

Reference Points and Effort Provision – Web Appendix

By JOHANNES ABELER, ARMIN FALK, LORENZ GOETTE, AND DAVID HUFFMAN*

* Abeler: University of Nottingham, School of Economics, Nottingham, NG7 2RD, UK (email: johannes.abeler@nottingham.ac.uk); Falk: University of Bonn, Adenauerallee 24, 53113 Bonn, Germany (email: armin.falk@uni-bonn.de); Goette: University of Lausanne, Department of Economics, Internef, 1015 Lausanne, Switzerland (email: Lorenz.Goette@unil.ch); Huffman: Swarthmore College, Economics Department, 500 College Ave., Swarthmore PA, 19081, USA (email: dhuffma1@swarthmore.edu).

Instructions

Below are the instructions of the LO treatment translated into English. The numbers in brackets mark places where changes in the instructions for the other treatments are made. These changes are described in detail after the instructions.

The experiment consists of two parts. Please start by reading the explanations for the first part carefully. You will receive the instructions for the second part of the experiment after the first part is finished.

[1] For your arrival on time, you receive **5 euros** that will be paid to you at the end of the experiment. If you have any questions during the experiment please ask the experimenter. If you use the computer in an improper way you will be excluded from the experiment and from any payment.

Instructions for the first part of the experiment

What do you have to do?

In this part of the experiment your task is to count zeros in a series of tables. The figure shows the work screen you will use later:

Remaining time [sec]: 237

You have 4 minutes, to count as many tables as possible.
The remaining time is shown in the upper right hand corner.

010011101100101
001010001101110
100001111100100
110111101000010
000100010001110
010001111000101
000101001110101
000011011010101
000101011010101
010100011101000

How many zeros are in the table?

You have counted 0 tables correctly, your acquired earnings are thus **0.00 euros**.

Enter the number of zeros into the box on the right side of the screen. After you have entered the number, click the OK-button. If you enter the correct result, a new table will

be generated. If your input was wrong, you have two additional tries to enter the correct number into the table. You therefore have a total of three tries to solve each table.

If you entered the correct number of zeroes you earn money: **You receive 10 cents for each table you solved correctly.**

If you enter three times a wrong number for a table, 10 cents will be subtracted from your earnings and a new table will then be generated. The earnings of this part of the experiment will be paid to you at the end of the experiment.

Example: You solve three tables correctly; you miscount one table once. You miscount a fourth table three times. Your earnings are therefore:

3 x 10c for the correctly counted tables

- 1 x 10c for the fourth table, which you miscounted three times.

thus a total of 20c.

You have 4 minutes until the first part of the experiment is over. The remaining time is displayed in the upper right hand corner of the screen.

Counting tips: Of course you can count the zeros any way you want. Speaking from experience, however, it is helpful to always count two zeros at once and multiply the resulting number by two at the end. In addition you miscount less frequently if you track the number you are currently counting with the mouse cursor.

Example question

Please answer the following question:

Assume you have solved 5 tables correctly, and miscounted two tables three times.

