# Electronic Supplementary Material

# for

# Do Traders Learn to Select Efficient Market Institutions?

*Carlos Alós-Ferrer, Johannes Buckenmaier, and Georg Kirchsteiger*

# Online Appendix A Additional Analyses

## Convergence for individual market observations

Figure A.1 shows the analogous graph to Figure 3 (top-left) for each individual market session.

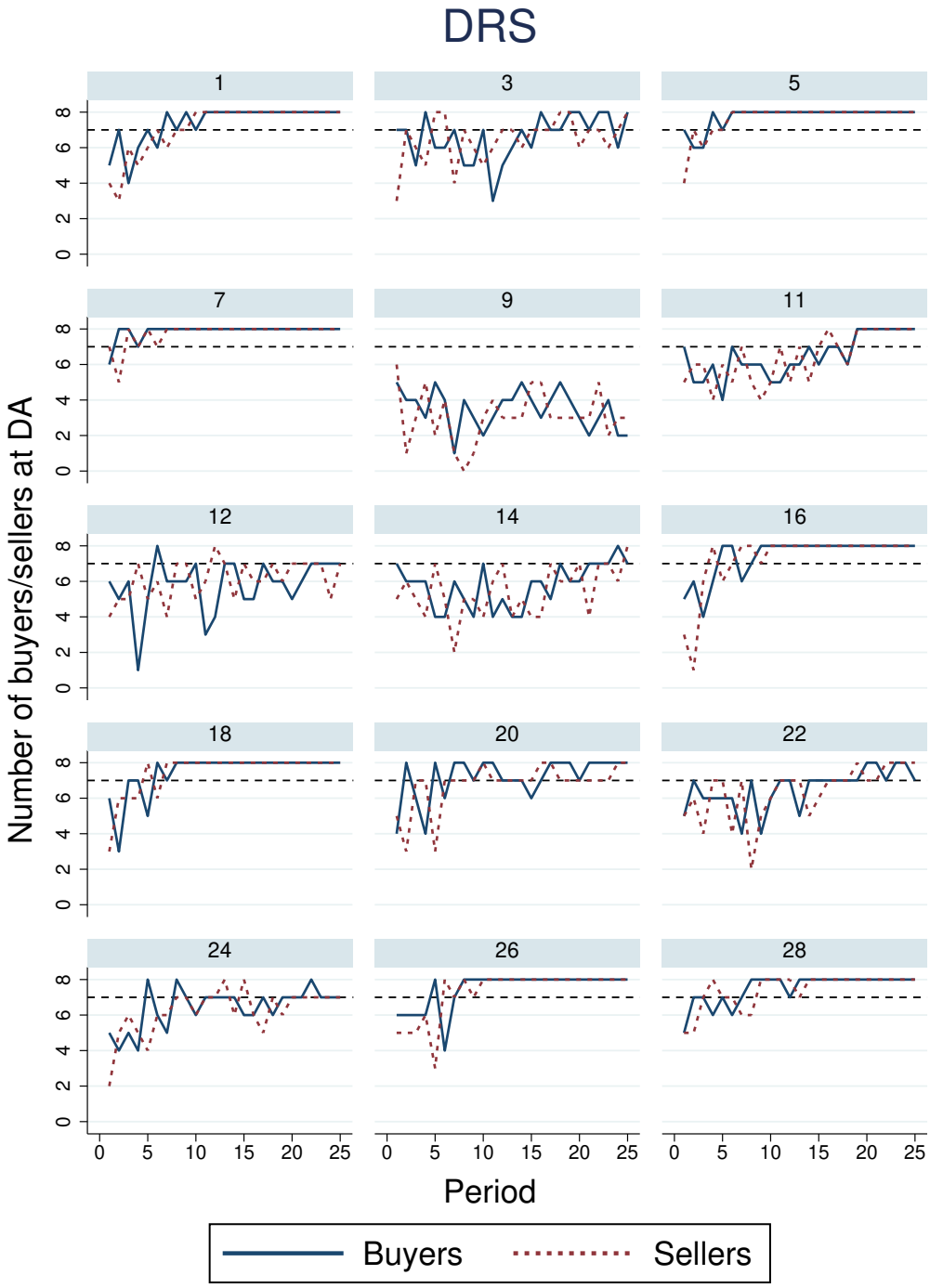



Figure A.1: Number of buyers/sellers at DA per period, separately for each individual market observation in DRS.

Figure A.2 shows the analogous graph to Figure 3 (top-right) for each individual market session.

