Online appendix for Iterative Versus Standard Deferred Acceptance: Experimental Evidence

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1 First, non-reported experiment

1.1 Design of the experiment 1

In the experiment there were eight universities that differed in quality and specialization. Each university had only one seat. Universities admitted students based on an exam grade. There were eight students who applied for seats at universities, and each student had a grade for math and a grade for language. universities M1, M2, M3 accepted based on the math grade only. Universities L1, L2, L3 accepted based on the language grade only. Universities H1 and H2 accepted based on the average grade between math and language. Every student knew her own grades and the grades of all other students. Each student also knew her preferences and preferences of all other students. In all treatments students received 22 euro if they were assigned to their most preferred university, 19 euro to their second most preferred university, 16 euro to their fourth most preferred university and so on. Students received 1 euro if they were assigned to their least preferred university and zero if they remain unmatched.

We implemented two admission markets: HIGH and LOW. Each market was played 15 times in a row, without change of any parameters. We chose this design feature to maximize the understanding of the mechanics and strategic interactions iduced by the mechanism. In all treatments subjects received the feedback about the allocation reached in previous rounds. The details of admission markets are presented in Table 1.

In the HIGH market preferences were correlated in a way that they form three tiers of universities: every student preferred universities with index 1 to all other universities, while universities with index 2 were preferred to all universities with index 3 by all students. The preferences within tiers were arbitrarily determined. This feature of preferences was also emphasized for participants on the screen by putting each tier in an additional frame, just like in Table 1. As for the LOW market, the preferences of students were less correlated: all students agree on top four universities (M1, M2, L1, L2) and bottom four universities (L2,H2,M3,L3). The preferences within top four and bottom four were arbitrarily determined. Grades of the students in the both admission markets were designed in a way to ensure the following properties of the markets: 1. There is unique stable matching (stable allocation is marked by bold font and double underlined in table 1). 2. Nobody receives her top choice in the stable matching. The unique stable allocations are marked bold and underlined in Table 1.

Note that the markets in our experiment are the largest markets in terms of number of schools considered so far in the repeated matching experiments: Ding and Schotter [2015] use a market with five students but only four different profiles, Chen and Kesten [2015] with four and six students, Gong and Liang [2016] and Klijn et al. [2016]both use markets with four students, and Zhu [2015] with three students. [1] We do not aim to approximate reality by introducing eight students profile, but at least we make a step closer to it relative to existing literature. Instead, we make it easier for subjects to understand the strategic

[1]The only exception is large scale experiment by Chen et al. [2015], however the large market in the experiment was created by increasing the number of students with similar profiles, while we create higher number of different student profiles.

Table 1: Preferences and grades of subjects by markets

HIGH market								
Pref.	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euro	M1	M1	M1	H1	H1	H1	L1	L1
19 euro	H1	H1	L1	L1	**L1**	L1	H1	**H1**
16 euro	L1	L1	H1	**M1**	M1	M1	M1	M1
13 euro	H2	**L2**	M2	H2	M2	L2	H2	M2
10 euro	L2	H2	H2	L2	H2	**H2**	L2	H2
7 euro	**M2**	M2	L2	M2	L2	M2	M2	L2
4 euro	M3	L3	M3	L3	M3	L3	**M3**	L3
1 euro	L3	M3	**L3**	M3	L3	M3	L3	M3
Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	68	69	44	87	71	64	55	93
Lang.	30	92	82	68	93	72	61	86
Av.	49	80.5	63	77.5	82	68	58	89.5

LOW market								
Pref.	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euro	M1	M2	M1	H1	H1	H1	L1	L1
19 euro	L1	L1	M2	**L1**	M2	L1	**M2**	H1
16 euro	H1	**H1**	H1	M1	**M1**	M2	M1	M1
13 euro	M2	M1	L1	M2	L1	M1	H1	M2
10 euro	**L2**	M3	**M3**	L2	L3	**L3**	H2	**H2**
7 euro	H2	L2	L2	H2	L2	H2	L2	L2
4 euro	M3	L3	H2	L3	M3	L2	M3	L3
1 euro	L3	H2	L3	M3	H2	M3	L3	M3
Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	69	70	80	40	81	30	90	71
Lang.	83	90	70	91	51	80	30	50
Av.	76	80	75	65.5	66	55	60	60.5

interactions induced by the mechanisms, as we keep the group fixed throughout the whole experiment. Moreover, the large number of schools is crucial to test the difference between DA and IDAM, as the iterative mechanisms are less sensitive than the direct ones to the increase in the number of universities, as the decision at a step is the submission of just one university from the list. [2]

At the end of the experiment, one round was randomly drawn to determine the payoffs of participants.

We implemented four treatments between subjects:

1. DA - students submitted full lists of preferences (eight universities) each round and the allocation was determined by the deferred acceptance mechanism.

2. DA5 - students can submitted only list of five universities to the system each round and then allocation was determined by the deferred acceptance mechanism.

3. IDAM - allocation was determined by iterative deferred acceptance mechanism with unconstrained number of steps. The allocation was finalized when no more rejections appear in the mechanism.

4. IDAM5 - allocation was determined by iterative deferred acceptance mechanism with maximum five steps. It means that the cutoffs of the universities were updated maximum five times, after which all the retained assignments were finalized and all unassigned students remained unassigned.

The DA and IDAM treatments allow us to compare the understanding of the incentive properties of the unconstrained versions of those mechanisms in the lab. In DA the submission of the truthful list is a weakly dominant strategy, while in IDAM straightforward strategy is an OPBE. Constrained versions of DA and IDAM, here represented by DA5 and IDAM5, both require a more elaborate strategic behavior from students but are more likely to be implemented in reality. Note that DA5 and IDAM5 are not directly comparable. On one hand, students who have minimum guaranteed university among her five most preferred universities might be truthful submitting their top five universities in DA5, and this does not influence their allocation.[3] In IDAM5, however, this is not necessarily true, as some students might not even have a chance to apply to their second choice if they were rejected from their top choice in the fifth step. Thus even having the minimum guaranteed university among the five most preferred unversities does not guarantee that following straightforward strategies constitutes an equilibrium. On the other hand, it might well be that in IDAM5 five steps are enough for some students to apply even to the sixth, seventh or eighth choice under the straightforward strategy. It happens since applications to schools with higher

[2] In the case of one school, DA and IDAM are the same, while in the case of 1000 schools, the submission of the full list in DA is almost unfeasible in practice, while following the straightforward strategy in IDAM still constitutes a simple task at each given step.

[3] Minimum guaranteed university is the best university for each subject, at which she can get a seat regardless of others' behaviors. For instance, a student with the highest math grade can get to any of three universities M1, M2 and M3 irrespective of who else apply to these universities at any step of the mechanism.

Table 2: Truthful reporting or straightworward strategy is OPBE:

Treatment	DA		DA5		IDAM		IDAM5	
Market	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
Truthful	yes	yes	no	yes	yes	yes	no	yes

cutoff grades than the grade of a student are not allowed (for more comparison between two constrained versions of the mechanisms see Chen and Pereyra [2016]). Here is a simple example: To create variation in predictions about subjects behavior, we impose one additional restriction when generating the grades of students for LOW market: in the stable allocation no one gets into university worse than the fifth choice; in IDAM stable allocation is reached under straightforward behavior in no more than five steps. The summary of treatments and equilibrium behavior are presented in Table 2.

