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Distributional Preferences in Probabilistic and Share Contests[☆]

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Abstract

We analyze Nash equilibria of probabilistic and share contests where players have distributional preferences. If players are sufficiently similar, distributional preferences create multiple equilibria. For the case of only mildly heterogeneous players, equilibrium effort can be lower as well as higher than effort exerted by players with selfish preferences. These findings can explain the following three anomalies observed in empirical tests of probabilistic and share contests: the large variance of effort levels (overspreading), individual spending that exceeds the Nash-equilibrium prediction (overspending), and aggregate spending that exceeds the value of the prize (overdissipation). If players are sufficiently heterogeneous, the game has a unique equilibrium that is more egalitarian than the selfish Nash equilibrium. It turns out that the less talented competitor may win the larger share of the prize if his inequality aversion is sufficiently strong. We analyze how the equilibria evolve if the number of players becomes larger and how sequential moves influence behavior. Two new insights follow from the analysis of the sequential-move game. First, sequential moves act as a coordination device in case of multiple simultaneous equilibria, and second, inequality aversion of the more egalitarian player can be used as a commitment device for low effort. This effect can reverse the conventional wisdom that the underdog should lead.

JEL classification: D03, D72, D74

Keywords: Contests, Distributional Preferences, Overdissipation

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