

Attention Theory: Modeling Attention and Saliency in Decision Making

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We model the role of attention in decision making under risk and uncertainty from the perspective of the DM as a cognitive miser. We arrive at the utility of a lottery through potentially volatile attention-dependent decision weights. The model can account for a broad range of choice phenomena and anomalies in the literature under different attentional attitudes. Under consequentialist attention and when evaluating individual lotteries in isolation, the model can account for loss-gain framing, Allais behavior, the fourfold pattern of risk attitude, disjunction effect, uncertainty effects, and evidence in support of continuity of probability weighting and discontinuity of certainty equivalent from event splitting. In the setting of binary choice, the model can account for preference reversal and is linked to saliency theory. Under non-consequentialist attention, the model provides an attentional basis for source preference in which identically distributed risks may not be valued the same.

Keywords: Attention, ambiguity, familiarity, anomalies, stochastic choice

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