

Abstract: We examine behavior over a comprehensive space of 2x2 one-shot games, namely all such games, where players obtain payoffs from the set $\{1,2,3,4\}$ without repetitions. We apply a geometric approach introduced in Germano (2006) that uses the neighborhood structure of games and the discontinuities of correspondences to partition games into similarity classes according to the given correspondences. The correspondences can be derived from standard game theoretical concepts such as Nash equilibrium, Rationalizability or also from behavioral rules such as Level-k reasoning or SocMax. Importantly, they can also be derived directly from the observed behavior of subjects. The approach thus allows us to derive theoretical similarity classes on one hand and empirical ones on the other. After characterizing theoretical similarity classes for standard rules and solutions concepts, we contrast them with the empirical similarity classes and show that a risk-averse variant of Level-k reasoning combined with an inequity-averse efficiency rule (near-equal split) not only explains the data but also helps to organize the space of games into well-defined classes. This allows us to understand subjects' behavior from a more global perspective. A main aspect that characterizes the risk-averse Level-k similarity classes and connects them with the empirical similarity classes, but also sets them apart from, for example, the Nash equilibrium ones, is the number of outcomes expected to be played with significant frequency, suggesting "outcome selection" as a fundamental way of characterizing types of games and organizing subjects' behavior, as opposed to number or structure of Nash equilibria or Pareto efficient outcomes.