Online Appendix to
“Decentralized Matching with Transfers: Experimental and Noncooperative Analyses"

By Simin He, Jiabin Wu, Hanzhe Zhang, and Xun Zhu

Appendix

A Theoretical results and experimental instructions

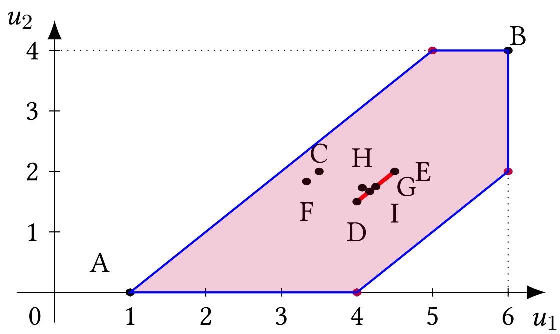
A.1 Examples of the core and alternative cooperative solutions

Consider a balanced market with two men $\{m_1, m_2\}$ and two women $\{w_1, w_2\}$ and an imbalanced market with three men $\{m_1, m_2, m_3\}$ and three women $\{w_1, w_2\}$. Surplus matrices are given by

$$s: \begin{array}{ccc} & w_1 & w_2 \\ m_1 & \underline{\underline{6}} & 5 \\ m_2 & 2 & \underline{\underline{4}} \end{array} \quad \text{and } s': \begin{array}{ccc} & w_1 & w_2 \\ m_1 & \underline{\underline{6}} & 5 \\ m_2 & 2 & \underline{4} \\ m_3 & 2 & \underline{4} \end{array}$$

By our definition, s is not an assortative surplus matrix because the two women are unranked. In this market, the unique stable matching μ^* is $\mu^*(m_1) = w_1$ and $\mu^*(m_2) = w_2$. The core satisfies $u_1 + v_1 = 6$, $u_1 + v_2 \geq 5$, $u_2 + v_2 = 4$, and $u_2 + v_1 \geq 2$, which is equivalent to two expressions that contain only u_1 and u_2: $4 \geq u_1 - u_2$ and $u_1 - u_2 \geq 1$. Taking the individual rationality conditions together, we can depict the core on a graph with u_1 on the x-axis and u_2 on the y-axis. As shown in Figure A1, the entire shaded area is the core. Equal splits $u_1 = v_1 = 3$ and $u_2 = v_2 = 2$ are in the core. Refined solutions differ in this market.

Figure A1: Cooperative solutions for market $s = (6, 5; 2, 4)$



Note. All solutions predict efficient matching. The five points on the boundary are its extreme points (Shapley and Shubik, 1972). A at $(1, 0)$ is the column-optimal allocation; B at $(6, 4)$ is the row-optimal allocation; C at $(3.5, 2)$ is the fair division point (Thompson, 1980); line segment DE from $(4, 1.5)$ to $(4.5, 2)$ is the kernel (Rochford, 1984); F at $(10/3, 11/6)$ is the Shapley value (Shapley, 1953); G at $(17/4, 7/4)$ is the nucleolus (Schmeidler, 1969); H at $(61/15, 26/15)$ is the centroid of the core; and I at $(25/6, 5/3)$ is the median stable matching (Schwarz and Yenmez, 2011).

The imbalanced market s' is generated by adding m_3, a replica of m_2, to the previous balanced market s. In this new market, there is no unique stable matching because w_2 matches with either m_2 or m_3 in efficient matching. Consider the stable matching $\widetilde{\mu}$ that retains the unique stable matching μ^* of the balanced market s in the previous example: $\widetilde{\mu}(m_1) = w_1$ and $\widetilde{\mu}(m_2) = w_2$, $\widetilde{\mu}(m_3) = \emptyset$. The core of the imbalanced market satisfies $u_1 + v_1 = 6$, $u_1 + v_2 \geq 5$, $u_2 + v_2 = 4$, $u_2 + v_1 \geq 2$ and three new conditions: $u_3 + v_1 \geq 2$, $u_3 + v_2 \geq 4$, and $u_3 = 0$. These conditions pin down $u_1 \in [1, 4]$ and $u_2 = 0$, which correspond to the bottom line of the shaded area (the core of the balanced market) in Figure A1. In general, introducing an additional player to the market shrinks the core. Competition between m_2 and m_3 not only drives m_2's core payoff to 0, but also restricts the set of core payoffs for m_1.

A.2 Experiment instructions

Experimental instructions are in Chinese. We present the English translation for balanced markets in the first wave of the experiment. The instructions for imbalanced markets and ones in the second wave of the experiment are appropriately modified. Figure A2 presents a screenshot of the experiment.

Figure A2: A (translated) screenshot of the experiment

Instructions for balanced markets

Welcome page

Welcome to this experiment on decision-making. Please read the following instructions carefully.

This experiment will last about two hours. During the experiment, do not communicate with other participants in any way. If you have any questions at any time, please raise your hand, and an experimenter will come and assist you privately.

At the beginning of the experiment, you will be randomly assigned to a group of six participants, and this is fixed throughout the experiment. Each participant sits behind a private computer, and all decisions are made on the computer screen. This is an anonymous experiment: Experimenters and other participants cannot link your name to your desk number, and thus will not know your identity or that of other participants who make the specific decisions.

Payoffs

Throughout the experiment, your earnings are denoted in points. Your earnings depend on your own choices and the choices of other participants. At the end of the experiment, your earnings will be converted to RMB at the following rate: 12 points = 1 RMB. In addition, you will receive 20 RMB as a show-up fee.

This show-up fee is added to your earnings during the experiment. Your total earnings will be paid to you privately at the end of the experiment.

There are three cold colors and three warm colors in experimental roles. Cold colors are Blue, Cyan, and Green. Warm colors are Pink, Red, and Yellow. In each of the matching games (there are 28 games in total), each of the six participants will be randomly assigned one of the six role colors. In these matching games, a cold color can only be matched with a warm color, and vice versa. Two cold colors and two warm colors cannot be matched. For example, a Cyan can match with a Pink (if they both want to).

When a cold color is matched with a warm color, they can share their total earnings. The total earnings of the two colors are depicted in the table below. In this table, you can see that a Blue and a Yellow can share total earnings of 10 points. That is, their total earnings must equal 10.

	w_1	w_2	w_3
m_1	50	20	10
m_2	20	30	60
m_3	30	50	20

Matching Stage

In order to reach a match, all of the six participants will go through a short matching stage that lasts for 3 minutes.

Proposing. Each participant can propose to any of the other three colors on the opposite side of the market. When proposing to someone, you can first click that color on the screen, and decide how you want to share the total earnings.

For example, if the Red (proposer) wants to propose to the Green (receiver), the Red has to decide how to allocate the total 60 points between them. Once the proposal is made, the Green will receive a notification of the proposal on his or her private information board. The notification contains all of the information about the proposal (who proposes and how many points each gets). Note that except for the Green (the receiver of the proposal), other people will not receive any information about this proposal.

Accepting/rejecting proposals. When a proposal is made from a proposer to a receiver, the receiver has 30 seconds to either accept or reject the proposal.

If the receiver rejects the proposal within 30 seconds or does not accept it within 30 seconds, this proposal is no longer valid and will disappear on the receiver's private information board.

If the receiver accepts the proposal within 30 seconds, a temporary match between the receiver and the proposer is made. Once a temporary match is made, a matching posting will appear on the public information board with full information (who matched and how many points each gets).

Before the receiver decides to accept or reject a proposal (and before the 30 seconds are over), the proposer of this proposal is not able to make any proposals to any other colors (or to make a new proposal to the same receiver); however, the proposer of this proposal can accept a proposal from others. In this case, his or her previous proposal becomes invalid.

Moreover, it is possible that one participant receives multiple proposals from different proposers at the same time. In this case, the receiver can choose to accept at most one proposal (or reject all of them).

Temporary match. Once a temporary match is made, the two people in this match are still able to make proposals to others, and they can also receive proposals from other proposers.

In the former case, if one's new proposal is accepted, then the previous temporary match is ended, and a new temporary match is formed. In this case, the person who was previously matched with him or her will be notified, and the matching posting will be updated on the public board.

As long as the matching stage has not ended, one can always break his or her current temporary match by forming a new temporary match (by proposing and accepting, or by accepting another proposal). One cannot break a current temporary match without forming a new match. If one is passively broken up with by someone within the last 15 seconds, he or she will be granted 15 seconds to make new proposals to others. This process of adding 15 additional seconds continues until no new proposal is accepted.

Permanent match. When the matching stage ends at the 3-minute mark, all of the temporary matches at the end of the matching stage become permanent. All participants with a permanent match will receive the points allocated to him or her in the match (as made by the proposers), and all of the remaining participants are unmatched, and will receive zero points. Once everyone receives his or her points, the game is finished.

Repetition

In this experiment, you will play four different matching games. In each of the matching games the procedures are the same; the only difference is the game payoff. The game payoff matrix will be shown to you once a new game is being played. Each of the matching games will be repeated for 7 rounds. Therefore, there are 28 rounds in total for the entire experiment. Throughout the 28 rounds, you will stay in the same group of six participants. Before the start of the 28 rounds, you will also have the opportunity to play one practice round. The goal of the practice round is to let you get familiar with the procedure; the points you receive in this round will not be included in your final earnings.

All of the six participants in a group can also see the matching results from past rounds. The matching results contain information about which colors are matched with each other and the number of points they earned in the match.

Earnings

At the end, you will receive the sum of the 240 points (endowed in the beginning) and the points from each round. Your total earnings in the experiment are equal to the total points divided by 12.

B Robustness checks

This section contains robustness checks of main empirical results and additional experimental results.

B.1 Experimental results

Table B1 reports additional tests of hypotheses on aggregate outcomes of matching and payoffs. Table B2 presents the Wilcoxon signed-rank test for payoffs of matched players with predicted zero core payoffs in imbalanced markets, and Table B3 presents the t-tests for their payoffs. Tables B4a and B4b show the average payoffs of matched players in efficient matching in balanced markets in waves 1 and 2, respectively, and their comparison to cooperative solutions. Table B6 shows the comparison for imbalanced markets.

Table B1: Additional tests of hypotheses on aggregate outcomes: wave 1 and wave 2

(a) Additional tests of hypotheses on aggregate outcomes: wave 1

	EA6	EM6	NA6	NM6	EA7	EM7	NA7	NM7
2a': # efficiently matched pairs=3	2.86**	2.87**	2.41***	2.08***	2.64***	2.71***	2.48***	2.39***
given full matching	(3.22)	(3.55)	(6.06)	(5.75)	(5.10)	(4.43)	(5.95)	(5.73)
2b': efficient matching=1	0.93**	0.94**	0.72***	0.62***	0.75***	0.80***	0.69***	0.66***
given full matching	(3.22)	(3.55)	(6.27)	(5.80)	(5.60)	(3.90)	(6.80)	(5.33)
2c': % surplus achieved=1	1.00**	1.00**	0.98***	0.97***	0.97***	0.97**	0.96***	0.96***
given full matching	(3.22)	(3.55)	(4.75)	(5.63)	(5.78)	(2.93)	(4.38)	(4.60)
3b: stable10 outcome=1	0.83***	0.74***	0.41***	0.23***	0.40***	0.09***	0.13***	0.35***
	(4.58)	(6.70)	(11.68)	(25.00)	(11.02)	(34.94)	(28.18)	(13.23)
3a': stable outcome=1	0.86***	0.69***	0.10***	0.12***	0.00	0.00	0.00	0.00
given full matching	(4.95)	(6.91)	(31.59)	(22.23)	(.)	(.)	(.)	(.)
3b': stable10 outcome=1	0.93**	0.94**	0.69***	0.56***	0.41***	0.10***	0.15***	0.50***
given full matching	(3.22)	(3.55)	(6.16)	(6.55)	(10.92)	(31.83)	(23.48)	(7.10)
3a": stable outcome=1	0.92**	0.74***	0.14***	0.21***	0.00	0.00	0.00	0.00
given efficient matching	(3.37)	(5.95)	(20.88)	(10.69)	(.)	(.)	(.)	(.)
3b": stable10 outcome=1	1.00	1.00	0.94	0.91*	0.54***	0.13***	0.22***	0.73**
given efficient matching	(.)	(.)	(1.32)	(2.42)	(6.98)	(24.48)	(14.99)	(3.62)
clusters	26	26	26	26	20	20	20	20

Stars indicate statistically significant differences between canonical theoretical predictions and experimental observations: * p<0.05, ** p<0.01, *** p<0.001; *t* statistics in parentheses; standard errors clustered at group level

(b) Additional tests of hypotheses on aggregate outcomes: wave 2

	EA6	EM6	NA6	NM6	EA7	EM7	NA7	NM7
2a': # efficiently matched pairs=3	2.96	2.96	2.06**	2.16*	2.50**	2.54***	2.42***	2.88
given full matching	(1.00)	(1.00)	(4.19)	(2.92)	(4.25)	(5.92)	(5.30)	(1.96)
2b': efficient matching=1	0.98	0.98	0.57**	0.64*	0.70**	0.71***	0.66***	0.94
given full matching	(1.00)	(1.00)	(4.22)	(3.15)	(4.51)	(7.66)	(5.67)	(1.96)
2c': % surplus achieved=1	1.00	1.00	0.96*	0.98*	0.98**	0.96***	0.97**	1.00
given full matching	(1.00)	(1.00)	(3.19)	(2.73)	(3.66)	(5.59)	(3.58)	(1.96)
3b: stable10 outcome=1	0.96	0.96	0.42***	0.34***	0.58***	0.38***	0.40***	0.78*
	(1.50)	(1.50)	(6.33)	(8.34)	(6.68)	(6.15)	(7.61)	(3.16)
3a': stable outcome=1	0.88	0.76**	0.18***	0.05***	0.02***	0.00	0.04***	0.04***
given full matching	(1.77)	(3.76)	(9.87)	(19.00)	(49.00)	(.)	(24.00)	(36.00)
3b': stable10 outcome=1	0.98	0.98	0.48***	0.50**	0.60***	0.38***	0.40***	0.80*
given full matching	(1.00)	(1.00)	(5.34)	(4.39)	(6.21)	(6.15)	(7.61)	(2.74)
3a": stable outcome=1	0.90	0.77**	0.24***	0.06***	0.05***	0.00	0.04***	0.04***
given efficient matching	(1.46)	(3.66)	(7.39)	(17.00)	(19.00)	(.)	(24.00)	(36.00)
3b": stable10 outcome=1	1.00	1.00	0.82*	0.72	0.86*	0.51**	0.59**	0.85*
given efficient matching	(.)	(.)	(2.37)	(2.24)	(2.28)	(3.82)	(4.15)	(2.35)
clusters	10	10	10	10	10	10	10	10

Stars indicate statistically significant differences between canonical theoretical predictions and experimental observations: * p<0.05, ** p<0.01, *** p<0.001; *t* statistics in parentheses; standard errors clustered at group level

Table B2: Wilcoxon signed-rank test for payoffs of matched players with predicted zero core payoffs in imbalanced markets

(a) Wilcoxon signed-rank tests for payoffs of matched players with predicted zero core payoffs in imbalanced markets: wave 1

role	#clusters	probability Ho
EA7w1	20	9.54e-07
EA7w4	20	9.54e-07
EM7w3	20	9.54e-07
EM7w4	20	9.54e-07
NA7w1	20	9.54e-07
NA7w4	20	9.54e-07
NM7w3	19	1.91e-06
NM7w4	20	9.54e-07

We average payoffs of each group and test Ho: median=0 vs Ha: median>0

(b) Wilcoxon signed-rank tests for payoffs of matched players with predicted zero core payoffs in imbalanced markets: wave 1

role	#clusters	probability Ho
EA7w1	10	.0009766
EA7w4	9	.0078125
EM7w3	10	.0009766
EM7w4	10	.0009766
NA7w1	10	.0009766
NA7w4	10	.0009766
NM7w3	10	.0019531
NM7w4	10	.0009766

We average payoffs of each group and test Ho: median=0 vs Ha: median>0

Note. In the experiment, w_3 in EA7 is never matched in one group in wave 1, and w_4 in EA7 is never matched in one group in wave 2, so the number of clusters is 19 and 9, respectively.

Table B3: T-tests for payoffs of matched players with predicted zero core payoffs in imbalanced markets

(a) T-tests for payoffs of matched players with predicted zero core payoffs in imbalanced markets: wave 1

	data	core	t-stat	#clusters	CI
EA7w1	9.57	0	16.467***	20	8.43,10.71
EA7w4	8.23	0	15.022***	20	7.16,9.30
EM7w3	14.15	0	15.121***	20	12.31,15.98
EM7w4	14.62	0	22.240***	20	13.33,15.91
NA7w1	13.77	0	15.787***	20	12.06,15.47
NA7w4	13.87	0	17.056***	20	12.27,15.46
NM7w3	8.17	0	10.823***	19	6.69,9.65
NM7w4	7.82	0	10.267***	20	6.33,9.31

t statistics in parentheses
standard errors clustered at group level
* p<0.05, ** p<0.01, *** p<0.001

(b) T-tests for payoffs of matched players with predicted zero core payoffs in imbalanced markets: wave 2

	data	core	t-stat	#clusters	CI
EA7w1	5.06	0	7.652***	10	3.76,6.36
EA7w4	5.38	0	3.754**	9	2.57,8.19
EM7w3	9.07	0	5.959***	10	6.09,12.06
EM7w4	11.25	0	4.130**	10	5.91,16.58
NA7w1	7.75	0	5.170***	10	4.81,10.68
NA7w4	8.98	0	5.997***	10	6.05,11.92
NM7w3	2.91	0	4.222**	10	1.56,4.25
NM7w4	5.75	0	3.541**	10	2.57,8.94

t statistics in parentheses
standard errors clustered at group level
* p<0.05, ** p<0.01, *** p<0.001

Note. In the experiment, w_3 in EA7 is never matched in one group in wave 1, and w_4 in EA7 is never matched in one group in wave 2, so the number of clusters is 19 and 9, respectively.

Table B4: T-tests for payoffs of matched players in efficient matching in balanced markets

(a) T-tests for payoffs of matched players in efficient matching in balanced markets: wave 1

	data mean	our model	Shapley value (Shapley, 1953)	nucleolus (Schmeidler, 1969)	fair division (Thompson, 1980)	median stable matching (Schwarz & Yenmez, 2011)
EA6m1	15.1	15.0	18.2***	15.0	15.0	15.0
		(-0.76)	(39.26)	(-0.76)	(-0.76)	(-0.76)
EA6m2	30.0	30.0	31.3***	30.0	30.0	30.0
		(0.13)	(9.69)	(0.13)	(0.13)	(0.13)
EA6m3	55.1	55.0	50.5***	55.0	55.0	55.0
		(-0.38)	(-28.86)	(-0.38)	(-0.38)	(-0.38)
EA6w1	14.9	15.0	18.2***	15.0	15.0	15.0
		(0.76)	(40.79)	(0.76)	(0.76)	(0.76)
EA6w2	30.0	30.0	31.3***	30.0	30.0	30.0
		(-0.13)	(9.43)	(-0.13)	(-0.13)	(-0.13)
EA6w3	54.9	55.0	50.5***	55.0	55.0	55.0
		(0.38)	(-28.09)	(0.38)	(0.38)	(0.38)
EM6m1	30.4	30.0	31.8***	32.5***	30.0	32.2***
		(-1.26)	(4.93)	(7.20)	(-1.26)	(6.26)
EM6m2	49.7	50.0	45.7***	47.5***	50.0	47.8***
		(1.83)	(-22.16)	(-12.02)	(1.83)	(-10.47)
EM6m3	19.7	20.0	21.8***	20.0	20.0	20.0
		(0.82)	(5.34)	(0.82)	(0.82)	(0.82)
EM6w1	20.3	20.0	18.2***	20.0	20.0	20.0
		(-0.82)	(-5.34)	(-0.82)	(-0.82)	(-0.82)
EM6w2	29.6	30.0	28.2***	27.5***	30.0	27.8***
		(1.26)	(-4.93)	(-7.20)	(1.26)	(-6.26)
EM6w3	50.3	50.0	54.3***	52.5***	50.0	52.2***
		(-1.83)	(22.16)	(12.02)	(-1.83)	(10.47)
NA6m1	48.5	50.0***	46.2***	55.0***	50.0***	55.0***
		(3.77)	(-5.63)	(16.05)	(3.77)	(16.05)
NA6m2	29.9	30.0	31.3**	30.0	30.0	30.0
		(0.26)	(3.41)	(0.26)	(0.26)	(0.26)
NA6m3	20.9	20.0	22.5**	15.0***	20.0	15.0***
		(-1.65)	(3.11)	(-11.18)	(-1.65)	(-11.18)
NA6w1	49.1	50.0	46.2***	55.0***	50.0	55.0***
		(1.65)	(-5.65)	(11.18)	(1.65)	(11.18)
NA6w2	30.1	30.0	31.3**	30.0	30.0	30.0
		(-0.26)	(2.89)	(-0.26)	(-0.26)	(-0.26)
NA6w3	21.5	20.0***	22.5*	15.0***	20.0***	15.0***
		(-3.77)	(2.37)	(-16.05)	(-3.77)	(-16.05)
NM6m1	29.1	30.0	28.0*	17.5***	20.0***	18.3***
		(1.59)	(-2.12)	(-21.60)	(-16.97)	(-20.05)
NM6m2	42.0	40.0	31.7***	20.0***	25.0***	20.6***
		(-1.97)	(-10.01)	(-21.27)	(-16.45)	(-20.73)
NM6m3	27.6	30.0**	27.7	22.5***	20.0***	22.8***
		(3.34)	(0.11)	(-7.05)	(-10.52)	(-6.66)
NM6w1	58.0	60.0	68.3***	80.0***	75.0***	79.4***
		(1.97)	(10.01)	(21.27)	(16.45)	(20.73)
NM6w2	30.9	30.0	32.0*	42.5***	40.0***	41.7***
		(-1.59)	(2.12)	(21.60)	(16.97)	(20.05)
NM6w3	12.4	10.0**	12.3	17.5***	20.0***	17.2***
		(-3.34)	(-0.11)	(7.05)	(10.52)	(6.66)
clusters	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level
Stars indicate significant differences between data and theory:
* p<0.05, ** p<0.01, *** p<0.001

