Analysis Plan

Specifications

Our behavioral predictions only apply to settings featuring a significantly increasing or decreasing relationship between the response and the parameter. The predicted sign of this relationship is listed, for each task, in the Parameter Description file. A prerequisite for the tests described below is therefore the presence of a significantly increasing or decreasing relationship in a given task. If a task is dropped due to a failure of this prerequisite, we may replace it with an additional, substitute task, which will be added to the pre-registration as an addendum.

The following analyses will be conducted on the final set of eligible tasks (satisfying the requirement of a significantly increasing or decreasing relationship between response and parameter just discussed).

1) Main analysis: Behavioral attenuation

The main analysis is run on all parameters other than (i) Dominance points and (ii) Other potential simple points (as described in the Parameter Description document).

Our main analysis tests for behavioral attenuation using the following specification:

$y = a + b*x + c*CU + d*x*CU$

where CU is 100 minus the confidence-in-optimality elicited after each decision and x and y are as defined in the Parameter Description file. Our hypothesis is that the coefficient d has the opposite sign of coefficient b.

For the subset of tasks classified as having an objective solution in the Parameter Description document, there is an objectively correct ("normative") response, n, and on this subset we will also estimate the following equation:

$y=a+b*n$

Our hypothesis is that $|b|<1$.

2) Secondary analysis: Diminishing sensitivity

We first assess whether a task features a "simple point". This is the case when one of the following two conditions holds:

- The task has a dominance point (see Parameter Description document)
- The task has a potentially simple point (see Parameter Description document) AND average cognitive uncertainty at that point is significantly lower (at the 5% level) than average cognitive uncertainty at the five closest parameters

If a task satisfies one of these conditions, we compute a variable DFB (distance from boundary) as the absolute distance between a parameter and the closest simple point.

We estimate:

y=a+b*x+c*DFB+d*x*DFB

with the hypothesis that d has the opposite sign of coefficient b.

Variables

In most tasks, the dependent variable y and independent variable x in the above specifications are simply the response and parameter variables r and p described in the Parameter Description document (i.e., x=p and y=r). However, several of the tasks feature transformations of one or both p and r. We list these transformations below:

DIG: x = p/100
IND: x = 10*(p-0.5)
POA: In addition to their main response r (their investment decision), subjects make an estimate of the stock return. In this task y=r and x=their estimate + FE, where FE are fund fixed effects.
FOR: y = implied predictability = (r – earnings 2023) /(earnings 2023-earnings 2022)
BEU: x=log(p)/log(100-p); y=log(r)/log(100-r) + signal FE
REC: x=p*2
MUL: x=p/90
GPT: x = p + FE, where FE are product specific fixed effects
CEE: x=p/100; y=r/18
PRE: x=p/18; y=r/100
TID: y=log(r/100)
SIA: y=(r-b)/(a-b), where a and b are the auxiliary variables (the estimates of "Ann" and "Bob").
x = p / 100
FAI = p /100
STO: x = p + FE
HEA: x = log(1 + p); y = log(1 + r)

In the case of BEU log transformations, we will recode probabilities of 1 to 0.999 and probabilities of 0 to 0.001. For TID, we recode 0 to 0.1 for the log transformation.