The experiments were run at the experimental economics lab at the Technical University Berlin. We recruited student subjects from our pool with the help of ORSEE [Greiner et al., 2003]. The experiments were programmed in z-Tree [Fischbacher, 2007]. For each of the four treatments, DA, DA5, IDAM, IDAM5, independent sessions were carried out. Each session consisted either of 24 participants that were split into three matching groups of eight for the entire session or 16 participants that were split into two matching groups of eight for the entire session. In total, 22 sessions with 480 subjects were conducted. Thus we have 120 subjects and 15 independent observations per treatment. The experiment lasted on average 110 minutes and the average earnings per subject were EUR 22.10, including show up fee of 5 EUR.

At the beginning of the experiment, printed instructions were given to the participants (see Appendix). Participants were informed that the experiment was about the study of decision making, and that their payoff depended on their own decisions and the decisions of the other participants. The instructions were identical for all participants of a treatment, explaining in detail the experimental setting. Questions were answered in private. After reading the instructions, the experimenter went through the solution of an example of allocation task on the white board and allow for public questions. After that all individuals participated in a quiz to make sure that everybody understood the main features of the experiment.

After the quiz, before the start of the first round participants were asked to solve an allocation task which appeared on the screen of their computers. The correct solution of the task had to be typed in, and if it was correct, participants earned 2 EUR. For DA and DA5, participants saw the submitted list of virtual students on the screen and their grades and they had to determine the final allocation. For IDAM and IDAM5 participants saw the decision of each student in the first step and had to determined retained and rejected students in each school. If it was done correctly they were informed about decisions of rejected students and so on, until a final allocation was reached. In case of mistake at any step the the task stopped and the solution was counted as false. We introduced the incentivized task to be sure that every participant pays enough attention to the details of the mechanism.

1.2 Experimental results 1

We first present the aggregate results on the level of allocations in order to compare the treatments. Next, we study individual behavior in the treatments to compare it to the equilibrium predictions and to shed light on the reasons for the aggregate findings. The significance level of all our results is 5%, unless otherwise stated. In the section we use for tests, either non-parametric tests if the data are defined on the level of independent observations or clustered regressions on the level of independent observations if data are defined in the individual or round level. The details of the regression are presented in notes of tables with p-values. In the main text we use only p-values, without mentioning the details in order to simplify reading. We use signs $>$ in the results between treatment to communicate significantly higher. We use $=>$ to communicate 10% significantly higher.

1.2.1 Aggregate results: stability and efficiency

In this section we compare properties of allocations reached in each of the treatments. We take two perspectives on each of the parameters: convergence to stability and efficiency within treatments and comparison of the outcomes in each of the markets.

Result 1 (Stability):
In HIGH market:

1. There is a significant increase in the proportion of stable outcomes reached in the last five relative to the first five rounds of the market in all treatments except IDAM.

2. Comparison of average proportions of stable outcomes in all rounds of the market leads to the following results: IDAM>DA, IDAM>DA5, IDAM5>DA5. Comparison of average proportions of stable outcomes in the last five rounds of the market leads to the following results: IDAM>DA, IDAM>DA5.

In LOW market:

1. There is a significant increase in the proportion of stable outcome reached in the last five relative to the first five rounds of the market in IDAM5, DA5 (and 10% significant increase in IDAM).

2. Comparison of average proportions of stable outcome in all rounds of the market leads to the following results: IDAM5>DA, IDAM5>DA5. There is no significant difference in average proportions of the stable outcome between treatments in the last five rounds of the market.

Support. Table 3 presents the proportions of stable outcomes by treatments and rounds, grouped by five.

Figure 1.2.1 presents the polynomial smoothed proportions of stable outcomes by treatments and rounds.

Table 3: Proportions of stable allocations by treatments:

Panel A: HIGH market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 1-5 (1)	36.0%	65.3%	5.3%	29.3%	0.00	0.01
Round 6-10 (2)	44.0%	78.7%	25.3%	37.3%	0.00	0.31
Round 11-15 (3)	53.3%	78.7%	44.0%	61.3%	0.03	0.16
All rounds (4)	44.4%	74.2%	24.9%	42.7%	0.00	0.04
p-value first5=last5 (5)	0.04	0.17	0.01	0.00		
Panel B: LOW market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 16-20 (1)	72.0%	81.3%	58.7%	80.0%	0.26	0.02
Round 21-25 (2)	80.0%	90.7%	78.7%	93.3%	0.19	0.01
Round 26-30 (3)	82.7%	93.3%	85.3%	93.3%	0.17	0.26
All rounds (4)	78.2%	88.4%	74.2%	88.9%	0.11	0.01
p-value first5=last5 (5)	0.19	0.08	0.00	0.04		

Notes: All the p-values are p-values for the coefficient of the dummy in probit regression of dummy for the stable outcome on the dummy for the corresponding treatment (columns 6, 7) or the last five rounds of the market (row 5 of panel A and panel B). The standard errors of the probit models are clustered on the level of matching groups.Thus for within treatment regressions we have 15 clusters (row 5 of panel A and panel B), and for between treatments 30 clusters (columns 6, 7).

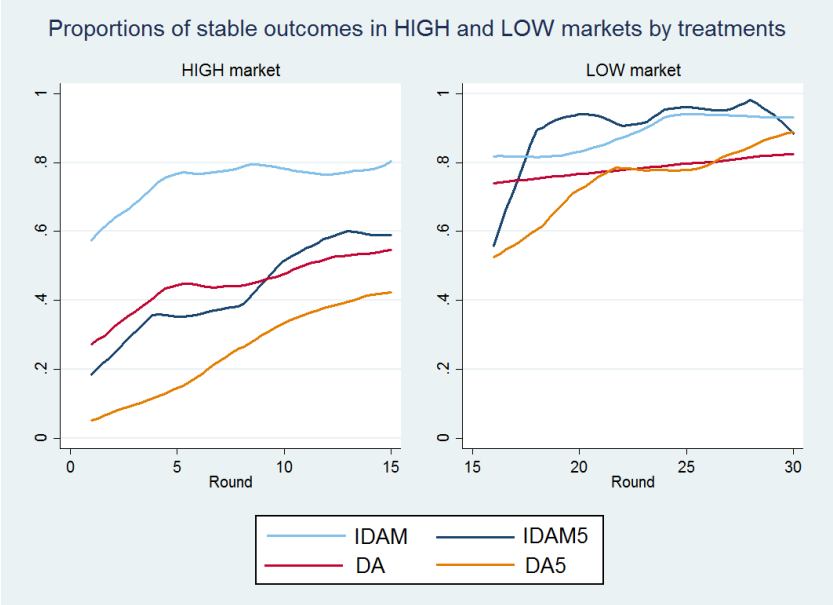

Figure 1: Proportions of stable outcomes

The proportions of stable outcomes in the HIGH market are presented in panel A of Table 3. We observe a significant increase in the proportions of stable outcomes in all treatments except IDAM (see row 5 of panel A of table 3). This, however, can be explained by relatively high proportion of stable outcomes reached already in the first five rounds. In fact, the proportion of stable outcomes in the first five rounds in IDAM is higher than in the other treatments in the last five rounds and IDAM leads to the highest proportion of stable outcomes among all treatments in all rounds. Columns 6 and 7 of Table 3 present the p-values for between treatment comparisons. Comparing DA and IDAM, IDAM leads to significantly higher proportion of stable allocations in each group of five rounds. As for comparison of DA5 and IDAM5, IDAM5 leads to significantly higher proportion of stable allocations only in the first five rounds. Due to relatively small power of the test, which gives very conservative p-values, we also run tests of number of stable outcomes reached in all rounds (see row 4 of Table 3). In IDAM, the proportion stable outcomes is the highest, and the difference is significant when compared to all other treatments. Moreover, we observe that in IDAM5 the proportion of stable outcomes is significantly higher than in DA5, which shows benefits of the iterative deferred acceptance mechanism relative to student-proposing deferred acceptance mechanism also in the restricted settings.

