A comprehensive method for studying non-transitive indifferences and approximate utility maximisation with limited data

Abstract

We conduct a general revealed preference analysis of choices that violate transitivity of indifferences, under the assumption that the observer monitors only a finite number of choices an individual is making from a variety of menus. We show that any such dataset can be rationalised with approximate utility maximisation where an alternative is selected from a menu only if its utility is not significantly lower than that of any other available option. We apply this result to develop a comprehensive and robust method for studying preferences of agents whose choices are not congruent with the classical notion of rationality. Although the individual may fail to maximise their utility exactly, it is possible to recover their true preferences from the observable data, make out-of-sample predictions, and perform a standard welfare analysis. Our results impose minimal assumptions on the empirical framework and are applicable, amongst others, to the study of choices over consumption bundles, state-contingent consumption, and lotteries.