

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<sup>2</sup>It also differs by allowing preferences to depend upon whether the other player has previously "misbehaved." Since groups were reshuffled between parts 1 and 2 of the experiment, subjects when voting should expect their decisions to affect others with whom they have previously interacted (and who might have previously misbehaved) little if at all. For this reason, we abstract from this reciprocity-based feature of Charness-Rabin preferences and focus on their distributional features.

<sup>3</sup>It is not possible, though, for these two outcomes to be the only equilibria of each game.

games is

$$EU(HG) - EU(PD) = -4 + 2\alpha + \alpha' + 6(\beta' - \beta) - \sigma[8\alpha(1 - \beta) - 5\alpha'(1 - \beta')] + \rho[8(1 - \alpha)\beta - 5(1 - \alpha')\beta'],$$

where  $\alpha$  and  $\alpha'$  denote the probability that the player cooperates in the PD and HG, respectively, and  $\beta$  and  $\beta'$  denote the probability that the other player cooperates in the PD and HG, respectively.

Fixing the probabilities of cooperation at the observed rates in the experiment ( $\alpha = \beta = 0.23$  and  $\alpha' = \beta' = 0.95$ ), the additional two terms to the difference of expected utility become  $1.18 \times (\rho - \sigma)$ , whose sign depends upon the values of the preference parameters. Charness and Rabin (2002) estimate these parameters to be  $\rho = 0.423$  and  $\sigma = 0.014$ . Since the estimate of  $\rho$  is significantly larger than the one of  $\sigma$ , realistic social preferences of the Charness and Rabin (2002) form would result in further support in favor of moving to the HG.

As we did when analyzing inequity aversion, we may ask whether social preferences could add to a preference for the Prisoners' Dilemma if subjects' perceived probability of cooperation matches the elicited beliefs rather than the observed cooperation rates. In this case, we would have  $\alpha = \beta = 0.44$ ,  $\alpha' = \beta' = 0.78$ , and the social-preferences terms would be  $1.1132 \times (\rho - \sigma)$  which, given that the estimated  $\rho$  is much larger than  $\sigma$ , means that social preferences again should make subjects prefer the Harmony Game.

The third empirically relevant case would again be one where own behavior is to match observed rates while that of others corresponds to elicited beliefs. Then we have  $\alpha = 0.23$ ,  $\alpha' = 0.95$ ,  $\beta = 0.44$ ,  $\beta' = 0.78$ . Then the utility terms corresponding to social preferences are,  $0.015\sigma + 2.52\rho$  which is positive for any positive values of  $\sigma, \rho$ , which obviously includes the

values estimated by Charness and Rabin.

In sum, social preferences as postulated and estimated by Charness and Rabin (2002) would add to a preference in favor of the Harmony Game.

### 3.3 Robustness to fairness considerations, as in Rabin (1993)

Could a concern for fairness as modelled by Rabin (1993) lead subjects to prefer the PD?

Rabin (1993) assumes that Player  $i$  with material payoff function  $\pi_i$  obtains the utility

$$U_i(a_i, b_j) = \pi_i(a_i, b_j) + f(b_j, c_i)(1 + f(a_i, b_j)),$$

where  $a_i$  denotes Player  $i$ 's action,  $b_j$  the beliefs of Player  $i$  about Player  $j$ 's action,  $c_i$  the beliefs of Player  $i$  about Player  $j$ 's beliefs about Player  $i$ 's action. The fairness term  $f(x, y)$  represents how kind the player choosing  $x$  is to the player choosing  $y$ , given  $y$ . Hence, the term  $f(a_i, b_j)$  represents how kind Player  $i$  is being to Player  $j$  by choosing  $a_i$  given his beliefs about  $j$ 's action,  $b_j$ , and the term  $f(b_j, c_i)$  measures Player  $i$ 's perception of Player  $j$ 's kindness, based on  $i$ 's beliefs about two things:  $j$ 's action and  $j$ 's beliefs about  $i$ 's action. The fairness function  $f(x, y)$  is positive if and only if the action  $x$  benefits the actor choosing  $y$ . Consequently, Player  $i$  wishes to be kind to Player  $j$  if and only if  $i$  believes that  $j$  reciprocates by being kind back.

The models of distributional preferences heretofore analyzed depend only on the distribution of material payoffs. Fairness preferences, by contrast, depend upon the actions that players choose as well as those that they fail to choose. To demonstrate that such preferences cannot account for subjects' behavior in our experiment, we show that it is not a fairness equilibrium à la Rabin (1993) for subjects to vote PD before playing dominant strategies in each of the two games. Denote this normal-form strategy  $(PD, D, C)$  and the strategy of

voting HG followed by playing dominant strategies  $(HG, D, C)$ . Starting from a purported fairness equilibrium in which both players choose  $(PD, D, C)$ , we show that either player has incentive to deviate to  $(HG, D, C)$ .