The proportions of stable outcomes in LOW market are presented in panel B of Table 3. We observe a significant increase in proportions of stable outcomes in all treatments except of DA, though the increase in IDAM is only 10% significant (see row 5 of panel B of table 3). Note that in the LOW market the stable allocation is overall better for participants in terms of welfare, as no one get lower than the fifth choice in the stable allocation, and in the case of DA5 and IDAM5 truthful reporting and straightforward strategy respectively lead to the stable outcome. Moreover, the LOW market comes after a 15-round- experience in the mechanism in the HIGH market. These two observations may explain the high stability rates in the LOW market: in both IDAM and IDAM5, the percent of stable allocations exceeds 90% in the last 10 rounds of the experiments. Comparing the average proportions of the stable outcomes reached in all rounds between treatments, surprisingly, IDAM5 has the highest proportion and it is significantly higher than in DA and DA5 (p-values for both comparisons are <0.01). In IDAM, the proportion is almost the same as in IDAM5, but the difference relative to DA and DA5 treatments is not significant due to higher variation between independent observations. In the last five rounds, there is no significant difference between treatments.

Another way to look at the stability results is to consider only persistent stable outcomes. Sometimes the stable outcome is reached by a group for one or two rounds but it is not reached in the following rounds of the same market. In the following, we treat these outcomes as non-persistent stable outcomes, as this pattern might be a sign of some subjects still trying to manipulate mechanism thinking it could lead to a better outcome. Next we consider only persistent stable outcomes in each maket, i.e. allocations that were reached in all rounds till the last period of each market. For each group we calculate number of consecutive stable outcomes before the last round of each market. Thus, for instance, if a group reached the stable outcome in rounds 11,13, 14 and 15, but not in 12, we count persistent stability of this group to be equal 3 in HIGH market. If a group failed to reach the stable outcome in

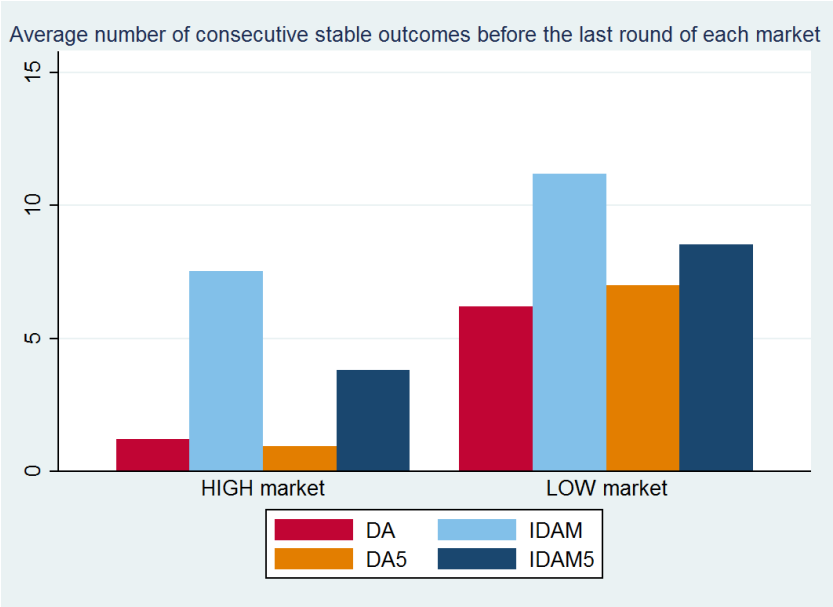

Figure 2: Number of consecutive stable outcomes

the last round of a market, then the variable is equal to 0.

Result 2 (Persistent stability): In HIGH market the comparison of average number of consecutive stable outcomes before the last round leads to the following results: IDAM>DA, IDAM>DA5, IDAM=>IDAM5, IDAM5>DA5.

In the LOW market, the comparison average number of consecutive stable outcomes before the last round leads to the following results: IDAM>DA, IDAM>DA5.

Support. Figure 2 presents the average number of consecutive rounds with the stable outcomes before the last round of each market grouped by treatments and markets.

In the HIGH market, the average number of consecutive stable outcomes in IDAM is the highest and equal to 7.5. Thus, on average, starting from the seventh or eighth round the stable outcome is reached in IDAM and persists untill round 15. The difference is significant relative to all three other treatments: Wilcoxon ranksum test (15 values versus 15 values) two-sided p-values for the comparison of IDAM with DA is 0.00, with DA5 0.00 and with IDAM5 0.07. In IDAM5 the average number of consecutive stable allocations before last is 3.8, and it is significantly higher than in DA5 (Wilcoxon ranksum test two-sided p-values 0.05). Note that in DA and DA5 the average number of consecutive rounds of stable allocation before last round is just 1.2 and 0.93 respectively, which shows that that in spite of the fact that stable allocations are reached in 53% and 61% of cases respectively in the last five rounds of HIGH market (see panel A of Table 3), these allocations were mostly not robust.

In LOW market we observe the similar relation between treatments, though the average numbers of consecutive rounds with stable allocation before the last round are higher than in HIGH market. In IDAM it equals 11.2, thus on average stable allocation is reached in rounds 19 to 30. This is significantly higher than in DA and DA5: Wilcoxon ranksum test two-sided p-values for the comparison of IDAM with DA is 0.01 and with DA5 0.02. Other

differences between treatments are not significant.

Summing up results 1 and 2, we observe that the both treatments with the iterative deferred acceptance mechanism lead to higher proportions of stable outcomes, especially in HIGH market. Moreover, in these treatments the stability is more persistent than in treatments with the student-proposing deferred acceptance mechanism. These two findings are the most important results of the first series of the experiments.

In order to analyze the efficiency of an allocation, we define efficiency as sum of payoffs of all students in the reached outcome divided by the sum of the payoffs in the stable outcome. If one or some students remain unassigned they receive payoff of zero.

Result 3 (Efficiency):
In HIGH Market:

1. There is a significant increase in efficiency of allocations reached in the last five relative to the first five rounds of the market in DA5.

2. There is no significant difference in efficiency between treatments in the last five rounds of the market.

In LOW market:

1. There is a significant increase in efficiency of allocations reached in the last five relative to the first five rounds of the market in DA5.

2. Comparison of efficiency in the last five rounds of the market leads to the following results: IDAM>DA, IDAM5>DA.

Support. Table 4 presents the average efficiency by treatments and rounds, grouped by five.