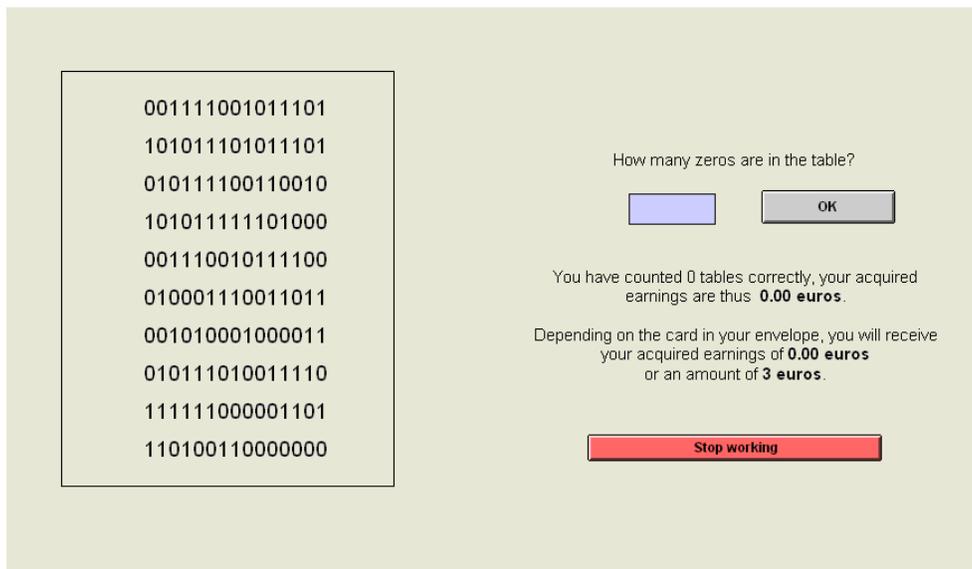
What are your acquired earnings? _____ euros

After you have answered the example question correctly, the experimenter will start the first part of the experiment.

Instructions for the second part of the experiment

What do you have to do?

[2] The task in this part of the experiment is once again to count zeros in a series of tables. The figure shows the work screen you will use later:



[3] New rules are now in effect, which did not apply in the first part:

- [4] **For each correctly solved table you will be credited 20 cents.** After three wrong inputs 20 cents will be subtracted from your earnings.
- [5] It is possible to lose the acquired earnings from this part of the experiment: there are two envelopes in front of you. One envelope contains a card with the text “acquired earnings”, the other contains a card “3 euros”. **You do not know which card is in which envelope.** Please choose one of the envelopes now and sign on the envelope.
- While you are working, the envelopes will remain in your room. After you have finished your task, we will open the envelopes. **You are not allowed to open the envelopes** before you have finished your task and one of the experimenters is with you.
- **If you have drawn the envelope with the card “acquired earnings,” you will get your acquired earnings and not the 3 euros.**
- [6] **If you have drawn the envelope with the card “3 euros,” you will get 3 euros and not the acquired earnings.** The amount of 3 euros does not change, no matter how many tables you solved.

- After your work is done we will also open the envelope which you did not choose, such that you can check that the envelopes contained different cards.

Important: In this part of the experiment you can count zeros as long as you want. This means you can decide yourself when you want to stop working. You can work, however, at most 60 minutes.

If you want to stop counting, please click on the **red button** “stop working” and contact us by briefly stepping into the corridor. You will be paid in your room.

Example: You stop after 10 minutes and have solved 24 tables correctly with no miscounts. Your acquired earnings are therefore $24 \times 20c = 4.80$ euros. The envelope chosen by you contains the card “acquired earnings”. You therefore get 4.80 euros.

Example: You stop after 10 minutes and have solved 24 tables correctly with no miscounts. Your acquired earnings are therefore 4.80 euros. The envelope chosen by you contains the card “3 euros”. You therefore get 3 euros instead of the 4.80 euros.

[7] **Example:** You stop after 30 minutes and have solved 4 tables correctly and miscounted three times at a 5th table. Your acquired earnings are therefore $4 \times 20c - 1 \times 20c = 60c$. The envelope chosen by you contains the card “3 euros”. You therefore get the amount of 3 euros instead of your acquired earnings of 60c.

Example questions

Please answer the following questions:

Assume you have solved 28 tables correctly within 20 minutes.

- What are your acquired earnings? _____ euros
- How much money do you get if the envelope chosen by you contains the card “acquired earnings”? _____ euros
- How much money do you get if the envelope chosen by you contains the card “3 euros”? _____ euros

Assume you have solved 7 tables correctly within 15 minutes.

