# SUBJECTIVE PROBABILITY MEASURES ON EQUIAMBIGUIOUS SETS

## Osamu Kada

E-mail: `kada@math.sci.ynu.ac.jp`

Abstract:

In typical cases in which we consider subjective probabilities, decision maker (DM) does not know probabilities on events; for instance, in horse races. And in this case, events are ambiguous assuming DM prefers events with known probabilities to events with unknown probabilities. So, subjective probabilities are considered on a set of ambiguous events. We define a class of equi-ambiguous sets that includes the set of unambiguous events, and consider subjective probabilities on an ambiguous equi-ambiguous set as well as on the set of unambiguous events. This implies departure from Knightian view of ambiguity. Notably, we show that on an ambiguous equi-ambiguous set, it is never subjective expected utility (SEU); for instance, in horse races. Ambiguity and uncertainty aversion are defined behaviorally by assuming an algebra of objective-like events $\mathcal{O}$ unifying two views on uncertainty aversion by Epstein (1999) and Ghirardato and Marinacci (2002). We give an axiomatization on an equi-ambiguous set, which is closed only with respect to complements.

*Journal of Economic Literature* Classification Numbers: C72.

*Key words*: Subjective probability, ambiguity, objective-like events, Knightian uncertainty, probabilistic sophistication, Ellsberg Paradox.