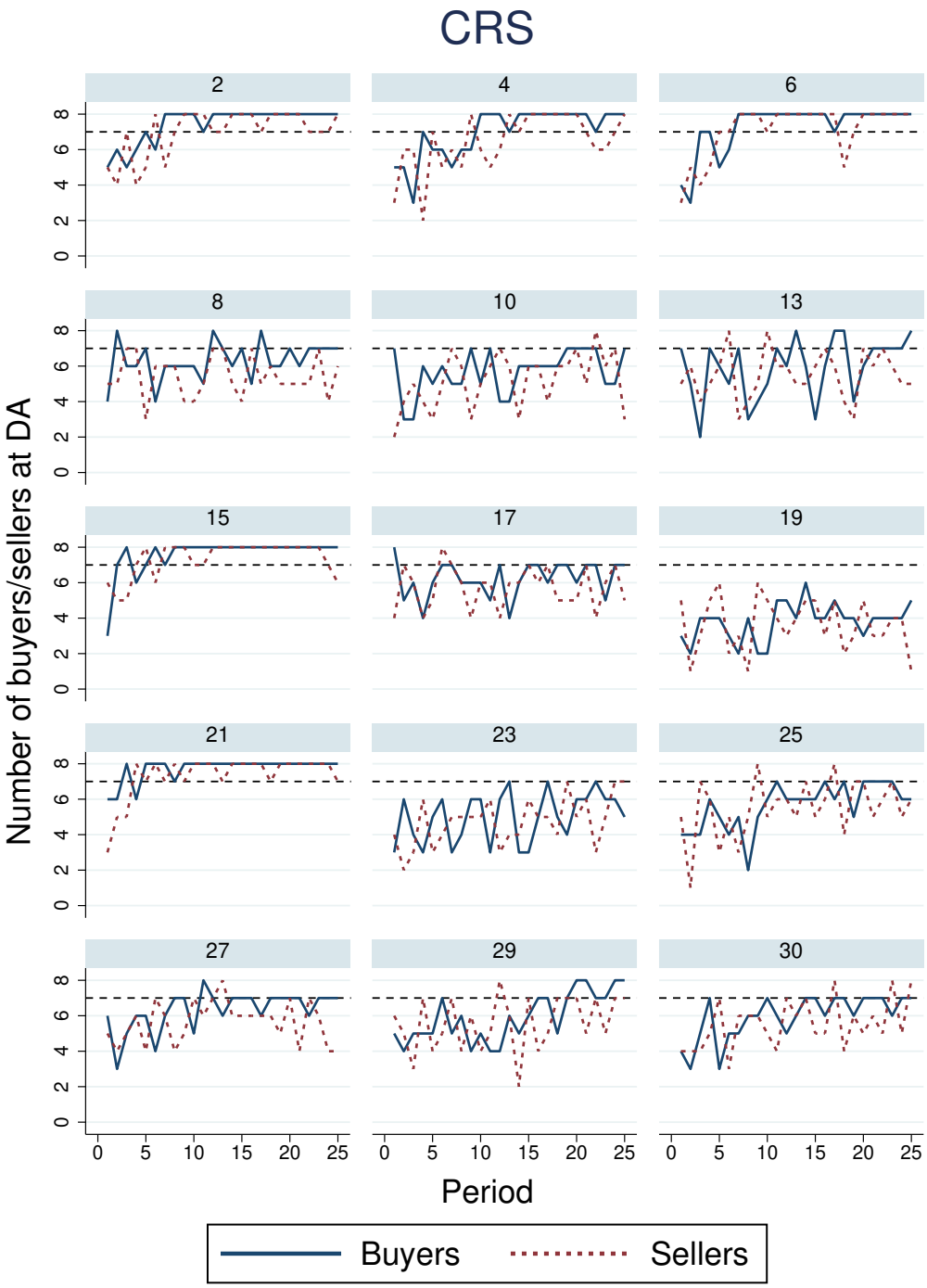



Figure A.2: Number of buyers/sellers at DA per period, separately for each individual market observation in CRS.

## Fractional Logit Regressions

Tables A.1, A.2 and A.3 present fractional logit regressions confirming the results obtained from the linear regressions reported in Tables 3, 4 and 5, respectively.

Table A.1: Fractional Logit regressions for DRS.

| | Number of buyers at DA | | Number of sellers at DA | |
|---|---|---|---|---|
| Period | 0.0735*** | 0.0666*** | 0.0971*** | 0.0902*** |
| | (0.0241) | (0.0191) | (0.0346) | (0.0274) |
| L.BSRatioDA | | −0.3049* | | 0.1952 |
| | | (0.1395) | | (0.1617) |
| Constant | 0.8586*** | 1.2445*** | 0.7574*** | 0.5732* |
| | (0.1566) | (0.2596) | (0.1859) | (0.2754) |
| Observations | 375 | 359 | 375 | 359 |
| Markets | 15 | 15 | 15 | 15 |

*Notes:* Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.2: Fractional Logit regressions for CRS.

| | Number of buyers at DA | | Number of sellers at DA | |
|---|---|---|---|---|
| Period | 0.0678*** | 0.0646*** | 0.0400*** | 0.0355*** |
| | (0.0127) | (0.0114) | (0.0106) | (0.0100) |
| L.BSRatioDA | | −0.2898** | | 0.2374** |
| | | (0.0889) | | (0.1147) |
| Constant | 0.5332*** | 0.8752*** | 0.5386*** | 0.3475 |
| | (0.1453) | (0.2336) | (0.1194) | (0.2027) |
| Observations | 375 | 360 | 375 | 360 |
| Markets | 15 | 15 | 15 | 15 |

*Notes:* Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: Fractional Logit regressions for comparison DRS vs CRS.

| | Number of buyers at DA | | Number of sellers at DA | |
|---|---|---|---|---|
| | Rounds 2-9 | Rounds 18-25 | Rounds 2-9 | Rounds 18-25 |
| Period | 0.0968*** | 0.0471 | 0.1061*** | 0.0251 |
| | (0.0309) | (0.0302) | (0.0312) | (0.0249) |
| CRS | -0.4033 | −0.6052 | −0.3294 | −1.0557** |
| | (0.2440) | (0.5039) | (0.2447) | (0.5233) |
| Constant | 0.7169*** | 1.4100*** | 0.4806*** | 1.7312*** |
| | (0.1851) | (0.5460) | (0.1722) | (0.6562) |
| Observations | 240 | 240 | 240 | 240 |
| Markets | 30 | 30 | 30 | 30 |

*Notes:* Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.05$.

## Robustness of regressions

Tables A.4 and A.5 expand on Tables 7 and 8 in the main text, respectively, by adding the dummy PO (whether the trader was at PO in the previous period or not) and the corresponding interactions.