Row 4 of panel A in Table 4 presents p-values for the significance of the difference in efficiency between the first five and the last five rounds of HIGH market in each treatment. There is a significant increase in efficiency in DA5 treatment. The observed difference can be explained by the decrease in the number of unassigned students in DA5. In IDAM5, just like in DA5, there is a possibility to remain unassigned but it happened much less often than in DA5 already in the first five rounds, which explains the absence of significant increase in the efficiency between the first five and the last five rounds of the market. In the first five rounds total number of unassigned student was 26 in IDAM5 and 72 in DA5, while in rounds 11-15 it was 12 in IDAM5 and 29 in DA5. In LOW market the increase in efficiency is only significant for DA5 (see row 4 of panel B of table 4). In DA5 the number of unassigned students in rounds 16 to 20 was 16, while in the last five rounds only 4. As for IDAM5 in LOW market, the absence of significance of increase is explained by the absence of the unassigned students even in the first rounds of the market: the number of unassigned students in rounds 16 to 20 was 4, while there were no unassigned students in the last five rounds.

In HIGH market there are no significant differences in efficiency between treatments (see column 6 of table 4). In DA, IDAM and IDAM5 we observe average efficiency higher than

Table 4: Average efficiency of allocations by treatments:

Panel A: HIGH market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 1-5 (1)	101.8%	100.9%	98.2%	100.2%	0.28	0.02
Round 6-10 (2)	100.8%	101.2%	101.4%	100.9%	0.60	0.65
Round 11-15 (3)	100.8%	101.5%	100%	101.4%	0.35	0.12
p-value first5=last5 (4)	0.21	0.17	0.02	0.21		
Panel B: LOW market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 16-20 (1)	98.1%	99.2%	97.38%	99.3%	0.24	0.08
Round 21-25 (2)	98.3%	99.6%	98.5%	99.6%	0.04	0.09
Round 26-30 (3)	98.3%	99.8%	99.6%	99.8%	0.04	0.62
p-value first5=last5 (4)	0.79	0.46	0.02	0.26		

Notes: All the p-values are p-values for the coefficient of the dummy in OLS regression of the average payoff of allocations on the dummy for corresponding treatment (columns 6, 7) or the last five rounds of the market (row 4 of panel A and panel B). The standard errors of the regressions are clustered on the level of matching groups.Thus for within treatment regressions we have 15 clusters (row 4 of panel A and panel B), and for between treatments 30 clusters (columns 6, 7).

100%, thus higher than in the stable allocation. This is due to conflict of stability and efficiency. The conflict of stability and efficiency comes from the presence of "interrupters" by Kesten [2010] in HIGH market. An interrupteris a student, who by applying to a university causes a rejection chain that ends in the rejection of herself in the univerity she applies to. Thus in order to respect her priority, some efficiency loss must happen. If all interrupters agree to have justified envy in these universities where they cause rejection chain ending in rejecting them (as elimination of this envy will not improve the allocation for them anyway), the allocation can be Pareto improved. The resulting allocation is the allocation by Efficiency Adjusted Deferred Acceptance mechanism (EADA) by Kesten [2010]. Interestingly, the second modal allocation reached in HIGH market is the allocation of EADA, given student 2 agreed to have justifies envy in the university L1. Thus if student 2 skippes the application to university L1 and all other students report truthfully, or follow the straightfirward strategy, a Pareto improving allocation is reached. This allocation Pareto dominantes the stable allocation (we will refer to EADA allocations as to Pareto dominant allocations). It is reached in 4.9% of allocations in DA, 7.1% in DA5, 8.9% in IDAM and 11.6% in IDAM5. It explains that observed average payoff is higher than in the stable allocation in DA, IDAM and IDAM5 in HIGH market. The average payoff in IDAM5 is significantly higher than average payoff in DA5 in the first five rounds of HIGH market. The difference is driven by higher number of unassigned students in DA5. As for LOW market the average efficiency in all rounds and treatments is lower than in the stable allocation, as the only allocation which Pareto dominates stable allocation is the allocation by EADA with student 7 agreeing tohave justified envy in university M2, and students 5, 3, 1 and 8 agreeing to have justified in university H1. Unlike the case in HIGH market, where EADA allocation requires only one student skipping the application to one university, in LOW market it requires five student to skip application to a certain university. The Pareto dominant allocation in LOW market

is reached only 1.7% of times. We observe that in the last five rounds DA has the lowest efficiency, which is significantly lower than in IDAM and IDAM5 (p-values 0.04 and 0.05 respectively).

1.2.2 Individual behavior

Next we analyze individual strategies of experimental subjects in order to better understand the drivers for the observed differences between the proportions of stable outcomes reached between treatments. Based on the theoretical and behavioral considerations we define the following possible strategies of participants:

- **Criterion 1**:
  - DA: Truthful submitted list until the minimum guaranteed university.
  - IDAM: Straightforward strategy.

If all students of a group submit in line with Criterion 1 the stable outcome is reached in both DA and IDAM. Moreover, that is a weakly dominant strategy for participants in DA. We will count submission of top five schools or until the minimum guaranteed university (if it is ranked higher than five) in DA5 as behavior in line with Criterion 1. Thus in DA5 and IDAM5 behavior in line with Criterion 1 leads to stable outcome only in LOW market, and is dominated by truncated lists or skipping of application to top universities for some participants in HIGH market.

Result 4 (Behavior in line with Criterion 1):
In HIGH market:

1. There is a significant decrease in proportion of Criterion 1 players in IDAM5, and significant increase in proportion of Criterion 1 players in DA5.
2. Comparison of number of subjects submitting according to Criterion 1 in the last five rounds of the market leads to the following results: DA>IDAM, DA>IDAM5, DA5>IDAM, DA5>IDAM5.

In LOW market:

1. There is a significant decrease in proportion of Criterion 1 players in IDAM and IDAM5 (10%), and significant increase in proportion of Criterion 1 playersin DA and DA5.
2. Comparison of number of subjects submitting according to Criterion 1 in the last five rounds of the market leads to the following results: DA>IDAM, DA>IDAM5, DA5>IDAM, DA5>IDAM5.

Support: Table 5 presents proportions of plays in line with Criterion 1 and p-values for test of equality of these proportions between treatments and between the first five and the last five rounds of each market.

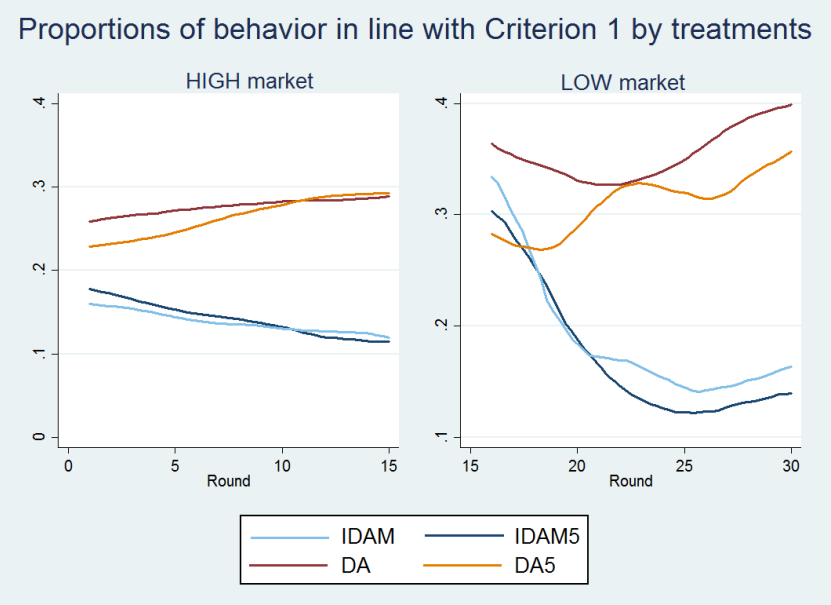

Figure 3: Behavior in line with Criterion 1

Table 5: Proportions of behavior in line with Criterion 1 by treatments:

Panel A: HIGH market	DA	IDAM	DA5	IDAM5	DA=IDAM, p-value	DA5=IDAM5, p-value
Round 1-5 (1)	25.8%	15.8%	23.3%	17.2%	0.00	0.07
Round 6-10 (2)	28.7%	13.3%	26.5%	14.2%	0.00	0.00
Round 11-15 (3)	28.3%	12.2%	29.1%	11.7%	0.00	0.00
p-value first5=last5 (4)	0.24	0.13	0.01	0.00		
Panel B: LOW market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 16-20 (1)	34.8%	26.2%	27.7%	26.0%	0.01	0.67
Round 21-25 (2)	33.2%	15.8%	32.3%	13.8%	0.00	0.00
Round 26-30 (3)	39.0%	15.5%	33.7%	13.0%	0.00	0.00
p-value first5=last5 (4)	0.04	0.00	0.00	0.07		

Notes: All the p-values are p-values for the coefficient of the dummy in probit regression of dummy for strategy in line with Criterion 1 on the dummy for corresponding treatment (columns 6, 7) or the last five rounds of the market (row 4 of panel A and panel B). The standard errors of the probit models are clustered on the level of matching groups.Thus for within treatment regressions we have 15 clusters (row 4 of panel A and panel B), and for between treatments 30 clusters (columns 6, 7).

Row 4 of Panel A in Table 5 presents p-values for the difference between the first five and the last five rounds of HIGH market by treatments. First, there is a significant decrease in the proportion of plays in line with Criterion 1 in IDAM5. With experience, some participants start to skip, for instance, their top choice, as they experience rejection from it every round. Note that skipping might be optimal for subjects in IDAM5. Second, there is a significant increase in the proportion of plays in line with Criterion 1 in DA5 in HIGH market. This might come as a surprise, as truthful reporting of top five universities may lead to the outcome of being unassigned for some participants. If we consider only participants for whom truthful reporting is a weakly dominant strategy in HIGH market, we observe an even higher increase in truth-telling in DA5. The average proportion of Criterion 1 plays is 45.8% in the first five rounds, and 61.8% in the last five rounds of the market, and the difference is significant with p-value 0.00. For the participants for whom truthful reporting of top five universities is not a weakly dominant strategy in HIGH market in DA5, the average proportion of Criterion 1 plays is 9.8% in the first five rounds and 9.6% in the last five rounds of HIGH market. Surprisingly, we observe no significant learning in DA in HIGH market, although it is a weakly dominant strategy. Though the observation might come across as striking it is in line with Chen and Kesten [2015] and Zhu [2015] where students also interact repeatedly with DA. Ding and Schotter [2015] find only a small increase in truthful reporting under DA (12% over 20 rounds). Note that we study a larger market, in which learning that truthful submission is the best strategy may be harder than in markets with a smaller number of schools. The left panel of Figure 3 presents the polynomial smoothed proportions of behavior in line with Criterion 1 by treatments and rounds in HIGH market. Overall, the proportion of strategies in line with Criterion 1 is higher in DA and DA5 than in IDAM and IDAM5, especially in the later rounds, which is explained by the tendency to play in line with Criterion 1 less often with experience in IDAM and IDAM5. Columns 6 and 7 of Panel A of Table 5 provide p-values for treatment differences. Except for the first five rounds, we observe a significantly higher proportion of subjects playing in line with Criterion 1 in DA and DA5 than in IDAM and IDAM5.

As for LOW market, Row 4 of Panel B in Table 5 presents p-values for the difference between the first five and the last five rounds of LOW market by treatments. There is a significant decrease in the proportion of Criterion 1 players in IDAM and IDAM5 (10%), and a significant increase in proportion of Criterion 1 players in DA and DA5. Just like in HIGH market, with experience, some participants start to skip applications in IDAM and IDAM5. The increase in the proportion of Criterion 1 plays is significant not only for DA5 but also for DA. Note, that in LOW market, Criterion 1 is a weakly dominant strategy in DA5 too. Though we do observe a significant increase of reporting in line with the weakly dominant strategy, the size of the increase is small: 4.6% in DA and 6% in DA5. The right panel of Figure 3 presents the polynomial smoothed proportions of behavior in line with Criterion 1 by treatments and rounds in LOW market. The relation is similar to HIGH market, with the proportion of Criterion 1 plays being significantly higher in DA and DA5 than in IDAM and IDAM5 (columns 6 and 7 of Panel B of Table 5 provide p-values for treatment differences).

Thus we observe the dominance of DA and DA5 relative to IDAM and IDAM5 with respect to Criterion 1 plays in both markets. Remember that relation of the proportion

of stable outcome is the opposite, and thus cannot be explained by truthful submitting or straightforward behavior. One important note about Criterion 1, is that in IDAM and IDAM5 it requires naive following of straightforward strategy, even for students who learnt by experience in previous rounds that, for instance, they had no chance to be accepted in their top choice. Thus, if subjects at some point believe that the other subject will behave in the similar manner as before (for instance the student with higher grade in the top university will apply to this university) they might want to skip applications to some out-of-reach universities because they might want to speed up the allocation process. This lead us to consider Criterion 2.

- **Criterion 2** :
  - DA: Misrepresentation in a way of putting some universities down the reported list, keeping relative order of universities above student optimal stable match (SOSM) correct.
  - IDAM: Applications in correct relative order. Skipping some universities is allowed, while skipping SOSM is not alllowed given SOSM university cutoff is lower than the the corresponding grade of student at the step of skipping.

Behavior in line with Criterion 2 is a systematic deviation from Criterion 1 that still leads to either stable outcome or allocation that Pareto improves stable outcome [4], if played by all players of a group. In IDAM it allows participants to skip universities that they believe will reject them in the current or future steps. As we mention above it can be rationalized by time considerations or rejection-aversion. For DA there are no such considerations, and we just aimed to create a fair similar analogue for strategies in IDAM. Note that the most extreme case of behavior, consistent with Criterion 2 is to put the SOSM university at the top of the reported list in DA, and to apply directly at the step one to the SOSM university in IDAM. Criterion 2 might include optimal behavior in HIGH market even in DA5 and IDAM5 for all students.

Result 5 (Behavior in line with Criterion 2):
In HIGH market:

1. There is a significant increase in proportion of Criterion 2 players in IDAM, IDAM5 and DA5.

2. Comparison of number of subjects submitting according to Criterion 2 in the last five rounds of the market leads to the following results: IDAM>DA, IDAM>DA5, IDAM5>DA, IDAM5>DA5, IDAM5>IDAM, DA5>DA.