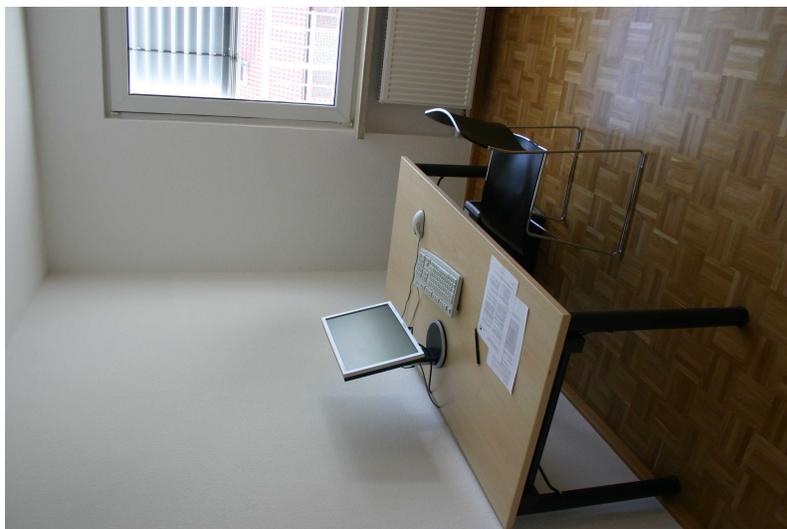
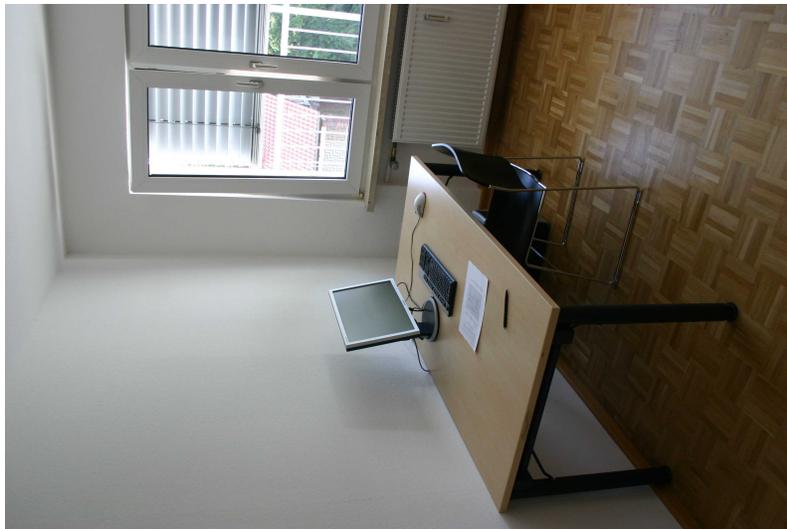
- What are your acquired earnings? _____ euros
- How much money do you get if the envelope chosen by you contains the card “acquired earnings”? _____ euros
- How much money do you get if the envelope chosen by you contains the card “3 euros”? _____ euros

After you have answered the example questions correctly, the experimenter will start the second part of the experiment.

The instructions for the other treatments differ as follows:

- *HI treatment:* Every occurrence of “3 euros” is replaced by “7 euros” (also in the screenshot).
- *NOSAL treatment:* In paragraph [1], the first sentence regarding the show-up fee is dropped. Every occurrence of “3 euros” is replaced by “8 euros” and every occurrence of “acquired earnings” is replaced by “5 euros plus the acquired earnings” (also in the screenshot). In paragraph [6], the last sentence is changed to “The amounts of 5 and 8 euros do not change, no matter how many tables you count.” The example calculations are adapted according to the payoff rules of NOSAL.
- *SAL treatment:* Every occurrence of “3 euros” is replaced by “acquired earnings plus 3 euros” where applicable (also in the screenshot). Before paragraph [3], a new paragraph is inserted reading: “For each correctly solved table you will again be credited 10 cents. After three wrong inputs 10 cents will be subtracted from your earnings.” Paragraph [4] is correspondingly dropped. In paragraph [5], the first sentence up to the colon is dropped. The example calculations are adapted according to the payoff rules of SAL.
- *R treatment:* At the beginning of paragraph [2], a sentence is added “For the work in this part of the experiment, you receive 4 euros up front.” After paragraph [7], a paragraph is added: “You will receive the 4 euros up front (and all earnings from the first stage of the experiment) in any case in addition.”