Table A.4: Random effect probit regression on switches for buyers with interactions.

| *Switch* | DRS | | | CRS | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DiffBestPrice | 0.267*** | | 0.233*** | 0.429*** | | 0.445*** |
| | (0.032) | | (0.037) | (0.049) | | (0.055) |
| DiffBestPrice×PO | −0.028 | | 0.027 | −0.112 | | −0.109 |
| | (0.060) | | (0.066) | (0.087) | | (0.095) |
| DifflogRatio | | 0.334*** | 0.122* | | 0.183*** | −0.033 |
| | | (0.055) | (0.064) | | (0.046) | (0.055) |
| DiffLogRatio×PO | | −0.291*** | −0.211** | | −0.100 | −0.012 |
| | | (0.091) | (0.100) | | (0.076) | (0.086) |
| PO | 0.200** | 0.264*** | 0.259*** | −0.114 | −0.051 | −0.114 |
| | (0.095) | (0.097) | (0.099) | (0.085) | (0.086) | (0.089) |
| Period | −0.032*** | −0.036*** | −0.033*** | −0.046*** | −0.051*** | −0.046*** |
| | (0.007) | (0.007) | (0.007) | (0.006) | (0.006) | (0.006) |
| Constant | −0.292*** | −0.480*** | −0.334*** | −0.221** | −0.300*** | −0.209** |
| | (0.099) | (0.107) | (0.104) | (0.094) | (0.095) | (0.096) |
| Observations | 1238 | 1286 | 1238 | 1769 | 1817 | 1769 |

*Notes:* Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Random effect probit regression on switches for sellers with interactions.

| *Switch* | DRS | | | CRS | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| DiffBestPrice | 0.282*** | | 0.169*** | 0.289*** | | 0.080 |
| | (0.052) | | (0.059) | (0.043) | | (0.052) |
| DiffBestPrice×PO | −0.029 | | 0.081 | −0.037 | | 0.170* |
| | (0.082) | | (0.092) | (0.076) | | (0.088) |
| DifflogRatio | | 0.361*** | 0.275*** | | 0.405*** | 0.374*** |
| | | (0.061) | (0.069) | | (0.043) | (0.052) |
| DiffLogRatio×PO | | −0.232** | −0.272** | | −0.309*** | −0.384*** |
| | | (0.096) | (0.109) | | (0.071) | (0.083) |
| PO | 0.045 | 0.140 | 0.123 | −0.046 | 0.059 | 0.057 |
| | (0.100) | (0.103) | (0.106) | (0.074) | (0.076) | (0.077) |
| Period | −0.039*** | −0.034*** | −0.036*** | −0.027*** | −0.019*** | −0.021*** |
| | (0.007) | (0.007) | (0.008) | (0.005) | (0.005) | (0.005) |
| Constant | −0.519*** | −0.665*** | −0.626*** | −0.208** | −0.394*** | −0.350*** |
| | (0.111) | (0.114) | (0.116) | (0.081) | (0.081) | (0.083) |
| Observations | 1237 | 1285 | 1237 | 1773 | 1821 | 1773 |

*Notes:* Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

### Alternative specification of first and last part

In the main text, at various occasions we compared the first part (rounds 2-9) against the last part (rounds 18-25) of the experiment. Arguably, one could have used alternative specifications, for example comparing the first half (rounds 2-13) against the second half (rounds 14-25) of the experiment. In this section, we show that all results presented in the main text (comparing the first part against the third part) are robust to this alternative specification (comparing the first against the second half), with the exception of a few comparisons that were already only marginally significant.

We first consider CRS. Because DA is essentially active in all periods, there is no difference in activity for DA between the two halves (WSR, $N = 15$, $z = -1.000$, $p = 0.317$). On the other hand, PO is active more often in the first half (57.8% of the time) than in the second half (33.9%; WSR, $N = 15$, $z = z = 2.816$, $p = 0.005$). Also the number of buyers and sellers at DA is significantly larger in the first half compared to the second half of the experiment (WSR, buyers: $N = 15$, $z = -3.388$, $p < 0.001$; sellers: $N = 15$, $z = -3.413$, $p < 0.001$).

Now, consider DRS. Again, because in CRS DA is always active in all periods, there is no difference for this platform also for the alternative specification. On the other hand, PO is active marginally more often in the first half (71.1% of the time) than in the second half (59.4%; WSR, $N = 15$, $z = 1.888$, $p = 0.059$). The analogous statement holds for the number of buyers and sellers at DA, which is significantly larger in the first half compared to the second half (WSR, buyers: $N = 15$, $z = -3.411$, $p < 0.001$; sellers: $N = 15$, $z = -2.872$, $p = 0.004$).

Comparing treatments, we have seen that there are on average more buyers and more sellers at DA in DRS than in CRS. This difference was also reflected in the comparison between parts 1 and 3 in the sense that although there was no difference in activity for DA or PO in part 1, in part 3 PO was marginally more active in CRS than in DRS. The analogous analysis using the first and second halves also yields no difference in the first half, but now the comparison for the second misses significance (MWU, $N = 30$, $z = -1.560$, $p = 0.119$). Since activity is a somewhat coarse measure, this may not come as a surprise. Turning to the number of buyers and sellers at DA as a more fine-grained measure of convergence, we replicate our previous findings for sellers with this alternative specification (MWU; first half, $N = 30$, $z = 1.889$, $p = 0.059$; second half, $N = 30$, $z = 2.548$, $p = 0.011$), whereas for sellers the differences fail to reach significance (MWU; first half, $N = 30$, $z = 1.478$, $p = 0.139$; second half, $N = 30$, $z = 1.522$, $p = 0.128$).

Table A.6 displays the results of an linear regressions analogous to Table 5 in the main text, now comparing the first and second halves. We find that our previous finding that the number of sellers at DA is significantly smaller for CRS market observations, but only later in the experiment, is robust to this alternative specification.

Table A.6: Regressions for comparison DRS vs CRS in first and second half.

| | Number of buyers at DA | | Number of sellers at DA | |
|---|---|---|---|---|
| | Rounds 2-13 | Rounds 14-25 | Rounds 2-13 | Rounds 14-25 |
| Period | 0.1219*** | 0.0442*** | 0.1618*** | 0.0204 |
| | (0.0180) | (0.0109) | (0.0186) | (0.0154) |
| CRS | −0.5333 | −0.4278 | −0.6000 | −0.9500** |
| | (0.4269) | (0.4210) | (0.4177) | (0.4476) |
| Constant | 5.4468*** | 6.3720*** | 5.0256*** | 6.7578*** |
| | (0.3462) | (0.3411) | (0.3461) | (0.4014) |
| $R^2$ (overall) | 0.0902 | 0.0403 | 0.1293 | 0.0956 |
| Observations | 360 | 360 | 360 | 360 |
| Markets | 30 | 30 | 30 | 30 |

*Notes:* Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Finally, we consider gains from trade. With the alternative specification the average difference between per capita buyers' and sellers' gains is 7.3 ECUs in the first half and 47.3 in the second half. This difference is statistically significant, replicating our finding in the main text (WSR, $N = 15$, $z = -3.408$, $p < 0.001$). We also confirm that this gap also exists but is smaller in the case of PO (the corresponding average difference in the second half for PO is 20.3, which is smaller than the one of DA; WSR, $N = 15$, $z = 2.726$, $p = 0.006$).