(b) T-tests for payoffs of matched players in efficient matching in balanced markets: wave 2

	data mean	our model	Shapley vale (Shapley, 1953)	nucleolus (Schmeidler, 1969)	fair division (Thompson, 1980)	median stable matching (Schwarz & Yenmez, 2011)
EA6m1	14.9	15.0	18.2***	15.0	15.0	15.0
		(0.47)	(12.41)	(0.47)	(0.47)	(0.47)
EA6m2	29.9	30.0	31.3***	30.0	30.0	30.0
		(0.58)	(9.59)	(0.58)	(0.58)	(0.58)
EA6m3	55.0	55.0	50.5***	55.0	55.0	55.0
		(0.08)	(-40.14)	(0.08)	(0.08)	(0.08)
EA6w1	15.1	15.0	18.2***	15.0	15.0	15.0
		(-0.47)	(11.46)	(-0.47)	(-0.47)	(-0.47)
EA6w2	30.1	30.0	31.3***	30.0	30.0	30.0
		(-0.58)	(8.44)	(-0.58)	(-0.58)	(-0.58)
EA6w3	55.0	55.0	50.5***	55.0	55.0	55.0
		(-0.08)	(-40.31)	(-0.08)	(-0.08)	(-0.08)
EM6m1	30.3	30.0	31.8**	32.5***	30.0	32.2***
		(-0.87)	(4.64)	(6.66)	(-0.87)	(5.82)
EM6m2	49.2	50.0	45.7***	47.5*	50.0	47.8*
		(1.50)	(-6.56)	(-3.16)	(1.50)	(-2.63)
EM6m3	19.9	20.0	21.8***	20.0	20.0	20.0
		(0.47)	(8.70)	(0.47)	(0.47)	(0.47)
EM6w1	20.1	20.0	18.2***	20.0	20.0	20.0
		(-0.47)	(-8.70)	(-0.47)	(-0.47)	(-0.47)
EM6w2	29.7	30.0	28.2**	27.5***	30.0	27.8***
		(0.87)	(-4.64)	(-6.66)	(0.87)	(-5.82)
EM6w3	50.8	50.0	54.3***	52.5*	50.0	52.2*
		(-1.50)	(6.56)	(3.16)	(-1.50)	(2.63)
NA6m1	48.6	50.0	46.2*	50.0	50.0	55.0***
		(1.64)	(-2.90)	(1.64)	(1.64)	(7.58)
NA6m2	31.3	30.0	31.3	30.0	30.0	30.0
		(-2.18)	(-0.03)	(-2.18)	(-2.18)	(-2.18)
NA6m3	21.8	20.0	22.5	20.0	20.0	15.0***
		(-1.64)	(0.70)	(-1.64)	(-1.64)	(-6.31)
NA6w1	48.2	50.0	46.2	50.0	50.0	55.0***
		(1.64)	(-1.95)	(1.64)	(1.64)	(6.31)
NA6w2	28.7	30.0	31.3**	30.0	30.0	30.0
		(2.18)	(4.33)	(2.18)	(2.18)	(2.18)
NA6w3	21.4	20.0	22.5	20.0	20.0	15.0***
		(-1.64)	(1.32)	(-1.64)	(-1.64)	(-7.58)
NM6m1	25.7	30.0**	28.0*	17.5***	20.0***	18.3***
		(4.69)	(2.50)	(-8.97)	(-6.24)	(-8.05)
NM6m2	39.5	40.0	31.7**	20.0***	25.0***	20.6***
		(0.24)	(-3.54)	(-8.84)	(-6.57)	(-8.58)
NM6m3	22.5	30.0***	27.7**	22.5	20.0	22.8
		(5.65)	(3.90)	(0.01)	(-1.88)	(0.22)
NM6w1	60.5	60.0	68.3**	80.0***	75.0***	79.4***
		(-0.24)	(3.54)	(8.84)	(6.57)	(8.58)
NM6w2	34.3	30.0**	32.0*	42.5***	40.0***	41.7***
		(-4.69)	(-2.50)	(8.97)	(6.24)	(8.05)
NM6w3	17.5	10.0***	12.3**	17.5	20.0	17.2
		(-5.65)	(-3.90)	(-0.01)	(1.88)	(-0.22)
clusters	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level
Stars indicate significant differences between data and theory:
* p<0.05, ** p<0.01, *** p<0.001

Table B5: Payoffs in comparable experiments in the literature

Nalbantian and Schotter (1995)		m1/m2/m3			w1/w2/w3		
surplus matrix	type	theory	efficient	all	theory	efficient	all
(4, 3, 3; 3, 4, 3; 3, 3, 4)	EA6	2	2.21	2	2	1.79	2
Agranov and Elliott (2021)		**m1/w2**			**m2/w1**		
surplus matrix	type	theory	efficient	all	theory	efficient	all
(20, 15; 0 20)	EA4	10	10.0 (0.03)	9.8 (0.12)	10	10.0 (0.03)	9.8 (0.09)
Agranov and Elliott (2021)		**m1/w2**			**m2/w1**		
surplus matrix	type	theory	efficient	all	theory	efficient	all
(20, 25; 0 20)	NA4	7.5	7.5 (0.18)	6.2 (0.35)	12.5	12.3 (0.08)	12.3 (0.16)
Agranov and Elliott (2021)		**m1/w2**			**m2/w1**		
surplus matrix	type	theory	efficient	all	theory	efficient	all
(20, 30; 0 20)	NA4	5	4.9 (0.18)	3.6 (0.05)	15	15.0 (0.14)	14.2 (0.05)
Agranov et al. (2022)		**m1/w1**		**m2/w2**		**m3/w3**	
surplus matrix	type	theory	all	theory	all	theory	all
(8, 16, 24; 16, 32, 48; 24, 48, 72)	EA6	4	4.11 (0.06)	16	16.07 (0.37)	36	35.86 (0.1)
(8, 32, 56; 32, 48, 64; 56, 64, 72)	NA6	16	16.07 (0.37)	24	23.81 (0.25)	40	38.87 (0.45)

Note. We report results from the CIEA setting in Nalbantian and Schotter (1995), Experiment III in Agranov and Elliott (2021), and the complete-information setting in Agranov et al. (2022). We report the surplus matrices used in the experiments, their types according to our categorization of assortativity, ESIC, and number of players, and their average payoffs in all and/or efficient matches, with standard errors in parentheses whenever they are reported. Agranov et al. (2022) do not separate efficient matches from all matches, possibly because of the high efficiency achieved in their complete-information part of the experiment, while the other two papers do.

Table B6: Proportion of instances in predicted payoff ranges of matched players in imbalanced markets

(a) Proportion of instances in predicted payoff ranges of matched players in imbalanced markets: wave 1

	our model		
	proportion in predicted range our model	proportion in predicted range core	#obs
EA7m1	0.97	0.00	138
EA7m2	0.80	0.04	134
EA7m3	0.69	0.12	138
EA7w1	0.93	0.00	85
EA7w2	0.80	0.09	118
EA7w3	0.73	0.14	133
EA7w4	0.97	0.01	74
EM7m1	0.84	0.00	139
EM7m2	0.71	0.02	129
EM7m3	0.55	0.55	121
EM7w1	0.61	0.61	131
EM7w2	0.80	0.08	108
EM7w3	0.92	0.00	76
EM7w4	0.86	0.01	74
NA7m1	0.77	0.07	131
NA7m2	0.57	0.04	134
NA7m3	0.97	0.00	136
NA7w1	0.94	0.00	85
NA7w2	0.78	0.06	124
NA7w3	0.66	0.08	119
NA7w4	0.93	0.00	73
NM7m1	0.53	0.53	124
NM7m2	0.52	0.80	112
NM7m3	0.80	0.01	133
NM7w1	0.62	0.90	134
NM7w2	0.60	0.60	114
NM7w3	0.81	0.00	57
NM7w4	0.75	0.00	64

(b) Proportion of instances in predicted payoff ranges of matched players in imbalanced markets: wave 2

	our model		
	proportion in predicted range our model	proportion in predicted range core	#obs
EA7m1	0.94	0.06	49
EA7m2	0.94	0.40	50
EA7m3	0.80	0.38	50
EA7w1	0.97	0.03	36
EA7w2	0.87	0.36	45
EA7w3	0.90	0.48	50
EA7w4	1.00	0.17	18
EM7m1	0.90	0.04	50
EM7m2	0.92	0.30	50
EM7m3	0.78	0.78	50
EM7w1	0.86	0.86	49
EM7w2	0.93	0.43	44
EM7w3	0.93	0.03	30
EM7w4	0.93	0.04	27
NA7m1	0.90	0.22	49
NA7m2	0.80	0.22	49
NA7m3	1.00	0.06	49
NA7w1	1.00	0.03	29
NA7w2	0.91	0.22	45
NA7w3	0.86	0.34	44
NA7w4	1.00	0.07	29
NM7m1	0.72	0.72	50
NM7m2	0.61	0.94	49
NM7m3	0.90	0.08	50
NM7w1	0.62	0.94	50
NM7w2	0.76	0.76	49
NM7w3	0.96	0.12	26
NM7w4	0.83	0.04	24

B.2 Determinants of outcomes in balanced markets

To check the robustness of our results regarding Hypothesis 4, we present the results from regressions with alternative dependent variables and alternative specifications: We consider (i) the outcomes of interest directly as dependent variables in addition to their logged values, and (ii) the following specifications, in which specification (1) is the leading specification we presented in the main text.

$$(1) \qquad y_i = \beta_1 \cdot \text{ESIC}_i + \beta_2 \cdot \text{assortative}_i + \beta_3 \cdot \text{ESIC}_i \cdot \text{assortative}_i + \beta_4 \cdot \text{round}_i + \beta_5 \cdot \text{order}_i + c + \varepsilon_g,$$

$$(2) \qquad y_i = \beta_1 \cdot \text{ESIC}_i + \beta_2 \cdot \text{assortative}_i + \beta_3 \cdot \text{ESIC}_i \cdot \text{assortative}_i + \beta_4 \cdot \text{round}_i + \beta_5 \cdot (\text{treat}_i = 2) + \beta_6 \cdot (\text{treat}_i = 3) + \beta_7 \cdot (\text{treat}_i = 4) + c + \varepsilon_g,$$

$$(3) \qquad y_i = \beta_1 \cdot \text{ESIC}_i + \beta_2 \cdot \text{assortative}_i + \beta_3 \cdot \text{ESIC}_i \cdot \text{assortative}_i + \beta_4 \cdot \text{round}_i + \beta_5 \cdot (\text{treat}_i = 2) + \beta_6 \cdot (\text{treat}_i = 3) + \beta_7 \cdot (\text{treat}_i = 4) + c + \varepsilon_g \; \beta_8 \cdot (\text{order}_i = 2) + \beta_9 \cdot (\text{order}_i = 3) + \beta_{10} \cdot (\text{order}_i = 4) + c + \varepsilon_g,$$

where i is the index of a game (out of 728 balanced markets); y_i is the variable of interest or its log transformation; assortative_i is the indicator of whether the market played in the game is assortative; ESIC_i is the indicator of whether the market has ES in the core; round_i is the round (out of 7) the same market has been played; order_i is the order (out of 4) the game is played in; treat_i is the treatment order (out of 4).

Table B7a–B7b presents the results for determinants of the number of matched pairs and its log. All else equal, ESIC increases the number of matches by 0.390 to 0.394 (or by 11.4% to 11.5%) in wave 1 and by 0.260 to 0.270 (or by 7.72% to 8.03%) in wave 2, and assortativity increases the number of matched pairs by 0.181 to 0.189 (or by 5.35% to 5.556%) in wave 1 and by 0.153 to 0.160 (or by 4.64% to 4.84%) in wave 2, depending on whether learning over time is controlled for. The evidence suggests that ESIC plays a more important role than assortativity in determining the number of matches. There is evidence that learning mildly improves the expected number of matches over time. Having played the same game for one more round increases the number of matches by 0.490% in wave 1 and 0.935% (insignificant) in wave 2. Having played another configuration increases the number of matches by 1.39% in wave 1 and 1.59% in wave 2.

Table B7c–B7d presents the results for determinants of the number of efficiently matched pairs. All else equal, ESIC increases the number of efficiently matched pairs by 1.071 to 1.078 (or by 42.4% to 42.6%) in wave 1 and by 1.140 to 1.162 (or by 44.1% to 45.1%) in wave 2, and assortativity increases the number of efficiently matched pairs by 0.374 to 0.388 (or by 14.9% to 15.4%) in wave 1 and by 0.0571 to 0.0600 (or by 1.62% to 1.73%, insignificant) in wave 2, depending on whether learning over time is controlled for.

Table B7e–B7f presents the results for determinants of the surplus. All else equal, ESIC increases surplus by 9.32% to 9.49% in wave 1 and 9.99% to 10.4% in wave 2, and assortativity increases surplus by 3.33% to 3.66% in wave 1 and by 3.95% to 4.21% (insignificant) in wave 2 depending on whether learning is controlled for. There is some gain from learning. Having the same game one more round increases efficiency by 0.526% to 0.847% in wave 1 and 0.743% (insignificant) in wave 2. Having played another configuration increases efficiency by 1.57% in wave 1 and 1.99% in wave 2.

Table B7: Determinants of aggregate outcomes in balanced markets

(a) Determinants of number of matched pairs in balanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	0.394***	0.390***	0.392***	0.115***	0.114***	0.114***
	(7.01)	(7.18)	(7.14)	(7.13)	(7.30)	(7.27)
assortative	0.189***	0.181**	0.188***	0.0556***	0.0535***	0.0556***
	(3.94)	(3.67)	(3.92)	(4.04)	(3.74)	(4.02)
ESIC*assortative	-0.0897	-0.0824	-0.0869	-0.0271	-0.0250	-0.0263
	(-1.28)	(-1.12)	(-1.26)	(-1.36)	(-1.19)	(-1.34)
round	0.0165*	0.0165*	0.0165*	0.00490*	0.00490*	0.00490*
	(2.58)	(2.57)	(2.57)	(2.64)	(2.64)	(2.63)
order	0.0474**			0.0139**		
	(3.38)			(3.39)		
treat=2		-0.0153	-0.0153		-0.00440	-0.00440
		(-0.33)	(-0.32)		(-0.33)	(-0.32)
treat=3		0.0340	0.0340		0.00908	0.00908
		(0.56)	(0.56)		(0.51)	(0.51)
treat=4		0.105*	0.105*		0.0296*	0.0296*
		(2.60)	(2.59)		(2.52)	(2.51)
order=2			0.0863			0.0248
			(1.59)			(1.60)
order=3			0.127*			0.0371*
			(2.39)			(2.41)
order=4			0.145**			0.0423**
			(2.94)			(2.94)
constant	2.208***	2.302***	2.209***	1.156***	1.184***	1.157***
	(39.03)	(64.14)	(39.20)	(68.30)	(114.31)	(69.20)
observations	728	728	728	728	728	728
clusters	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of number of matched pairs in balanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	0.270**	0.260**	0.268**	0.0803**	0.0772**	0.0797**
	(3.53)	(3.48)	(3.80)	(3.40)	(3.38)	(3.65)
assortative	0.160*	0.160	0.153*	0.0484*	0.0484	0.0464*
	(2.65)	(2.02)	(3.06)	(2.70)	(2.04)	(3.15)
ESIC*assortative	-0.201*	-0.180*	-0.196*	-0.0629*	-0.0565*	-0.0617*
	(-2.58)	(-2.81)	(-2.54)	(-2.61)	(-2.87)	(-2.53)
round	0.0325	0.0325	0.0325	0.00935	0.00935	0.00935
	(1.76)	(1.75)	(1.73)	(1.60)	(1.60)	(1.58)
order	0.0516*			0.0159*		
	(2.35)			(2.28)		
treat=2		-0.00833	-0.00833		0.000547	0.000547
		(-0.12)	(-0.12)		(0.03)	(0.03)
treat=3		-0.0917	-0.0917		-0.0254	-0.0254
		(-1.56)	(-1.55)		(-1.30)	(-1.29)
treat=4		-0.0500	-0.0500		-0.0114	-0.0114
		(-0.83)	(-0.83)		(-0.59)	(-0.59)
order=2			-0.00469			-0.00111
			(-0.07)			(-0.06)
order=3			0.0796			0.0258
			(1.52)			(1.51)
order=4			0.144			0.0442
			(2.00)			(1.93)
constant	2.493***	2.663***	2.611***	1.236***	1.285***	1.269***
	(23.27)	(28.04)	(23.25)	(37.69)	(43.70)	(34.77)
observations	200	200	200	200	200	200
clusters	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Determinants of number of efficiently matched pairs in balanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	1.078***	1.071***	1.076***	0.426***	0.424***	0.426***
	(10.28)	(10.11)	(10.28)	(10.35)	(10.30)	(10.28)
assortative	0.387**	0.374**	0.388**	0.153**	0.149*	0.154**
	(3.02)	(2.81)	(3.07)	(2.92)	(2.75)	(2.94)
ESIC*assortative	-0.261	-0.247	-0.256	-0.115	-0.110	-0.113
	(-1.82)	(-1.58)	(-1.81)	(-2.04)	(-1.84)	(-2.04)
round	0.0553***	0.0553***	0.0553***	0.0206**	0.0206**	0.0206**
	(3.99)	(3.98)	(3.97)	(3.50)	(3.50)	(3.49)
order	0.0878**			0.0294*		
	(2.85)			(2.53)		
treat=2		0.0561	0.0561		0.0278	0.0278
		(0.90)	(0.89)		(1.27)	(1.26)
treat=3		0.116	0.116		0.0441	0.0441
		(1.02)	(1.01)		(1.00)	(1.00)
treat=4		0.211**	0.211**		0.0849**	0.0849**
		(2.84)	(2.84)		(2.88)	(2.87)
order=2			0.142			0.0399
			(1.37)			(0.98)
order=3			0.267			0.0861
			(2.05)			(1.74)
order=4			0.251*			0.0827*
			(2.60)			(2.28)
constant	1.069***	1.205***	1.032***	0.666***	0.705***	0.650***
	(7.79)	(12.12)	(7.54)	(12.08)	(17.55)	(12.52)
observations	728	728	728	728	728	728
clusters	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Determinants of number of efficiently matched pairs in balanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	1.162***	1.140***	1.155***	0.451***	0.441***	0.449***
	(7.18)	(5.93)	(6.94)	(6.46)	(5.23)	(6.15)
assortative	0.0600	0.0600	0.0571	0.0173	0.0173	0.0162
	(0.27)	(0.25)	(0.24)	(0.19)	(0.17)	(0.15)
ESIC*assortative	-0.124	-0.0800	-0.110	-0.0455	-0.0254	-0.0412
	(-0.50)	(-0.35)	(-0.42)	(-0.44)	(-0.25)	(-0.37)
round	0.105*	0.105*	0.105*	0.0388*	0.0388*	0.0388*
	(3.13)	(3.12)	(3.09)	(2.94)	(2.93)	(2.91)
order	0.111			0.0503		
	(1.79)			(2.02)		
treat=2		0.142	0.142		0.0587	0.0587
		(0.79)	(0.79)		(0.82)	(0.81)
treat=3		0.158**	0.158**		0.0655*	0.0655*
		(3.68)	(3.65)		(2.48)	(2.46)
treat=4		-0.175**	-0.175**		-0.0765***	-0.0765***
		(-4.13)	(-4.09)		(-5.02)	(-4.98)
order=2			0.206			0.0767
			(1.00)			(0.82)
order=3			0.151			0.0792
			(0.71)			(0.85)
order=4			0.385			0.167
			(1.73)			(1.85)
constant	1.209***	1.430***	1.246***	0.683***	0.787***	0.707***
	(5.33)	(14.77)	(6.54)	(7.31)	(17.21)	(8.24)
observations	200	200	200	200	200	200
clusters	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(e) Determinants of surplus in balanced markets

	(1)	(2)	(3)	(4)	(5)	(6)
	s	s	s	log(s)	log(s)	log(s)
ESIC	17.02***	16.76***	16.82***	0.0949***	0.0932***	0.0935***
	(5.04)	(5.04)	(4.91)	(4.47)	(4.43)	(4.34)
assortative	6.285*	5.769	5.974*	0.0366*	0.0333	0.0346
	(2.44)	(2.04)	(2.25)	(2.27)	(1.86)	(2.05)
ESIC*assortative	0.185	0.714	0.585	0.00256	0.00600	0.00525
	(0.05)	(0.18)	(0.16)	(0.11)	(0.25)	(0.24)
round	0.821*	1.315***	1.234**	0.00526*	0.00847***	0.00792**
	(2.09)	(3.73)	(3.55)	(2.11)	(3.74)	(3.59)
order	2.409**			0.0157**		
	(3.60)			(3.55)		
treat=2		-1.071	-1.071		-0.00534	-0.00534
		(-0.36)	(-0.36)		(-0.28)	(-0.28)
treat=3		0.765	0.765		0.00209	0.00209
		(0.18)	(0.18)		(0.07)	(0.07)
treat=4		4.932	4.932		0.0275	0.0275
		(2.02)	(2.01)		(1.71)	(1.71)
order=2			-5.503*			-0.0348
			(-2.10)			(-1.97)
order=3			1.195			0.00909
			(0.44)			(0.54)
order=4			2.658			0.0178
			(0.89)			(0.96)
constant	156.9***	162.2***	162.7***	5.039***	5.074***	5.077***
	(54.63)	(77.80)	(67.95)	(239.51)	(355.22)	(306.07)
observations	728	728	728	728	728	728
clusters	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(f) Determinants of surplus in balanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	s	s	s	log(s)	log(s)	log(s)
ESIC	17.05**	16.40**	16.91***	0.104**	0.0999**	0.103**
	(4.62)	(4.26)	(4.81)	(3.66)	(3.52)	(3.83)
assortative	5.800	5.800	5.429	0.0421	0.0421	0.0395
	(1.56)	(1.16)	(1.60)	(1.64)	(1.26)	(1.76)
ESIC*assortative	-7.694	-6.400	-7.429	-0.0549	-0.0470	-0.0534
	(-1.59)	(-1.44)	(-1.59)	(-1.68)	(-1.54)	(-1.67)
round	1.575	1.575	1.575	0.00743	0.00743	0.00743
	(1.63)	(1.63)	(1.61)	(1.04)	(1.04)	(1.03)
order	3.236*			0.0199*		
	(3.03)			(2.97)		
treat=2		1.583	1.583		0.0103	0.0103
		(0.94)	(0.94)		(0.92)	(0.91)
treat=3		-1.083	-1.083		-0.0117	-0.0117
		(-0.55)	(-0.55)		(-0.69)	(-0.69)
treat=4		-1.000	-1.000		-0.00374	-0.00374
		(-0.53)	(-0.53)		(-0.30)	(-0.29)
order=2			0.343			-0.00363
			(0.09)			(-0.14)
order=3			5.143			0.0321
			(1.66)			(1.69)
order=4			9.200*			0.0545*
			(2.72)			(2.55)
constant	169.4***	177.5***	174.0***	5.118***	5.169***	5.150***
	(44.07)	(58.57)	(42.05)	(208.98)	(274.58)	(189.74)
observations	200	200	200	200	200	200
clusters	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

B.3 Determinants of outcomes in all balanced and imbalanced markets

To check the robustness of our results regarding Hypothesis 4, we present the results from regressions with alternative dependent variables and alternative specifications: We consider (i) the outcomes of interest directly as dependent variables in addition to their logged values, and (ii) the following specifications:

$$
\begin{aligned}
(1)\quad y_i = {} & \beta_1\text{ESIC}_i + \beta_2\text{assortative}_i + \beta_3\text{balanced}_i + \beta_4\text{ESIC}_i\text{assortative}_i + \beta_5\text{assortative}_i\text{balanced}_i \\
& + \beta_6\text{round}_i + \beta_7\text{round}_i\text{balanced}_i + \beta_8\text{order}_i + \beta_9\text{order}_i\text{balanced}_i + c + \varepsilon_g, \\
(2)\quad y_i = {} & \beta_1\text{ESIC}_i + \beta_2\text{assortative}_i + \beta_3\text{balanced}_i + \beta_4\text{ESIC}_i\text{assortative}_i + \beta_5\text{assortative}_i\text{balanced}_i \\
& + \beta_6\text{round}_i + \beta_7\text{round}_i\text{balanced}_i \\
& + \beta_8(\text{treat}_i = 2) + \beta_9(\text{treat}_i = 3) + \beta_{10}(\text{treat}_i = 4) + c + \varepsilon_g \\
& + \beta_{11}(\text{treat}_i = 2)\text{balanced}_i + \beta_{12}(\text{treat}_i = 3)\text{balanced}_i + \beta_{13}(\text{treat}_i = 4)\text{balanced}_i, \\
(3)\quad y_i = {} & \beta_1\text{ESIC}_i + \beta_2\text{assortative}_i + \beta_3\text{balanced}_i + \beta_4\text{ESIC}_i\text{assortative}_i + \beta_5\text{assortative}_i\text{balanced}_i \\
& + \beta_6\text{round}_i + \beta_7\text{round}_i\text{balanced}_i + \beta_8\text{order}_i + \beta_9\text{order}_i\text{balanced}_i \\
& + \beta_{10}(\text{treat}_i = 2) + \beta_{11}(\text{treat}_i = 3) + \beta_{12}(\text{treat}_i = 4) + c + \varepsilon_g \\
& + \beta_{13}(\text{treat}_i = 2)\text{balanced}_i + \beta_{14}(\text{treat}_i = 3)\text{balanced}_i + \beta_{15}(\text{treat}_i = 4)\text{balanced}_i,
\end{aligned}
$$

where i is the index of a game (out of 728 balanced markets); y_i is the variable of interest or its log (or log of #efficient matches+1); assortative_i is the indicator of whether the market played in the game is assortative; ESIC_i is the indicator of whether the market has ES in the core; round_i is the round (out of 7) the same market has been played; order_i is the order (out of 4) the game is played in; treat_i is the treatment order (out of 4). The results are very stable across the different specifications.

