Proposed paragraph

In our interpretation elicitation procedures will be interpreted as rates instead of one time payoffs. (citation) give support to this interpretation, in their example of Sequence, they find that most agents end up valuing future lives more than present lives when it is interpreted that the program has a positive growth rate. Even more traditional methods of elicitation, from our point of view, lack context. One of the causes for which there is such great diversity in computing the discount rate is because agents interpet each situation to have different dynamics. As an example, in (citation) there is a choice A: Save 100 lives today and B: Save 7000 lives in 100 years. This leaves both the time frame and the growth factor non-specified. Adapting this question to specify a fixed time frame would give:

A:Save 100 and choose between A and B again in 6 months
B: Save 500 in 5 years and choose between A and B again in 6 months
And a similar adaptation for the adaptive time that highlights that the choices are associated with an adaptive frame would be:
A:Save 100 and choose between A and B again in 3 months
B: Save 500 in 5 years and choose between A and B again in 6 months

Here it is predicted that the occurence of A in the adaptive frame will is higher than the occurence of A in the fixed time frame.

0.1 Notes: solicitation methods and their applications

Empirical evidence about whther people discount for future generations

0.1.1 Choice and matching

Choice: Asking people to choose one thing from two choices. In essence, they give out binary information about their preferences.

Matching: means that one of the options will have a number left blank, this would allow the subject to give a cardinal number, presumably their indifference point. It allows for a much more precise measurement of the discount factor. Presumably using this method, 4 questions would be sufficient to corroborate each of our 4 setups.

From our perspective, all these questions are incomplete. In ergodicity context this

would require that each choice has a different growth rate associated with it. To be able to make such inferences about growth rates it is neccesary to make assumptions about the frequency of the choice. For instance the question 'save 100 lives' needs to be put into context of how often this choice occurs or if this locks in the chooser for a period of time.

Example 1: Choice A with fixed: Save 100 and choose between A and B again in 6 months

Choice B with fixed: Save 500 in 5 years and choose between A and B again in 6 months

Example 2: Choice A with adaptive: Save 100 and choose between A and B again in 3 months

Choice B with adaptive: Save 500 in 5 years and choose between A and B again in 6 months

When the dynamic is left unspecified, different words could conjure up different environments for the agent. If a more precise formulation for the environment is offered we would predict that there would be less variability in the answers given. The difficulty in solicitation is to properly frame the multiplicative and additive aspect of the dynamics within a questionaire. Within our approach, if agents are indeed adopting a growth optimand, it is best to pair up the experimental results with socioeconomic data to see if the dynamics of their real life portofolios matches their lab decision making.

0.1.2 Rating

Rating: This is in essence a two part question. The first is a simple choice question, the other is an attempt to measure the ratio of badness between the two choices. In our framework this would be very straightfoward, as growth is fully cardinal, you can in fact compare their rating of the badness with respect to the actual growth difference.

In example 1 it is clear that the rating predicted is 1/5. However this is only the case in the case of of additive dynamics. If the dynamics are multiplicative it is more complicated.

0.1.3 Total

Total: Two payments are associated with each option. Say option A has x_a1 at T_a1 and x_a2 at T_a2. Once again, our framework allows for a seameless comparison between the two lotteries. However, defining the discount factor would be more difficult in this situation since the growth rates would have numerous variables.

0.1.4 Sequence

Sequence: Here, we are in fact very close to having a question about growth, it compares a program which gets better over time to a program which gets worse over time. In one sense this problem can be interpreted similarly to the Total sense, where the calculuation is plugged into ones own growth rate. Alternatively, one can interpret this directly as a program which has an internal growth rate.

This is actually very important for us, it is proof that people interpret the question in terms of growth rate.

0.1.5 Equity

Equity: This is about keeping the total payout constant but varying its distribution over time. In our case if $r > 0$ and we have a multiplicative dynamic, thenm someone would prefer to have it all on the first period. If the dynamic is additive, then one is indifferent between the two.

0.1.6 Context

Context: Three options are presented but the questions are pairwise. So A vs B and A vs C. Ergodicity economics has no particular prediction about such framing effects.

1 Papers

Yoon, Haewon. "Impatience and time inconsistency in discounting models." Management Science 66.12 (2020): 5850-5860.

Experiments around preference reversal, some people preferred larger later(46%), others smaller earlier (33%), and other switched as the parameters changed (18%).

References