## Online Appendix B Equilibrium outcomes

Tables B.1 and B.2 report the equilibrium price intervals for treatment DRS and CRS, respectively.

| $n$ / $m$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | [50,55] | 40 | 35 | 35 | 35 | [15,35] | 15 | 15 |
| 2 | 60 | [50,55] | 40 | 40 | [35,40] | 35 | 35 | 35 |
| 3 | 65 | 60 | [50,55] | [40,50] | 40 | 40 | 40 | 35 |
| 4 | 65 | 60 | [55,60] | [50,55] | 50 | 40 | 40 | 40 |
| 5 | 65 | [60,65] | 60 | 55 | [50,55] | 50 | 40 | 40 |
| 6 | [65,80] | 65 | 60 | 60 | 55 | [50,55] | 50 | [40,50] |
| 7 | 80 | 65 | 60 | 60 | 60 | 55 | [50,55] | 50 |
| 8 | 80 | 65 | 65 | 60 | 60 | [55,60] | 55 | [50,55] |

Table B.1: Equilibrium price for $n$ buyers and $m$ sellers for DRS.

| $n$ / $m$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 2 | [55,60] | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 3 | [60,65] | [40,55] | 40 | 40 | 40 | 40 | 40 | 40 |
| 4 | 65 | [55,60] | 40 | 40 | 40 | 40 | 40 | 40 |
| 5 | 65 | 60 | 55 | 40 | 40 | 40 | 40 | 40 |
| 6 | [65,80] | [60,65] | [55,60] | [40,55] | 40 | 40 | 40 | 40 |
| 7 | 80 | 65 | 60 | 55 | 40 | 40 | 40 | 40 |
| 8 | 80 | 65 | 60 | [55,60] | 55 | 40 | 40 | 40 |

Table B.2: Equilibrium price for $n$ buyers and $m$ sellers for CRS.

Tables B.3 and B.4 report the largest-possible total trader surplus (maximum gains of trade) for DRS and CRS, respectively.

| $n$ / $m$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 120 | 160 | 185 | 205 | 225 | 245 | 245 | 245 |
| 2 | 150 | 240 | 290 | 320 | 350 | 370 | 450 | 530 |
| 3 | 170 | 275 | 360 | 420 | 450 | 480 | 510 | 535 |
| 4 | 185 | 300 | 400 | 480 | 540 | 580 | 610 | 640 |
| 5 | 200 | 325 | 425 | 520 | 600 | 660 | 710 | 740 |
| 6 | 215 | 340 | 450 | 550 | 640 | 720 | 780 | 840 |
| 7 | 215 | 355 | 475 | 575 | 675 | 760 | 840 | 900 |
| 8 | 215 | 370 | 495 | 600 | 700 | 800 | 880 | 960 |

Table B.3: Maximum possible gains of trade for $n$ buyers and $m$ sellers for DRS.

| $n$ / $m$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 2 | 170 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| 3 | 195 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| 4 | 210 | 340 | 400 | 400 | 400 | 400 | 400 | 400 |
| 5 | 225 | 365 | 470 | 500 | 500 | 500 | 500 | 500 |
| 6 | 240 | 390 | 510 | 600 | 600 | 600 | 600 | 600 |
| 7 | 240 | 405 | 535 | 640 | 700 | 700 | 700 | 700 |
| 8 | 240 | 420 | 560 | 680 | 770 | 800 | 800 | 800 |

Table B.4: Maximum possible gains of trade for $n$ buyers and $m$ sellers for CRS.

# Online Appendix C Trading interface and instructions

## Translated Instructions

*The original instructions were in German. Text in brackets [...] was not displayed to subjects.*

### General

Welcome. This is an experiment on the economics of market decision making. The instructions are simple and if you follow them carefully and make good decisions you might earn a considerable amount of money. Your earnings depend on your decisions and the decisions made by other participants in the experiment.

In this experiment you will earn experimental currency units (ECU). At the end of the experiment all ECU you have earned throughout the experiment will be added up and the sum total will be converted to EURO according to the following exchange rate:

**100 ECU = 1.50 EUR.**

At the end of the experiment, your earnings will be paid to you in cash. Independently of your decisions, you will receive an additional 4 EUR for your participation in the experiment. The experiment will take about two hours.

### Course of the experiment

The experiment consists of two parts, a market experiment and an second part with multiple decision situations. Your earnings in each part are independent of each other. Detailed instructions for each part will be provided at the beginning of each part.

### Instructions for market experiment

The market experiment consists of 2 trial rounds and 25 trading days (rounds), on which you can trade units of a good on two different markets. For this part of the experiment you are randomly assigned to a group of 16 participants (including yourself). Half of this group (8) will act as sellers and the other half (8) will act as buyers. Your role, the role of the other participants and the composition of your group will remain fixed for the entire duration of the market experiment. In particular, each group member either acts always as a seller or always as a buyer. All sellers sell the same good and all buyers can buy only this good.

Each trading day consists of two stages: First, there is a market selection stage and then a trading stage.

In the market selection stage, you can decide on which of the two markets you want to trade. During a trading day you can only trade at a single market, that is, in the

trading stage you can only trade on the market you selected. You can switch the market again in the market selection stage of the next trading day.

In the trading stage, you can trade at your selected market. Each trader (buyer or seller) can trade up to 6 units of the good in every trading stage. That is, on each trading day a seller can sell up to 6 units and a buyer can buy up to 6 units.