Table B8a–B8b shows the determinants of the number of matched pairs when both balanced and imbalanced markets are considered. ESIC and assortativity continue to have significant influences on market outcome: ESIC markets have 0.390 to 0.394 (or 11.4% to 11.5%) more matched pairs in wave 1 and 0.26 to 0.27 (or 7.72% to 8.03%) more matched pairs in wave 2, and assortative markets have 0.104 (or 2.94%) more matched pairs in wave 1, but no difference in wave 2. Having an additional player increases the number of matched pairs. In particular, 0.370 to 0.458 more pairs in wave 1 and 0.345 to 0.504 more pairs in wave 2 are matched in imbalanced markets on average, which increases the matching rate by 10.8% to 13.4% in wave 1 and by 10.3% to 15.0% in wave 2.

Table B8c–B8d shows that assortativity does not increase the number of efficiently matched pairs at a statistically significant level. In comparison, ESIC increases the number of efficiently matched pairs by 1.071 to 1.078 (or by 42.4% to 42.6%) in wave 1 and by 1.14 to 1.162 (or by 44.1% to 45.1%) in wave 2. Having an additional player increases the number of efficiently matched pairs by 0.736 to 0.986 (or by 27.4% to 37.2%) in wave 1 and by 1.264 to 1.470 (or by 51.2% to 59.0%) in wave 2.

Table B8e–B8f shows that ESIC increases surplus by 9.32% to 9.48% in wave 1 and 9.99% to 10.4% in wave 2; assortativity increases surplus by 4.32% in wave 1 and has no effect in wave 2; and having one additional player increases surplus by 7.49% to 11.4% in wave 1 and 11.1% to 15.6% in wave 2. All aforementioned effects are statistically significant at at least the 95% significance level.

Table B8: Determinants of aggregate outcomes in all balanced and imbalanced markets

(a) Determinants of number of matched pairs, all markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	0.394***	0.390***	0.394***	0.115***	0.114***	0.115***
	(7.07)	(7.24)	(7.05)	(7.19)	(7.36)	(7.17)
assortative	0.104**	0.104**	0.104**	0.0294**	0.0294**	0.0294**
	(2.97)	(2.96)	(2.96)	(2.89)	(2.88)	(2.88)
bal(anced)	-0.375***	-0.370***	-0.458***	-0.110***	-0.108***	-0.134***
	(-4.10)	(-7.17)	(-5.31)	(-4.07)	(-7.24)	(-5.30)
ESIC*assortative	-0.0897	-0.0824	-0.0897	-0.0271	-0.0250	-0.0271
	(-1.29)	(-1.13)	(-1.28)	(-1.37)	(-1.20)	(-1.36)
assortative*bal	0.0850	0.0777	0.0850	0.0262	0.0241	0.0262
	(1.44)	(1.29)	(1.44)	(1.54)	(1.38)	(1.54)
round	0.0335***	0.0335***	0.0335***	0.00974***	0.00974***	0.00974***
	(4.73)	(4.73)	(4.72)	(4.70)	(4.69)	(4.69)
round*bal	-0.0170	-0.0170	-0.0170	-0.00483	-0.00483	-0.00483
	(-1.79)	(-1.79)	(-1.79)	(-1.74)	(-1.74)	(-1.74)
order	0.0136		0.0136	0.00399		0.00399
	(0.83)		(0.83)	(0.84)		(0.84)
order*bal	0.0338		0.0338	0.00993		0.00993
	(1.57)		(1.57)	(1.58)		(1.58)
treat=2		-0.0429	-0.0429		-0.0123	-0.0123
		(-1.53)	(-1.53)		(-1.53)	(-1.53)
treat=3		-0.0571	-0.0571		-0.0164	-0.0164
		(-1.51)	(-1.51)		(-1.51)	(-1.51)
treat=4		-0.121	-0.121		-0.0358	-0.0358
		(-1.79)	(-1.79)		(-1.77)	(-1.77)
(treat=2)*bal		0.0276	0.0276		0.00793	0.00793
		(0.51)	(0.51)		(0.51)	(0.51)
(treat=3)*bal		0.0912	0.0912		0.0255	0.0255
		(1.29)	(1.28)		(1.23)	(1.23)
(treat=4)*bal		0.227**	0.227**		0.0654**	0.0654**
		(2.88)	(2.88)		(2.80)	(2.80)
constant	2.582***	2.671***	2.638***	1.265***	1.292***	1.282***
	(35.76)	(71.56)	(41.12)	(59.79)	(119.92)	(68.81)
observations	1,288	1,288	1,288	1,288	1,288	1,288
clusters	46	46	46	46	46	46

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of number of matched pairs, all markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	0.270**	0.260**	0.270**	0.0803**	0.0772**	0.0803**
	(3.63)	(3.58)	(3.60)	(3.50)	(3.48)	(3.47)
assortative	0.000115	6.48e-16	8.05e-16	0.0000332	7.06e-17	1.21e-16
	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
bal(anced)	-0.504***	-0.345**	-0.474**	-0.150***	-0.103**	-0.143**
	(-4.77)	(-3.61)	(-3.68)	(-4.64)	(-3.51)	(-3.49)
ESIC*assortative	-0.201*	-0.180**	-0.201*	-0.0629*	-0.0565**	-0.0629*
	(-2.66)	(-2.89)	(-2.64)	(-2.69)	(-2.95)	(-2.67)
assortative*bal	0.160*	0.160	0.160*	0.0484*	0.0484	0.0484*
	(2.65)	(2.04)	(2.63)	(2.70)	(2.07)	(2.69)
round	-0.00250	-0.00250	-0.00250	-0.000719	-0.000719	-0.000719
	(-0.44)	(-0.43)	(-0.43)	(-0.44)	(-0.43)	(-0.43)
round*bal	0.0350	0.0350	0.0350	0.0101	0.0101	0.0101
	(1.85)	(1.84)	(1.84)	(1.71)	(1.70)	(1.69)
order	0.0000659		-3.60e-16	0.0000189		-1.08e-16
	(0.03)		(-0.00)	(0.03)		(-0.00)
order*bal	0.0516*		0.0516*	0.0159*		0.0159*
	(2.40)		(2.38)	(2.33)		(2.31)
treat=2		-0.0167	-0.0167		-0.00479	-0.00479
		(-1.17)	(-1.17)		(-1.17)	(-1.17)
treat=3		-1.44e-16	1.08e-16		3.58e-16	4.32e-16
		(-0.00)	(0.00)		(0.00)	(0.00)
treat=4		-0.0250	-0.0250		-0.00719	-0.00719
		(-1.36)	(-1.35)		(-1.36)	(-1.35)
(treat=2)*bal		0.00833	0.00833		0.00534	0.00534
		(0.12)	(0.12)		(0.25)	(0.25)
(treat=3)*bal		-0.0917	-0.0917		-0.0254	-0.0254
		(-1.60)	(-1.60)		(-1.34)	(-1.33)
(treat=4)*bal		-0.0250	-0.0250		-0.00425	-0.00425
		(-0.41)	(-0.41)		(-0.22)	(-0.22)
constant	2.997***	3.007***	3.007***	1.385***	1.388***	1.388***
	(167.62)	(122.68)	(161.80)	(269.34)	(196.87)	(259.65)
observations	399	399	399	399	399	399
clusters	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Determinants of number of efficiently matched pairs, all markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	1.078***	1.071***	1.078***	0.426***	0.424***	0.426***
	(10.36)	(10.19)	(10.34)	(10.44)	(10.39)	(10.41)
assortative	0.139	0.139	0.139	0.0645*	0.0645*	0.0645*
	(1.75)	(1.68)	(1.74)	(2.16)	(2.07)	(2.16)
bal(anced)	-0.736***	-0.897***	-0.986***	-0.274**	-0.350***	-0.372***
	(-3.59)	(-6.45)	(-4.87)	(-3.36)	(-6.57)	(-4.77)
ESIC*assortative	-0.261	-0.247	-0.261	-0.115*	-0.110	-0.115*
	(-1.83)	(-1.59)	(-1.83)	(-2.06)	(-1.86)	(-2.06)
assortative*bal	0.248	0.234	0.248	0.0888	0.0843	0.0888
	(1.65)	(1.50)	(1.65)	(1.48)	(1.36)	(1.48)
round	0.0786***	0.0786***	0.0786***	0.0296***	0.0296***	0.0296***
	(5.10)	(5.09)	(5.09)	(5.05)	(5.04)	(5.03)
round*bal	-0.0233	-0.0233	-0.0233	-0.00892	-0.00892	-0.00892
	(-1.13)	(-1.13)	(-1.12)	(-1.08)	(-1.08)	(-1.08)
order	0.0550		0.0550	0.0217		0.0217
	(1.67)		(1.67)	(1.70)		(1.70)
order*bal	0.0328		0.0328	0.00772		0.00772
	(0.73)		(0.73)	(0.45)		(0.45)
treat=2		-0.114	-0.114		-0.0462	-0.0462
		(-1.29)	(-1.29)		(-1.44)	(-1.44)
treat=3		-0.143	-0.143		-0.0540	-0.0540
		(-1.33)	(-1.33)		(-1.36)	(-1.35)
treat=4		-0.379**	-0.379**		-0.141*	-0.141*
		(-2.77)	(-2.77)		(-2.69)	(-2.68)
(treat=2)*bal		0.170	0.170		0.0740	0.0740
		(1.58)	(1.58)		(1.91)	(1.91)
(treat=3)*bal		0.259	0.259		0.0981	0.0981
		(1.66)	(1.66)		(1.66)	(1.66)
(treat=4)*bal		0.589***	0.589***		0.226***	0.226***
		(3.79)	(3.79)		(3.76)	(3.75)
constant	1.805***	2.102***	1.964***	0.941***	1.055***	1.001***
	(11.73)	(21.43)	(14.25)	(15.53)	(29.80)	(19.16)
observations	1,288	1,288	1,288	1,288	1,288	1,288
clusters	46	46	46	46	46	46

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Determinants of number of efficiently matched pairs, all markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	y	y	y	log(y+1)	log(y+1)	log(y+1)
ESIC	1.162***	1.140***	1.162***	0.451***	0.441***	0.451***
	(7.39)	(6.11)	(7.33)	(6.64)	(5.38)	(6.59)
assortative	-0.255*	-0.266**	-0.254*	-0.0917*	-0.0962**	-0.0912*
	(-2.75)	(-2.97)	(-2.70)	(-2.68)	(-2.92)	(-2.64)
bal(anced)	-1.264***	-1.337***	-1.470***	-0.512***	-0.523***	-0.590***
	(-4.45)	(-8.57)	(-5.23)	(-4.55)	(-8.10)	(-5.47)
ESIC*assortative	-0.124	-0.0800	-0.124	-0.0455	-0.0254	-0.0455
	(-0.52)	(-0.36)	(-0.51)	(-0.45)	(-0.26)	(-0.45)
assortative*bal	0.315	0.326	0.314	0.109	0.113	0.108
	(1.36)	(1.32)	(1.34)	(1.13)	(1.06)	(1.11)
round	0.0275	0.0275	0.0275	0.0103	0.0103	0.0103
	(1.04)	(1.04)	(1.04)	(0.98)	(0.98)	(0.97)
round*bal	0.0775	0.0775	0.0775	0.0286	0.0286	0.0286
	(1.85)	(1.84)	(1.84)	(1.73)	(1.72)	(1.71)
order	0.0541		0.0550	0.0225		0.0227
	(1.20)		(1.21)	(1.46)		(1.47)
order*bal	0.0564		0.0556	0.0279		0.0276
	(0.75)		(0.74)	(0.97)		(0.95)
treat=2		-0.133	-0.133		-0.0510	-0.0510
		(-0.96)	(-0.96)		(-1.07)	(-1.07)
treat=3		-0.277	-0.280		-0.0949	-0.0959
		(-1.88)	(-1.92)		(-1.75)	(-1.79)
treat=4		-0.292*	-0.292*		-0.112**	-0.112**
		(-2.51)	(-2.50)		(-2.99)	(-2.99)
(treat=2)*bal		0.275	0.275		0.110	0.110
		(1.24)	(1.24)		(1.30)	(1.30)
(treat=3)*bal		0.436*	0.438**		0.160*	0.161*
		(2.85)	(2.89)		(2.68)	(2.72)
(treat=4)*bal		0.117	0.117		0.0352	0.0352
		(0.95)	(0.94)		(0.88)	(0.87)
constant	2.473***	2.767***	2.624***	1.195***	1.310***	1.251***
	(13.80)	(22.22)	(12.73)	(17.97)	(27.97)	(16.51)
observations	399	399	399	399	399	399
clusters	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(e) Determinants of surplus, all markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)
	s	s	s	log(s)	log(s)	log(s)
ESIC	17.02***	16.76***	17.02***	0.0948***	0.0932***	0.0948***
	(5.10)	(5.08)	(5.09)	(4.52)	(4.47)	(4.51)
assortative	6.786*	6.786*	6.786*	0.0432*	0.0432*	0.0432*
	(2.60)	(2.57)	(2.59)	(2.60)	(2.57)	(2.59)
bal(anced)	-14.28*	-13.09**	-19.31**	-0.0831*	-0.0749**	-0.114**
	(-2.54)	(-3.22)	(-3.35)	(-2.16)	(-2.87)	(-3.00)
ESIC*assortative	0.198	0.714	0.198	0.00265	0.00600	0.00265
	(0.05)	(0.18)	(0.05)	(0.12)	(0.25)	(0.12)
assortative*bal	-0.500	-1.016	-0.500	-0.00662	-0.00997	-0.00662
	(-0.14)	(-0.26)	(-0.14)	(-0.29)	(-0.41)	(-0.29)
round	2.121***	2.121***	2.121***	0.0130***	0.0130***	0.0130***
	(4.82)	(4.81)	(4.81)	(4.72)	(4.71)	(4.71)
round*bal	-0.805	-0.805	-0.805	-0.00455	-0.00455	-0.00455
	(-1.43)	(-1.43)	(-1.43)	(-1.28)	(-1.28)	(-1.28)
order	0.971		0.971	0.00694		0.00694
	(0.89)		(0.89)	(1.02)		(1.02)
order*bal	2.384		2.384	0.0148		0.0148
	(1.69)		(1.69)	(1.65)		(1.64)
treat=2		-2.786	-2.786		-0.0208	-0.0208
		(-0.87)	(-0.87)		(-0.98)	(-0.98)
treat=3		-2.929	-2.929		-0.0166	-0.0166
		(-0.92)	(-0.92)		(-0.85)	(-0.85)
treat=4		-10.29*	-10.29*		-0.0633	-0.0633
		(-2.03)	(-2.03)		(-1.95)	(-1.95)
(treat=2)*bal		1.714	1.714		0.0155	0.0155
		(0.39)	(0.39)		(0.55)	(0.54)
(treat=3)*bal		3.694	3.694		0.0187	0.0187
		(0.71)	(0.71)		(0.55)	(0.55)
(treat=4)*bal		15.22**	15.22**		0.0908*	0.0908*
		(2.71)	(2.71)		(2.51)	(2.51)
constant	168.8***	175.3***	172.8***	5.106***	5.149***	5.132***
	(36.80)	(50.05)	(37.31)	(170.27)	(234.75)	(175.36)
observations	1,288	1,288	1,288	1,288	1,288	1,288
clusters	46	46	46	46	46	46

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(f) Determinants of surplus, all markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)
	s	s	s	log(s)	log(s)	log(s)
ESIC	17.05***	16.40***	17.05***	0.104**	0.0999**	0.104**
	(4.75)	(4.38)	(4.71)	(3.76)	(3.62)	(3.73)
assortative	-0.791	-0.853	-0.788	-0.00339	-0.00378	-0.00339
	(-0.76)	(-0.84)	(-0.75)	(-0.60)	(-0.68)	(-0.59)
bal(anced)	-25.39***	-19.23***	-26.54***	-0.150***	-0.111***	-0.156***
	(-5.73)	(-5.63)	(-5.70)	(-5.35)	(-5.31)	(-5.26)
ESIC*assortative	-7.694	-6.400	-7.694	-0.0549	-0.0470	-0.0549
	(-1.64)	(-1.48)	(-1.63)	(-1.72)	(-1.58)	(-1.71)
assortative*bal	6.591	6.653	6.588	0.0455	0.0459	0.0455
	(1.75)	(1.34)	(1.73)	(1.78)	(1.40)	(1.76)
round	1.89e-15	2.05e-14	7.17e-15	0.000223	0.000223	0.000223
	(0.00)	(0.00)	(0.00)	(0.07)	(0.07)	(0.07)
round*bal	1.575	1.575	1.575	0.00721	0.00721	0.00721
	(1.46)	(1.46)	(1.45)	(0.95)	(0.94)	(0.94)
order	0.298		0.300	0.00182		0.00182
	(0.76)		(0.76)	(0.84)		(0.84)
order*bal	2.938*		2.936*	0.0181*		0.0181*
	(2.65)		(2.63)	(2.63)		(2.61)
treat=2		-2.333	-2.333		-0.0141	-0.0141
		(-0.73)	(-0.73)		(-0.75)	(-0.75)
treat=3		-1.451	-1.463		-0.00731	-0.00739
		(-1.20)	(-1.20)		(-1.10)	(-1.10)
treat=4		-1.083	-1.083		-0.00564	-0.00564
		(-1.23)	(-1.22)		(-1.21)	(-1.20)
(treat=2)*bal		3.917	3.917		0.0244	0.0244
		(1.09)	(1.09)		(1.13)	(1.12)
(treat=3)*bal		0.367	0.380		-0.00441	-0.00434
		(0.16)	(0.17)		(-0.25)	(-0.24)
(treat=4)*bal		0.0833	0.0833		0.00191	0.00191
		(0.04)	(0.04)		(0.15)	(0.14)
constant	194.8***	196.8***	196.0***	5.268***	5.280***	5.275***
	(81.70)	(113.94)	(100.18)	(356.45)	(528.62)	(459.99)
observations	399	399	399	399	399	399
clusters	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

B.4 Learning effects in balanced and imbalanced markets

B.4.1 Learning effects in balanced markets

The following regression directly tests whether previous experience of a particular market affects current outcome of a different market:

$$y_i = \beta_1 \cdot \text{round}_i + \beta_2 \cdot \text{playedEA6}_i + \beta_3 \cdot \text{playedNA6}_i + \beta_4 \cdot \text{playedEM6}_i + \beta_5 \cdot \text{playedNM6}_i + c + \varepsilon_g,$$

where y_i is the variable of interest restricted to each of the four types of markets (in columns (1)-(4)), and its log (in columns (5)–(8)). Table B9 shows the results for the number of matched pairs, number of efficiently matched pairs, and surplus.

There are minimal experience effects. The only significant effects of experience are that having played EM reduces the number of matched pairs in NM (by 0.233 and 7.5%) in wave 2, and having played NA increases the number of matched pairs in NM (by 0.333 and 10.4%) in wave 2. A few coefficients are shown to be statistically significant but are negligible in magnitude (on the scale of 10^{-18} to 10^{-15}).

B.4.2 Learning effects in imbalanced markets

The following regression directly tests whether previous experience of a particular market affects the outcome of a different market:

$$y_i = \beta_1 \cdot \text{round}_i + \beta_2 \cdot \text{playedEA7}_i + \beta_3 \cdot \text{playedNA7}_i + \beta_4 \cdot \text{playedEM7}_i + \beta_5 \cdot \text{playedNM7}_i + c + \varepsilon_g,$$

where y_i is the variable of interest restricted to each of the four types of markets (in columns (1)-(4)), and its log (in columns (5)–(8)). Table B10 shows the results for the number of matched pairs, number of efficiently matched pairs, and surplus.

There are mild experience effects in imbalanced markets. The only statistically significant effects of experience are (i) having played EA7 increases the number of matched pairs in EM7 in wave 1 (by 0.200, or 5.75%), (ii) having played NM7 reduces the number of matched pairs in EM7 in wave 1 (by 0.143, or 4.11%) and reduces the number of efficiently matched pairs in EM7 in wave 1 (by 0.657, or 23.6%), and (iii) having played NM7 decreases the number of efficiently matched pairs (by 0.600 or 23.7%) and the surplus (by 3.80%) in EA7 in wave 2. These effects are significant at the 95% significance level, but not at the 99% or the 99.9% level.