In LOW market:

[4] If an interrupter Kesten [2010] skips the school where she causes a rejection chain, she allows for Pareto improving allocation at a cost of having justified envy. As mentioned in the previous section, this kind of Pareto improvement is more likely to appear in HIGH market, as it requires skipping of university only by one student, namely student 2 skips L1

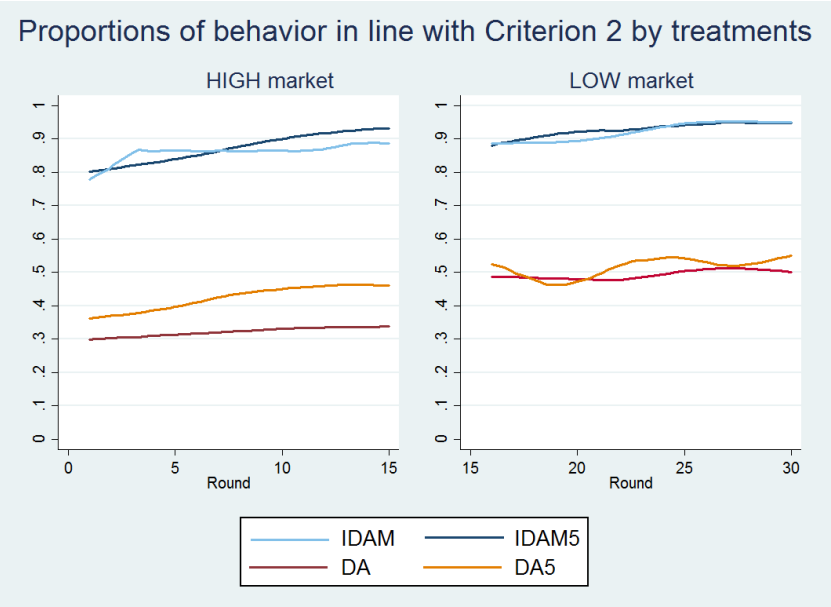

Figure 4: Behavior in line with Criterion 2

1. There is a significant increase in proportion of Criterion 2 players in IDAM and DA5(10%).

2. Comparison of number of subjects submitting according to Criterion 2 in the last five rounds of the market leads to the following results: IDAM>DA, IDAM>DA5, IDAM5>DA, IDAM5>DA5

Support: Table 6 presents proportions of plays in line with Criterion 2 and p-values for the test of equality of these proportions between treatments and between the first five and the last five rounds of each market in each of the treatments.

In the HIGH market, there is a significant increase in the proportion of participants playing in line with Criterion 2 in IDAM, IDAM5 (see Row 4 of Panel A in Table6). With experience, it is easier for subjects to understand which universities are out-of-reach given the behavior of other participants, and skipping might be rationalized by the intention to reach the allocation faster, and thus the decrease in Criterion 1 in IDAM and IDAM5 might be explained by substitution of straighforward strategy by strategies in line with Criterion 2, since Criterion 2 includes Criterion 1. We also observe a significant increase in the proportion of subjects playing in line with Criterion 2 in DA5. Note that in the HIGH market in DA5, for some subjects, submission in line with Criterion 2 may improve upon truth-telling, as they could remain unassigned in the case of the truthful report of the top five choices. As for between treatments comparisons, the right panel of Figure 4 presents the polynomial smoothed proportions of behavior in line with Criterion 2 by treatments and rounds in HIGH market. There is a significant difference in the proportions of subjects playing in line with Criterion 2 in IDAM and IDAM5 versus DA and DA5. The proportion reaches 87.5% in

Table 6: Proportions of behavior in line with Criterion 2 by treatments:

Panel A: HIGH market	DA	IDAM	DA5	IDAM5	DA=IDAM, p-value	DA5=IDAM5, p-value
Round 1-5 (1)	29.7%	82.7%	36.8%	80.2%	0.00	0.00
Round 6-10 (2)	33.7%	87.0%	43.3%	87.7%	0.00	0.00
Round 11-15 (3)	33.1%	87.5%	46.3%	94.5%	0.00	0.00
p-value first5=last5 (4)	0.15	0.03	0.00	0.00		
Panel B: LOW market	DA	IDAM	DA5	IDAM5	DA=IDAM, p -value	DA5=IDAM5, p-value
Round 16-20 (1)	48.5%	88.8%	48.3%	90.3%	0.00	0.00
Round 21-25 (2)	48.3%	92.3%	53.3%	93.2%	0.00	0.00
Round 26-30 (3)	51.0%	95.2%	53.5%	94.5%	0.00	0.00
p-value first5=last5 (4)	0.32	0.03	0.08	0.13		

Notes: All the p-values are p-values for the coefficient of the dummy in probit regression of dummy for strategy in line with Criterion 2 on the dummy for corresponding treatment (columns 6, 7) or the last five rounds of the market (row 4 of panel A and panel B). The standard errors of the probit models are clustered on the level of matching groups.Thus for within treatment regressions we have 15 clusters (row 4 of panel A and panel B), and for between treatments 30 clusters (columns 6, 7).

the last five rounds in IDAM and 94.5% in IDAM5. Columns 6 and 7 of Table 6 provide p-values for between treatments comparisons. This drastic difference in the proportions of Criterion 2 plays between treatments with the iterative deferred acceptance mechanism and the student-proposing deferred acceptance mechanism can partially explain the observed differences in proportions of stable outcomes reached by treatments. In IDAM and DA, the stable outcome is likely to be reached if every player in a matched group plays in line with Criterion 2. The alternative outcome, in this case, is the Pareto dominant allocation. In IDAM out of 225 allocations in HIGH market, in 74 allocations all participants of a group submitted in line with Criterion 2, and it resulted in 69 stable allocations and five Pareto dominant allocations (allocations of EADA by Kesten [2010]). Additionally, the proportion in IDAM5 is significantly higher than in IDAM in the last five rounds of the market (p-value 0.03), which can be explained by the fact that the skipping is a necessary strategy for some subjects to escape being unassigned in IDAM5.

In the LOW market, there is a significant increase in the proportion of participants playing in line with Criterion 2 in IDAM and DA5 (see Row 4 of Panel B in Table6). Note that in IDAM5 more than 90% of subjects play in line with Criterion 2 already in the first five rounds of the market. The left panel of Figure 4 presents the polynomial smoothed proportions of behavior in line with Criterion 2 by treatments and rounds in LOW market. There is a significant difference in the proportions of subjects playing in line with Criterion 2 in IDAM and IDAM5 versus DA and DA5. The proportion reaches 95.2% in the last five rounds in IDAM and 94.5% in IDAM5. Columns 6 and 7 of Table 6 provide p-values for between treatments comparisons. In IDAM in LOW market all participants of a group submitted in line with Criterion 2 in 137 out of 225 rounds, which resulted in 133 stable and four Pareto dominant allocations. In DA there was no instance in which all participants of a group

submitted in line with Criterion 2 in a round.[5]

Summing up, our analysis of individual strategies shows that relative success of the IDAM and IDAM5 treatments in terms of reaching stable allocations can be attributed to a higher proportions of subjects playing in line with Criterion 2. We observe small proportions of subjects playing in line with Criterion 1. That, however, may be rationalized by the fact that subjects face exactly the same market 15 rounds in a row and also have complete information (both design choices of the experiment).