There are two markets that differ in the market procedure. In what follows, we will simply refer to those markets as market A and market B.

First, there are two trial rounds so that you can familiarize yourself with the market interface and the details of the trading procedures. In the trial rounds, there is no market selection stage but instead 4 buyers and 4 sellers are automatically assigned to market A in one trial round and to market B in the other trial round.

The trial rounds have no consequences for your earnings in the market experiment. Only the following 25 trading days determine your payoff for the market experiment.

### Course of action for the market selection stage

In the market selection stage, you can choose on which of the two markets, market A or market B, you want to trade during the next trading day. Additionally you are presented with an overview of the results of the previous trading day for both markets. The market selection stage ends automatically after 30 seconds or when all 16 traders have selected a market. The remaining time is shown in the top right corner of the screen (see Figure 1 below). To select market A, simply click the button labeled "Go to market A." To select market B, simply click the button labeled "Go to market B."

If you fail to select a market within 30 seconds, then you can not trade on any market during the next trading day, hence you will earn no profits in that round.

In the market selection stage, the results of the previous trading day are displayed as follows (see Figure 1 below):

- In the upper left part of the screen, you can see the number of buyers, the number of sellers, the average price per unit traded, the average traded quantity per buyer and the average traded quantity per seller, separately for each market.
- The upper right part of the screen shows a price-quantity histogram, which shows the prices of all traded units and their frequency, separately for each market.
- In the lower left part of the screen you can see an overview of your own results of the previous trading day, that is, the prices of all your traded units as well as your profit for that trading day.

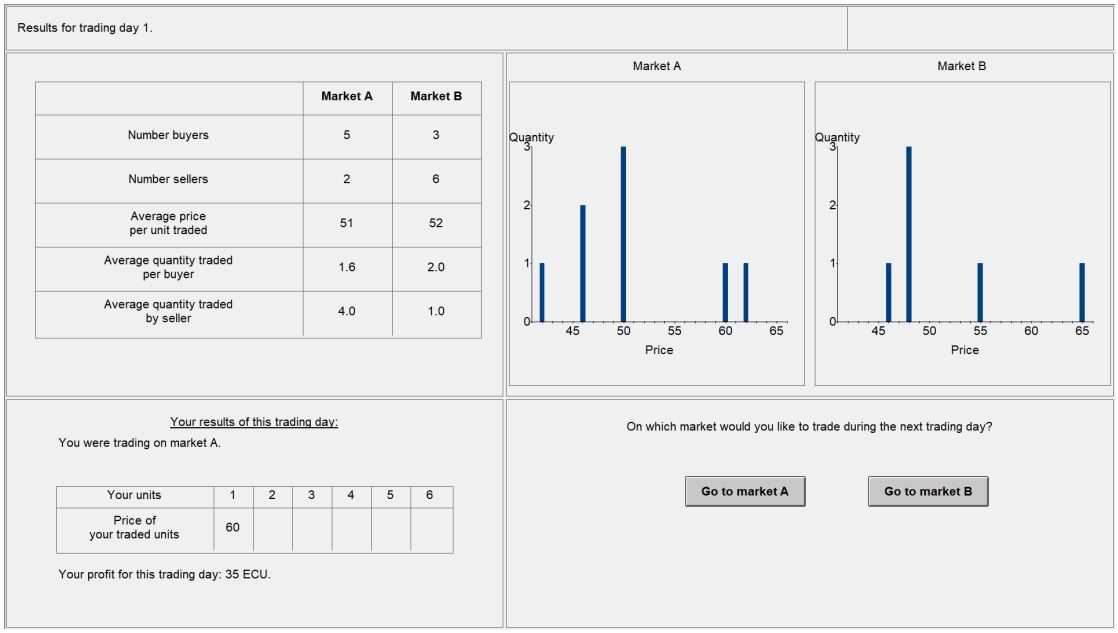



Figure 1. Example of market selection stage.

## Specific instructions for buyers

*[We present the instructions for buyers. The instructions for sellers were framed analogously. Instructions only differ in the description of market B, hence we provide both versions in that case.]*

For the entire duration of the market experiment you are acting as a **BUYER**.

As a buyer, you can buy up to 6 units on each trading day. For each unit that you buy on a trading day you will receive a certain amount of ECU. You can see this resale value of a unit in the lower left part of the trading screen in the table "Resale values." We now explain how to read this table.

| Resale values | |
|---|---|
| Resale value of 1st unit | 190 |
| Resale value of 2nd unit | 170 |
| Resale value of 3rd unit | 150 |
| Resale value of 4th unit | 140 |
| Resale value of 5th unit | 130 |
| Resale value of 6th unit | 110 |

For the first unit that you sell on a trading day you receive the amount listed in the first row of the table labeled "Resale value of 1st unit." For the second unit that you sell on a trading day, you receive the amount listed in the second row labeled "Resale value of the 2nd unit," and so on. The values in this table only serve as an illustration and the actual values in the experiment will be different from those. The values in this table may change from trading day to trading day.

Your profit for each traded unit is the difference between the resale value of that unit and the price at which you have bought that unit.

Profit of a traded unit = Resale value of that unit - Price of that unit

*Example:* Suppose the resale values of the first and second unit are 190 and 170, respectively, as illustrated in the table above. For simplicity, in this example we only consider two units. If you buy the first unit at a price of 150 and the second unit at a price of 140, then your profit is as follows:

- Profit of the first unit $= 190 - 150 = 40$
- Profit of the second unit $= 170 - 140 = 30$