Table B9: Learning effects in balanced markets

(a) Learning effects on number of matched pairs in balanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA6	EM6	NA6	NM6	EA6	EM6	NA6	NM6
playedEA	0	0.0408	0.122	0.0408	0	0.0352	0.0117	0.0117
	(.)	(0.60)	(1.13)	(0.64)	(.)	(1.13)	(0.60)	(0.64)
playedEM	0.0476	0	-0.0238	-0.0476	0.0137	-0.00685	0	-0.0137
	(0.77)	(.)	(-0.19)	(-0.53)	(0.77)	(-0.19)	(.)	(-0.49)
playedNA	0.0102	0.177	0	-0.102	0.00294	0	0.0509	-0.0266
	(0.17)	(1.55)	(.)	(-1.47)	(0.17)	(.)	(1.55)	(-1.32)
playedNM	0.0850	0.0442	0.184	0	0.0245	0.0528	0.0127	0
	(1.02)	(0.56)	(1.58)	(.)	(1.02)	(1.58)	(0.56)	(.)
round	0.0220	0.0206	0.00412	0.0192	0.00632	0.00119	0.00593	0.00618
	(1.94)	(1.38)	(0.30)	(0.88)	(1.94)	(0.30)	(1.38)	(0.94)
constant	2.730***	2.557***	2.396***	2.418***	1.309***	1.212***	1.259***	1.214***
	(31.37)	(22.02)	(24.30)	(22.97)	(52.27)	(42.75)	(37.68)	(36.82)
observations	182	182	182	182	182	182	182	182
clusters	26	26	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Learning effects on number of matched pairs in balanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA6	EM6	NA6	NM6	EA6	EM6	NA6	NM6
playedEA	0	-5.67e-18	0.0333	0.200	0	0.00959	9.50e-18	0.0575
	(.)	(-2.19)	(0.34)	(1.93)	(.)	(0.34)	(0.05)	(1.93)
playedEM	-5.70e-17*	0	0.133	-0.233*	-6.48e-19	0.0384	0	-0.0750*
	(-3.12)	(.)	(2.23)	(-2.38)	(-0.00)	(2.23)	(.)	(-2.41)
playedNA	5.22e-17	0.0667	0	0.333*	1.81e-17	0	0.0192	0.104*
	(1.35)	(1.11)	(.)	(2.78)	(0.11)	(.)	(1.11)	(2.82)
playedNM	0.200	2.22e-18	-0.100	0	0.0693	-0.0288	-3.29e-18	0
	(1.29)	(1.77)	(-1.29)	(.)	(1.29)	(-1.29)	(-0.02)	(.)
round	0.0400	0.0200	0.0200	0.0500	0.0139	0.00575	0.00575	0.0120
	(0.96)	(0.96)	(0.66)	(1.12)	(0.96)	(0.66)	(0.96)	(0.83)
constant	2.720***	2.893***	2.827***	2.600***	1.289***	1.336***	1.356***	1.276***
	(12.10)	(29.49)	(30.96)	(24.12)	(16.55)	(50.87)	(48.02)	(37.63)
observations	50	50	50	50	50	50	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Learning effects on number of efficiently matched pairs in balanced markets: wave 1

	(1) y EA6	(2) y EM6	(3) y NA6	(4) y NM6	(5) log(y+1) EA6	(6) log(y+1) EM6	(7) log(y+1) NA6	(8) log(y+1) NM6
playedEA	0	-0.122	0.204	-0.102	0	-0.0555	0.0518	-0.0355
	(.)	(-0.98)	(1.38)	(-0.75)	(.)	(-1.25)	(0.73)	(-0.52)
playedEM	0.190	0	-0.190	0.0238	0.0592	0	-0.0729	-0.0137
	(1.72)	(.)	(-0.59)	(0.09)	(1.41)	(.)	(-0.58)	(-0.13)
playedNA	-0.0374	0.272	0	0.00340	-0.00512	0.0967	0	0.00814
	(-0.24)	(1.43)	(.)	(0.02)	(-0.09)	(1.50)	(.)	(0.09)
playedNM	0.0510	0.255	0.463	0	0.0177	0.0949	0.186	0
	(0.36)	(1.78)	(1.55)	(.)	(0.36)	(1.89)	(1.56)	(.)
round	0.0179	0.0536*	0.0563	0.0934**	0.00379	0.0184*	0.0216	0.0388*
	(0.65)	(2.13)	(1.32)	(3.28)	(0.37)	(2.16)	(1.11)	(2.73)
constant	2.538***	2.220***	1.402***	1.244***	1.235***	1.125***	0.802***	0.724***
	(17.45)	(10.98)	(9.10)	(5.61)	(24.13)	(16.33)	(11.19)	(8.32)
observations	182	182	182	182	182	182	182	182
clusters	26	26	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Learning effects on number of efficiently matched pairs in balanced markets: wave 2

	(1) y EA6	(2) y EM6	(3) y NA6	(4) y NM6	(5) log(y+1) EA6	(6) log(y+1) EM6	(7) log(y+1) NA6	(8) log(y+1) NM6
playedEA	0	1.77e-17*	-0.433	0.0667	0	-7.10e-17***	-0.208	0.0423
	(.)	(2.93)	(-1.16)	(0.17)	(.)	(-35.18)	(-1.35)	(0.27)
playedEM	-0.133	0	0.767	0.900*	-0.0462	0	0.277	0.402
	(-1.11)	(.)	(1.17)	(2.31)	(-1.11)	(.)	(1.07)	(2.17)
playedNA	0.133	0.200	0	-0.0667	0.0462	0.0654	0	1.58e-16
	(1.11)	(1.93)	(.)	(-0.18)	(1.11)	(1.81)	(.)	(0.00)
playedNM	0.200	-2.22e-18	5.81e-17	0	0.0693	4.62e-17***	0.0693	0
	(1.29)	(-0.25)	(0.00)	(.)	(1.29)	(15.19)	(0.31)	(.)
round	0.0800	-0.0200	0.0700	0.290	0.0277	-0.00811	0.0277	0.108
	(1.44)	(-0.41)	(0.71)	(1.99)	(1.44)	(-0.50)	(0.77)	(1.73)
constant	2.640***	2.840***	1.793**	0.520	1.262***	1.337***	0.915***	0.379*
	(11.16)	(33.16)	(4.44)	(1.62)	(15.39)	(52.37)	(5.69)	(2.62)
observations	50	50	50	50	50	50	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(e) Learning effects on surplus in balanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	s	s	s	s	log(s)	log(s)	log(s)	log(s)
	EA6	EM6	NA6	NM6	EA6	EM6	NA6	NM6
playedEA	0	-0.408	7.347	4.286	0	-0.00468	0.0412	0.0272
	(.)	(-0.09)	(1.25)	(1.53)	(.)	(-0.17)	(1.16)	(1.64)
playedEM	5.476	0	-1.667	-1.667	0.0357	0	-0.00792	-0.00985
	(1.27)	(.)	(-0.24)	(-0.26)	(1.27)	(.)	(-0.19)	(-0.20)
playedNA	-1.633	15.10	0	-3.946	-0.0131	0.0988	0	-0.0147
	(-0.37)	(1.96)	(.)	(-0.87)	(-0.47)	(2.02)	(.)	(-0.45)
playedNM	3.095	4.116	11.19	0	0.0198	0.0247	0.0674	0
	(0.56)	(0.67)	(1.68)	(.)	(0.55)	(0.63)	(1.68)	(.)
round	1.442	1.223	0.975	1.621	0.00913	0.00719	0.00602	0.0113
	(1.77)	(1.11)	(1.38)	(1.43)	(1.73)	(1.02)	(1.44)	(1.44)
constant	182.8***	169.2***	161.2***	165.9***	5.195***	5.111***	5.075***	5.094***
	(36.60)	(20.29)	(33.30)	(25.62)	(164.22)	(95.14)	(177.98)	(106.75)
observations	182	182	182	182	182	182	182	182
clusters	26	26	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(f) Learning effects on surplus in balanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	s	s	s	s	log(s)	log(s)	log(s)	log(s)
	EA6	EM6	NA6	NM6	EA6	EM6	NA6	NM6
playedEA	0	2.462	-2.093	10.16	0	0.0142	-0.0121	0.0551
	(.)	(1.31)	(-0.25)	(1.81)	(.)	(1.27)	(-0.26)	(1.57)
playedEM	3.930	0	8.248	5.804	0.0269	0	0.0455	0.00948
	(0.92)	(.)	(2.15)	(0.52)	(0.96)	(.)	(2.22)	(0.12)
playedNA	0.860	1.288	0	12.13	0.00470	0.00689	0	0.0800
	(1.27)	(1.54)	(.)	(1.93)	(1.26)	(1.53)	(.)	(1.84)
playedNM	0.969	0.258	1.116	0	0.00651	0.00138	0.00675	0
	(0.57)	(1.54)	(0.43)	(.)	(0.58)	(1.53)	(0.52)	(.)
round	1.884	0.833	1.209	1.429	0.0121	0.00518	0.00680	0.00366
	(1.00)	(0.62)	(0.66)	(0.55)	(0.97)	(0.66)	(0.65)	(0.19)
constant	191.4***	195.6***	182.9***	169.9***	5.247***	5.277***	5.209***	5.135***
	(24.53)	(44.14)	(51.77)	(44.30)	(101.91)	(201.34)	(262.99)	(216.29)
observations	50	50	50	50	50	50	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B10: Learning effects in imbalanced markets

(a) Learning effects on number of matched pairs in imbalanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	0.200*	0.0286	9.21e-17	0	0.0575*	0.00822	-4.60e-17
	(.)	(2.75)	(0.23)	(0.00)	(.)	(2.75)	(0.23)	(-0.00)
playedEM	0.114	0	1.15e-17	0.0857	0.0362	0	5.75e-18	0.0247
	(1.36)	(.)	(0.00)	(0.53)	(1.37)	(.)	(0.00)	(0.53)
playedNA	0.0571	-0.114	0	0.0571	0.0164	-0.0329	0	0.0164
	(1.75)	(-1.36)	(.)	(0.43)	(1.75)	(-1.36)	(.)	(0.43)
playedNM	-0.114	-0.143**	-0.0857	0	-0.0362	-0.0411**	-0.0247	0
	(-1.22)	(-3.80)	(-0.57)	(.)	(-1.24)	(-3.80)	(-0.57)	(.)
round	0.0321*	0.00714	0.0250	0.0696***	0.00967	0.00205	0.00719	0.0200***
	(2.10)	(0.57)	(1.25)	(4.16)	(2.09)	(0.57)	(1.25)	(4.16)
constant	2.814***	2.857***	2.700***	2.264***	1.331***	1.345***	1.300***	1.175***
	(27.98)	(40.87)	(18.74)	(19.24)	(45.10)	(66.88)	(31.36)	(34.69)
observations	140	140	140	140	140	140	140	140
clusters	20	20	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Learning effects on number of matched pairs in imbalanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	0	0	0.0667	0	0	0	0.0192
	(.)	(.)	(.)	(1.11)	(.)	(.)	(.)	(1.11)
playedEM	0.100	0	0	-1.09e-17	0.0288	0	0	-1.53e-19
	(1.29)	(.)	(.)	(-0.56)	(1.29)	(.)	(.)	(-0.02)
playedNA	-4.08e-17***	0	0	-0.0667	-1.46e-17	0	0	-0.0192
	(-8.87)	(.)	(.)	(-1.11)	(-0.08)	(.)	(.)	(-1.11)
playedNM	-0.100	0	0	0	-0.0288	0	0	0
	(-1.29)	(.)	(.)	(.)	(-1.29)	(.)	(.)	(.)
round	-0.0200	0	0	0.0100	-0.00575	0	0	0.00288
	(-0.96)	(.)	(.)	(0.96)	(-0.96)	(.)	(.)	(0.96)
constant	3.060***	3	3	2.970***	1.404***	1.386	1.386	1.378***
	(48.87)	(.)	(.)	(94.87)	(77.92)	(.)	(.)	(152.97)
observations	50	49	50	50	50	49	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Learning effects on number of efficiently matched pairs in imbalanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	0.314	0.0286	0.286^{*}	0	0.107	0.0183	0.122^{*}
	(.)	(1.87)	(0.11)	(2.26)	(.)	(1.88)	(0.19)	(2.37)
playedEM	0.314	0	-0.0286	0.229	0.0990	0	0.0149	0.0807
	(1.71)	(.)	(-0.10)	(0.89)	(1.49)	(.)	(0.14)	(0.77)
playedNA	0.286^{*}	-0.0857	0	0.0571	0.112^{*}	-0.0247	0	0.0164
	(2.60)	(-0.48)	(.)	(0.23)	(2.65)	(-0.39)	(.)	(0.17)
playedNM	-0.429	-0.657^{**}	0.143	0	-0.148	-0.236^{**}	0.0396	0
	(-1.82)	(-3.51)	(0.40)	(.)	(-1.85)	(-3.29)	(0.29)	(.)
round	0.0482	0.0161	0.100^{*}	0.150^{**}	0.0200	0.00257	0.0356^{*}	0.0601^{**}
	(1.40)	(0.45)	(2.73)	(3.47)	(1.49)	(0.20)	(2.49)	(3.16)
constant	2.464^{***}	2.536^{***}	1.743^{***}	1.114^{***}	1.191^{***}	1.241^{***}	0.939^{***}	0.659^{***}
	(10.25)	(11.74)	(8.53)	(6.22)	(14.00)	(16.12)	(11.38)	(7.67)
observations	140	140	140	140	140	140	140	140
clusters	20	20	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Learning effects on number of efficiently matched pairs in imbalanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	y	y	y	y	log(y+1)	log(y+1)	log(y+1)	log(y+1)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	0.133	0.200	0.267	0	0.0541	0.0924	0.0924
	(.)	(0.79)	(0.61)	(2.23)	(.)	(0.88)	(0.80)	(2.23)
playedEM	0.300	0	0.200	8.51e-17	0.139^{*}	0	0.0811	-1.41e-17
	(1.72)	(.)	(1.29)	(0.00)	(3.11)	(.)	(1.29)	(-0.00)
playedNA	0.367	0.311	0	-0.0667	0.133^{*}	0.105	0	-0.0231
	(2.08)	(1.95)	(.)	(-0.34)	(2.34)	(1.78)	(.)	(-0.34)
playedNM	-0.600^{*}	0.0333	-0.400	0	-0.237^{*}	0.00566	-0.146^{*}	0
	(-2.31)	(0.34)	(-2.23)	(.)	(-3.02)	(0.15)	(-2.49)	(.)
round	0.0200	-0.0500	0.0800	0.0600	-1.49e-18	-0.0144	0.0347	0.0208
	(0.18)	(-0.62)	(0.90)	(1.10)	(-0.00)	(-0.54)	(0.95)	(1.10)
constant	2.540^{***}	2.372^{***}	2.160^{***}	2.620^{***}	1.248^{***}	1.166^{***}	1.059^{***}	1.255^{***}
	(6.11)	(9.56)	(5.30)	(13.76)	(8.01)	(14.09)	(6.26)	(19.01)
observations	50	49	50	50	50	49	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(e) Learning effects on surplus in imbalanced markets: wave 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	s	s	s	s	log(s)	log(s)	log(s)	log(s)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	13.43	-1.429	4.857	0	0.0888	-0.00823	0.0390
	(.)	(1.77)	(-0.17)	(0.99)	(.)	(1.72)	(-0.16)	(1.14)
playedEM	9.429	0	-0.857	7.429	0.0697	0	-0.00342	0.0445
	(1.47)	(.)	(-0.10)	(0.75)	(1.60)	(.)	(-0.07)	(0.71)
playedNA	6.571^{*}	-9.429	0	1.714	0.0370^{*}	-0.0644	0	0.00233
	(2.64)	(-1.30)	(.)	(0.22)	(2.64)	(-1.29)	(.)	(0.05)
playedNM	-10.29	-17.43^{**}	0.571	0	-0.0705	-0.100^{*}	0.00347	0
	(-1.28)	(-2.92)	(0.06)	(.)	(-1.33)	(-2.84)	(0.06)	(.)
round	2.464^{*}	0.161	1.964	3.893^{**}	0.0167^{*}	-0.000165	0.0113	0.0242^{**}
	(2.29)	(0.16)	(2.01)	(3.64)	(2.25)	(-0.03)	(1.95)	(3.24)
constant	181.9^{***}	188.8^{***}	175.9^{***}	151.6^{***}	5.182^{***}	5.234^{***}	5.158^{***}	5.006^{***}
	(22.16)	(39.56)	(24.49)	(23.25)	(97.90)	(172.95)	(117.09)	(111.87)
observations	140	140	140	140	140	140	140	140
clusters	20	20	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(f) Learning effects on surplus in imbalanced markets: wave 2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	s	s	s	s	log(s)	log(s)	log(s)	log(s)
	EA7	EM7	NA7	NM7	EA7	EM7	NA7	NM7
playedEA	0	-3.333	4.667	5.333	0	-0.0189	0.0287	0.0321
	(.)	(-1.09)	(0.93)	(1.36)	(.)	(-1.10)	(0.97)	(1.32)
playedEM	4.000	0	-2.000	-1.38e-15	0.0223	0	-0.0108	-2.84e-19
	(1.63)	(.)	(-1.29)	(-0.00)	(1.57)	(.)	(-1.29)	(-0.00)
playedNA	0.333	3.556	0	-4.333	0.00143	0.0192	0	-0.0270
	(0.10)	(1.20)	(.)	(-1.08)	(0.08)	(1.13)	(.)	(-1.09)
playedNM	-7.000^{*}	3.667	3.45e-15	0	-0.0380^{*}	0.0202	0.000370	0
	(-2.74)	(1.05)	(0.00)	(.)	(-2.60)	(1.02)	(0.04)	(.)
round	-0.400	-2	1.500	0.900	-0.00241	-0.0112	0.00913	0.00533
	(-0.38)	(-1.10)	(0.99)	(1.19)	(-0.42)	(-1.11)	(0.99)	(1.17)
constant	199.2^{***}	197.1^{***}	186.8^{***}	196.3^{***}	5.295^{***}	5.284^{***}	5.221^{***}	5.277^{***}
	(58.43)	(37.27)	(21.67)	(84.88)	(287.43)	(180.30)	(99.21)	(378.25)
observations	50	49	50	50	50	49	50	50
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

B.5 Determinants of aggregate outcomes: First rounds

We repeat the regression analysis for the determinants of aggregate outcomes with only the first rounds, with results for balanced markets in Table B11 and imbalanced markets in Table B12. These results are consistent with those of all rounds in Tables 4 and 5.

Table B11: Determinants of aggregate outcomes in balanced markets round 1

(a) Determinants of outcomes in balanced markets round 1: wave 1

	(1) log (# matched pairs+1)	(2) log (# efficiently matched pairs+1)	(3) log surplus	(4) whether full matching	(5) whether efficient matching	(6) whether stable outcome
ESIC	0.148***	0.532***	0.128*	0.399***	0.527***	0
	(4.27)	(4.61)	(2.71)	(4.26)	(6.47)	(.)
assortative	0.0817	0.262*	0.0620	0.193	0.265*	0.115
	(1.82)	(2.28)	(1.05)	(1.80)	(2.35)	(0.87)
ESIC*assortative	-0.0596	-0.182	-0.0184	-0.101	-0.162	0
	(-1.18)	(-1.15)	(-0.28)	(-0.61)	(-1.27)	(.)
order	-0.00161	0.0416	0.0109	-0.00948	0.0402	0.112*
	(-0.12)	(1.65)	(0.62)	(-0.24)	(1.23)	(2.00)
constant	1.176***	0.542***	5.029***			
	(19.88)	(5.57)	(61.16)			
observations	104	104	104	104	104	52
clusters	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level
reported coefficients in columns (4)–(6) are marginal effects from probit
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of outcomes in balanced markets round 1: wave 2

	(1) log (# matched pairs+1)	(2) log (# efficiently matched pairs+1)	(3) log surplus	(4) whether full matching	(5) whether efficient matching	(6) whether stable outcome
ESIC	0.126	0.714**	0.133*	0.325*	0.664***	1.489***
	(2.23)	(4.75)	(2.79)	(2.43)	(6.33)	(9.56)
assortative	0.115**	0.306	0.0857*	0.316**	0.239	1.180***
	(4.01)	(1.67)	(2.92)	(2.95)	(1.46)	(6.02)
ESIC*assortative	-0.178	-0.459	-0.138	-0.362*	-0.417	-1.207***
	(-1.98)	(-1.77)	(-1.53)	(-1.99)	(-1.60)	(-4.30)
order	0.0549	0.107*	0.0585*	0.155**	0.140***	0.0940
	(2.05)	(2.53)	(2.74)	(2.90)	(3.36)	(1.65)
constant	1.105***	0.398	4.995***			
	(12.38)	(1.99)	(72.08)			
observations	40	40	40	40	40	40
clusters	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level
reported coefficients in columns (4)–(6) are marginal effects from probit
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B12: Determinants of aggregate outcomes in balanced and imbalanced markets round 1

(a) Determinants of outcomes in all markets round 1: wave 1

	(1) log (# matched pairs+1)	(2) log (# efficiently matched pairs+1)	(3) log surplus	(4) whether full matching	(5) whether efficient matching	(6) whether stable outcome
ESIC	0.148***	0.532***	0.128**	0.406***	0.610***	0
	(4.30)	(4.65)	(2.74)	(3.95)	(5.26)	(.)
assortative	0.0360	0.0448	0.0425	0.121	0.0213	0.115
	(1.72)	(0.54)	(1.04)	(1.78)	(0.26)	(0.87)
balanced	-0.121	-0.440**	-0.128	-0.302	-0.517**	0
	(-1.85)	(-3.18)	(-1.46)	(-1.73)	(-2.70)	(.)
ESIC*assortative	-0.0596	-0.182	-0.0184	-0.103	-0.188	0
	(-1.19)	(-1.16)	(-0.28)	(-0.61)	(-1.27)	(.)
assortative*balanced	0.0458	0.217	0.0195	0.0749	0.286	0
	(0.93)	(1.54)	(0.27)	(0.58)	(1.77)	(.)
order	-0.00432	0.0211	-0.00591	-0.0137	0.0128	0.112*
	(-0.41)	(0.72)	(-0.43)	(-0.40)	(0.36)	(2.00)
order*balanced	0.00271	0.0205	0.0168	0.00410	0.0338	0
	(0.16)	(0.53)	(0.76)	(0.08)	(0.65)	(.)
constant	1.296***	0.981***	5.157***			
	(45.60)	(9.90)	(160.14)			
observations	184	184	184	184	184	52
clusters	46	46	46	46	46	26

t statistics in parentheses; standard errors clustered at group level
reported coefficients in columns (4)–(6) are marginal effects from probit
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of outcomes in all markets: wave 2, round 1

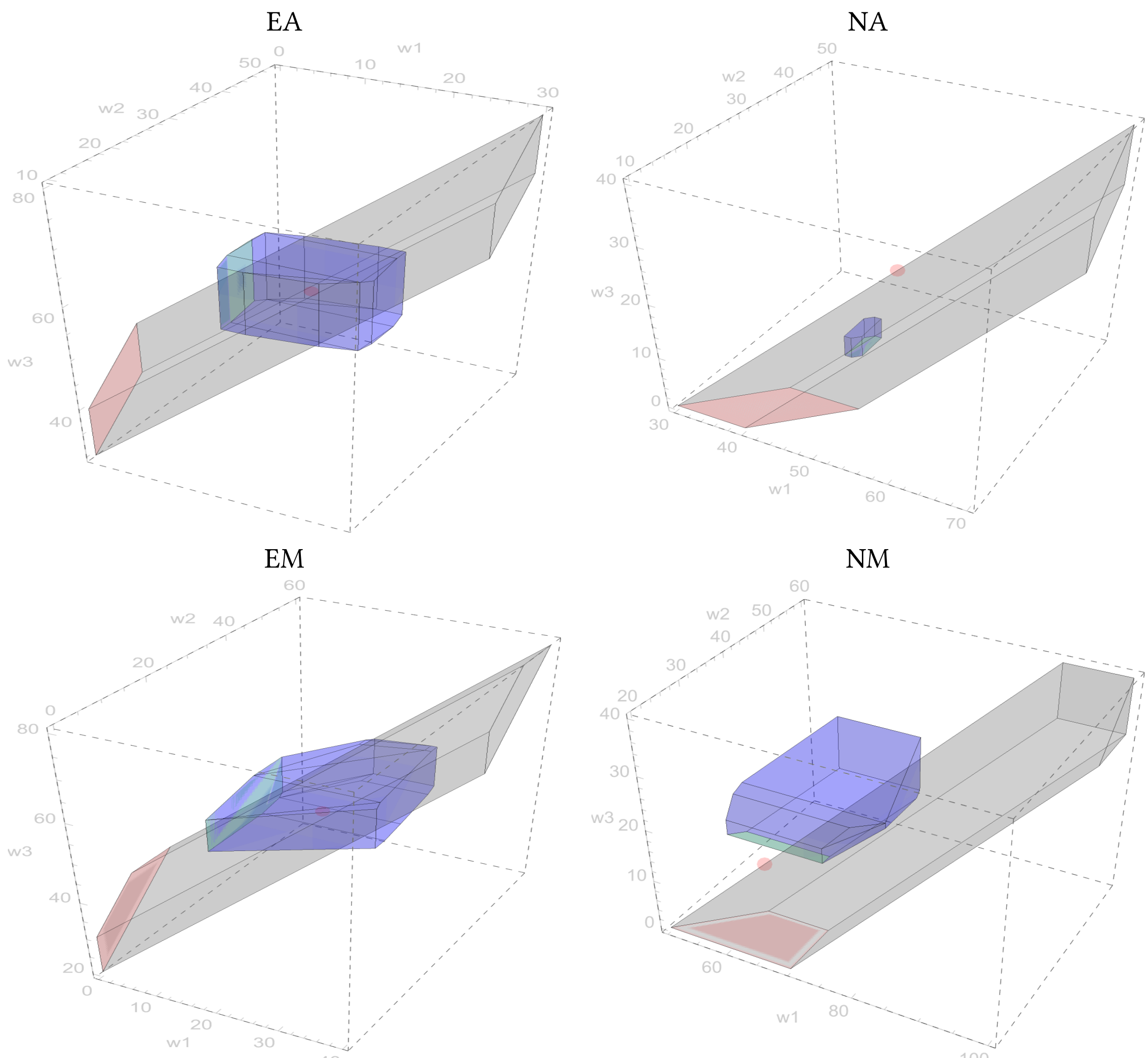
	(1) log (# matched pairs)	(2) log (# efficiently matched pairs+1)	(3) log surplus	(4) whether full matching	(5) whether efficient matching	(6) whether stable outcome
ESIC	0.126*	0.714***	0.133**	0.325*	0.839***	0.918***
	(2.30)	(4.91)	(2.89)	(2.43)	(5.08)	(6.08)
assortative	-5.28e-17	-0.208	-0.0231	0.316**	-0.210*	-0.598***
	(.)	(-1.96)	(-0.85)	(2.95)	(-2.21)	(-3.43)
balanced	-0.281**	-0.899**	-0.283***	0	-1.225***	-0.694***
	(-3.26)	(-3.81)	(-3.94)	(.)	(-6.16)	(-3.89)
ESIC*assortative	-0.178	-0.459	-0.138	-0.362*	-0.526	-0.747***
	(-2.05)	(-1.83)	(-1.58)	(-1.99)	(-1.67)	(-3.91)
assortative*balanced	0.115***	0.514*	0.109*	0	0.512*	1.329***
	(4.15)	(2.49)	(2.77)	(.)	(2.30)	(4.39)
order	-5.58e-17***	0.00216	0.000578	0.155**	-0.0500	0.0302
	(-5.69)	(0.04)	(0.05)	(2.90)	(-1.07)	(1.36)
order*balanced	0.0549*	0.104	0.0579*	0	0.227***	0.0268
	(2.12)	(1.59)	(2.41)	(.)	(3.37)	(0.66)
constant	1.386***	1.297***	5.278***			
	(3.53e+16)	(9.60)	(202.53)			
observations	80	80	80	40	80	80
clusters	20	20	20	10	20	20

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

B.6 Individual payoffs

Figure B1 shows the regions of core payoffs in balanced and imbalanced markets. Figure B2 shows the histograms of payoffs for all matched subjects in efficient matching. Figure B3 shows the histograms of payoffs of all matched subjects—rather than matched subjects in efficient matching only, as in the main text—in balanced and imbalanced markets. Figure B4 shows the average payoffs of men and women in balanced versus imbalanced markets, by time. Figure B5 shows the percentage of surplus achieved by time for balanced and imbalanced markets.