2 Markets for the experiment reported in the main text.

Round 1

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L3	H1	L3	L3	H1	H1	H1	H1
19 euros	L1	M2	L1	L1	L1	M2	M2	L1
16 euros	L2	H2	H1	H1	L3	L3	L3	L3
13 euros	M2	L3	L2	M2	H2	L1	L1	M2
10 euros	H1	L1	M2	L2	M2	H2	H2	H2
7 euros	M1	M3	M3	M3	M3	L2	M3	L2
4 euros	M3	M1	M1	H2	L2	M3	L2	M3
1 euros	H2	L2	H2	M1	M1	M1	M1	M1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	93	58	30	87	29	8	73	63
Lang.	95	5	78	24	13	36	48	73
Av.	94	31.5	54	55.5	21	22	60.5	68

Round 2

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L1	M2	L1	L1	M2	L1	L1	L1
19 euros	L3	L1	L3	M2	L1	L3	L3	L3
16 euros	L2	M1	H1	M1	H1	L2	H1	H1
13 euros	H1	H1	L2	M3	M1	H1	M2	L2
10 euros	M2	L3	M2	H1	M3	M2	L2	M2
7 euros	H2	M3	M1	L3	L3	M3	M1	M3
4 euros	M1	L2	M3	H2	L2	H2	M3	H2
1 euros	M3	H2	H2	L2	H2	M1	H2	M1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	81	18	13	31	65	56	74	100
Lang.	93	54	90	67	98	1	9	80
Av.	87	36	51.5	49	81.5	28.5	41.5	90

[5]Note that some deviations from Criterion 2 are allocation irrelevant, for instance switching the order of application to two out of reach universities, which can explain presence of a number of stable allocations in DA despite the observation.

Round 3

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M1	H1	M2	M1	L1	H1	M2	H1
19 euros	M2	M2	M1	M2	M1	M2	M1	M2
16 euros	H1	M1	H1	H1	L2	M1	H1	M1
13 euros	L1	L2	L2	M3	M2	L1	M3	L1
10 euros	M3	L1	M3	L3	H1	L3	L1	L2
7 euros	L2	H2	L1	L2	L3	L2	L2	L3
4 euros	L3	M3	L3	L1	M3	H2	L3	M3
1 euros	H2	L3	H2	H2	H2	M3	H2	H2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	78	10	49	3	47	97	44	39
Lang.	34	55	78	36	72	87	62	82
Av.	56	32.5	63.5	19.5	59.5	92	53	60.5

Round 4

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M3	L1	L1	M3	L1	L1	L1	L1
19 euros	M2	M3	H1	L1	M3	L2	M3	H1
16 euros	H1	M2	M3	M2	H1	H1	L2	M3
13 euros	L1	H1	H2	M1	L2	M2	H1	H2
10 euros	M1	M1	M2	H1	M2	M3	M2	M2
7 euros	L2	H2	L2	L2	H2	L3	H2	L2
4 euros	H2	L2	M1	H2	M1	H2	L3	M1
1 euros	L3	L3	L3	L3	L3	M1	M1	L3

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	78	10	49	3	47	97	44	39
Lang.	34	55	78	36	72	87	62	82
Av.	56	32.5	63.5	19.5	59.5	92	53	60.5

Round 5

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L2	M3	H2	M3	H2	L3	M3	M3
19 euros	H2	H2	L2	L3	L1	L1	L3	L3
16 euros	L3	L3	M2	H1	L2	L2	H1	H1
13 euros	L1	M2	L1	H2	M3	H2	H2	H2
10 euros	M3	L1	M1	L1	M1	M1	L1	L1
7 euros	M1	H1	H1	M1	H1	M2	M1	M1
4 euros	H1	M1	M3	L2	L3	M3	L2	L2
1 euros	M2	L2	L3	M2	M2	H1	M2	M2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	7	75	31	30	41	99	59	10
Lang.	52	7	72	87	74	80	32	13
Av.	29.5	41	51.5	58.5	57.5	89.5	45.5	11.5

Round 6

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M3	M1	M3	L1	L1	M3	M3	M3
19 euros	M1	M3	M1	L3	L3	M1	M1	M1
16 euros	M2	L1	L1	M3	H2	M2	M2	M2
13 euros	H2	M2	H2	H2	L2	H2	H2	H2
10 euros	L1	H2	M2	M1	M3	L1	L1	L1
7 euros	L3	L3	L3	L2	M1	L3	L3	L3
4 euros	L2	L2	L2	M2	M2	L2	L2	L2
1 euros	H1	H1	H1	H1	H1	H1	H1	H1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	92	96	28	35	52	5	43	64
Lang.	27	16	26	86	24	44	75	65
Av.	59.5	56	27	60.5	38	24.5	59	64.5

Round 7

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	H1	H1	L2	L1	H1	L2	L2	L2
19 euros	H2	H2	L1	L3	H2	L1	L1	L1
16 euros	L1	M3	H1	H2	L1	H1	H1	H1
13 euros	M1	M2	M1	L2	L2	M1	M1	M1
10 euros	L2	M1	L3	M3	M3	L3	L3	L3
7 euros	M3	L3	M3	M1	M1	M3	M3	M3
4 euros	L3	L1	H2	M2	M2	H2	H2	H2
1 euros	M2	L2	M2	H1	L3	M2	M2	M2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	68	55	92	64	23	93	80	63
Lang.	47	26	0	49	33	16	50	81
Av.	57.5	40.5	46	56.5	28	54.5	65	72

Round 8

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L1	H1	L1	H1	M3	L1	L1	L1
19 euros	H1	H2	L3	L1	M1	L3	L3	L3
16 euros	M1	M3	M3	H2	H1	M3	M3	M3
13 euros	L3	M2	H2	M3	L1	H2	H2	H2
10 euros	M3	L1	L2	M2	L3	L2	L2	L2
7 euros	H2	M1	M1	L2	H2	M1	M1	M1
4 euros	L2	L2	H1	M1	L2	H1	H1	H1
1 euros	M2	L3	M2	L3	M2	M2	M2	M2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	78	10	49	3	47	97	44	39
Lang.	34	55	78	36	72	87	62	82
Av.	56	32.5	63.5	19.5	59.5	92	53	60.5

Round 9

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M1	H1	L3	M2	M2	M2	M2	M2
19 euros	M3	H2	M1	H1	H1	H1	H1	H1
16 euros	H1	L3	L1	L2	M3	L2	L2	L2
13 euros	L3	M1	H1	L3	M1	L3	L3	L3
10 euros	L1	L1	M3	M1	L3	M1	M1	M1
7 euros	H2	M3	H2	L1	L1	L1	L1	L1
4 euros	M2	L2	L2	M3	H2	M3	M3	M3
1 euros	L2	M2	M2	H2	L2	H2	H2	H2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	71	74	58	6	61	50	34	30
Lang.	8	68	98	1	83	97	19	80
Av.	39.5	71	78	3.5	72	73.5	26.5	55

Round 10

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M2	M2	M2	M2	H2	H2	H2	H2
19 euros	M1	M1	H1	H1	L3	L3	L3	L3
16 euros	H1	H1	M3	L2	M2	M2	M2	M2
13 euros	M3	L3	M1	L3	H1	H1	H1	H1
10 euros	L3	M3	L3	L1	M1	M1	M1	M1
7 euros	L1	L2	L2	M1	L2	L2	L2	L2
4 euros	L2	L1	L1	M3	M3	M3	M3	M3
1 euros	H2	H2	H2	H2	L1	L1	L1	L1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	66	85	58	48	97	1	72	33
Lang.	83	40	89	15	59	70	36	26
Av.	74.5	62.5	73.5	31.5	78	35.5	54	29.5

