

## Scott Decomposition Revisited

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### Abstract

Scott provides necessary and sufficient conditions for the given probability capacity be decomposed into a composition of some additive probability and some strictly increasing distortion function. Given this, we characterize a family of Choquet-expected-utility (CEU) preferences where the probability capacity is decomposed into the additive probability and the distortion function both of which are endogenously derived from the preference. Furthermore, we clarify the relation between this family of preferences and the so-called probabilistically-sophisticated preferences, and we characterize the concept of being more-uncertainty-averse in terms of the distortion function.