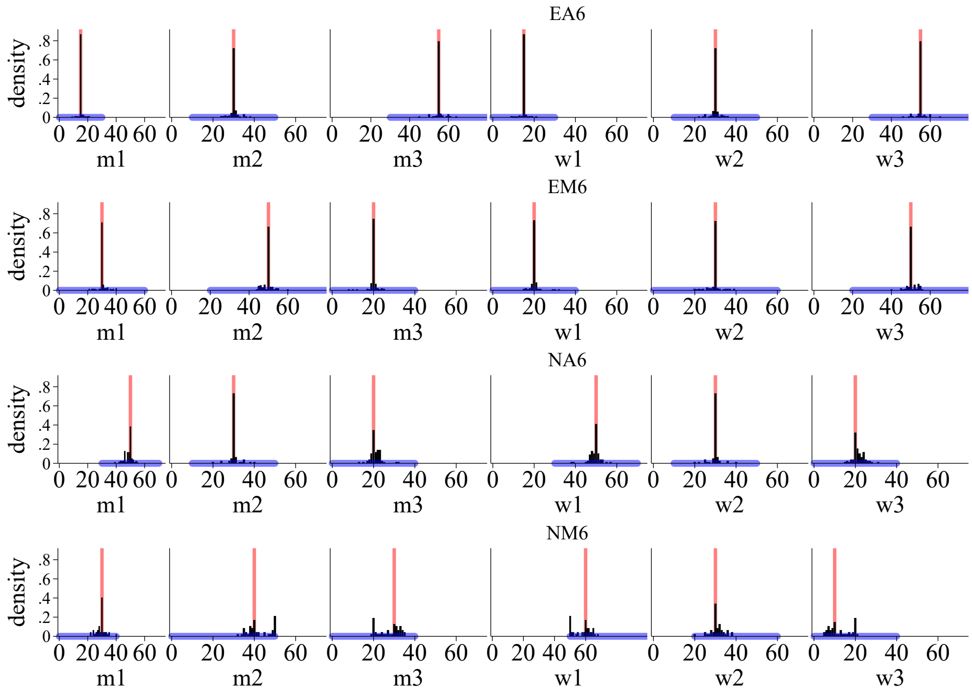
Figure B1: Core, fair core, and noncooperative payoffs



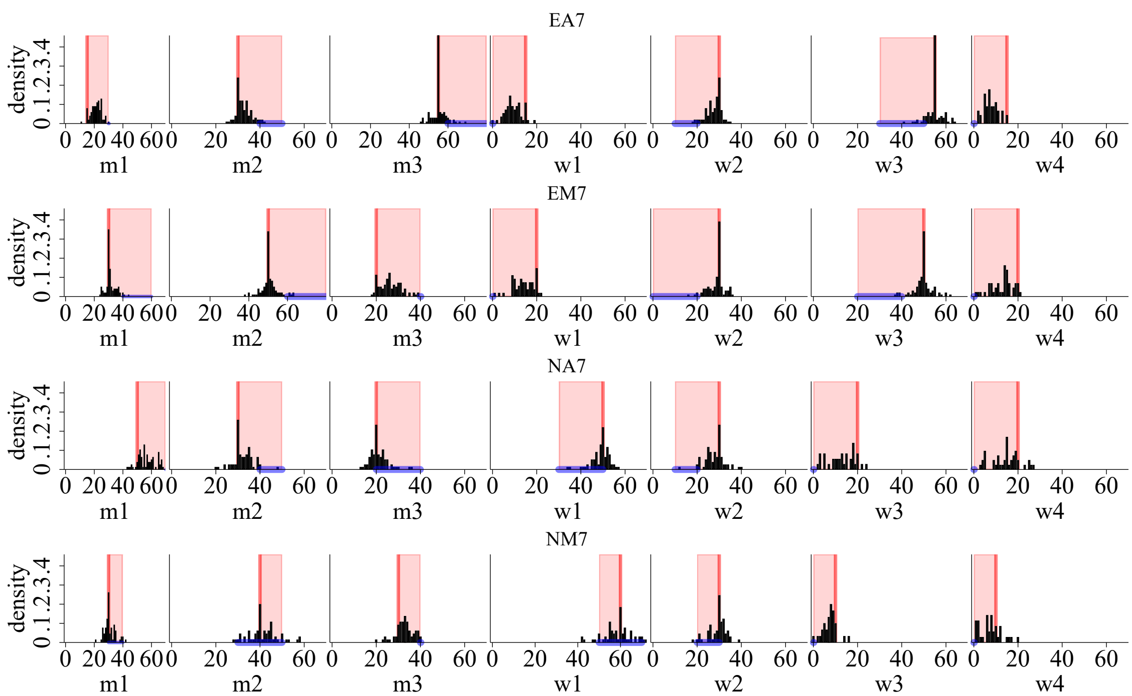
Note. In each illustration, the gray area illustrates the polyhedron of women's core payoffs in the balanced market; the blue area illustrates the polyhedron of women's fair core payoffs in the balanced market when $\alpha = 0.290$ and $\beta = 0.426$ (Nunnari and Pozzi, 2022); and the red dot represents the noncooperative payoffs. The red shaded area represents the reduced dimension of women's core payoffs in the imbalanced market and the green shaded area represents the reduced dimension of women's fair core payoffs in the imbalanced market. The sets of men's core and fair core payoffs are isomorphic to those of women's core and fair core payoffs, respectively.

Figure B2: Histogram of payoffs of matched subjects in efficient matching

(a) Histogram of payoffs of matched subjects in efficient matching in balanced markets: wave 1

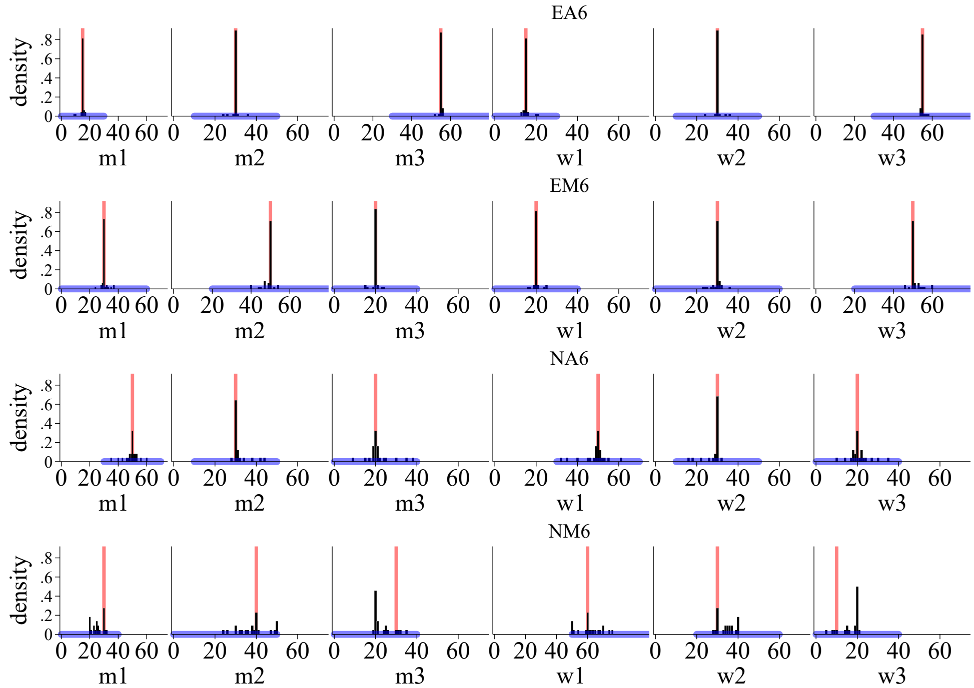


(b) Histogram of payoffs of matched subjects in efficient matching in imbalanced markets: wave 1

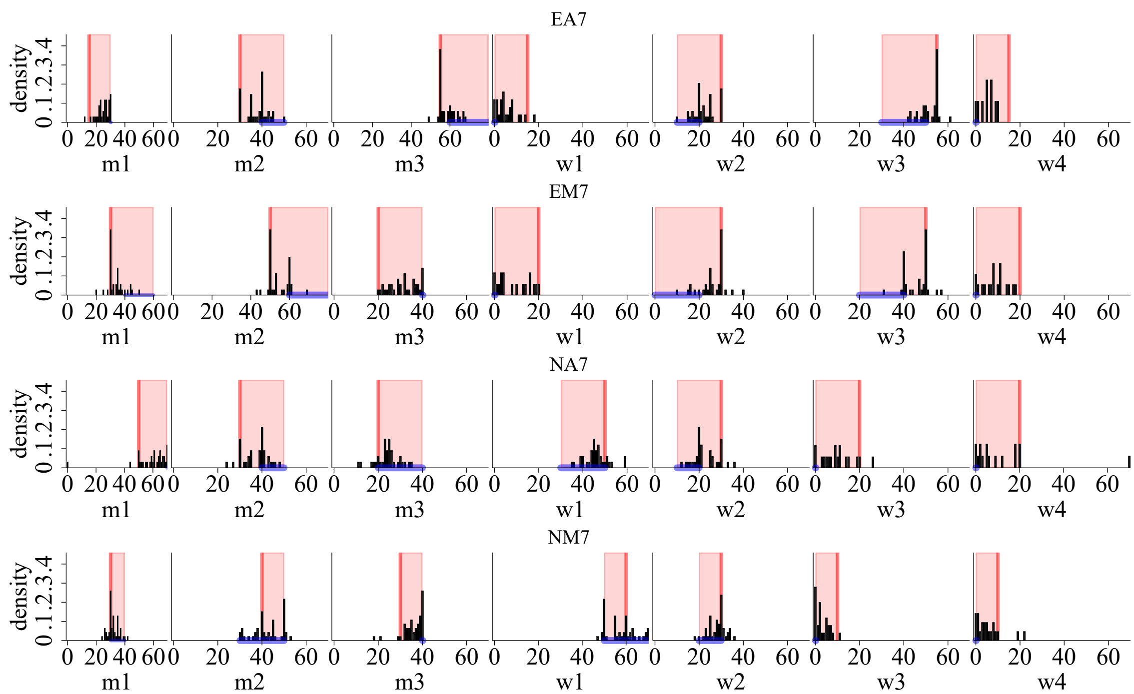


Note. Blue horizontal lines represent the range of core payoffs in the cooperative model. Red shaded areas represent the range of equilibrium payoffs in the noncooperative model, and red vertical lines represent the noncompetitive limit payoffs in the noncooperative model. The histogram is in black.

(c) Histogram of payoffs of matched subjects in efficient matching in balanced markets: wave 2



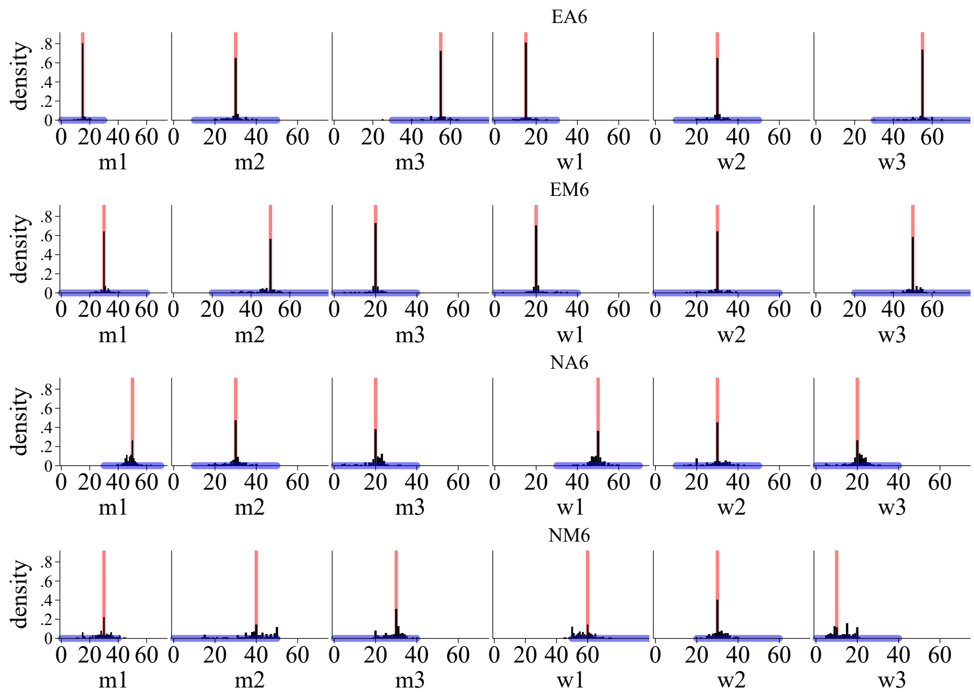
(d) Histogram of payoffs of matched subjects in efficient matching in imbalanced markets: wave 2



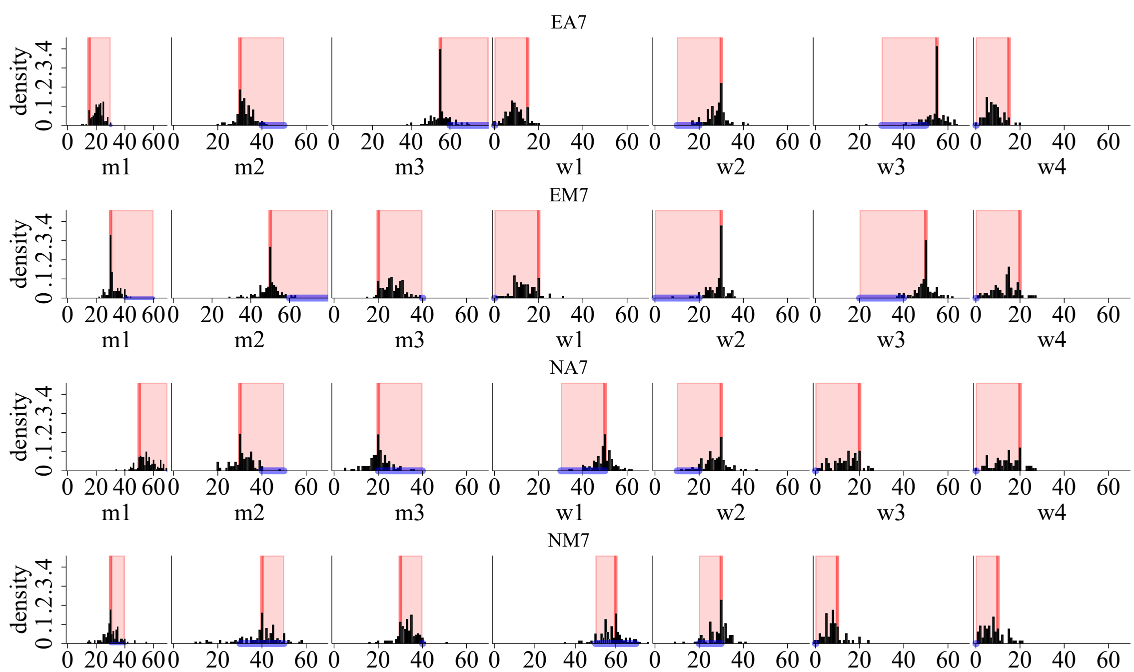
Note. Blue horizontal lines represent the range of core payoffs in the cooperative model. Red shaded areas represent the range of equilibrium payoffs in the noncooperative model, and red vertical lines represent the noncompetitive limit payoffs in the noncooperative model. The histogram is in black.

Figure B3: Histogram of payoffs of matched subjects

(a) Histogram of payoffs of matched subjects in balanced markets: wave 1

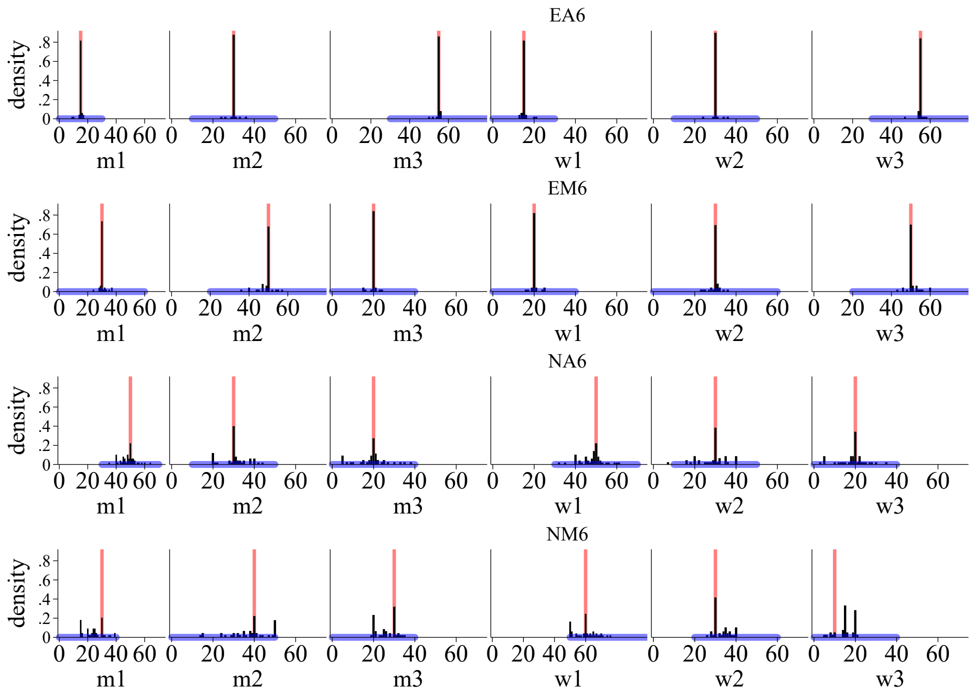


(b) Histogram of payoffs of matched subjects in imbalanced markets: wave 1

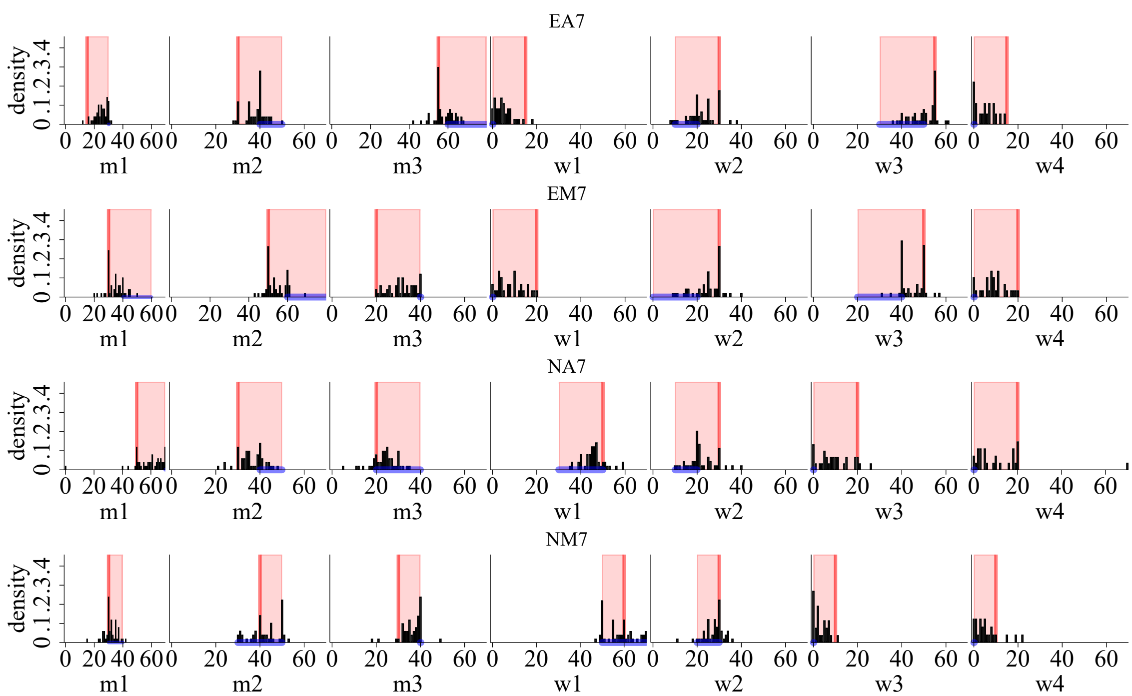


Note. Blue horizontal lines represent the range of core payoffs in the cooperative model. Red shaded areas represent the range of equilibrium payoffs in the noncooperative model, and red vertical lines represent the noncompetitive limit payoffs in the noncooperative model. The histogram is in black.

