

Appendix

Appendix A: Information on the sequence of treatments

Table A1 Information on the treatment order for sequences A to D.

Period	Sequence A			Sequence B		
	treatment	# insider	info set	treatment	# insider	info set
1	T_A^1	1	A	T_B^2	2	B
2	T_B^1	1	B	T_C^0	0	C
3	T_C^0	0	C	T_A^0	0	A
4	T_A^1	1	A	T_C^1	1	C
5	T_B^1	1	B	T_A^4	4	A
6	T_C^1	1	C	T_A^1	1	A
7	T_C^2	2	C	T_C^1	1	C
8	T_A^0	0	A	T_C^4	4	C
9	T_C^4	4	C	T_A^4	4	A
10	T_A^4	4	A	T_A^2	2	A
11	T_B^2	2	B	T_B^4	4	B
12	T_A^2	2	A	T_C^2	2	C
13	T_C^4	4	C	T_B^2	2	B
14	T_B^4	4	B	T_A^4	4	A
15	T_A^2	2	A	T_B^1	1	B
16	T_C^2	2	C	T_B^2	2	B
Period	Sequence C			Sequence D		
	treatment	# insider	info set	treatment	# insider	info set
1	T_C^0	0	C	T_A^0	0	A
2	T_B^1	1	B	T_A^2	2	A
3	T_C^1	1	C	T_C^2	2	C
4	T_A^0	0	A	T_B^1	1	B
5	T_B^2	2	B	T_B^4	4	B
6	T_C^2	2	C	T_C^2	2	C
7	T_C^4	4	C	T_A^1	1	A
8	T_B^1	1	B	T_A^4	4	A
9	T_B^4	4	B	T_C^4	4	C
10	T_C^4	4	C	T_A^1	1	A
11	T_A^1	1	A	T_A^2	2	A
12	T_A^0	0	A	T_C^0	0	C
13	T_A^2	2	A	T_B^4	4	B
14	T_B^4	4	B	T_C^1	1	C
15	T_C^0	0	C	T_B^2	2	B
16	T_A^4	4	A	T_C^1	1	C

Appendix B: Experimental Instructions

Dear Participant!

We welcome you to this experimental session and kindly ask you to refrain from talking to each other for the duration of the experiment. If you have any questions regarding the procedure or the instructions of the experiments, contact one of the supervisors by raising your hand and your question will be answered privately.

Course of events during the session

This session consists of two experiments in which you can independently earn money. Before the experiment starts separate instructions will be handed out providing detailed information on the rules in the experiment.

Experiment 1 - Market experiment

- Instructions market experiment
- Explanation of the trading mechanism and trial periods (not relevant for your earnings)
- Experiment

Experiment 2²⁷

- Instructions and experiment
- Questionnaire

Private payout

²⁷ Data from the second experiments are not used in the analysis. Instructions are available upon request.

Experiment 1 - Market experiment

General Information

This experiment replicates an asset market, which is populated by you and 9 other subjects. The composition of this cohort remains constant throughout the experiment, which consists of 16 independent periods.

Your payment from the experiment

You receive an amount of 20,- Euro for participating in the experiment. Profit and losses resulting from your activities during the 16 periods will be added to/subtracted from the participation payment. Please note that your earning made in a specific period may be positive or negative (see below for details). Your payment from the experiment equals the participation payment plus the sum of your period earnings.

$$\text{Your payment} = 20 + \text{Sum of period earnings}$$

Your task within a period

At the beginning of each period you will learn your task within that period. You could either become a trader or a bookkeeper.

Trader: As trader you are an active market participant and you can buy/sell assets (of a virtual company). In each period at least 6 but at most 10 subjects of your cohort are traders.

Bookkeeper: You do not participate in the market. In each period at least 0 but at most 4 subjects of your cohort are bookkeepers.

In the following we inform you about the task of a trader and the task of a bookkeeper.

Trader

As a trader you are a market participant and you can buy and sell assets. The trading mechanism is a double auction, i.e., each trader can be a buyer and/or a seller.

