The Complexity of Choice and Loss Aversion: a Computation Theory Model

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Abstract

We present a "satisficing" choice model, in which the consumer looks for a feasible bundle of goods that induces a payoff above a certain threshold. We demonstrate that this problem is computationally difficult (NP-Complete), and therefore solving it entails a significant computation cost. We show that this cost can induce loss aversion, and that the induced loss aversion is non-monotonic with respect to the size of the loss. We present a simple quantitative model and test it using the existing experimental results. Our model fits well the experimental results, and in some relevant domains, it has better predictive power than prospect theory.