(c) Histogram of payoffs of matched subjects in balanced markets: wave 2

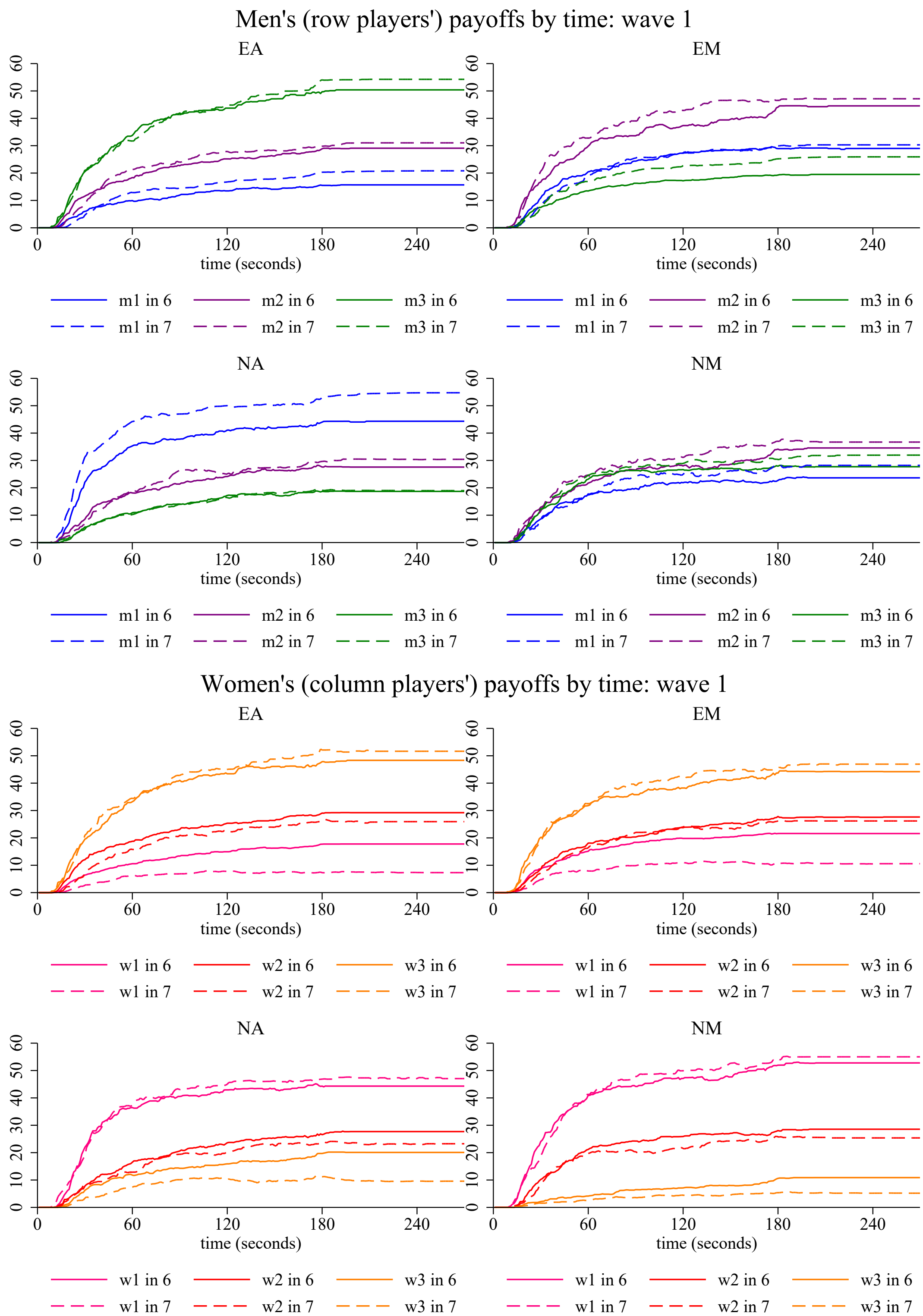


(d) Histogram of payoffs of matched subjects in imbalanced markets: wave 2

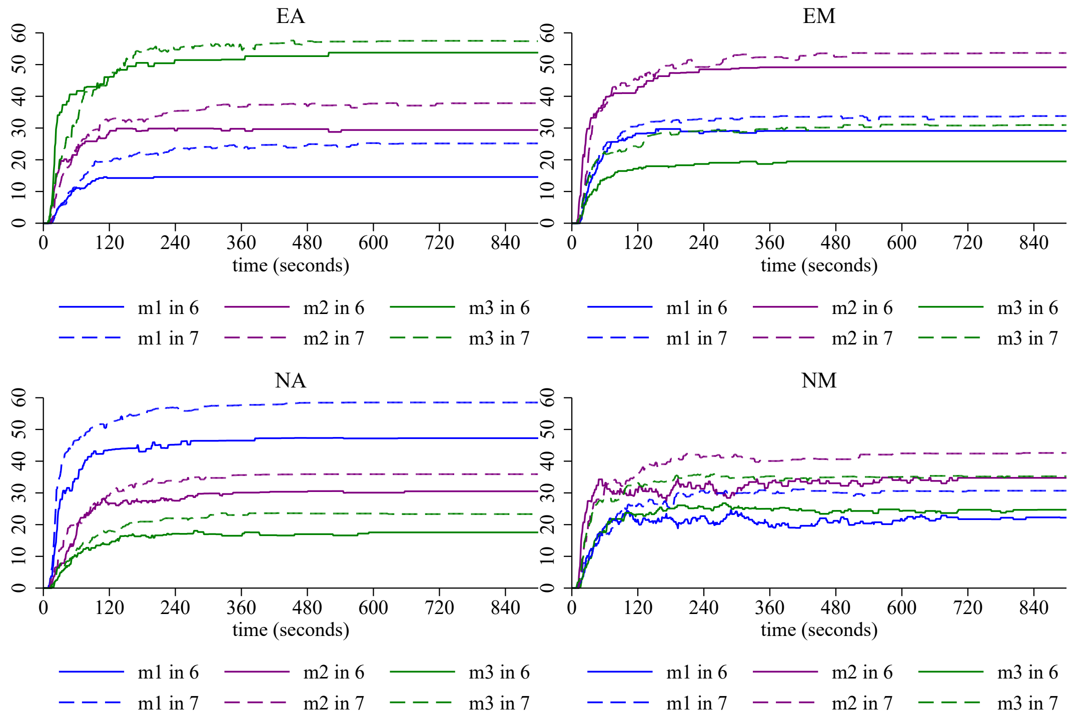


Note. Blue horizontal lines represent the range of core payoffs in the cooperative model. Red shaded areas represent the range of equilibrium payoffs in the noncooperative model, and red vertical lines represent the noncompetitive limit payoffs in the noncooperative model. The histogram is in black.

Figure B4: Men’s and women’s payoffs in balanced versus imbalanced markets



Men's (row players') payoffs by time: wave 2



Women's (column players') payoffs by time: wave 2

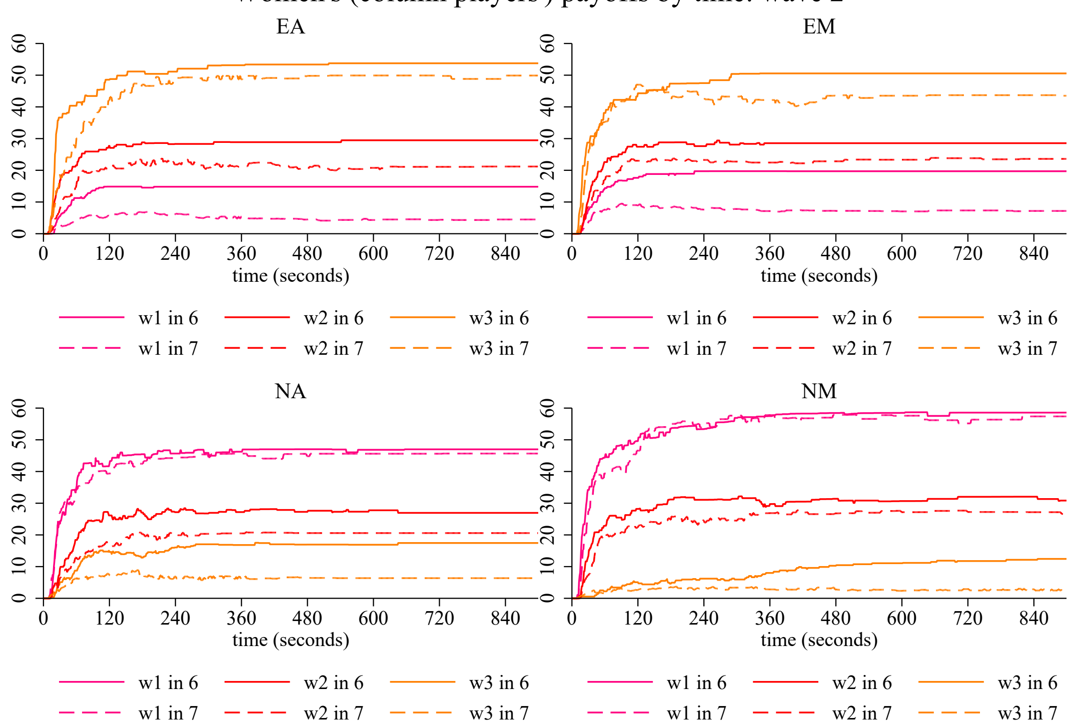
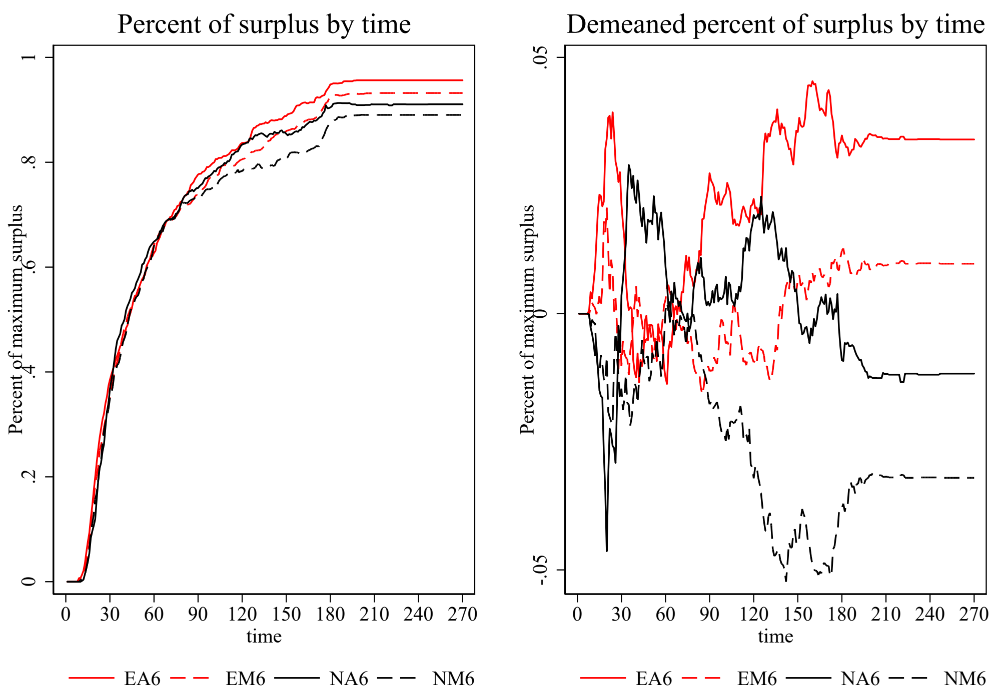
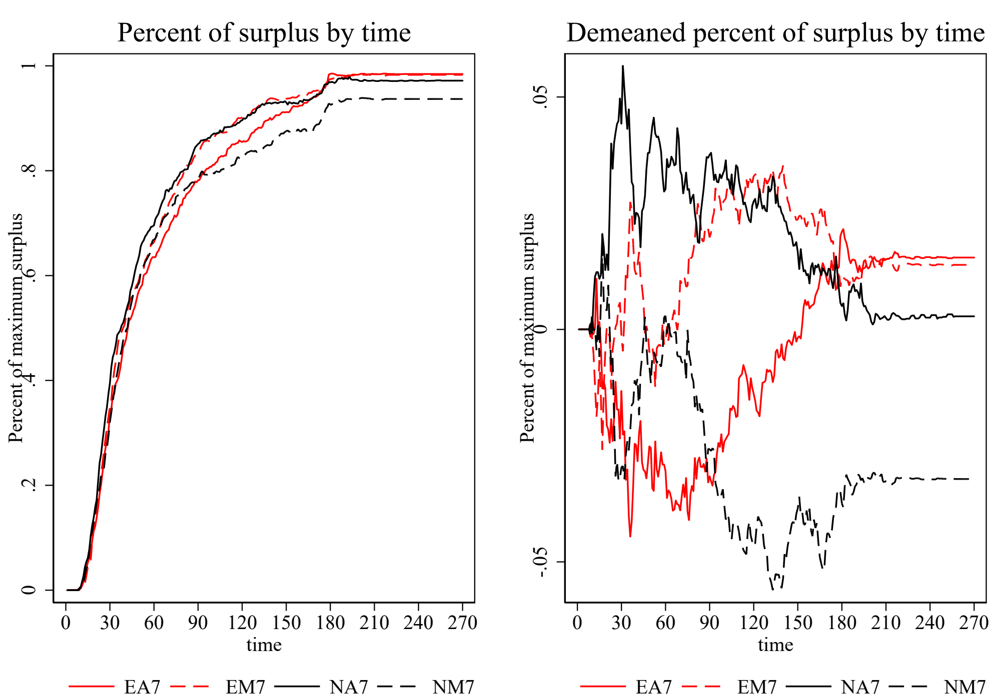


Figure B5: Percent of surplus achieved by time

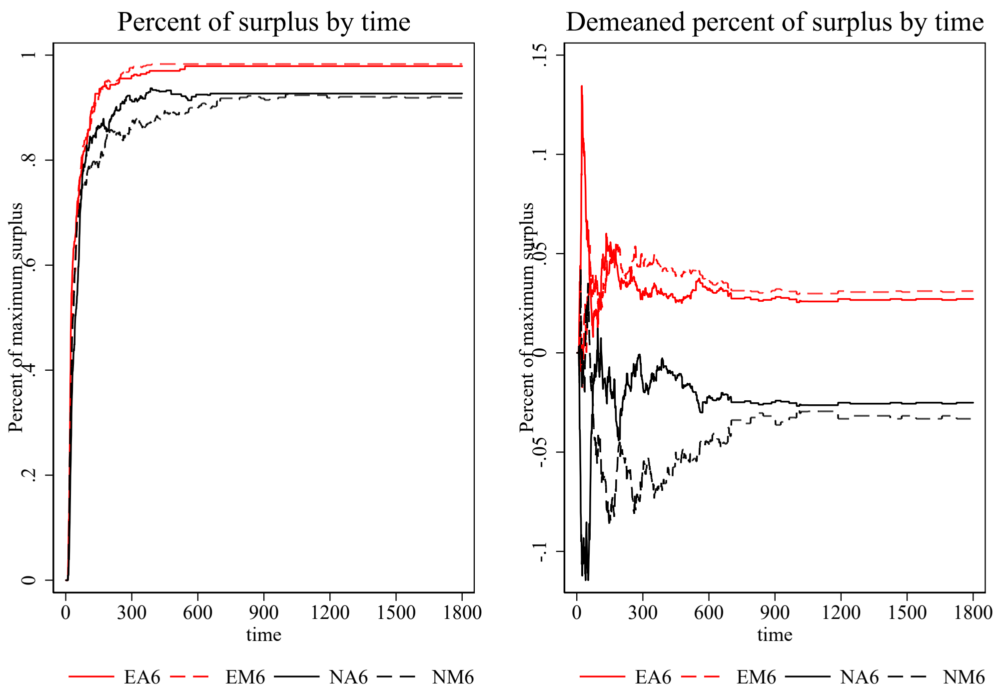
(a) Percent of surplus achieved by time in balanced markets: wave 1



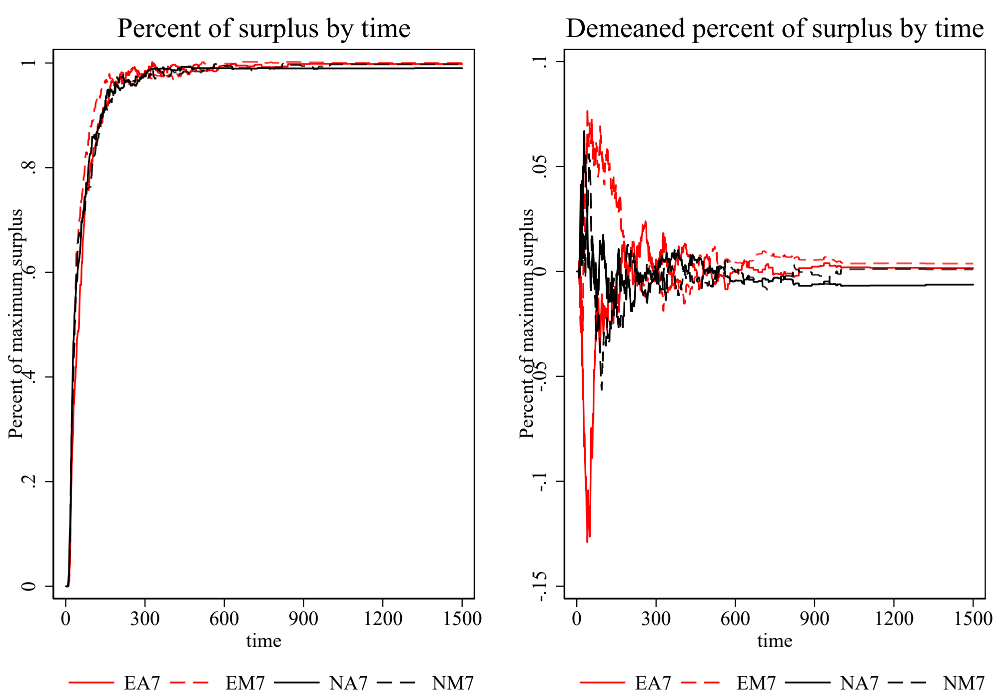
(b) Percent of surplus achieved by time in imbalanced markets: wave 1



(c) Percent of surplus achieved by time in balanced markets: wave 2



(d) Percent of surplus achieved by time in imbalanced markets: wave 2



C Omitted proofs

For Theorem 1, it suffices to show the following Lemmas 1, 2, and 3.

Lemma 1. *(1) There is at most one solution to the system of equations given a matching μ and a discount factor $\delta < 1$. (2) If there exists a solution given μ and δ, then there exists a solution given μ and any $\delta' < \delta$.*

Proof of Lemma 1. Fix a matching μ. Consider the system of equations for the cases in which men are the proposers at time zero:

$$U_m^p = s_{m\mu(m)} - \max\left\{\delta \cdot V_{\mu(m)}^r, \max_{m' \in M \setminus m}\left\{s_{m'\mu(m)} - U_{m'}^p\right\}\right\},$$

where

$$V_{\mu(m)}^r = s_{m\mu(m)} - \max\left\{\delta \cdot U_m^p, \max_{w' \in W \setminus \mu(m)}\left\{s_{mw'} - \left[s_{\mu(w')w'} - U_{\mu(w')}^p\right]\right\}\right\};$$

For notational convenience, we follow the notations from max algebra to define $a \oplus b \equiv \max\{a, b\}$ and $\sum_{i\in\{1,\cdots,I\}}^{\oplus} a_i \equiv a_1 \oplus \cdots \oplus a_I$. Consider the following system of $n_M + n_W$ equations with $n_M + n_W$ unknowns $U_{m_1}^p, \cdots, U_{m_M}^p, V_{w_1}^r, \cdots, V_{w_W}^r$.

$$\begin{cases} U_{m_1}^p = s_{m_1\mu(m_1)} - \delta V_{\mu(m_1)}^r \oplus \sum_{m'\neq m_1}^{\oplus}\left[s_{m'\mu(m_1)} - U_{m'}^p\right], \\ \ddots \\ U_{m_{n_M}}^p = s_{m_{n_M}\mu(m_{n_M})} - \delta V_{\mu(m_{n_M})}^r \oplus \sum_{m'\neq m_{n_M}}^{\oplus}\left[s_{m'\mu(m_{n_M})} - U_{m'}^p\right], \\ V_{w_1}^r = s_{\mu(w_1)w_1} - \delta U_{\mu(w_1)}^p \oplus \sum_{w'\neq w_1}^{\oplus}\left[s_{\mu(w_1)w'} - \left[s_{\mu(w')w} - U_{\mu(w')}^p\right]\right], \\ \ddots \\ V_{w_{n_W}}^r = s_{\mu(w_{n_W})w_{n_W}} - \delta U_{\mu(w_{n_W})}^p \oplus \sum_{w'\neq w_{n_W}}^{\oplus}\left[s_{\mu(w_{n_W})w'} - \left[s_{\mu(w')w} - U_{\mu(w')}^p\right]\right]. \end{cases}$$

Consider and rearrange the equation for U_m^p, for any $m \in M$:

$$U_m^p + \delta V_{\mu(m)}^r \oplus \sum_{m'\neq m}^{\oplus}\left[s_{m'\mu(m)} - U_{m'}^p\right] = s_{m\mu(m)}.$$

Then, by using the slack variable methods, we can rewrite this nonlinear equation as a set of n_M linear equations and one nonlinear condition with n_M additional unknowns $x_{mm_1}, \cdots, x_{mm_{n_M}}$:

$$\begin{gathered} U_m^p + \delta V_{\mu(m)}^r + x_{mm} = s_{m\mu(m)}, \\ U_m^p + \left[s_{m'\mu(m)} - U_{m'}^p\right] + x_{mm'} = s_{m\mu(m)} \qquad \text{for any } m' \neq m, \\ x_{mm} \cdot \textstyle\prod_{m'\neq m} x_{mm'} = 0. \end{gathered}$$

We can rearrange the equation for V_w^r and apply the slack variable method to it for any $w \in W$ in a similar fashion, Then we can rewrite the entire problem as a linear programming problem with $n_M^2 + n_W^2 + n_M + n_W$ variables

$$\min \quad \sum_{m'\in M}\sum_{m\in M} x_{mm'} + \sum_{w'\in W}\sum_{w\in W} x_{ww'},$$

subject to the following $n_M^2 + n_W^2$ main constraints:

$$U_m^p + \left[s_{m'\mu(m)} - U_{m'}^p\right] + x_{mm'} - s_{m\mu(m)} \geqslant 0, \qquad \forall m' \in M\backslash m, \forall m \in M,$$
$$U_m^p + \delta V_{\mu(m)}^r + x_{mm} - s_{m\mu(m)} \geqslant 0, \qquad \forall m \in M,$$
$$V_w^r + \left[s_{\mu(w)w'} - \left[s_{\mu(w')w} - U_{\mu(w')}^p\right]\right] + x_{ww'} - s_{\mu(w)w} \geqslant 0, \qquad \forall w' \in W\backslash w, \forall w \in W,$$
$$V_w^r + \delta U_{\mu(m)}^p + x_{ww} - s_{\mu(w)w} \geqslant 0, \qquad \forall w \in W;$$

and $n_M^2 + n_W^2 + n_M + n_W$ nonnegative constraints:

$$U_m^p \geqslant 0 \quad \forall m \in M, \qquad V_w^r \geqslant 0 \quad \forall w \in W,$$
$$x_{mm'} \geqslant 0 \quad \forall m, m' \in M, \qquad x_{ww'} \geqslant 0 \quad \forall w, w' \in W.$$

First, we argue that there is at most one solution to the minimization problem. Note that the constraints are noncolinear, because each of the main constraints contains a different $x_{mm'}$, x_{mm}, $x_{ww'}$ or x_{ww}. If the constraints are satisfied, then there exists a solution. If there exists a solution, there is a unique solution, because of the following argument. All the main constraints will be binding and not all $x_{mm'}$'s and $x_{ww'}$'s will be zero, so the optimal value—if it exists—is not zero. By Dantzig's sufficient uniqueness condition that for a linear program in canonical form the optimal value is positive, the solution is unique.

The proof for the system of equations when women are the proposers in period zero is identical. This establishes part (1) of the lemma.