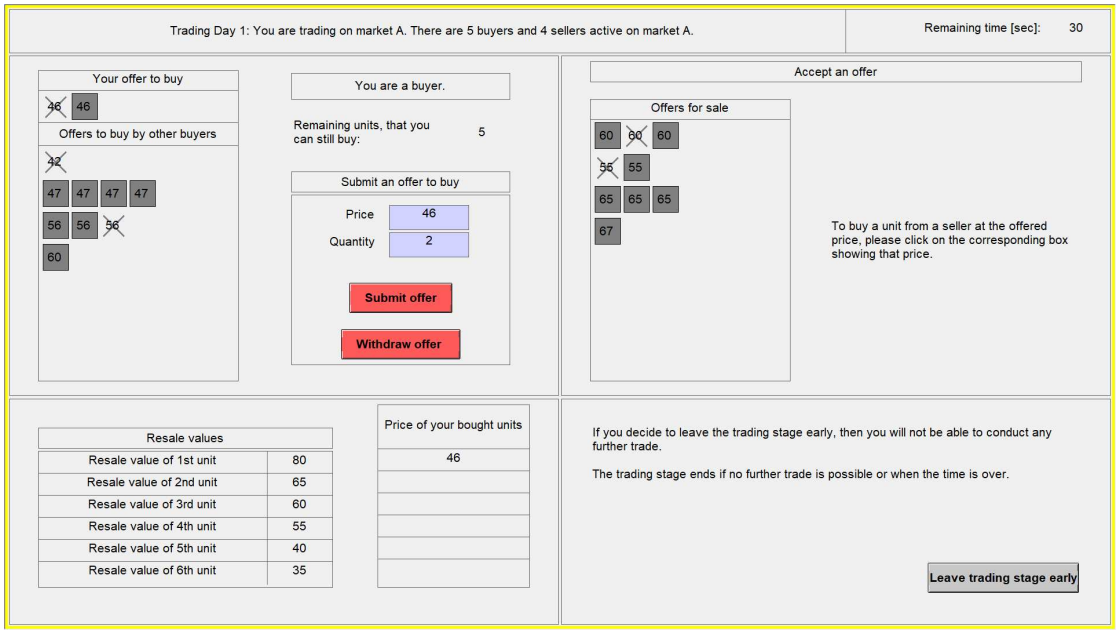
On the following pages, we will detail the trading procedure on market A and market B using exemplary figures. Of course, the exact numbers are only examples and the actual numbers you will encounter latter on in the experiment will be different from those. However, the structure and layout of the screen will be the same in the actual experiment.

**Trading procedure on market A [buyers]**

A trading phase on market A can last up to 90 seconds. The remaining time is shown in the top right corner of the screen (see Example A below). The trading phase ends automatically when the time is up or when no further trade is possible (e.g. because all buyers have left the trading phase).

At market A, buyers and sellers can make offers and accept offers of other traders during the entire trading phase. At market A, as a buyer you have two ways to trade: First, you can submit an offer to buy. Sellers can then accept your offer and trade units with you at the price you offered to buy. Second, you can accept open offer for sale of a seller and in that way buy units at the offered price.

Each trader can only have one active offer, that is, you cannot have multiple active offers at the same time. You can submit a new offer at any time. In that case, your current offer will be replaced by the new offer. Additionally, you can withdraw a standing offer by pressing the "Withdraw offer" button.




Example A. Trading interface for market A.

**How can I accept an active offer for sale?**

Active offers for sale are shown in the upper right part of the trading interface. Each row shows the active offers for sale of one particular seller, where the order of sellers is random. The number of boxes shows the number of units that are offered, that is, each box represents an offer for sale for a single unit. You can buyer an offered unit from a seller by clicking on the corresponding box. A unit that is still available is shown as a gray box. Already traded units are crossed out to indicate that they are not available anymore for trade.

You can only accept an offer for sale if you can buy that unit without making losses. Here, previous profits during the same trading day are also taken into account, that is, the sum of the resale value of the next unit and your previous profits needs to be larger than the price of the unit you want to buy.

**How can I submit an offer to buy?**

You and all other buyers can submit an offer to buy. An overview of all active offers to buy is shown in the upper left part of the trading interface. Your own active offer is shown in the first row. The active offers of other buyers are shown directly below in random order. An offer consists of a price and a quantity (number of units) that you want to buy at that price. In the field "Submit an offer to buy" you can enter a price and a quantity and submit your offer by pressing the "Submit offer" button. You can only enter prices that are positive integer values, that is a price of 152 is possible but not a price of 152.5. On each trading day, you can not trade more than 6 units, that is, if you have already bought 2 units, then you can only submit offers with a quantity of at most 4.

**Which offers to buy are valid?**

You can only submit an offer, if you can buy all offered units at the offered price without making losses. Here, previous profits are taken into account, that is, an offer is valid if the sum of the resale values for all offered units and your previous profits is larger than the price of buying all offered units at the offered price (quantity times price).

**What happens to my current active offer if I accept an offer for sale by a seller?**

If you have submitted an offer to buy and afterwards you accept an offer by a seller by clicking on a unit (gray box), then it will be automatically checked whether your current offer is still valid. If it is not valid anymore, but would be valid with a lower quantity, then the quantity of your offer is automatically reduced accordingly. If there is no offer with that price that is valid, then you offer will be withdrawn automatically.

**Trading procedure on market B [buyers]**

At market B, only sellers can make offers and only buyers can accept active offers for sale made by selles. At market B, as a buyer you can only accept active offers.

