

## Appendix: Instructions

(translated instructions of experiments reported in Fehr-Gächter 2000 AER)

The following instructions were originally written in German. We document the instructions we used in the stranger-treatment, were we first played the two-stage-game with punishment opportunities and second the one-stage, ordinary voluntary contributions game. The instructions in the other treatments were adapted accordingly. They are available upon request.

You are now taking part in an economic experiment which has been financed by various foundations for research promotion. If you read the following instructions carefully, you can, depending on your decisions, earn a considerable amount of money. It is therefore very important that you read these instructions with care.

The instructions which we have distributed to you, are solely for your private information. **It is prohibited to communicate with the other participants during the experiment.** Should you have any questions please ask us. If you violate this rule, we shall have to exclude you from the experiment and from all payments.

During the experiment we shall not speak of Francs but rather of Guilders. During the experiment your entire earnings will be calculated in Guilders. At the end of the experiment the total amount of guilders you have earned will be converted to Francs at the following rate:

$$1 \text{ Guilder} = 5 \text{ Rappen}$$

Each participant receives a lump sum payment of **25 Guilders** at the beginning of the experiment (as well as the 15 Francs for participating). This one-off payment can be used to pay for eventual losses during the experiment. **However, you can always evade losses with certainty through your own decisions.** At the end of the experiment your entire earnings from the experiment plus the lump sum payment and the 15 Francs will be immediately paid to you in cash.

The experiment is divided into different periods. In all, the experiment consists of 10 periods. In each period the participants are divided into groups of four. You will therefore be in a group with 3 other participants. The composition of the groups will change at random after each period. **In each period your group will therefore consist of different participants.**

In each period the experiment consists of **two stages**. At the first stage you have to decide how many points you would like to contribute to a project. At the second stage you are informed on the contributions of the three other group members to the project. You can then decide whether or how much to reduce their earnings from the first stage by distributing points to them.

The following pages describe the course of the experiment in detail:

### Detailed Information on the Experiment

#### The first Stage

At the beginning of each period each participant receives 20 tokens. In the following we call this his or her endowment. Your task is to decide how to use your endowment. You have to decide how many of the 20 tokens you want to contribute to a project and how many of them to keep for yourself. The consequences of your decision are explained in detail below.

At the beginning of each period the following input-screen for the first stage will appear:

Periode	1 von 10	Verbleibende Zeit [sec]:	84
Ihre Ausstattung in Stufe 1: 20.00			
Ihr Beitrag zum Projekt in Stufe 1: <input type="text"/>			
<input type="button" value="OK"/>			
HILFE Bitte geben Sie Ihren Beitrag ein. Wenn Sie fertig sind, drücken Sie die Enter-Taste oder klicken mit der Maus auf den "OK"-Knopf.			

The number of the period appears in the top left corner of the screen. In the top right corner you can see how many more **seconds** remain for you to decide on the distribution of your points. Your decision must be made before the time displayed is 0 seconds.

Your endowment in each period is 20 tokens. You have to decide how many points you want to contribute to the project by typing a number between 0 and 20 in the input field. This field can be reached by clicking it with the mouse. As soon as you have decided how many points to contribute to the project, you have also decided how many points you keep for your self: This is (20 - your contribution) tokens. After entering your contribution you must press the O.K. button (either with the mouse, or by pressing the Enter - key). Once you have done this your decision can no longer be revised.

After all members of your group have made their decision the following income screen will show you the total amount of points contributed by all four group members to the project (including your contribution). Also this screen shows you how many Guilders you have earned at the first stage.

**The Income Screen after the first stage:**

Periode <input style="width: 80%;" type="text" value="1 von 10"/>	Verbleibende Zeit [sec]: <span style="color: red;">42</span>
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Ihr Beitrag zum Projekt:  
Gesamtsumme der Beiträge zum Projekt:

Einkommen aus den behaltene[n]n Punkten:  
Einkommen aus dem Projekt:  
Ihr Einkommen in Stufe 1:

**HILFE**

Sie können sich jetzt die Resultate der ersten Stufe ansehen.

Nach Ablauf der Zeit oder wenn alle Teilnehmer den "Weiter"-Knopf gedrückt haben, geht es weiter.

Your income consists of two parts:

- 1) the tokens which you have kept for yourself ("Income from tokens kept") whereby;  
1 token = 1 Guilder.
- 2) the "income from the project". This income is calculated as follows:

Your income from the project = 0.4 x the total contribution of all 4 group members to the project.

Your income in Guilders at the first stage of a period is therefore:

$$(20 - \text{your contribution to the project}) + 0.4 * (\text{total contributions to the project})$$

The income of each group member from the project is calculated in the same way, this means that each group member receives the same income from the project. Suppose the sum of the contributions of all group members is 60 points. In this case each member of the group receives an income from the project of:  $0.4 * 60 = 24$  Guilders. If the total contribution to the project is 9 points, then each member of the group receives an income of  $0.4 * 9 = 3.6$  Guilders from the project.