Second, let C^δ be the constrained set for the minimization problem when the discount factor is δ. Then for $\delta' < \delta$, $C^{\delta'}$ is a closed subset of C^δ because the parts containing δ in the main constraints are nonnegative, which makes the constraints tightened as δ decreases. Since the objective function of the minimization problem is linear, we have that when there is a solution with δ, there will be a solution with $\delta' < \delta$.[20] This establishes part (2) of the lemma. □

Lemma 1 shows that fixing a matching μ and a discount factor δ, if a solution exists, it is unique and for any discount factor smaller than δ, there exists a unique solution given μ. Lemma 1 leads to the main result on surplus division:

Lemma 2. *For any $\delta \in (0, 1)$, there exists a solution to the system of equations with μ^*.*

Since we already know that there exists a solution with efficient matching when $\delta = 1$, by Lemma 1 part (2), we must have a solution with efficient matching for any $\delta < 1$. This directly gives us Lemma 2.

Lemma 3. *Any inefficient matching μ cannot be supported by the system of equations.*

[20] When the objective function is linear, then every indifference surface is a hyperplane with the normal vector being the gradient of the objective function. Now we use this gradient vector as an axis going through the origin. That is, moving in one direction on the axis is going in the same direction as the gradient, and the other going in the opposite direction. Then every point in the entire space lies on some indifference surface of the objective function and all points on the same indifference surface can be projected to a single point where this surface intersects the gradient axis. Hence, if a minimum occurs in the set C^δ, then it is necessarily the case that a lower bound is realized on the projection of C^δ on the gradient axis (with the lower bound being oriented according to the direction of lower objective values). Since $C^{\delta'}$ is a closed subset of C^δ, its projection on the gradient axis is a closed subset of the projection of C^δ on the gradient axis, which continues to have a lower bound. This immediately implies that a minimum continues to exist when restricted to $C^{\delta'}$. We thank Van Kolpin for the suggestion.

Proof of Lemma 3. Suppose μ is an inefficient matching: The total surplus s^{μ} from this inefficient matching is less than the total surplus s^{μ^*} from the unique efficient matching μ^*. Suppose there is a solution to the system of equations for μ. Then since for any man $m \in M$,

$$U_m^p = s_{m\mu(m)} - \max\left\{\delta V_{\mu(m)}^r, \max_{m' \in M \backslash m} \{s_{m'\mu(m)} - U_{m'}^p\}\right\},$$

we must have that and for any $m' \in M \backslash m$,

$$U_m^p \leq s_{m\mu(m)} - (s_{m'\mu(m)} - U_{m'}^p).$$

In particular, the inequality holds for the man $\mu^*(\mu(m))$ that woman $\mu(m)$ would have matched with in the efficient matching μ^*:

$$U_m^p \leq s_{m\mu(m)} - \left(s_{\mu^*(\mu(m))\mu(m)} - U_{\mu^*(\mu(m))}^p\right). \tag{Um}$$

By the same logic, we have the following for each woman in W:

$$V_w^p \leq s_{\mu(w)w} - \left(s_{\mu(w)\mu^*(\mu(w))} - V_{\mu^*(\mu(w))}^p\right). \tag{Vw}$$

Sum all (Um) and (Vw) for all $m \in M$ and $w \in W$, we get

$$\begin{aligned}\sum_{m \in M} U_m^p + \sum_{w \in W} U_w^p \leq \sum_{m \in M} s_{m\mu(m)} - \sum_{m \in M}\left[s_{\mu^*(\mu(m))\mu(m)} - U_{\mu^*(\mu(m))}^p\right] \\ + \sum_{w \in W} s_{\mu(w)w} - \sum_{w \in W}\left[s_{\mu(w)\mu^*(\mu(w))} - V_{\mu^*(\mu(w))}^p\right],\end{aligned}$$

which can be simplified as follows:

$$2s^{\mu^*} \leq 2s^{\mu}.$$

This is impossible. We conclude that μ cannot be supported by the system of equations. □

Next, we consider what the unique solution to the system of equations looks like when equal split is or is not in the core. We present the following results:

Proof of Proposition 3. Since equal split is the core, for any $m' \in M$, we must have

$$s_{m'\mu^*(m)} - \frac{1}{2}s_{m'\mu^*(m')} \leq \frac{1}{2}s_{m\mu^*(m)}.$$

This implies that

$$\begin{aligned} s_{m'\mu^*(m)} - U_{m'}^p &= s_{m'\mu^*(m)} - \frac{1}{1+\delta}s_{m'\mu^*(m')} < s_{m'\mu^*(m)} - \frac{1}{2}s_{m'\mu^*(m')} \\ &\leq \frac{1}{2}s_{m\mu^*(m)} < \frac{1}{1+\delta}s_{m\mu^*(m)} = V_{\mu^*(m)}^r. \end{aligned}$$

Hence, there exists a uniform lower bound $\underline{\delta} \in (0,1)$ such that for any $\delta \in (\underline{\delta}, 1)$, $s_{m'\mu^*(m)} - U_{m'}^p < \delta V_{\mu^*(m)}^r$

for any $m' \in M \backslash m$ and any $m \in M$.[21] This implies that for any $\delta \in (\underline{\delta}, 1)$, for any $m \in M$,

$$\begin{aligned} U_m^p &= s_{m\mu^*(m)} - \max\left\{\delta V^r_{\mu^*(m)}, \max_{m' \in M \backslash m} \left\{s_{m'\mu^*(m)} - U^r_{m'}\right\}\right\} \\ &= s_{m\mu^*(m)} - \delta \cdot V^r_{\mu^*(m)}, \end{aligned}$$

which is automatically satisfied given $U_m^p = V^r_{\mu^*(m)} = s_{m\mu^*(m)}/(1+\delta)$. Similarly, we obtain the same conclusion for the case when women are the proposers.

When ES is not in the core, there exist $m, m' \in M$, such that $s_{m\mu^*(m)} + s_{m'\mu^*(m')} < 2s_{m\mu^*(m')}$ or $s_{m\mu^*(m)} + s_{m'\mu^*(m')} < 2s_{m'\mu^*(m)}$ or both. Without loss of generality, assume that $s_{m\mu^*(m)} + s_{m'\mu^*(m')} < 2s_{m\mu^*(m')}$. Assume that

$$U_m^p = \frac{s_{m\mu^*(m)}}{1+\delta}, \text{ for any } m \in M; \; V_w^r = \frac{s_{\mu^*(w)w}}{1+\delta}, \text{ for any } w \in W.$$

Then we must have

$$\begin{aligned} & \delta V^r_{\mu^*(m)} \geqslant \max_{m'' \in M \backslash m} \left\{s_{m''\mu^*(m)} - U^p_{m''}\right\} \geqslant s_{m'\mu^*(m)} - U^p_{m'} \\ \Rightarrow \quad & \frac{\delta s_{m\mu^*(m)} + s_{m'\mu^*(m')}}{1+\delta} \geqslant s_{m\mu^*(m')}. \end{aligned}$$

Since $s_{m\mu^*(m)} + s_{m'\mu^*(m')} < 2s_{m\mu^*(m')}$, there exists a $\underline{\delta} \in [0, 1)$, such that for any $\delta \in [\underline{\delta}, 1)$, the above inequality does not hold, implying that it cannot be a solution. Similarly, we obtain the same conclusion for the case when women are the proposers. □

[21] The existence of such a lower bound for each pair of m and m' requires $s_{m'\mu^*(m')}$ to be strictly positive. Hence, as long as we assume that $s_{mw} > 0$ for any $m \in M$ and $w \in W$, we ensure the existence of a uniform lower bound.

D Other experimental results

We have rich information about the process of negotiation: who proposes to whom, the terms of the offers, and their acceptance and rejection. We can explore why agents become unmatched at the end of the game, and whether demographic characteristics such as gender and major affect bargaining outcomes.

D.1 Tests on the noncooperative model

We investigate the factors that affect the chance a player will propose to someone on the opposite side. Table D1 provides two patterns.

Table D1: Frequency distribution of proposals sent to players on the opposite side

(a) balanced markets: wave 1 and wave 2

	EA6			NA6		
	w1	w2	w3	w1	w2	w3
m1	(52%,56%)	(28%,6%)	(19%,0%)	(35%,32%)	(32%,61%)	(33%,81%)
m2	(4%,26%)	(54%,49%)	(42%,12%)	(63%,34%)	(30%,34%)	(7%,15%)
m3	(0%,18%)	(10%,45%)	(90%,88%)	(9%,15%)	(14%,5%)	(3%,4%)
	EM6			NM6		
	w1	w2	w3	w1	w2	w3
m1	(1%,2%)	(49%,53%)	(50%,18%)	(65%,30%)	(32%,46%)	(3%,29%)
m2	(2%,40%)	(12%,43%)	(87%,81%)	(94%,68%)	(4%,7%)	(2%,21%)
m3	(62%,58%)	(15%,4%)	(23%,2%)	(38%,3%)	(49%,47%)	(14%,50%)

(b) imbalanced markets: wave 1 and wave 2

	EA7				NA7			
	w1	w2	w3	w4	w1	w2	w3	w4
m1	(32%,57%)	(17%,10%)	(17%,3%)	(34%,56%)	(53%,35%)	(12%,50%)	(20%,78%)	(15%,77%)
m2	(7%,30%)	(50%,54%)	(37%,23%)	(7%,29%)	(61%,31%)	(31%,42%)	(4%,19%)	(3%,19%)
m3	(4%,13%)	(20%,36%)	(75%,74%)	(1%,15%)	(75%,34%)	(20%,8%)	(3%,3%)	(2%,4%)
	EM7				NM7			
	w1	w2	w3	w4	w1	w2	w3	w4
m1	(2%,5%)	(48%,48%)	(48%,28%)	(2%,5%)	(58%,33%)	(37%,47%)	(3%,14%)	(2%,16%)
m2	(7%,34%)	(9%,48%)	(80%,69%)	(4%,35%)	(92%,61%)	(6%,7%)	(2%,13%)	(0%,15%)
m3	(36%,61%)	(4%,4%)	(23%,3%)	(36%,60%)	(35%,6%)	(42%,46%)	(13%,73%)	(10%,69%)

Notes. In each table, the first number in each cell indicates the percentage of proposals sent from the row player to the column player, the second number in each cell indicates the percentage of proposals sent from the column player to the row player.

First, proposers are more likely to propose to a receiver when their total surplus stands out among all of the matches the proposer can achieve. For example, in NM6, m_2 proposes to w_1 much more frequently than w_1 proposes to m_2. This is potentially because w_1's alternative matches have relatively better surpluses than m_2's alternative matches. Similar patterns can be seen in pairs m_2w_3 in EM7, m_2w_1 in NM7, and m_1w_3 and m_3w_1 in NA6 and NA7. To account for this factor, we create a variable

$$Attract_{ij} = s_{ij} \Big/ \frac{\sum_k s_{kj}}{3},$$

which measures player i's attractiveness to player j, where s_{ij} is the surplus generated when players i and j are matched, and k denotes the three possible matches for player j. (In imbalanced markets, we treat the two duplicate players as a single player.)

Second, proposers are more likely to propose to a receiver if they appear more attractive to the receiver. For example, for player m_3 in EM7, although the total surplus is identical when they are matched with either w_1 or w_2, m_3 proposes to w_1 much more frequently than they propose to w_2, potentially because they are relatively more attractive to w_1 than to w_2. Similar patterns can be observed in pair m_1 w_1 in both EA6 and EA7. To account for this factor, we create another variable, $RelativeAttract_{ij}$, which measures player i's relative attractiveness to player j among all the possible matches player i could achieve.

$$RelativeAttract_{ij} = Attract_{ij} \Big/ \frac{\sum_k Attract_{ik}}{3},$$

where Attract_{ij} is the variable defined above, representing the attractiveness of player i to player j, and k denotes the three possible matches for player i.

Table D2 presents regression results of the determinants of whom to propose to and the frequency of equal-spilt proposals. In the regressions, $Attract_{rp}$ captures the receivers' attractiveness to the proposer, and $RelativeAttract_{pr}$ captures the proposer's relative attractiveness to the receiver. C_p and C_r are dummy variables, which equal 1 if the proposer or the receiver has a duplicate player in imbalanced markets. The variable *diag_both* is also a dummy, which equals 1 if the proposer and the receiver are at main diagonal or anti-diagonal positions to each other. Finally, the dummy variable *assortative* equals 1 if the markets are assortative, including both positive and negative assortativity.

We first look at the determinants of whom to propose to. In columns (1) and (2) of Table D2, the dependent variable is the rate of each player's proposal to a certain receiver. OLS regression results show that in the first round of each game, the attractiveness of receivers to proposers ($Attract_{rp}$) plays a significant role in proposers' proposing choices. When it comes to the fifth round of each game, $Attract_{rp}$ still has a significant effect, but the effect is much smaller. In contrast, the relative attractiveness of the proposer to the receiver ($RelativeAttract_{pr}$) becomes more important over time. In imbalanced markets, we find that proposers with a duplicate competitor are less likely to propose to a more attractive receiver, and they are more likely to propose to someone when they find themselves more attractive to them, even in the first round. Finally, proposers are more likely to propose to someone who is at their diagonal positions only when the markets are assortative, and such a tendency disappears when the markets are nonassortative. This result suggests that subjects do not make proposing decisions based on the heuristic of matching with diagonal partners.

We consider now the numbers and types of proposals. The aggregate surplus gradually increases from time zero (Figures B5) through a series of proposals, so subjects in general make efficiency-enhancing proposals. In balanced markets, the number of proposals is 12.4% (resp., 26.6%) fewer in assortative settings and 30.5% (resp., 94.1%) fewer in settings with pairwise equal splits in the core, in wave 1 as shown in Column (2) in Table D3a (resp., wave 2 as shown in Column (2) in Table D3b). The number of proposals also decreases by round: An additional round decreases the number of proposals by 2.93% (resp. 8.91 %), and having played 7 (resp. 5) rounds of other market games ahead of the current market decreases the

Table D2: Determinants of whom to propose to and equal-spilts proposals: waves 1 and 2

	Proposing rate round 1	Proposing rate round 5	Proposing ES round 1	Proposing ES round 5
total surplus	0.00158	0.00158	-0.00313***	-0.00246*
	(1.89)	(1.68)	(-3.94)	(-2.61)
Attract*rp*	0.519***	0.250***	0.174*	0.0882
	(7.34)	(3.68)	(2.38)	(1.22)
RelativeAttract*pr*	0.146	0.598***	-0.163	-0.200*
	(1.71)	(6.96)	(-1.60)	(-2.46)
Attract*rp**C*p*	-0.646***	-0.559***	-0.140	-0.0687
	(-4.87)	(-5.65)	(-1.01)	(-0.80)
Attract*rp**C*r*	0.625	0.614	-0.772	0.520
	(0.75)	(0.85)	(-1.69)	(1.46)
RelativeAttract*pr**C*p*	0.675***	0.573***	0.00260	-0.0444
	(5.14)	(5.38)	(0.02)	(-0.58)
RelativeAttract*pr**C*r*	-0.322	-0.239	0.427	-0.452
	(-0.64)	(-0.51)	(1.29)	(-1.92)
diag_both	-0.0211	-0.0411	0.0180	0.0580
	(-0.80)	(-1.03)	(0.35)	(1.07)
diag_both*assortative	0.0771*	0.173**	0.165*	0.216**
	(2.10)	(2.67)	(2.36)	(2.93)
wave=2	0.0184	0.0236	0.0340	-0.00108
	(0.79)	(0.80)	(1.20)	(-0.04)
EA=1			-0.0314	0.00584
			(-0.94)	(0.19)
EM=1			-0.0288	0.0242
			(-0.79)	(0.53)
NA=1			-0.0524	-0.0925*
			(-1.40)	(-2.62)
constant	-0.424***	-0.608***	0.431***	0.447***
	(-6.38)	(-7.39)	(4.55)	(4.61)
observations	264	254	264	254
clusters	63	64	63	64

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

number of proposals by 9.96% (resp. 8.91%), which averages to 1.42% (resp., 1.78%) per round, in wave 1 as shown in Column (2) of Table D3a (resp., wave 2 as shown in Column (2) of Table D3b). In both waves, 1 and 2, the effect of assortativity disappears in the analysis regarding balanced and imbalanced markets, but the effect of having pairwise equal splits in the core persists (Columns (3)-(4) of Table D3a and Table D3b).

Recall that in Section 5.1.1, we show that if players engage in bargaining in balanced markets, outside options should only affect the equilibrium outcomes of the ESNIC markets but not the ESIC markets. Therefore, if we observe that the higher number of proposals in the ESNIC markets is entirely driven by outside options, which are reflected by the inefficient proposals, it shall provide support for our noncooperative model. In the final two columns of both Table D3a and Table D3b, we introduce the count of inefficient proposals as an extra control factor, in contrast to the regression analyses conducted in the initial two columns. We find that, when controlling for the number of inefficient proposals, the effect of "whether the market is ESIC" on the number of proposals is no longer significant. This result suggests that subjects in balanced markets might indeed engage in bargaining with the consideration of outside options.

D.2 Tests on the fairness model

Table D4 tests the determinants of individual equal-split outcomes. ESIC markets produce 32%–40% more equal-split outcomes; assortativity reduces equal-split outcomes by around 10%; and having earned more cumulative payoffs does not increase the chance of an equal-split outcome: A $1 increase in cumulative payoffs increases an individual's chance of an equal-split outcome by less than 1% (-1.43% to 0.858% in wave 1 and -3.04% to 0.0493% in wave 2) at statistically insignificant levels.

Columns (3) and (4) of Table D2 show when proposers propose an equal split. In these two regressions, we use NM markets as the benchmark, and adopt dummy variables EA, EM, and NA to represent other market types. We find that, while subjects in the first round prefer to propose equally to those who are more attractive, over time, as subjects gain more experience, they become less likely to propose equally when they are relatively more attractive. Moreover, we find that subjects are more likely to propose equally to someone who is at their diagonal positions, but only when the markets are assortative. Finally, compared to NM markets, subjects in NA markets are less likely to make equal-split proposals.

Next, we investigate whether individuals use equal-split as a heuristic when making proposals. Table D5 shows the rate of equal-split proposals for each market type, and for round 1 and 5, respectively. It shows that, in the first round of balanced markets, the rates of equal-split proposals are higher than one third in all types of markets (53.3% in EA6, 47.9% in EM6, 36.9% in NA6, and 46.2% in NM6), and these rates are mostly insignificantly different between each other. Only the rate of NA6 markets is significantly lower than that of EA6 and NM6 (two-sided Mann-Whitney tests, $p < 0.01$, $n = 36$). In contrast, by the fifth round of balanced markets, these rates become significantly different from each other in most cases, with the rate in NA6 (20.4%) smaller than that of NM6 (37.8%), which is smaller than EM6 (59.2%) and EA6 (68.4%). All differences are highly significant (two-sided Mann-Whitney tests, $p < 0.001$, $n = 36$). Similarly, we find that, while the rates in imbalanced markets do not differ between market types in the first round (26.1% in EA7, 23.0% in EM7, 24.3% in NA7, and 24.8% in NM7), the rate in NA7 becomes significantly lower than other markets by the fifth round (8.5% in NA7, 19.0% in NM7, 19.8% in EA7, 25.5% in EM7, significant difference with $p < 0.001$, $n = 30$). Moreover, after controlling for other factors, columns (3) and (4) of Table D2 reveal that the rates of equal-split proposals do not differ across market types in the first round, but significant differences appear in the fifth round. These results indicate that, when subjects are inexperienced, they likely use equal-split as a heuristic when proposing to others, leading to almost equally high rates of equal-split proposals in different markets at the beginning. However, once they gain experience, subjects in the ESNIC markets tend to shy away from equal-split proposals compared to the ESIC markets, which is consistent with the theory, suggesting that their behavior is not driven by unequal outcomes being less intuitive.

Finally, Table D6 presents when subjects prefer a proposal over their current matches. We use the final matches of each subject as a benchmark, and compare them with all other relevant proposals. Specifically, we first include proposals that subjects reject between the final match and the temporary match before the final match, as well as the ones after the final match. Given that subjects reject those proposals and stay in their final match, they reveal that these proposals are worse than their final matches. Moreover, we include proposals subjects make to others while they are on their final matches, which are revealed to be better than the final matches. The dependent variable is a dummy, which equals 1 if the proposal is better than the final matches, and equals 0 otherwise. The independent variable *Earnings* captures the surplus difference between one's final match and the proposals. The independent variables *Unfair(adv)* and *Unfair(adv)* capture the differences in unfairness level between the final matches and the proposals, following the definitions of Fehr and Schmidt (1999). The former reflects cases in which one earns more than their opponents, and the latter reflects cases where one earns less than their opponents. Specifically, they are defined as follows: Unfair (adv)=Unfair (adv) index (final match) - Unfair (adv) index (proposal), where Unfair (adv) index = max {Profit (proposal) - Profit (final match), 0}. Similarly, Unfair (disadv) = Unfair (disadv) index (final match) - Unfair (disadv) index (proposal), where Unfair (disadv) index = max {Profit (final match) - Profit (proposal), 0}.

Columns (1)–(3) of Table D6 show that in balanced markets, subjects prefer proposals that yield a higher earning for themselves, and dislike proposals that are more disadvantageously unfair to themselves, which is mostly driven by the wave 1 sample. However, they do not appear to care if a proposal is more unfair when they earn more than the others. Columns (4)–(6) of Table D6 show that, in imbalanced markets, the preference for higher earnings persists. Moreover, subjects are averse to both advantageous and disadvantageous unfairness, but only in wave 1. Additionally, in both waves, the competitive players' proposals are more likely to be rejected, and they are more likely to accept others' proposals. Overall, these results indicate that subjects exhibit inequality aversion preferences when choosing between proposals, but only when the markets have a fixed ending time.

D.3 Reasons for being unmatched in balanced markets

In wave 1, 33.8% of balanced markets end up with unmatched agents (12% of EA6, 21% of EM6, 42% of NA6, and 60% of NM6), and 11.22% of agents end up unmatched (3.83% in EA6, 7.17% in EM6, 13.83% in NA6, and 20.05% in NM6). It is worthwhile to understand why they end up unmatched, because a significant amount of potential surplus is left unrealized, and the loss due to being unmatched far exceeds the loss due to inefficient mismatches.

To this end, we categorize a few reasons for being unmatched in wave 1. Namely, we define four categories. A person is **unlucky** if he/she was matched after 150 seconds of the game but was left unmatched by the end. A person is **unattractive** if he/she was unmatched for the last 30 seconds, was never proposed to, proposed to but was rejected by others. A person is **picky** if the person was unmatched for the last 30 seconds, did not propose to anyone in the last 30 seconds, and rejected any incoming proposals in the last 30 seconds of the game. A person is **trying** if the person has both been rejected and rejected others in the last 30 seconds of the game.

Table D7a lists the reasons for individuals being unmatched. The leading factor is that a person is suddenly released from a match within 30 seconds of the end of the game. More than half (45.2% in EA6, 58.5% in EM6, 49.4% in NA6, and 50.0% in NM6) are left unmatched for this reason. For the rest of the unmatched subjects, a little less than half are left unmatched because they are unattractive—i.e., in the last 30 seconds their offers were not accepted and no one proposed to them. For the last quarter of the unmatched subjects, half were picky—i.e., they did not make any offer and rejected all incoming proposals in the last 30 seconds—half of them were actively participating without success.[22]

Table D7b shows the effects of the environment on being unmatched. There is no strong evidence that unmatched types show up in different ways in different configurations. The "individual efficient surplus" is the theoretically predicted total surplus an individual can generate in the match. The "individual random surplus" is the expected total surplus an individual obtains with their partner. For example, for m_1 in AE, the individual efficient surplus is 30 and the individual random surplus is $(30+40+50)/3 = 40$. The larger these factors, the higher the surplus an individual can provide. Therefore, as row 2 of Table D7b shows, a higher individual random surplus is associated with a lower chance of being unmatched, and—conditional on being unmatched—a lower chance that an agent is left single for being unattractive.

