Programs for "Individual Preferences, Monetary Gambles, and Stock Market Participation: A Case for Narrow Framing," by Barberis, Huang, and Thaler

The programs are all Matlab programs.

"prog1" produces Figure 1. In other words, it computes the attitudes of a first-order risk averse agent to delayed versions of the 550/500 and 20 million/10,000 gambles. The methodology is described in the Appendix. Run time in Matlab is under 2 minutes.

"prog2" confirms the calculations at the end of Section III. It computes the attitudes of an agent with narrow framing preferences to delayed versions of the 550/500 and 20 million/10,000 gambles. The methodology is described in the Appendix. For a degree of narrow framing b_0 equal to 0.1, the top graph shows the parameter values for which the agent rejects the 550/500 gamble, while the bottom graph shows the parameter values for which she accepts the 20 million/10,000 gamble. The graph confirms the claim in Section III that setting (γ,λ) equal to (1.5,3) satisfies conditions I and II. (The results for immediate versions of the gambles are very similar). Run time in Matlab is under 3 minutes.

"prog3" generates the "x" signs in Figure 2. In other words, it computes the attitude of a first-order risk averse agent to a delayed version of the 20 million/10,000 gamble. The methodology is described in the Appendix. This program is very similar in methodology to "prog1". The only difference is that here, the agent's pre-existing risk is a 75% allocation to a log-normally distributed asset and a 25% allocation to the risk-free asset. In the case of "prog1" (and Figure 1), the pre-existing risk was a 100% allocation to a log-normally distributed asset. Run time in Matlab is under 2 minutes.

"prog4" generates the "+" signs in Figure 2. In other words, it computes the parameter values for which a first-order risk averse agent would choose a non-positive allocation to the stock market. The methodology is described in the Appendix. Run time in Matlab is about 120 minutes.

"prog5" generates the bottom panel in Figure 3. In other words, it computes the attitude of an agent with narrow framing preferences to a delayed version of the 20 million/10,000 gamble. The methodology is described in the Appendix. This program is very similar in methodology to "prog2". The only difference is that here, the agent's pre-existing risk is a 75% allocation to a log-normally distributed asset and a 25% allocation to the risk-free asset. In the case of "prog2" (and the calculations at the end of Section III), the pre-existing risk was a 100% allocation to a log-normally distributed asset. Run time in Matlab is under 1 minute.

"prog6" generates the top panel in Figure 3. In other words, it computes the parameter values for which an agent with narrow framing preferences would choose a non-positive allocation to the stock market. The methodology is described in the Appendix. Run time in Matlab is about 50 minutes.