At the beginning of each period, each trader receives an initial endowment of 60 assets and 4800 Taler (asset and Taler inventories are NOT transferred from one period to the next). Note that your asset and Taler inventories cannot fall below zero. Each trading period automatically terminates after 4 minutes (240 sec). Prices are solely determined by demand and supply of the traders within the market. If you buy assets, your Taler holdings decrease by the respective expenditures (price * volume). Inversely, if you sell assets, your Taler holding

increase by the respective revenues (price * volume).

Buy-back value of the asset

At the end of each period the experimenter buys back the assets you are holding at their buy-back value. This value is determined by a random device at the beginning of the period, which draws a number (with one decimal place) from the interval [20,80]. Each number has the same probability to be drawn.

Information about the Buy-back value of the asset

Depending on the total number of traders, between 0 and 4 traders receive information on the precise buy-back value of the asset at the beginning of the period (these traders are called **insiders**). 6 traders do not receive this information about the buy-back value (these traders are called **uninformed traders**). They only know that the buy-back value is a random number between 20 and 80 with equal probability.

Information about the number of insiders

Additionally to receiving information on the buy-back value you may be informed about the number of insiders present. 3 information sets exist:

1. No trader receives information about the number of insiders. (You know for sure if you are an insider or not).
2. All insiders are informed about the total number of insiders in the market. Uninformed traders do not receive this information.
3. All traders (insiders and uninformed) receive information about the total number of insiders in the market.

Before trading starts you are informed whether you are an insider or an uninformed trader and you receive information corresponding to information set 1-3. This information is accessible on the trading screen as well.

Your period earnings as a trader

Your trading success in relation to the other traders' success determines your earnings. Your wealth at the end of a period is compared to the average wealth

of all traders.

$$\text{Your wealth} = \text{Number of assets} * \text{Buy-back value} + \text{Taler holdings}$$

$$\text{Average wealth} = \frac{\text{Sum of all traders' wealth}}{\text{Number of traders}}$$

$$\text{Period earnings in Euro} = (\text{Your wealth} - \text{Average wealth})/300$$

Example 1: At the end of the period you own 65 assets and 4450 Taler. The buy-back value is 38.50. Your wealth equals $65 * 38.50 + 4450 = 6952.50$. Average wealth in the market equals 6650. Your period earnings in Euro are $(6952.50 - 6650)/300 = 1.01$ Euro, which increases your final payment.

Example 2: At the end of the period you own 45 assets and 5450 Taler. The buy-back value is 62.50. Your wealth equals $45 * 62.50 + 5450 = 8271.50$. Average wealth in the market equals 8600. Your period earnings in Euro are $(8271.50 - 8650)/300 = -1.26$ Euro, which reduces your final payment.

Example 3: If you refrain from trading during a period (i.e. you do not buy or sell assets), your wealth equals the average wealth. Thus, your period earnings will be 0.00 and your final payment remains unchanged.

Bookkeeper

As a bookkeeper you earn money by solving exercises. An exercise is a calculation in which you multiply a two digit number by a one digit number. If your calculation is correct, the exercise is solved. If your calculation is wrong an error message appears. You have 4 minutes time to solve as many exercises as possible.

Your period earnings as a bookkeeper

For each correctly solved exercise you earn 0.05 Euro (5 Cent).

$$\text{Period earnings in Euro} = \text{Number of solved exercises} * 0.05$$

Important information

- No interest is paid for Taler holdings.

- Each trading period lasts for 240 seconds.
- The experiment ends after 16 periods.
- Offers to buy/sell the asset can be placed in the range from 0 to 999 (with at most two decimal places).
- The buy-back value is a random number with one decimal place.
- Use the full stop (.) as decimal place.

Trading screen: By means of the following figure, the procedure of trading (buying and selling) will be illustrated.

