# Supplement to "Choice, deferral, and consistency"

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CONSISTENCY RESULTS WITHOUT NOISINESS/SINGLETON-DEFERRAL EXCLUSIONS

TABLE S1. Proportions of subjects with zero WARP violations.

| | Weak Axiom of Revealed Preference | | |
| --- | --- | --- | --- |
| | Exp1 | Exp2 | Pooled |
| *Forced choice* | 54% (41/76) | 59% (32/54) | 56% (73/130) |
| *Nonforced choice* | 71% (105/147) | 74% (50/68) | 72% (155/215) |
| *p*-value | 0.012 | 0.121 | 0.003 |
| *N* | 223 | 122 | 345 |

*Note*: (i) For Congruence/Strong Axiom of Revealed Preference, the proportions are as for WARP except in the NFC treatment of Exp1 (71%; 104/147; $p = 0.017$) and of the NFC pooled data (72%; 154/215; $p = 0.005$); (ii) *p*-values from two-sided Fisher exact tests.

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TABLE S2. Subjects' average WARP and Congruence/SARP violations at the subject level.

| | Weak Axiom of Revealed Preference | | | Strong Axiom of Revealed Preference/ Congruence | | |
|---|---|---|---|---|---|---|
| | Exp1 | Exp2 | Pooled | Exp1 | Exp2 | Pooled |
| *Forced choice* | 3.64 (4) | 4.83 (7) | 4.14 (7) | 16.24 (7) | 22.44 (15) | 18.82 (8) |
| *Nonforced choice* | 1.95 (1) | 3.16 (1.5) | 2.33 (1) | 4.71 (1) | 20.76 (1.5) | 9.79 (1) |
| *p*-value | 0.011 | 0.086 | 0.002 | 0.010 | 0.074 | 0.002 |
| *N* | 223 | 122 | 345 | 223 | 122 | 345 |

*Note*: (i) all medians are zero; (ii) 3rd quartiles in parentheses; (iii) *p*-values from two-sided Mann–Whitney *U*-tests.

TABLE S3. Subjects' average Houtman–Maks and Swaps indices on active choices.

| | Houtman–Maks | | | Swaps | | |
|---|---|---|---|---|---|---|
| | Exp1 | Exp2 | Pooled | Exp1 | Exp2 | Pooled |
| *Forced choice* | 0.89 (76) | 1.13 (54) | 0.99 (130) | 0.99 | 1.24 | 1.09 |
| *Nonforced choice* | 0.52 (147) | 0.75 (64) | 0.59 (211) | 0.56 | 0.86 | 0.65 |
| *p*-value | 0.013 | 0.148 | 0.004 | 0.016 | 0.145 | 0.004 |
| *N* | 223 | 118 | 341 | 223 | 118 | 341 |

*Note*: (i) number of subjects in parentheses; (ii) *p*-values from two-sided Mann–Whitney *U*-tests.

## EXPERIMENT 3: CHOICE UNDER RISK

### *Introduction*

The grand choice set in in Experiment 3 comprised six 3-outcome money lotteries, which are displayed in Table S4. They were constructed so as to have the same expected value of €20—this was not communicated to subjects—but be pairwise-unranked by second-order stochastic dominance (SOSD). This was expected to generate trade-offs involving, for example, the maximum amount (higher in lottery $x$ than in $y$) and the most likely or smallest amount (higher in lottery $y$ than in $x$). A total of 100 FC and 150 NFC subjects took part in this experiment. No additional information about the available lotteries was given to NFC subjects at the end of the experiment.

TABLE S4. The six lotteries used in Experiment 3.

$A = (\frac{25}{100} \circ €2; \frac{35}{100} \circ €18; \frac{40}{100} \circ €33)$

$B = (\frac{25}{100} \circ €2; \frac{67}{100} \circ €25; \frac{8}{100} \circ €34)$

$C = (\frac{20}{100} \circ €2; \frac{60}{100} \circ €16; \frac{20}{100} \circ €50)$

$D = (\frac{20}{100} \circ €3; \frac{50}{100} \circ €13; \frac{30}{100} \circ €43)$

$E = (\frac{30}{100} \circ €4; \frac{40}{100} \circ €20; \frac{30}{100} \circ €36)$

$F = (\frac{10}{100} \circ €1; \frac{70}{100} \circ €19; \frac{20}{100} \circ €33)$

TABLE S5. Proportions of subjects with zero binary cycles in Experiment 3.

| Forced choice | Nonforced choice | *p*-value |
|---|---|---|
| 21% (21/100) | 26.67% (40/150) | 0.368 |
| | | |
| *Nonforced choice: nondeferring* | *Nonforced choice: deferring* | *p*-value |
| 20% (19/95) | 38.18% (21/55) | 0.021 |
| | | |
| *Forced choice* | *Nonforced choice: deferring* | *p*-value |
| 21% (21/100) | 38.18% (21/55) | 0.025 |

*Note*: *p*-values from 2-tailed Fisher exact tests.

### The effect of (self-)forced choice on consistency

The first part of Table S5 shows the proportions of subjects in the FC and NFC treatments that exhibit binary choice cycles (the only possible violations of Congruence/SARP in this environment), while the second and third parts, respectively, present these proportions for subjects *within* the NFC treatment who did and did not defer, and for FC subjects and deferring NFC ones. Although the inconsistent subjects are indeed relatively more frequent in the FC treatment, this difference is not significant. Interestingly, however, unique to this experiment is the finding of a large and highly significant difference in the proportion of Congruence/SARP violators between deferring and nondeferring NFC subjects. Similarly, there are significantly more inconsistent subjects in the FC treatment than in the subset of NFC subjects who did make use of deferral at least once.

Although a direct forced-choice treatment effect is not found in this data, focusing on the comparison between FC subjects and those NFC ones who deferred does reveal a significant difference in binary-choice consistency, both in terms of the proportions of inconsistent subjects and also in terms of the distribution of binary cycles. We emphasize, however, that this should not be interpreted as evidence of a treatment effect because deferring NFC subjects are a selected subsample. Nevertheless, this finding is relevant because it suggests that, in our data, subjects who are forced to choose are expected to be significantly less consistent than subjects who are not, *conditional* on actually choosing to defer at least once.

Co-editor Christopher Taber handled this manuscript.