Photos of Experimental Rooms



Additional Regression Tables

TABLE A.1—TENDENCY TO STOP AROUND THE FIXED PAYMENT (HI COMPARED TO LO TREATMENT)

	(1a) Stop in 2–4	(1b) Stop in 6–8	(2a) Stop in 2–4	(2b) Stop in 6–8	(3a) Stop in 2–4	(3b) Stop in 6–8
1 if HI treatment	-1.792*** (0.669)	1.056** (0.477)	-1.807*** (0.671)	1.062** (0.478)	-1.983*** (0.707)	1.109** (0.497)
Productivity			-0.007 (0.009)	0.002 (0.011)	-0.010 (0.011)	0.002 (0.011)
1 if Female					-0.168 (0.574)	0.567 (0.491)
Controls for temperature	No	No	No	No	Yes	Yes
Controls for time of day	No	No	No	No	Yes	Yes
Constant	-0.636** (0.291)	-1.447*** (0.393)	-1.033* (0.606)	-1.354* (0.698)	-1.170 (0.792)	-1.484* (0.803)
N.Obs.	120	120	120	120	120	120
Pseudo R^2	0.08	0.08	0.09	0.09	0.14	0.14

Notes: The table reports results of multinomial logit regressions. The dependent variable indicates three outcomes: “stop between 2 and 4 euros”, “stop between 6 and 8 euros”, and “stop elsewhere” which is the reference category. Data from LO and HI treatments are included in the analysis. The proxy for productivity is the time subjects needed per table during the first stage (in seconds multiplied by -1). Standard errors are in parentheses. Significance at the 1, 5, and 10 percent level is denoted by ***, **, and *, respectively.

TABLE A.2—TENDENCY TO STOP AROUND THE FIXED PAYMENT (CONTROL TREATMENTS COMPARED TO LO)

	(1a) Stop in 2-4	(1b) Stop in 6-8	(2a) Stop in 2-4	(2b) Stop in 6-8	(3a) Stop in 2-4	(3b) Stop in 6-8
1 if NOSAL treatment	-0.463 (0.443)	0.348 (0.515)	-0.465 (0.443)	0.341 (0.519)	-0.728 (0.502)	0.448 (0.593)
1 if R treatment	0.198 (0.409)	0.210 (0.546)	0.252 (0.416)	0.375 (0.557)	-0.024 (0.498)	0.544 (0.622)
Productivity			0.004 (0.006)	0.017 (0.011)	0.005 (0.006)	0.017 (0.011)
1 if Female					0.119 (0.365)	0.452 (0.434)
Controls for temperature Controls for time of day	No No	No No	No No	No No	Yes Yes	Yes Yes
Constant	-0.636** (0.291)	-1.447*** (0.393)	-0.404 (0.428)	-0.577 (0.680)	-0.405 (0.552)	-1.022 (0.792)
N.Obs.	180	180	180	180	180	180
Pseudo R^2	0.01	0.02	0.02	0.02	0.05	0.05

Notes: The table reports results of multinomial logit regressions. The dependent variable indicates three outcomes: “stop between 2 and 4 euros”, “stop between 6 and 8 euros”, and “stop elsewhere” which is the reference category. Data from LO, NOSAL, and R treatments are included in the analysis. As the nominal piece rate in SAL is halved, stopping between 2 and 4 euros includes a wider range of stopping decisions. We thus exclude this treatment from this analysis. The proxy for productivity is the time subjects needed per table during the first stage (in seconds multiplied by -1). Standard errors are in parentheses. Significance at the 1, 5, and 10 percent level is denoted by ***, **, and *, respectively.