Buck-passing Dumping in a Pure Exchange Game of Bads

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We study stable strategy profiles in a pure exchange game of bads, where each player dumps his/her bads such as garbage onto someone else. Hirai et al. (2006) show that cycle dumping, in which each player follows an ordering and dumps his/her bads onto the next player, is a strong Nash equilibrium and that self-disposal is alpha-stable for some initial distributions of bads. In this paper, we show that a strategy profile of bullying, in which all players dump their bads onto a single player, becomes alpha-stable for every exchange game of bads. We also provide a necessary and sufficient condition for a strategy profile to be alpha-stable in an exchange game of bads. Moreover, we show that cycle dumping is the only dumping behavior that generates a strong Nash equilibrium. In addition, we show that repeating an exchange after the first exchange makes self-disposal stationary.