

SUPPLEMENTARY ONLINE APPENDIX

Instructions (Talk-Earned treatment)

Part 1 (only used in the Earned treatments)

Welcome to our experiment. Please read these instructions carefully. Please do not speak with your neighbor and remain silent during the entire experiment. If you have any questions please raise your hand. We will come to your seat and answer your questions in person.

In this experiment you will repeatedly make decisions and thereby earn money. How much you earn depends on your decisions and the decisions of the other participants. You will receive a show up fee of 5 € for participating in the experiment. This amount will increase by the earnings that you make during the course of the experiment. At the end of the experiment the Taler you earned will be exchanged at an exchange rate of 2200 Taler = 1 €. All participants receive (and currently read) the same set of instructions. You will remain anonymous to us and all other participants of the experiment. We do not save any data relating to your name.

In this experiment you will repeatedly make decisions for a firm in a market. There are two firms in the market: firm 1 and firm 2. The experiment consists of two parts. In the first part of the experiment your decisions and the decisions of all other participants will determine whether, in the second part of the experiment, you will take the role of firm 1 or firm 2. In part 2, one participant in the role of firm 1 will always interact with one participant in the role of firm 2. Both firms produce and sell the same product in a market, however firm 1 has lower production costs than firm 2. The payoff of a firm depends on its production costs.

Your task in part 1 is to translate letters into numbers during a period of five minutes. Your screen will show a table with two columns, where the first column shows letters and the second column shows the corresponding numbers. The computer will provide you with a letter and you have to enter the corresponding number into the box on your screen. Subsequently you click on “OK”.

When you confirm your answer you will be informed immediately whether your answer was right or wrong. In case the answer is wrong you will have to re-enter a number until your answer is correct. A new letter will only be shown once the current letter has been correctly translated into a number.

As soon as you have confirmed a correct answer the translation table will be recompiled with new letters and numbers and a new letter will be displayed for translation. You can translate an arbitrary amount of letters during the given time of five minutes.

In order to acquaint yourself with the program a test period will take place before the process starts.

For participating in part 1 of the experiment you will receive 4000 Taler, independently of the amount of translated letters.

Your role for part 2 of the experiment will be assigned as follows:

- After the five minutes have passed all participants will be assigned to one of two groups

depending on the amount of letters that they translated. You will be assigned to group 1 if you conducted more correct translations than at least half of all participants. Otherwise you will be assigned to group 2. Thus, all participants in group 1 have translated more letters than all participants in group 2. In case several participants have translated the same amount of letters the computer will order them at random in order to guarantee an assignment to a group.

- If you were assigned to group 1 you will take the role of firm 1 in the following (firm 1 has lower production costs than firm 2)
- If you were assigned to group 2 you will take the role of firm 2 in the following (firm 2 has higher production costs than firm 1)

Immediately after the completion of the translation task you will be informed whether you have been assigned the role of firm 1 or firm 2. You will keep this role until the end of the experiment.

Please notice that in part 1 of the experiment participation in the translation task is not mandatory. Alternatively, you can e.g. read something or surf the Internet. However, please do not speak with your neighbor and please keep quiet.

Part 2 (only shown to subjects after completion of Part 1)

In this part of the experiment you repeatedly make decisions for a firm in a market. There are two firms in the market: firm 1 and firm 2. You have been assigned to the role of either firm 1 or firm 2 in the first part of the experiment. You will keep this role until the end of the experiment.

Both firms produce and sell the same product on a market. Every game of the experiment consists of several periods and in every period both firms must simultaneously make the same decision: Which quantity of the good do you want to produce? In every period, both firms can each produce a maximum quantity of 45 units of the good. Thus, the quantity you choose must be in between 0 and 45.

Information about the market and the firms:

- There is a uniform market price for both firms. The price (in Taler) which you receive for every unit of your product is calculated as follows:

$$\text{market price} = 91 - \text{production quantity firm 1} - \text{production quantity firm 2}$$

With every unit that your firm produces the market price for both firms is reduced by one Taler. Please keep in mind that the decision of the other firm has the same effect on the price: Every additional unit produced by the other firm also reduces the market price by one Taler.

- Both firms have different production costs: Firm 1 has per unit production costs of 13 Taler. Firm 2 has per unit production costs of 25 Taler.

- Your payoff per unit sold is the difference between the market price and your per unit production costs

$$\text{Payoff per unit} = \text{market price} - \text{production costs per unit}$$

Please note that you make a per unit loss if the market price is below your per unit production costs.

- Your per period payoff is equal to your per unit payoff multiplied by the number of sold units:

$$\text{Payoff per period} = \text{Payoff per unit} * \text{Number of sold units}$$

You can assume that all the units you produce can also be sold.

- In order that you can see which quantities lead to which payoffs we provide you with a payoff calculator. With it you can calculate the profits which result from different quantity combinations on your screen before you make your actual decision. Before the beginning of the first game you will have the opportunity to acquaint yourself with the profit calculator.
- At the end of every period you will receive feedback about the quantity decisions of both firms, the realized market price and your payoff. Additionally, the computer will show the total payoffs that you obtained so far.

Example: Suppose that you are firm 1. Thus, your production costs are 13 Taler per produced unit. You decide to produce 30 units of the good. Subsequent to your decision you receive the information that firm 1 decided to produce 18 units of the good itself. Hence, the resulting market price is 43 Taler and your per unit payoff in this period is 43 Taler - 13 Taler = 30 Taler. Thus, your payoff in this period is 30 Taler * 30 = 900 Taler.

Course of action: Every game consists of one or several periods. After every period, chance decides whether another period takes place: The computer randomly draws a number between 1 and 4. If a “1”, “2”, or “3” is drawn then another period takes place; with a “4” no further period is conducted and the current game ends. Hence, it can happen that a game is over already after a single period. Equally it can happen that a game continues for many rounds. As soon as a game ends a new game will be started. The experiment consists of a total of 5 games for which the following holds:

- All games of the experiment have the same structure. This means that in every period of every game the above-described production decision has to be made.
- If a game ends you will be assigned to a new partner at the beginning of the next period. You will not meet any previous partner in any future game.

Communication: At the beginning of every game the two firms have the possibility to communicate with each other. For this purpose a text box will appear on your screen. You and the

other firm can exchange typed messages in it in which you can talk about anything. The only restriction is that you must not identify each other (e.g. do not write your name). There will be no further possibility to communicate during or after the periods.

The following Figure 10 gives a schematic summary of part 2 of the experiment.

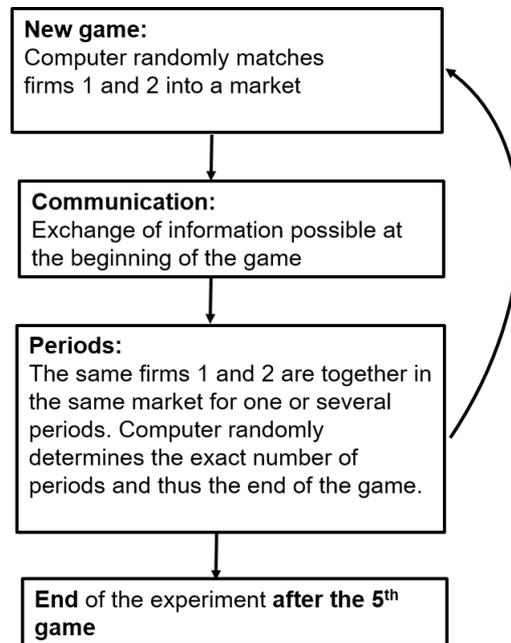


Figure 10: Schematic summary