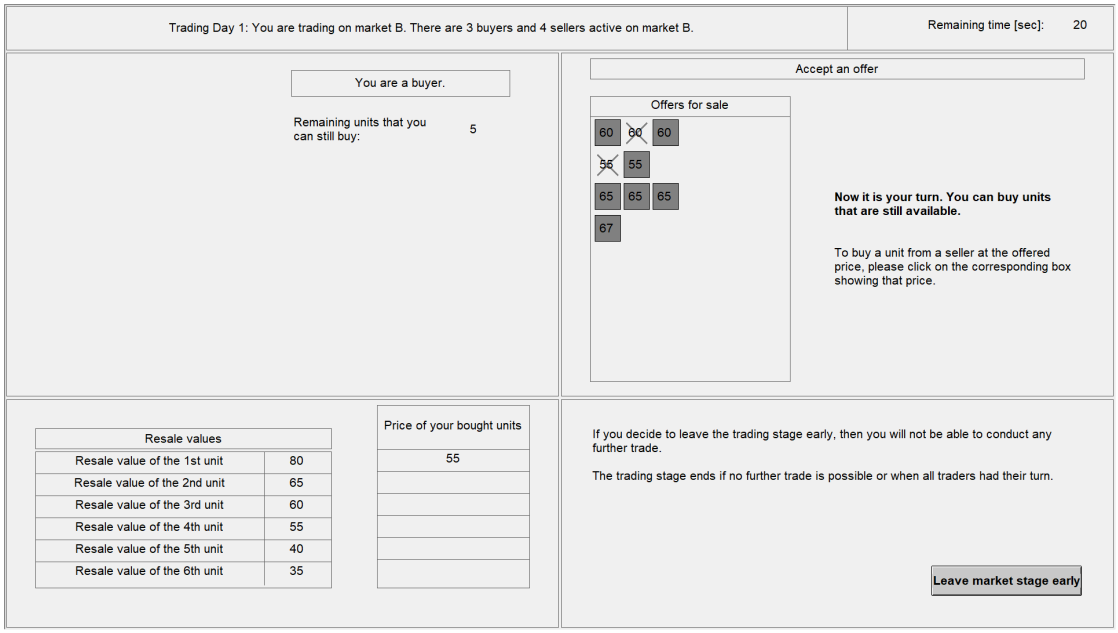
First, all sellers simultaneously submit an offer for sale within 20 seconds. At market B, you and all other buyers are passive during that time. Afterwards, you and all other buyers are informed about all submitted offers for sale.

Next, you and the other buyers one after the other have the opportunity to buy units that were offered by the sellers. The order in which buyers take turns is determined randomly. The first buyer, can choose up to 6 units that he wants to buy from all submitted offers. Once the time is up or once the first buyers has traded all 6 units, it is the second buyer's turn, who also can buy up to 6 units. And so on. The trading phase ends if all buyers had their turn, or if all offered units were bought.

When it is your turn, you have 20 seconds to buy still available units. The remaining time is shown in the top right corner of the screen (see Example B below). If you do not buy any unit before the time is up, then you will make no profits on that trading day.

**How can I accept an active offer for sale?**

You can accept an offer for sale exactly as in market A (see above).




Example B. Trading interface for market B.

**Trading procedure on market B [sellers]**

At market B, only sellers can make offers and only buyers can accept active offers for sale made by sellers. At market B, as a seller you can only submit offers for sale.

First, you and all other sellers simultaneously submit an offer for sale within 20 seconds. At market B, buyers are passive during that time. The remaining time is shown in the top right corner of the screen (see Example B below). During that time you can change your offer at any time and submit a new offer with a different price and/or quantity. Your current offer is replaced by the new offer. Additionally, within the time limit you can withdraw your offer by pressing the "Withdraw offer" button.

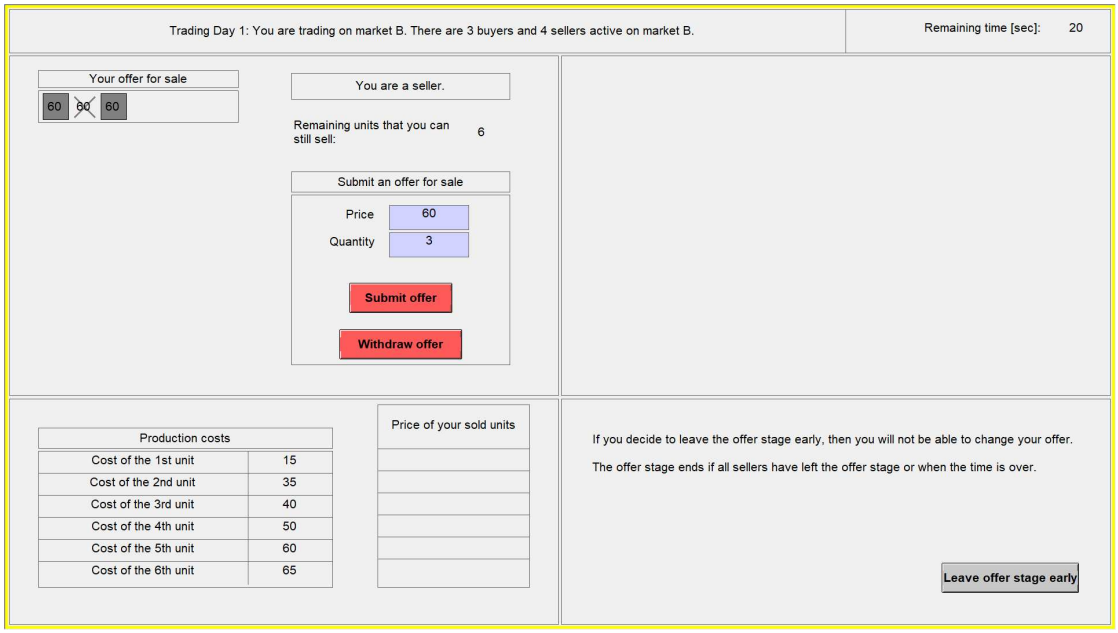
When the time is up, your current offer is submitted automatically. Once it is submitted you will not be able to change your offer during that trading day. In case you have not submitted an offer within the time limit or you have withdrawn your offer and not submitted a new offer, then you will make no profits on that trading day.

Once the time is up, buyers are informed about all submitted offers for sale. Then one after the other buyers have the opportunity to buy units that were offered for sale. The order in which buyers take turns is determined randomly. As a seller you can monitor trade on market B but remain passive. The trading phase ends if all buyers had their turn, or if all offered units were bought.

When it is your turn, you have 20 seconds to buy still available units. The remaining time is shown in the top right corner of the screen (see Example B below). If you do not buy any unit before the time is up, then you will make no profits on that trading day.

**How can I submit an offer for sale?**

You can submit an offer exactly as in market A (see above).




Example B. Trading interface for market B.

### Payoffs

We now explain how your earnings in the market experiment are determined. If you bought no unit on a trading day, then your profit for that trading day is zero. Your profit for each unit bought is the difference between the resale value of that unit and the price at which you have bought that unit.