In a fairness equilibrium, players hold correct beliefs about each other's actions and beliefs. Hence

$$U_i(PD, D, C; PD, D, C) = 5 + f(PD, D, C; PD, D, C) (1 + f(PD, D, C; PD, D, C)).$$

In the random-dictator treatment, when one player votes PD and the other HG, each game gets chosen with probability one-half. Consequently, if one player were to deviate to  $(HG, D, C)$ , then the deviator would get utility

$$\begin{aligned} U_i(HG, D, C; PD, D, C) &= \frac{1}{2}(5 + 8) + f(PD, D, C; HG, D, C) (1 + f(HG, D, C; PD, D, C)) \\ &= 6.5 + f(PD, D, C; HG, D, C) (1 + f(HG, D, C; PD, D, C)) \end{aligned}$$

Rabin (1993) shows that  $f(\cdot, \cdot) \in [-1, \frac{1}{2}]$ , which implies that  $U_i(HG, D, C; PD, D, C) \geq 5$ .

We claim that  $U_i(PD, D, C; PD, D, C) < 5$ , for which it suffices to show that  $f(PD, D, C; PD, D, C) < 0$ . Rabin defines the kindness function in such a way that

$$\text{sign}(f(x_i, y_j)) = \text{sign} \left( \pi_j(x_i, y_j) - \frac{1}{2} \left( \max_{x'_i} \pi_j(x'_i, y_j) + \min_{\{x'_i: (x'_i, y_j) \text{ is Pareto efficient}\}} \pi_j(x'_i, y_j) \right) \right).^4$$

When  $j$  plays  $(PD, D, C)$ , the Pareto efficient payoffs occur when  $i$  plays  $(PD, C, \cdot)$ ,  $(HG, C, C)$

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<sup>4</sup>Specifically, Rabin (1993) defines

$$f(x_i, y_j) = \frac{\pi_j(x_i, y_j) - \frac{1}{2} (\max_{x'_i} \pi_j(x'_i, y_j) + \min_{\{x'_i: (x'_i, y_j) \text{ is Pareto efficient}\}} \pi_j(x'_i, y_j))}{\max_{x'_i} \pi_j(x'_i, y_j) - \min_{x'_i} \pi_j(x'_i, y_j)}.$$

or  $(HG, D, C)$ . The latter minimizes Player  $j$ 's expected payoff at 6.5. Because

$$\pi_j(PD, D, C; PD, D, C) < 6.5 < \max_{x'_i} \pi_j(x'_i; PD, D, C),$$

the fairness terms are negative as claimed, which establishes that it is not a fairness equilibrium for both players to play  $(PD, D, C)$ . To summarize, fairness preferences cannot account for the pattern of subjects' behavior.

### 3.4 Social Preferences with Wider Domain

Following the literature, we have assumed above that people have social preferences only over the material payoffs of those people with whom they interact on an ongoing basis. However, in principle, the domain of social preferences could include the material payoffs of others whom the subject will not encounter again. Our second experiment provides some evidence that this sort of effect does not lead people to vote for PD.

In our second experiment, each subject's payoff in part 2 depends only on the game played and the random actions of the computerized counterpart, since the subject's own action is fixed. Consider a subject who at the end of the part 1 has payoff  $x_i$  and whose co-player has payoff  $x_j$ . Whichever game is selected for part 2 of the experiment, both subjects' payoffs will change by an uncertain but symmetrically distributed random term. Let  $X_{HG}$  be its mean in the Harmony Game and  $X_{PD}$  be its mean in the Prisoners' Dilemma. Social preferences depend only upon  $x_i, x_j$  and  $x_j - x_i$ . The expectation of the difference in payoffs does not depend upon the game played in part 2, namely

