Supplemental Material

The Role of Choice Architecture in Promoting Saving at Tax Time: Evidence From a Large-Scale Field Experiment

Michal Grinstein-Weiss, Cynthia Cryder, Mathieu R. Despard, Dana C. Perantie, Jane E. Oliphant & Dan Ariely

Main Article: https://behavioralpolicy.org/articles/the-role-of-choice-architecture-in-promoting-saving-at-tax-time-evidence-from-a-large-scale-field-experiment/

Supplemental Analyses

EXPERIMENT 2: CHOICE ARCHITECTURE VERSUS MESSAGING

Expanded Description of Results

Figure 1 in the main text shows the results. Presenting the choice architecture manipulation alone or with the emergency savings message significantly increased the amount allocated to savings compared with the amount allocated in the control condition, $F(1, 565) = 24.72$, $p < .001$. Adding the emergency savings message to either the control screen or to the choice architecture screen also increased savings, $F(1, 565) = 6.57$, $p = .011$. The two treatments did not influence or interact with each other (that is, there was no statistically significant interaction between the two treatments). These results derive from a 2 × 2 analysis of variance. A binary logistic regression predicting whether participants directed any refund amount to savings showed similar patterns: a significant main effect of the choice architecture manipulation, Exp(B) = 3.17, $p < .001$; a significant main effect of emergency savings messaging, Exp(B) = 1.93, $p = .022$; and no interaction between the two manipulations, $p > 0.25$. We note that the patterns of statistical significance do not change when participants who failed the attention check are included in the analyses.

We also analyzed participants' responses on the basis of their income category. We found that the LMI consumers (defined as having annual household incomes at or below $35,000) and non-LMI consumers responded in essentially the same way: They saved more when shown the choice architecture screen with no messaging, the control screen with the emergency savings message, or the choice architecture screen with the emergency savings message than they did when they viewed the control screen with no message. A different statistical analysis (a binary logistic regression) confirmed these patterns and suggested, albeit inconclusively, that the magnitude of the effects of choice architecture and of emergency messaging is similar for LMI and non-LMI individuals.

We conducted a binary logistic regression predicting whether participants deposited to savings, including categorical predictors for choice architecture and messaging treatments and their interaction, and interaction terms combining each experimental condition and LMI status, as well as the three-way interaction term between choice architecture, messaging, and LMI status. Results mirrored the findings in Table 4, which are shown in the main text, and further showed no interaction with LMI status: the coefficients for choice architecture remained significant ($p < .002$) and emergency messaging approached significance ($p = .06$), whereas their interaction term was not significant ($p > .25$); none of the interaction terms with LMI status were significant (ps > .25). Although these interaction results suggest that the size of the choice architecture and emergency messaging effects is similar across LMI and non-LMI individuals, we note that an even larger sample would be required for a sufficiently statistically powered test of this interaction (Simonsohn, 2014); a power calculation assuming 80% power finds that we need approximately 65 participants per comparison cell to detect an interaction of the control versus Choice Architecture + Emergency Savings Message treatment effect with LMI status; we

have approximately 50 LMI participants per comparison cell. We conclude that the choice architecture and emergency messaging effects that we observe hold for both LMI and non-LMI consumers; there is suggestive but not conclusive evidence that the size of the effects are approximately the same for both LMI and non-LMI individuals.

Reference

Simonsohn, U. (2014, March 12). No-way interactions [Blog post]. Retrieved from http://datacolada.org/17

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Supplemental Analyses

EXPERIMENT 3: EFFECTIVE CHOICE ARCHITECTURE COMPONENTS

Expanded Description of Results

Figure 2 and Table 5 in the main text display the results from Experiment 3, which replicate the pattern observed in results from Experiments 1 and 2: Participants in the choice architecture condition allocated significantly more money to savings accounts compared with counterparts in the control condition. Subjects in the choice architecture condition allocated an average of $340.68 to savings, whereas those in the control condition allocated an average of $190.91 to savings, $t(549) = 2.63$, Cohen's $d = 0.22$, $p = .009$.

Participants in the savings emphasized condition did not, however, allocate more to savings than did participants the control condition ($174.76 and $190.91, respectively; $p > .25$), suggesting that merely emphasizing savings one time is not sufficient to influence refund allocations. A greater amount was allocated to savings by participants in both the savings emphasized twice condition ($M = \$392.73$), $t(549) = 3.45$, Cohen's $d = 0.29$, $p < .001$, and the single–click savings condition ($M = \$431.86$), $t(549) = 4.26$, Cohen's $d = 0.36$, $p < .001$, than by counterparts in the control condition, suggesting that the heavy emphasis on savings, the increased ease of

depositing to savings, or both contributed to the choice architecture finding. These patterns of significance did not change when participants who failed the attention check were included in analyses.

As in Experiment 1, we found that the savings allocation patterns held for both LMI consumers and non-LMI consumers. We also again conducted further analyses, finding the results to be consistent with those reported above. A binary logistic regression predicted whether not participants deposited to savings, including categorical predictors for each experimental condition (except control) and interaction terms combining each experimental condition and LMI status. Results mirrored the findings in Table 5 in the main text and further showed no interaction with LMI status: the coefficients for choice architecture ($p < .002$), savings emphasized twice ($p = .001$), and single-click savings ($p < .001$) were each statistically significant, whereas the coefficient for savings emphasized was not ($p > .25$); none of the interaction terms with LMI status was significant ($ps > .25$). The statistical power limitations for these interaction tests described after Experiment 2 apply here for Experiment 3 as well.