Profit of a traded unit = Resale value of that unit - Price of that unit

Your profit on a trading day is the sum of all your profits from all units you have bought. At the end of the last trading day, your profits from all trading days are added up and converted to EURO (100 ECU = 1.50 EUR). This amount is your payoff for the market experiment.

### Comprehension Questions

Please answer the following comprehension questions to check your understanding of the instructions.

1. Suppose you as a buyer have offered to buy 4 units at a price of 90 and a seller has accepted your offer for two units, that is, you have traded two units at that price. Suppose your resale value for the first and second unit is 130 and 110, respectively (you have not traded any other units so far).

   What is your profit from trading those two units?

2. As a buyer in market A you can

◯ only accept offers.

◯ only submit offers.

◯ accept and submit offers.

3. As a buyer in market B you can

   ◯ only accept offers.

   ◯ only submit offers.

   ◯ accept and submit offers.

4. Suppose in the trading phase you have not selected one of the two markets within the time limit of 30 seconds. In that case, in the next round you will

   ◯ trade at market A.

   ◯ trade at market B.

   ◯ not be able to trade.

# Screenshots of the trading interface

Figure C.1: Interface for market selection stage.

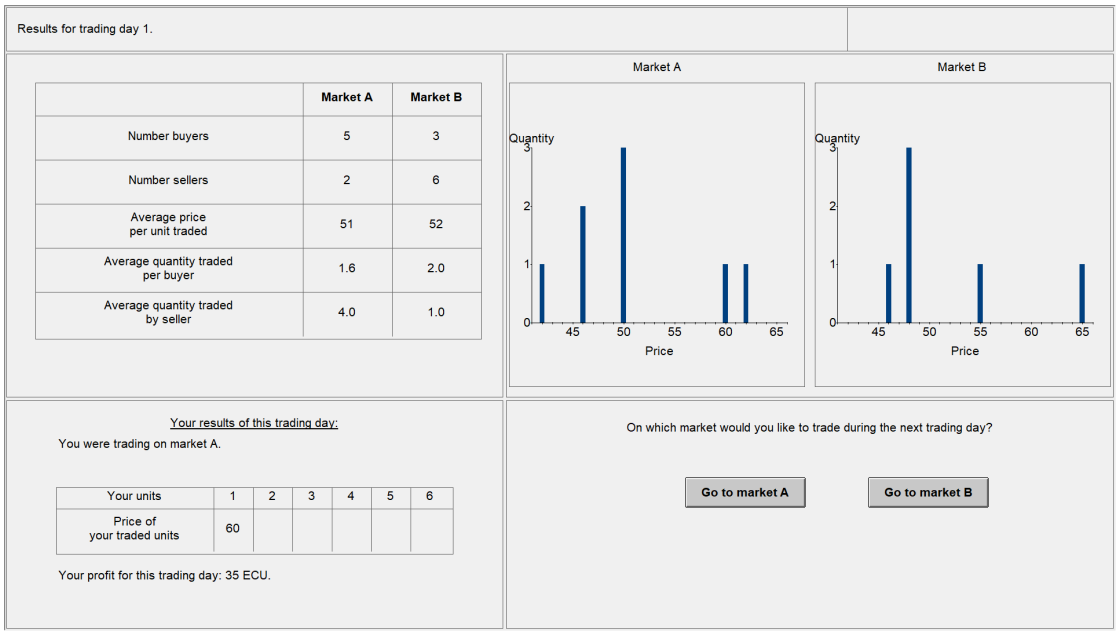



Figure C.2: Interface for double auction institution.

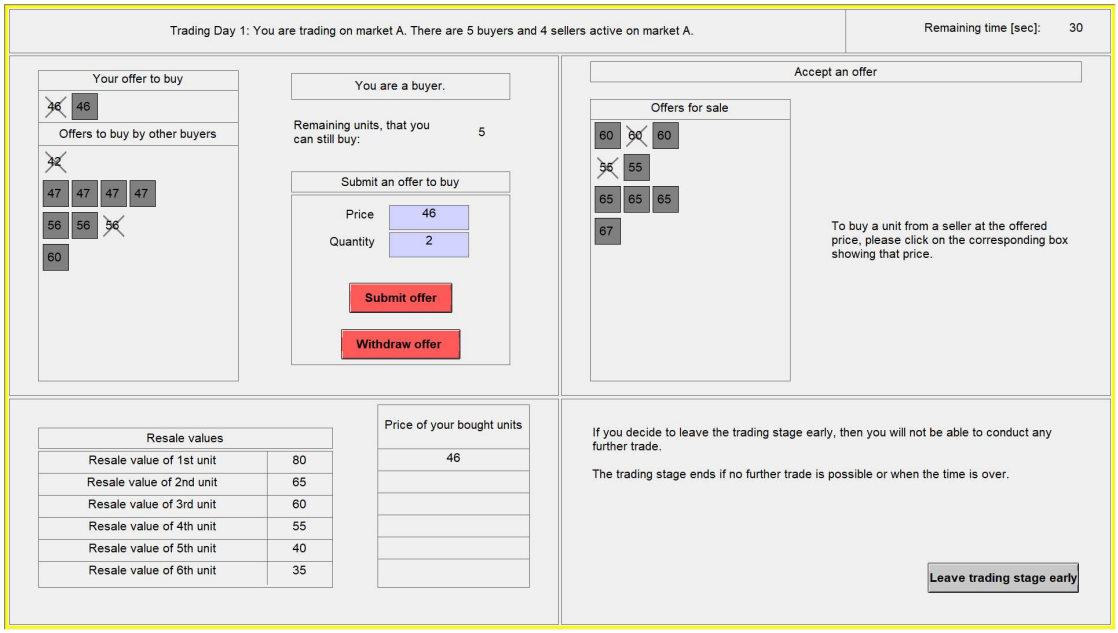


Figure C.3: Interface for posted offer institution. Top: Sellers. Bottom: Buyers.