$$x_j + X_{HG} - (x_i + X_{HG}) = x_j + X_{PD} - (x_i + X_{PD}) = x_j - x_i.$$

However, the distribution of the payoff difference does depend upon the game. In each game, when the computerized counterpart cooperates against one subject and defects against the other, the gap in their payoffs changes by a magnitude of 6 ( $= 11 - 5$  in PD and  $= 8 - 2$  in HG). Because  $\sigma \leq -\rho$ , Fehr-Schmidt preferences are aversive to mean-zero changes in  $x_j - x_i$ . The probability of such changes is  $2p_G(1 - p_G)$  in game  $G$  with cooperation rate  $p_G$  (since unequal outcomes happen when one subject faces cooperation and the other defection), which decreases in the distance between  $p_G$  and  $\frac{1}{2}$ . In reality,  $p_{HG} = 0.95 > p_{PD} = 0.23$  as reported in Section 6.1: the PD produces greater expected inequality of payoffs. Of course, subjects did not know these rates but instead saw only a sample. For the group that saw equal cooperation rates in both games,  $2p_{PD}(1 - p_{PD}) = 2p_{HG}(1 - p_{HG}) = 2\left(\frac{1}{2}\right)^2$ ; for the group that saw cooperation rates of  $\frac{1}{6}$  and  $\frac{5}{6}$ ,  $2p_{PD}(1 - p_{PD}) = 2p_{HG}(1 - p_{HG}) = 2\frac{1}{6}\frac{5}{6}$ . Therefore, in each of our two treated groups, the value of  $2p_G(1 - p_G)$  from the sample was the same in the HG as in the PD. Consequently, a subject whose beliefs about cooperation rates lay between the sample mean and the truth would expect the PD to lead to greater changes in  $x_j - x_i$  and therefore be pushed to vote for HG.

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## 4 Robustness of Main Tables to Probit Specifications

Table 16: Probit Analysis of Beliefs and Voting for Prisoners' Dilemma (Dependent Variable: Vote for PD)

	Random Dictator, Reverse RD, Majority Once	
	(1)	(2)
Belief Difference	-0.015*** (0.002)	-0.015*** (0.002)
Male		-0.218 (0.147)
Year		0.064 (0.059)
Ideology		0.107*** (0.035)
Economics		0.107 (0.191)
Political Science		0.059 (0.305)
Brown University		0.223 (0.156)
Beauty Number		-0.002 (0.003)
Constant	0.640*** (0.115)	0.136 (0.257)
Observations	408	408
Clusters	68	68

Note: OLS specification. Belief Difference denotes the difference in beliefs of cooperation under HG and PD. Year denotes year in college. Ideology from 0 (most liberal) to 10 (most conservative). Economics and Political Science denote subjects' major. Robust standard errors clustered by Part-1 group: \*\*\* significant at 1%, \*\* at 5%, \* at 10%.

Table 17: Probit Analysis of Personal Characteristics and Voting for Prisoners' Dilemma  
(Dependent Variable: Vote for PD)

	(1) RD	(2) Reverse RD	(3) Majority Once	(4) Majority Repeated
Male	-0.538** (0.217)	0.166 (0.298)	-0.593** (0.252)	-0.712*** (0.264)
Year	0.016 (0.081)	-0.032 (0.104)	0.187 (0.115)	-0.060 (0.114)
Ideology	0.071 (0.046)	0.108** (0.048)	0.135* (0.073)	-0.013 (0.044)
Economics	-0.092 (0.214)	0.432 (0.457)	-0.235 (0.464)	-0.223 (0.391)
Political Science	-0.389 (0.586)	0.742* (0.432)	0.188 (0.487)	-0.272 (0.429)
Brown	0.177 (0.227)	0.108 (0.309)	0.398 (0.243)	0.118 (0.309)
Beauty Number	-0.003 (0.005)	0.003 (0.007)	-0.000 (0.004)	0.008 (0.007)
Constant	0.044 (0.392)	-0.634 (0.431)	-0.566 (0.533)	0.229 (0.496)
Observations	168	120	120	120

Note: Probit specification. Year denotes year in college. Ideology from 0 to 10 from most liberal to most conservative. Economics and Political Science denote subjects' major. Robust standard errors clustered by Part-1 group:

\*\*\* significant at 1%, \*\* at 5%, \* at 10%

Table 18: Probit Analysis of Beliefs and Voting for Prisoners' Dilemma in the Additional Experiment (Dependent Variable: Vote for PD)

	(1)	(2)
Belief Difference	-0.007*** (0.002)	-0.006** (0.003)
Personal Characteristics	N	Y
Constant	0.418*** (0.126)	0.300 (0.297)
Observations	192	192

Note: Probit specification.

Robust standard errors clustered by Part-1 group:

\*\*\* significant at 1%, \*\* at 5%.

Table 19: Instrumenting for Beliefs: Probit Second Stage

Panel A: First Stage (dependent variable: Belief Difference)		
	(1)	(2)
Saw High Difference	15.549*** (5.503)	16.232*** (5.422)
Personal Char.	N	Y
Constant	20.396*** (4.179)	7.946 (9.591)
Observations	192	192
Panel B: Probit Second Stage (dependent variable: Vote for PD)		
	(1)	(2)
Belief Difference	-0.027*** (0.001)	-0.027*** (0.001)
Personal Char.	N	Y
Constant	0.865*** (0.094)	0.534*** (0.257)
Observations	192	192

Note: Probit IV specification. Belief Difference denotes the difference in beliefs of cooperation under HG and PD.

Robust standard errors clustered by Part-1 group:

\*\*\* significant at 1%.