

Exploring Group Decision Making in a Power-to-Take Experiment

(Published in *Experimental Economics* (2006) 9: 35–51
DOI 10.1007/s10683-006-4310-9)

Full Instruction and Script of Experimental Protocol

(October 2005)

I. Full Instruction to part 2 of the Experiment

Show-up fee

The show-up fee is 20 DM for all participants in the experiment. You will receive the show-up fee, independently of the decisions taken in the experiment. The show-up fee is to be included in the calculation of your individual earnings at the end of the experiment.

Division into groups

The 6 participants A and B will in the course of the experiment be divided into two groups A and B, such that in each group 3 persons decide together. The group decisions take place in different rooms and will be video taped. The allocation of individuals to groups will be described below.

Two phases of the experiment

The experiment consists of *two phases*. In phase 1, each of the groups A must make a decision whereas in phase 2, each of the groups B must make a decision. Every participant, be it in group A or B, makes only one decision. No other decisions will follow.

Phase 1: group A chooses a percentage

In this phase, each group A will be paired with a group B by letting each participant A draw an envelope each containing a different code. By means of these codes, the 6 participants A and B will be divided into two groups A and two groups B, with three participants in each group. Every group A will be paired with just one group B. Because of this procedure, groups A as well as groups B remain anonymous.

In the envelope, you will also find a form with a *black* box that must be filled in by group A, and a *gray* box that must be filled in by group B (see sample form). In the black box of group A, we have filled in the total earnings of group B from the previous part of the experiment already. Group A must fill in its own total earnings. Group A must then choose a *percentage* and fill this in on the form. This percentage determines how much of group B's total earnings after phase 2 should be transferred to group A. The percentage chosen by group A must be an integer in the interval [0, 100]. The decision must be taken jointly and then filled in on the form. All group members must agree by signing a separate form.

After having filled in the form, each participant of group A must put it back into the envelope. We will then collect the envelopes and transfer them to the group B that is paired with the respective group A by means of the code.

Phase 2: group B chooses a percentage

In this phase, group B must fill in on the form which *percentage* of its total earnings should be destroyed. What is left after destruction, are group B's *rest earnings*. The percentage chosen by group B must be an integer in the interval [0, 100].

The decision must be taken jointly and then filled in on the form. All group members must agree by signing a separate form. The transfer from group B to group A will be based on the rest earnings of group B that are left after destruction. Group B must transfer the percentage of their rest earnings that was chosen by group A.

After having completed the form, each member of group B has to put it back into the envelope. We then will collect the envelopes and return them to the corresponding group A for their information.

Calculating the individual earnings at the end of the experiment

Each member of group A receives his individual earnings from part 1 plus one third of the transfer from group B,

For members of group B the individual earnings will be calculated as follows:

If all members of group B got the same earnings in part 1 of the experiment, the rest earnings minus the transfer will be divided by 3. Each member gets one third of the group earnings.

If the members of group B did not get the same earnings in part 1, the rest earnings minus the transfer will be divided proportionally. *Example:* In part 1, two members earned 20 DM and one member earned 10 DM. Suppose, the rest earnings minus the transfer is 25. Then two members receive 10 DM, and one member receives 5 DM.

Example for determining the individual total earnings at the end of the experiment

An example is going to clarify the procedure. Suppose each participant in both group A and B earned 20 DM. Suppose further that in the first phase of the experiment, group A decides that 60% of group B's total earnings shall be transferred to group A. In the second phase, group B can destroy part or all of their total earnings. Suppose group B decides to destroy 0%. The transfer from group B to group A amounts to 36 DM (60% of 60 DM). The individual total earnings of *each participant of group B* at the end of the experiment are calculated as follows:

Rest earnings minus transfer (60-36 DM)	24 DM	
Your individual total earnings		28 DM
= your individual earnings from part 1 of the experiment	20 DM	
– your contribution to the transfer to group A	– 12 DM	
+ show-up fee	+ 20 DM	

Your contribution to the transfer to group A:

Your rest earnings = earnings from part 1 of the experiment * (100% – destruction percentage)

Your transfer to group A = your rest earnings * the percentage chosen by group A

The total earnings of *each of the participants of group A* at the end of the experiment are calculated as follows:

Transfer to group A in part 2	36 DM	
Your individual total earnings		52 DM
= your individual earnings from part 1 of the experiment	20 DM	
+ 1/3 of the transfer from group B	+ 12 DM	
+ show-up fee	+ 20 DM	

Suppose now that group B in the above example decided not to destroy 0% but 50% of its total earnings. The rest earnings of group B amounts to only DM 30 DM (namely 50% of 60 DM). The transfer to group A is now 18 DM (namely 60% of 30 DM).

