

Subadditive Temporal Discounting: Evidence with Losses and Delay/Speed-up Framings

A recent finding challenging the standard discounted utility model is subadditive discounting. Subadditivity implies that elicited discount rates will reveal more impatience if a given time interval is broken up into several sub-periods, as opposed to when the time interval was left undivided. For example, discounting is steeper over three consecutive eight-month intervals than over one undivided twenty-four month interval. However, the previous work on subadditive discounting has only examined discounting of gains, or positive amounts of money. Ample evidence has demonstrated that gains and losses are discounted differently in intertemporal choices. In our first experiment, we examine the temporal discounting of both gains and losses and demonstrate that discounting of losses also displays subadditivity.

In addition, we also explore whether subadditive discounting persists under alternative temporal discount rate elicitation methods, or whether subadditivity is simply inherent to the previous elicitation methods. In our second experiment we employ willingness to delay/speed-up questions, and again find strong evidence for subadditive discounting of both gains and losses. These findings suggest that subadditive discounting is a robust decision-making phenomenon, and not simply due to choice properties specific to either the properties of the utility function or the elicitation method.