In wave 2, when time limits are removed, the proportion of balanced markets with unmatched agents decreases to 11.4% (3.9% of EA6, 2.0% of EM6, 12.0% of NA6, and 27.5% of NM6) and the proportion of unmatched agents decreases to 4.41% (2.0% in EA6, 0.7% in EM6, 4.5% in NA6, and 13.5% in NM6). Among markets with unmatched pairs, in 99.7% of cases in wave 1 and 99.0% of cases in wave 2, one pair remains unmatched. Because by design players in wave 2 make no proposal in the last 30 seconds of the game, the reasons for being unmatched in wave 1 no longer apply. Therefore, we explore additional reasons for being unmatched in both waves. According to the variable $Attract_{ij}$ we introduced in Section D.1, we categorize all pairs (both matched and unmatched) into "mutually unattractive," "unilaterally unattractive," and "mutually attractive." A pair is "mutually unattractive" if the attractiveness of both sides is lower than one, "unilaterally unattractive" if the attractiveness is lower than one for exactly one side, and "mutually attractive" otherwise.[23]

Table D8 presents the determinants for pairs being unmatched in both waves. We present results from three probit regressions, in which column (1) contains all pairs, column (2) contains only efficient pairs, and column (3) contains only inefficient pairs.[24] First, we find that removing the time limits (wave=2) significantly decreases the rate of being unmatched, both for efficient and inefficient pairs. Next, we find that the efficient pairs and the inefficient pairs are unmatched for very different reasons. While "mutually unattractive" and "unilaterally unattractive" have significant positive effects on inefficient pairs to be unmatched, neither of them could explain the reasons for being unmatched for the efficient pairs. However, we find that the efficient pairs are less likely to be unmatched in ESIC markets as well as when subjects gain experience in later periods. These factors have no effects on inefficient pairs.

[22]We also check whether some subjects tend to always be unlucky, picky, unattractive, or trying, and this is not the case. The majority of subjects who have been unlucky, picky, unattractive, or trying experienced this only once or twice.

[23]In Section D.1 we also create a variable $RelativeAttract_{ij}$ to measure player i's relative attractiveness to player j among all of the possible matches player i could achieve. We do not include this variable as one of the potential reasons for being unmatched. This is because for markets with unmatched players in both waves, in over 90% of the cases, only two agents remain unmatched, and hence relative attractiveness should not be a major concern.

[24]When there are two unmatched agents in a market, we classify them as an efficient (inefficient) pair if they form an efficient (inefficient) pair when matched. When there are four unmatched agents in a market, we include each potential pair of these four agents in the regressions.

D.4 Demographic characteristics

We investigate whether individual characteristics have any effects on the number of matches and payoffs in each configuration. Using regressions with group fixed effects, Table D10 shows the effect of age, gender, grade, and major on the number of matched pairs a subject reaches and the total payoff a subject obtains in each of the eight markets. There is hardly any effect of these characteristics, except for two instances listed below that result in statistical significance. In wave 1, economics/business majors in EM6 markets are 5.36% more likely to be matched. Males are associated with a 7.28% decrease in total payoff in EA7. In wave 2, a year older is associated with an 11.1% decrease in total payoff in NM6. These results indicate a modest role of age, gender, and major in the two-sided matching markets.

D.5 Other experimental results

D.5.1 Bargaining activities

Table D9 shows alternative specifications for regression on determinants of the number of proposals for balanced markets. The alternative specifications yield conclusions similar to our leading specification (3), presented in Column (2) of Table D3.

D.5.2 Demographic characteristics

Using regressions with individual fixed effects, Tables D10 shows the effect of age, gender, grade, and major on the number of matched pairs a subject reaches in each of the eight markets.

Table D3: Determinants of number of proposals per player per round

(a) Determinants of number of proposals per player per round in balanced and all markets: wave 1

	(1) # proposals	(2) log # proposals	(3) # proposals	(4) log # proposals	(5) # proposals	(6) log # proposals
ESIC	-0.508***	-0.310***	-0.508***	-0.310***	0.122	-0.0350
	(-4.59)	(-4.98)	(-4.63)	(-5.02)	(1.52)	(-0.69)
assortative	-0.270**	-0.128*	-0.0454	-0.0232	-0.0747	-0.0422
	(-2.97)	(-2.66)	(-0.50)	(-0.69)	(-1.15)	(-1.34)
ESIC*assortative	0.324	0.134	0.324	0.134	0.0691	0.0223
	(1.98)	(1.63)	(1.99)	(1.65)	(0.69)	(0.39)
round	-0.0388**	-0.0293**	-0.0229	-0.0136*	0.0338**	0.00249
	(-3.21)	(-3.22)	(-1.61)	(-2.22)	(3.58)	(0.46)
order	-0.159**	-0.0997***	0.0162	-0.00121	-0.0185	-0.0381*
	(-3.58)	(-4.91)	(0.34)	(-0.06)	(-0.71)	(-2.63)
balanced			0.430	0.272**		
			(1.69)	(2.74)		
assortative*balanced			-0.225	-0.104		
			(-1.76)	(-1.79)		
round*balanced			-0.0159	-0.0156		
			(-0.85)	(-1.44)		
order*balanced			-0.176**	-0.0985***		
			(-2.70)	(-3.57)		
#Inefficient proposals					0.194***	0.0847***
					(22.07)	(7.70)
constant	3.039***	1.204***	2.609***	0.933***	0.952***	0.291*
	(17.07)	(16.02)	(14.18)	(14.23)	(6.23)	(2.42)
observations	728	728	1,288	1,288	728	728
clusters	26	26	46	46	26	26

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of number of proposals per player per round in balanced and all markets: wave 2

	(1) # proposals	(2) log # proposals	(3) # proposals	(4) log # proposals	(5) # proposals	(6) log # proposals
ESIC	-3.380**	-0.939**	-3.380***	-0.939***	0.355	-0.207
	(-4.76)	(-4.03)	(-4.89)	(-4.14)	(1.35)	(-1.13)
assortative	-1.869**	-0.263	-0.394	0.00387	0.150	0.133
	(-3.38)	(-1.95)	(-0.63)	(0.03)	(0.60)	(1.29)
ESIC*assortative	1.557**	0.138	1.557**	0.138	-0.128	-0.192
	(3.26)	(0.60)	(3.35)	(0.62)	(-0.52)	(-1.16)
round	-0.268*	-0.0728*	-0.209	-0.0328	0.0513	-0.0103
	(-2.61)	(-2.79)	(-0.94)	(-0.93)	(0.80)	(-0.41)
order	-0.392	-0.130	-1.462*	-0.306**	0.0734	-0.0386
	(-1.82)	(-1.50)	(-2.59)	(-3.31)	(0.93)	(-0.65)
balanced			-0.772	-0.00326		
			(-0.33)	(-0.01)		
assortative*balanced			-1.475	-0.267		
			(-1.79)	(-1.49)		
round*balanced			-0.0589	-0.0400		
			(-0.24)	(-0.92)		
order*balanced			1.069	0.176		
			(1.78)	(1.41)		
#Inefficient proposals					0.325***	0.0637***
					(18.87)	(5.08)
constant	7.007***	1.819***	7.779**	1.823***	0.0627	0.459*
	(6.03)	(8.69)	(3.79)	(6.88)	(0.16)	(2.26)
observations	200	200	399	399	200	200
clusters	10	10	20	20	10	10

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table D4: Determinants of equal-split outcome

(a) Determinants of equal-split outcome: wave 1

	(1) equal-split outcome	(2) equal-split outcome	(3) equal-split outcome
ESIC	0.323***	0.323***	0.326***
	(4.89)	(4.86)	(4.95)
assortative	-0.0981**	-0.0984**	-0.0950**
	(-2.95)	(-3.05)	(-2.88)
ESIC*assortative	0.200***	0.200***	0.194***
	(3.94)	(3.95)	(3.84)
cumulative payoff	0.00858	0.00637	-0.0143
	(1.60)	(1.13)	(-1.63)
round		0.0135**	0.0213***
		(2.81)	(4.85)
order			0.0581*
			(2.18)
constant	0.306***	0.263***	0.188**
	(6.69)	(5.50)	(3.18)
observations	3,874	3,874	3,874
clusters	26	26	26

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of equal-split outcome: wave 2

	(1) equal-split outcome	(2) equal-split outcome	(3) equal-split outcome
ESIC	0.401***	0.401***	0.402***
	(5.16)	(5.15)	(5.12)
assortative	-0.113	-0.113	-0.113
	(-1.77)	(-1.78)	(-1.78)
ESIC*assortative	0.213*	0.212*	0.209*
	(3.10)	(3.05)	(2.92)
cumulative payoff	0.000493	0.00155	-0.0304
	(0.06)	(0.21)	(-1.47)
round		-0.00943	0.00610
		(-0.85)	(0.41)
order			0.0823
			(1.53)
constant	0.409***	0.433***	0.326*
	(6.10)	(5.69)	(2.91)
observations	1,154	1,154	1,154
clusters	10	10	10

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Determinants of equal-split outcome in rounds 1: wave 1

	(1) equal-split outcome	(2) equal-split outcome	(3) equal-split outcome
ESIC	0.149	0.149	0.148
	(1.98)	(1.98)	(1.96)
assortative	-0.132	-0.132	-0.134
	(-1.46)	(-1.46)	(-1.50)
ESIC*assortative	0.211*	0.211*	0.218*
	(2.20)	(2.20)	(2.26)
cumulative payoff	-0.0104	-0.0104	0.0155
	(-0.95)	(-0.95)	(0.53)
order			-0.0708
			(-0.91)
constant	0.449***	0.449***	0.528***
	(6.04)	(6.04)	(4.75)
observations	542	542	542
clusters	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Determinants of equal-split outcome in rounds 1: wave 2

	(1) equal-split outcome	(2) equal-split outcome	(3) equal-split outcome
ESIC	0.399**	0.399**	0.398**
	(4.06)	(4.06)	(4.11)
assortative	0.0455	0.0455	0.0447
	(0.61)	(0.61)	(0.60)
ESIC*assortative	-0.0348	-0.0348	-0.0354
	(-0.25)	(-0.25)	(-0.26)
cumulative payoff	0.0168	0.0168	-0.00220
	(1.59)	(1.59)	(-0.05)
order			0.0477
			(0.44)
constant	0.375***	0.375***	0.324
	(6.14)	(6.14)	(1.97)
observations	222	222	222
clusters	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table D5: Two-sided Mann-Whitney tests on the rate of equal-split proposals

	Types of balanced markets (Round 1/5)			
	EA6	EM6	NA6	NM6
Equal-split proposals (%)	53.3/68.4	47.9/59.2	36.9/20.4	46.2/37.8
EA6		(0.250/0.150)	(0.005/< 0.001)	(0.338/< 0.001)
EM6			(0.114/< 0.001)	(0.710/< 0.001)
NA6				(0.007/< 0.001)
	Types of imbalanced markets (Round 1/5)			
	EA7	EM7	NA7	NM7
Equal-split proposals (%)	26.1/19.8	23.0/25.5	24.3/8.5	24.8/19.0
EA7		(0.408/0.399)	(0.663/< 0.001)	(0.767/0.923)
EM7			(0.842/< 0.001)	(0.695/0.348)
NA7				(0.684/< 0.001)

Notes: p-values in parentheses. n = 36 for all balanced markets, n = 30 for all imbalanced markets.

Table D6: Proposals compared to the final match

	all waves	wave 1	wave 2	all waves	wave 1	wave 2
Earning	0.0323***	0.0354***	0.0211***	0.0232***	0.0266***	0.0149***
	(13.84)	(13.41)	(4.01)	(16.68)	(15.99)	(4.85)
unfair(adv)	-0.00206	-0.00255	-0.000590	-0.00136	-0.00313***	0.000912
	(-1.83)	(-1.90)	(-0.32)	(-1.64)	(-3.31)	(0.89)
unfair(disadv)	-0.00524***	-0.00602***	-0.00276	-0.00194*	-0.00348**	0.000437
	(-4.62)	(-4.09)	(-1.80)	(-2.26)	(-3.15)	(0.48)
wave2=1	-0.252***			-0.223***		
	(-6.20)			(-11.76)		
Cp				-0.203***	-0.248***	-0.0831***
				(-13.18)	(-14.73)	(-3.32)
Cr				0.193***	0.219***	0.114***
				(7.31)	(6.15)	(3.99)
observations	6,985	5,436	1,549	5,496	3,906	1,590
clusters	36	26	10	30	20	10

t statistics in parentheses; standard errors clustered at group level
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table D7: Reasons and determinants for individuals being unmatched: wave 1

(a) Reasons for individuals being unmatched: wave 1

Single reason	EA6	EM6	NA6	NM6	Total
	%	%	%	%	%
unlucky	45.2	58.5	49.4	50.0	50.8
unattractive	23.8	12.2	20.8	26.6	22.2
picky	11.9	9.8	19.5	11.7	13.8
trying	19.0	19.5	10.4	11.7	13.2
Total	100.0	100.0	100.0	100.0	100.0

(b) Determinants of reasons for individuals being unmatched: wave 1

	(1) unmatched	(2) unlucky	(3) unattractive	(4) picky	(5) trying
individual efficient surplus	0.000402	-0.484	0.584*	0.114	-0.180
	(0.01)	(-1.55)	(2.47)	(0.44)	(-0.72)
individual random surplus	-0.0967***	0.302***	-0.330***	-0.0624	0.0283
	(-7.22)	(3.81)	(-3.85)	(-1.69)	(0.48)
ESIC	-0.113***	0.0628	-0.170**	-0.0348	0.0847
	(-5.47)	(0.77)	(-2.79)	(-0.75)	(1.60)
assortative	-0.0493***	-0.00487	-0.0292	0.0586	-0.000683
	(-4.17)	(-0.08)	(-0.64)	(1.88)	(-0.01)
ESIC*assortative	-0.0111	-0.133	0.138	-0.0327	-0.00620
	(-0.36)	(-1.06)	(1.09)	(-0.43)	(-0.08)
round	-0.00251	0.0188	-0.0184	-0.00257	-0.00250
	(-1.04)	(1.55)	(-1.86)	(-0.40)	(-0.35)
period	-0.00265***	0.00123	-0.00375	-0.00367	0.00377
	(-3.65)	(0.37)	(-1.42)	(-1.86)	(1.53)
observations	4,368	500	500	500	500
clusters	26	26	26	26	26

Table D8: Determinants of unmatched pairs in balanced markets: waves 1 and 2

	(1) unmatched (All pairs)	(2) unmatched (Efficient pairs)	(3) unmatched (Inefficient pairs)
mutually unattractive	0.139^{***}	-0.00560	0.496^{***}
	(10.67)	(-0.37)	(19.24)
unilaterally unattractive	0.0858^{***}	0.0256	0.258^{***}
	(4.75)	(1.64)	(7.72)
wave=2	-0.113^{***}	-0.0770^{***}	-0.186^{***}
	(-7.55)	(-5.56)	(-3.94)
ESIC	-0.0928^{***}	-0.0366^{**}	0.123^{**}
	(-4.80)	(-2.91)	(2.97)
assortative	-0.0464^{**}	-0.0333^{*}	0.0920^{**}
	(-3.13)	(-2.18)	(3.14)
ESIC*assortative	0.0166	0.0191	-0.176^{**}
	(0.67)	(0.85)	(-2.86)
period	-0.00228^{**}	-0.00160^{*}	-0.00216
	(-3.22)	(-2.32)	(-1.41)
round	-0.00293	-0.00425^{*}	0.00864
	(-1.47)	(-2.06)	(1.43)
observations	2,792	2,170	622
clusters	36	36	36

t statistics in parentheses; standard errors clustered at group level

reported coefficients are marginal effects from probit

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table D9: Determinants of logged number of proposals in balanced markets

(a) Determinants of logged number of proposals in balanced markets: wave 1

	(1) log proposals	(2) log proposals	(3) log proposals	(4) log proposals
ESIC	-0.243***	-0.303***	-0.310***	-0.310***
	(-5.42)	(-4.45)	(-4.98)	(-4.98)
assortative	-0.0530	-0.112*	-0.128*	-0.128*
	(-0.93)	(-2.28)	(-2.66)	(-2.66)
ESIC*assortative		0.118	0.134	0.134
		(1.27)	(1.63)	(1.63)
round			-0.0293**	-0.0150
			(-3.22)	(-1.72)
order			-0.0997***	
			(-4.91)	
period				-0.0142***
				(-4.91)
constant	2.592***	2.622***	2.996***	2.896***
	(44.79)	(42.27)	(39.86)	(43.47)
observations	728	728	728	728
clusters	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Determinants of logged number of proposals in balanced markets: wave 2

	(1) log proposals	(2) log proposals	(3) log proposals	(4) log proposals
ESIC	-0.870***	-0.923**	-0.941**	-0.941**
	(-4.83)	(-3.86)	(-4.04)	(-4.04)
assortative	-0.212	-0.266	-0.266	-0.266
	(-1.57)	(-2.26)	(-1.98)	(-1.98)
ESIC*assortative		0.107	0.143	0.143
		(0.45)	(0.62)	(0.62)
round			-0.0891**	-0.0712*
			(-3.33)	(-2.76)
order			-0.0891	
			(-1.42)	
period				-0.0178
				(-1.42)
constant	3.114***	3.141***	3.631***	3.542***
	(18.48)	(19.64)	(16.42)	(19.24)
observations	200	200	200	200
clusters	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table D10: Individual characteristics determinants of outcomes

(a) Individual characteristics determinants of outcomes in balanced markets: wave 1

	(1) log match EA6	(2) log match EM6	(3) log match NA6	(4) log match NM6	(5) log payoff EA6	(6) log payoff EM6	(7) log payoff NA6	(8) log payoff NM6
Age	0.00474	-0.000388	0.0239	-0.0101	0.0193	0.0206	0.0376	-0.0181
	(0.38)	(-0.02)	(0.98)	(-0.69)	(0.98)	(0.88)	(1.24)	(-0.96)
Male	0.00724	-0.0482	0.00705	0.0427	0.0132	-0.0574	-0.0563	0.0654
	(0.31)	(-1.52)	(0.22)	(1.45)	(0.29)	(-1.30)	(-1.51)	(1.88)
Grade of study	-0.00250	0.0161	-0.0364	0.0176	-0.00692	0.00896	-0.0345	0.0343
	(-0.12)	(0.67)	(-1.09)	(0.76)	(-0.26)	(0.27)	(-0.75)	(1.23)
Econ/Business	-0.00597	0.0536^{*}	-0.0323	-0.00180	-0.00143	0.0514	-0.0926	0.00292
	(-0.26)	(2.06)	(-0.79)	(-0.08)	(-0.04)	(1.16)	(-1.79)	(0.09)
Constant	1.728^{***}	1.733^{***}	1.316^{**}	1.941^{***}	4.938^{***}	4.842^{***}	4.606^{***}	5.569^{***}
	(8.86)	(6.45)	(3.18)	(8.39)	(15.29)	(12.20)	(9.14)	(17.92)
observations	156	156	156	156	156	156	156	156
clusters	26	26	26	26	26	26	26	26

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(b) Individual characteristics determinants of outcomes in imbalanced markets: wave 1

	(1) log match EA7	(2) log match EM7	(3) log match NA7	(4) log match NM7	(5) log payoff EA7	(6) log payoff EM7	(7) log payoff NA7	(8) log payoff NM7
Age	0.00601	0.00592	0.00209	0.00942	0.00767	0.0147	-0.00505	0.0148
	(0.68)	(0.44)	(0.24)	(0.72)	(0.51)	(0.83)	(-0.36)	(0.78)
Male	-0.0339	-0.0857	0.00414	0.0158	-0.0782^{*}	-0.124	0.00686	-0.0137
	(-1.58)	(-1.79)	(0.11)	(0.40)	(-2.16)	(-1.99)	(0.14)	(-0.19)
Grade of study	-0.00249	-0.00312	0.00379	-0.00260	-0.00150	0.000535	0.00121	-0.00124
	(-0.84)	(-0.46)	(1.29)	(-0.51)	(-0.28)	(0.06)	(0.18)	(-0.20)
Econ/Business	0.0294	-0.0187	0.0360	0.0227	-0.0153	-0.00145	0.0509	0.0359
	(0.76)	(-0.43)	(0.77)	(0.36)	(-0.28)	(-0.04)	(0.84)	(0.41)
Constant	1.620^{***}	1.620^{***}	1.640^{***}	1.423^{***}	5.085^{***}	4.899^{***}	5.245^{***}	4.778^{***}
	(7.99)	(6.49)	(9.05)	(5.23)	(15.97)	(14.00)	(19.35)	(12.14)
observations	140	140	140	140	140	140	140	140
clusters	20	20	20	20	20	20	20	20

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(c) Individual characteristics determinants of outcomes in balanced markets: wave 2

	(1) log match EA6	(2) log match EM6	(3) log match NA6	(4) log match NM6	(5) log payoff EA6	(6) log payoff EM6	(7) log payoff NA6	(8) log payoff NM6
Age	-0.00548	-0.0107	0.0136	-0.00941	0.0689	0.00351	-0.00644	-0.111*
	(-1.14)	(-1.02)	(0.85)	(-0.37)	(1.69)	(0.06)	(-0.12)	(-2.91)
Male	0.00759	0.0161	0.0273	-0.0300	-0.0107	0.0170	0.0622	-0.0162
	(0.90)	(1.05)	(1.32)	(-1.38)	(-0.17)	(0.24)	(1.32)	(-0.29)
Grade of study	0.00270	0.0165	-0.0368	-0.0463	-0.130	-0.0142	-0.0388	0.00704
	(0.60)	(1.03)	(-1.57)	(-1.31)	(-1.98)	(-0.18)	(-0.71)	(0.15)
Econ/Business	0.00399	0.0177	-0.0160	0.0141	-0.0403	0.0442	0.0353	-0.117
	(0.49)	(1.27)	(-0.73)	(0.31)	(-0.46)	(0.58)	(0.61)	(-1.43)
Constant	1.692***	1.747***	1.412***	1.847**	4.135***	5.025***	5.247***	7.332***
	(24.63)	(12.35)	(5.21)	(4.69)	(5.66)	(5.26)	(5.67)	(11.30)
observations	60	60	60	60	60	60	60	60
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(d) Individual characteristics determinants of outcomes in imbalanced markets: wave 2

	(1) log match EA7	(2) log match EM7	(3) log match NA7	(4) log match NM7	(5) log payoff EA7	(6) log payoff EM7	(7) log payoff NA7	(8) log payoff NM7
Age	0.0600	0.0134	0.0109	0.00179	0.0104	0.0147	0.00599	-0.0251
	(1.82)	(0.36)	(0.33)	(0.04)	(0.19)	(0.31)	(0.10)	(-0.43)
Male	-0.0591	0.0101	0.0138	-0.0264	-0.138	0.0899	-0.0180	-0.0947
	(-1.00)	(0.22)	(0.33)	(-0.33)	(-1.79)	(1.24)	(-0.20)	(-0.74)
Grade of study	-0.109	-0.0258	0.0194	0.0163	-0.0428	0.00226	0.0703	0.0874
	(-2.08)	(-0.72)	(0.48)	(0.48)	(-0.64)	(0.04)	(1.20)	(1.13)
Econ/Business	-0.0188	0.0594	-0.107	0.0589	-0.0340	-0.0168	-0.131	0.0701
	(-0.40)	(0.64)	(-1.85)	(0.48)	(-0.30)	(-0.25)	(-0.95)	(0.90)
Constant	0.596	1.175	1.244	1.285	4.886**	4.534***	4.640**	5.055***
	(1.08)	(1.83)	(2.07)	(1.53)	(4.45)	(5.52)	(4.02)	(4.86)
observations	70	70	70	70	70	70	70	70
clusters	10	10	10	10	10	10	10	10

t statistics in parentheses; standard errors clustered at group level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$