Round 11

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L2	H2	L2	L2	H1	H2	H2	H2
19 euros	M2	M3	L3	H1	M1	M3	M3	M3
16 euros	M3	H1	H1	M2	H2	H1	H1	H1
13 euros	L3	L2	M2	M1	L1	L2	L2	L2
10 euros	M1	M2	L1	L3	L3	M2	M2	M2
7 euros	H1	L3	M3	L1	L2	L3	L3	L3
4 euros	H2	M1	M1	M3	M3	M1	M1	M1
1 euros	L1	L1	H2	H2	M2	L1	L1	L1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	95	73	50	84	34	44	41	9
Lang.	93	38	57	13	46	87	55	80
Av.	94	55.5	53.5	48.5	40	65.5	48	44.5

Round 12

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M1	H1	M1	L3	H1	M1	M1	M1
19 euros	M2	M1	M2	M1	M1	M2	M2	M2
16 euros	H1	H2	H1	H1	H2	M3	H1	H1
13 euros	L3	M2	L3	L2	M2	H1	L3	L3
10 euros	M3	L3	M3	H2	L3	H2	M3	M3
7 euros	H2	M3	L1	L1	L1	L3	L1	L1
4 euros	L1	L1	H2	M2	M3	L1	H2	H2
1 euros	L2	L2	L2	M3	L2	L2	L2	L2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	17	98	61	73	32	29	76	75
Lang.	1	58	37	97	51	66	89	61
Av.	9	78	49	85	41.5	47.5	82.5	68

Round 13

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M3	M3	M1	L3	L1	L1	L1	L1
19 euros	M2	H1	M3	L1	L2	L3	M3	L3
16 euros	H1	L1	H2	H2	H1	M3	L3	M3
13 euros	M1	M2	M2	H1	L3	H1	H1	H1
10 euros	H2	M1	L1	M3	M3	H2	L2	H2
7 euros	L3	H2	H1	M1	H2	M2	H2	M2
4 euros	L1	L3	L3	L2	M1	L2	M2	L2
1 euros	L2	L2	L2	M2	M2	M1	M1	M1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	51	71	72	29	4	21	41	36
Lang.	24	19	92	97	85	26	88	99
Av.	37.5	45	82	63	44.5	23.5	64.5	67.5

Round 14

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M1	M1	M1	M1	H1	H1	M1	M1
19 euros	H1	H1	H1	H1	M1	M1	H1	H1
16 euros	L1	L1	L3	H2	H2	H2	M3	M2
13 euros	L3	M2	L2	M3	M3	M3	M2	M3
10 euros	M2	M3	M3	M2	L1	L3	L2	L1
7 euros	L2	H2	L1	L3	M2	M2	L1	L3
4 euros	H2	L2	M2	L1	L3	L2	H2	L2
1 euros	M3	L3	H2	L2	L2	L1	L3	H2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	51	71	72	29	4	21	41	36
Lang.	24	19	92	97	85	26	88	99
Av.	37.5	45	82	63	44.5	23.5	64.5	67.5

Round 15

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M2	H2	H2	H2	L1	L1	M2	H2
19 euros	M1	M2	H1	M2	M2	M1	M1	M2
16 euros	L1	M1	M2	M1	H2	M2	H2	M1
13 euros	H2	L1	M1	H1	M1	H2	L1	H1
10 euros	M3	H1	L1	L1	L3	L3	M3	L1
7 euros	H1	L3	M3	L3	H1	L2	H1	L3
4 euros	L3	M3	L3	M3	L2	H1	L3	M3
1 euros	L2	L2	L2	L2	M3	M3	L2	L2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	54	77	87	34	82	79	90	15
Lang.	70	16	9	95	99	72	46	48
Av.	62	46.5	48	64.5	90.5	75.5	68	31.5

Round 16

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M2	L1	L3	L1	L1	L2	M2	M2
19 euros	L3	H1	M1	H2	L2	L3	L3	L3
16 euros	H2	L3	M2	L3	L3	M2	H2	H2
13 euros	L1	L2	H1	H1	M3	M3	L1	L1
10 euros	M3	M1	L2	M3	M1	M1	M3	M3
7 euros	H1	M3	L1	L2	H2	H1	H1	H1
4 euros	M1	H2	M3	M2	M2	L1	M1	M1
1 euros	L2	M2	H2	M1	H1	H2	L2	L2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	17	83	11	46	36	78	63	69
Lang.	47	32	2	97	5	25	100	20
Av.	32	57.5	6.5	71.5	20.5	51.5	81.5	44.5

Round 17

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	M3	H1	L1	M3	L3	M3	M3	M3
19 euros	M1	H2	L3	M1	L1	M1	M1	M1
16 euros	H1	M3	L2	L3	H1	H1	H1	H1
13 euros	M2	L3	M3	H1	M3	M2	M2	M2
10 euros	L1	L1	H2	H2	H2	L1	L1	L1
7 euros	L3	M1	H1	M2	L2	L3	L3	L3
4 euros	H2	L2	M1	L2	M1	H2	H2	H2
1 euros	L2	M2	M2	L1	M2	L2	L2	L2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	89	49	51	92	80	83	33	84
Lang.	61	10	11	69	52	65	81	98
Av.	75	29.5	31	80.5	66	74	57	91

Round 18

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L3	L2	L2	M2	M3	L2	L2	L2
19 euros	L1	M1	H1	M3	M1	H1	H1	H1
16 euros	H1	H1	M3	M1	M2	M3	M3	M3
13 euros	M3	L1	H2	H1	H2	H2	H2	H2
10 euros	L2	H2	L1	H2	H1	L1	L1	L1
7 euros	H2	M3	M1	L2	L2	M1	M1	M1
4 euros	M1	M2	M2	L1	L1	M2	M2	M2
1 euros	M2	L3	L3	L3	L3	L3	L3	L3

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	7	83	20	19	42	2	18	80
Lang.	88	39	30	45	27	84	6	97
Av.	47.5	61	25	32	34.5	43	12	88.5

Round 19

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L2	H1	H2	L1	L1	L2	L2	L2
19 euros	M2	H2	H1	L2	L2	M2	M2	M2
16 euros	H1	L2	L2	L3	L3	H1	H1	H1
13 euros	M1	M1	M3	H1	M2	M1	M1	M1
10 euros	L3	M3	M1	M2	H1	L3	L3	L3
7 euros	L1	M2	M2	M3	M1	L1	L1	L1
4 euros	M3	L1	L1	M1	H2	M3	M3	M3
1 euros	H2	L3	L3	H2	M3	H2	H2	H2

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	7	83	20	19	42	2	18	80
Lang.	88	39	30	45	27	84	6	97
Av.	47.5	61	25	32	34.5	43	12	88.5

Round 20

Preferences	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
22 euros	L2	M1	L1	H1	M1	M1	M1	M1
19 euros	L1	M3	L3	L1	M2	M3	M3	M3
16 euros	L3	H2	L2	L2	M3	H2	H2	H2
13 euros	H1	M2	H1	M2	L2	M2	M2	M2
10 euros	M1	H1	M2	H2	H1	H1	H1	H1
7 euros	M2	L2	M1	L3	H2	L2	L2	L2
4 euros	M3	L3	M3	M1	L1	L3	L3	L3
1 euros	H2	L1	H2	M3	L3	L1	L1	L1

Grades	i_1	i_2	i_3	i_4	i_5	i_6	i_7	i_8
Math	70	62	17	18	82	31	88	74
Lang.	7	11	45	28	8	83	61	21
Av.	38.5	36.5	31	23	45	57	74.5	47.5

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