

Recursive Utility Functions with Extended States

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Abstract

We introduced a concept called *extended state* that is defined as a history of an observer's recognition on the state of the world Ω with a filtration \mathbb{G} . Then Ω is naturally embedded into the set of all extended states $\Omega[\mathbb{G}]$. A subset of $\Omega[\mathbb{G}]$ represents the observer's *ability* to recognize the world.

We applied the concept to dynamic choice theory by calculating value functions that characterize preference relations between consumption plans. The resulting functions are aware not only of prior ambiguity but also of *state ambiguity*.

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