The individual total earnings of each of the participants of group A at the end of the experiment are calculated as follows:

Transfer to group A in part 2	18 DM	
Your individual total earnings		46 DM
= your individual earnings from part 1 of the experiment	20 DM	
+ 1/3 of the transfer from group B	+ 6 DM	
+ show-up fee	+ 20 DM	

The individual total earnings of each of the participants of group B at the end of the experiment are calculated as follows:

Rest earnings minus transfer (30-18 DM)	12 DM	
Your individual total earnings		24 DM
= your individual rest earnings	10 DM	
- your contribution to the transfer to group A	- 6 DM	
+ show-up fee	+ 20 DM	

Summary

In *phase 1*, 2 groups A and 2 groups B with 3 participants each will be formed by having each participant A draw an envelope. Every group A will be paired with just one group B. Groups will discuss their decisions in different rooms. These discussions will be video taped. In the envelopes, you will find a form containing the total earnings of group B. Group A fills in their total earnings as well as a percentage indicating the transfer from group B to group A. We then will bring the form to the corresponding group B. In *phase 2*, group B chooses a percentage to be destroyed from their own earnings and fills this percentage in on the form. After the form having been put back into the envelope, we transfer the form to group A who is thus informed about group B's decision.

We would like to stress again that pairing of groups A with groups B is anonymous. You will neither during nor after the experiment find out with whom you are matched.

Further Information

Filling in the form

The decisions of both group A and group B are filled in on a form a sample of which you have been provided with. In phase 1, group A fills in the black box containing the total earnings of group B already. Group A fills in their total earnings as well as the percentage chosen. In phase 2, group B in the gray box fills in the percentage to be destroyed of their own total earnings. You must only use the pens to be found in the rooms where you make your group decisions. In case any other pen is used to fill in a form, this form will be invalid and you will

receive no payment at the end of the experiment. If you want to make any calculations, please use the calculator.

Group discussions and video taping

The 6 participants A and B will be divided into 2 groups A and B each, such that in each group 3 subjects decide together. The group decision process will be video taped. The matching procedure has been described above.

Payment

After group A has been informed on group B's decision in phase 2, you will be paid in the group discussion rooms. By this procedure, anonymity of payment is guaranteed between groups. Please take the card indicating your terminal number to the group discussion rooms.

Exercises

In order to familiarize yourself with the experiment, we now ask you to complete two exercises. You will have to complete the form for a hypothetical situation and to calculate the corresponding total earnings. During the exercises, you are not matched with another participant. The total earnings from the exercises will *not* be paid to you. After having finished the exercises, you again will have the opportunity to ask questions. Then, the experiment will start.

Finally

The instructions will be available throughout the experiment. We will ask those participants A and B who decide together in a group to proceed into the corresponding rooms. Please complete some questionnaires after having finished the exercises and during the experiment. We also guarantee anonymity with regard to the questionnaires.

Please stay quietly in your cubicle and do not communicate with the other members of your group before you have reached the group discussion rooms.

Decision Form

Code:

Group A fills in this block:

Earnings group A: DM.

Earnings group B: DM.

We (Group A) decide that % of the earnings of group B will be transferred to us.

Group B fills in this block:

We (Group B) destroy % of our earnings.

II. Script of experimental protocol

• students arrive
• short oral introduction
• students draw terminal number
• students go to terminals
<i>Effort Game</i>
• students read instructions from the screen
• questions are answered
• students play 2 test rounds without payment
• remaining questions are answered
• students play 10 rounds for money
• amounts earned are written on individual decision forms
<i>Power to Take Game</i>
• Random separation into Take authorities and Responders by a student drawing a ball from an urn

Take Authorities (TA)	Responders (R)
• students do 2 exercises	• students do 2 exercises
• draw envelopes for random separation into groups X and Y (X1 - X3, Y1 - Y3)	• answer <i>social</i> questionnaire
• leave laboratory	• answer <i>expectations</i> questionnaire
• X, Y go to different rooms	
• videotaping starts	
• open envelopes	
• fill group earnings in decision forms	
• 10 minutes' discussion starts	
• decide on t	
Decision rules	
• amount of $t(1-d)$ is divided by # members	
• result added to each group member's individual earnings	
• group decision <i>unanimously</i>	
• fill t into 3 individual forms	
• put forms back into envelopes	
• all group members sign separate decision form	
• envelopes transmitted to matched Rs	• envelopes transmitted from matched TAs
	• distribution of <i>emotions</i> questionnaire
• answer <i>expectations</i> questionnaire	• information on t
• answer <i>social</i> questionnaire	• answer <i>emotions</i> questionnaire
	• separated into 2 groups according to numbers on envelopes (X1 - X3, Y1 - Y3)
	• groups X, Y go to different rooms
	• videotaping starts
	• group earnings are already on decision forms

Script of experimental protocol continued

Take Authorities (TA)
<ul style="list-style-type: none"> • envelopes returned from matched <i>R</i>'s • information about <i>d</i>
<ul style="list-style-type: none"> • answer questionnaire on <i>emotions</i> and <i>experiment</i>
<ul style="list-style-type: none"> • payment in groups

Responders (R)
<ul style="list-style-type: none"> • 10 minutes' discussion starts • decide on <i>d</i>
<p>Decision rules</p>
<ul style="list-style-type: none"> • <i>d</i> and <i>t</i> is applied to individual earnings of each group member • group decision <i>unanimously</i>
<ul style="list-style-type: none"> • fill <i>d</i> into 3 individual forms • put back into envelopes • all group members sign separate decision form
<ul style="list-style-type: none"> • envelopes transmitted to matched <i>TA</i>'s
<ul style="list-style-type: none"> • answer questionnaire about <i>experiment</i>
<ul style="list-style-type: none"> • payment in groups