For each point, which you keep for yourself you earn an income of 1 Guilder. Supposing you contributed this point to the project instead, then the total contribution to the project would rise by one point. Your income from the project would rise by  $0.4 * 1 = 0.4$  points. However the income of the other group members would also rise by 0.4 points each, so that the total income of the group from the project would rise by 1.6 points. Your contribution to the project therefore also raises the income of the other group members. On the other hand you earn an income for each point contributed by the other members to the project. For each point contributed by any member you earn  $0.4 * 1 = 0.4$  points.

In the first two periods you have 45 seconds and in the remaining periods 30 seconds to view the income screen. If you are finished with it before the time is up, please press the continue button (again by using the mouse or pressing the Enter key). The first stage is then over and the second stage commences.

**The second Stage**

At the second stage you now see how much each of the other group members contributed to the project. At this stage you can also **reduce or leave equal** the income of **each** group member by **distributing points**. The other group members can also reduce **your** income if they wish to. This is apparent from the input screen at the second stage:

**The input screen at the 2nd stage**

Periode 1 von 10	Verbleibende Zeit [sec]: 174
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Ausstattungen	20.00	20.00	20.00	20.00
Beiträge zum Projekt				
Beiträge in % der Ausstattung				
Ihre Entscheidung in Stufe 2				

Die Gesamtkosten Ihrer Punktevergabe betragen: OK

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**HILFE**  
 Bitte geben Sie Ihre Entscheidung ein.  
 Wenn Sie fertig sind, drücken Sie die Enter-Taste oder klicken mit der Maus auf den "OK"-Knopf.

Besides the period and time display, you see here how much each group member contributed to the project at the first stage. Your contribution is displayed in blue in the first column, while the contributions of the other group members of this period are shown in the remaining three columns. Please note that the composition of the groups is renewed in each period. Besides the absolute contributions, the contribution in percent of the endowment is also displayed.

You must now decide how many points to give to each of the other three group members. You must enter a number for each of them. If you do not wish to change the income of a specific group member then you must enter 0. For your decision you have 180 seconds in the first two periods and 120 seconds in the remaining periods. You can move from one input field to the other by pressing the tab-key (→) or by using the mouse.

If you distribute points, you have costs in Guilders which depend on the amount of points you distribute. You can distribute between 0 and 10 points to each group member. The more points you give to any group member, the higher your costs. Your total costs are equal to the sum of the costs of distributing points to each of the other three group members. The following table illustrates the relation between distributed points to each group member and the costs of doing so in Guilders.

points	0	1	2	3	4	5	6	7	8	9	10
costs of these points	0	1	2	4	6	9	12	16	20	25	30

Supposing you give 2 points to one member this costs you 2 Guilders; if you give 9 points to another member this costs you a further 25 Guilders; and if you give the last group member 0 points this has no costs for you. In this case your total costs of distributing points would be 27 Guilders (2+25+0). Your total costs of distributing points are displayed on the input screen. As long as you have not pressed the O.K. button you can revise your decision.

If you choose 0 points for a particular group member, you do not change his or her income. However if you give a member 1 point (by choosing 1) you reduce his or her income from the first stage by 10 percent. If you give a member 2 points (by choosing 2) you reduce his or her income by 20 percent, etc. The amount of points you distribute to each member determines therefore how much you reduce their income from the first stage.

Whether or by how much the income from the first stage is totally reduced depends on the total of the received points. If somebody received a total of 3 points (from all other group members in this period) his or her income would be reduced by 30 percent. If somebody received a total of 4 points his or her income would be reduced by 40 percent. If anybody receives **10 or more** points their income from the first stage will be reduced by 100 percent. The income from the first stage for this member would in this case be reduced to zero. Your total income from the two stages is therefore calculated as follows:



a) What is your income from the first stage if the other group members together contribute a further total of 7 points to the project?.....

b) What is your income from the stage if the other group members together contribute a further total of 22 points to the project?.....

5. At the second stage you distribute the following points to your three other group members: 9,5,0. What are the total costs of your distributed points?.....

6. What are your costs if you distribute a total of 0 points?.....

7. By how many percent will your income from the first stage be reduced, when you receive a total of 0 points from the other group members?.....

8. By how many percent will your income from the first stage be reduced, when you receive a total of 4 points from the other group members?.....

9. By how many percent will your income from the first stage be reduced, when you receive a total of 15 points from the other group members?.....

*After the 10th period, subjects received the following sheet:*

We will now repeat this experiment with one change. As before, the experiment consists of ten periods and in each period you have to make a decision how many of the 20 tokens at your disposal you want to contribute to the project (and, implicitly, how many you keep for yourself).

**The change**

**The second stage is removed.** In the following ten periods there will be only the 1st stage, which is identical to the first stage before. Your income in Guilders in these second sequence of ten periods will be calculated exactly as before.

After the end of these 10 periods, the whole experiment is definitely finished and you will get:

Your income in guilders from the first set of 10 periods  
+ Your income in guilders from the second set of 10 periods  
= Total income in Guilders  
+ 15 Swiss Franks show-up fee