The trading interface includes several key components:

- Current Market Price (of Asset):** Shows the current price of the asset, which is 0.00.
- Assets and Taler Holdings:** Displays the user's current holdings: Assets: 60, Taler: 4800, and Wealth: 0.
- Information Panel:** Shows the buy-back value (29.40) and the number of insiders (1).
- Price-Chart:** A line graph showing the price of the asset over time, starting at 0.
- Order Entry Panels:** Includes sections for placing Bids and Asks, with fields for Quantity and Price, and buttons for 'BID', 'ASK', 'BUY', and 'SELL'.
- Summary Tables:**
 - Own bids:**

Own bids	Quantity
29.50	5
 - Own asks:**

Own asks	Quantity
30.50	4
 - All bids:**

All bids	Quantity
30.40	3
29.60	5
28.50	6
27.50	4
 - All asks:**

All asks	Quantity
30.60	2
30.80	4
31.80	3
32.60	4

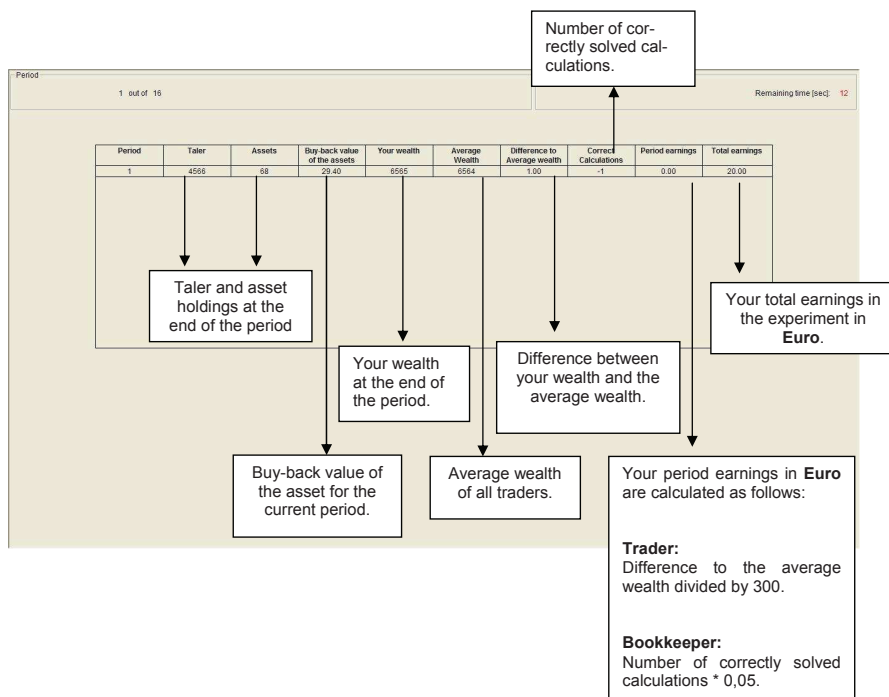
Callouts and Explanations:

- Information about current Asset and Taler holdings and your Wealth.** (Points to the Assets/Taler/Wealth section)
- Summary tables of your own BIDS and ASKS. With the "CANCEL"-buttons you can delete your own offers.** (Points to the Own bids and Own asks tables)
- ASK: analogue to Purchase BID - see below.**
- BID: you have to enter Quantity and Price. Trade does not take place until another participant accepts your offer!!!**
- List of all BIDS: from all traders - your own Bids are written in blue. The offer with blue background is always the best, i.e., it yields the highest revenues for the seller.**
- List of all ASKS: from all traders - your own Asks are written in blue. The offer with blue background is always the best, i.e., it is the cheapest one for the buyer.**
- SELL: You sell the entered Quantity, given the Price with the blue background. If you enter a higher amount than offered in the blue box, you sell the offered Quantity at most.**
- BUY: You buy the entered Quantity, given the Price with the blue background. If you enter a higher amount than offered in the blue box, you buy the offered Quantity at most.**
- If you have information about the buy-back value of the asset or the number of insiders present, this information will be displayed here.** (Points to the Information panel)

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37

History screen: appears after each trading period (for 15 seconds), providing you with information of past periods:



Screen seen by bookkeepers:

