The Chip Strategies Approximate the Efficient Outcome with the Optimal Order.

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Abstract

I study the chip-strategy equilibria in the two-player infinitely repeated favor exchange game. In the stage game, each player gets a consumption good with some probability, and it is private informed as to whether he gets a good or not. If a player gets a good, then he can consume the good or transfer it to his partner. The payoff from consuming his partner's good is greater than the payoff from consuming his own goods, and hence the transfer is value-enhancing.

In the chip strategies, player are initially endowed with a number of chips. If a player transfers a good to his partner, then the partner gives a chip in return. A player who is run out of chips is no longer entitled to receive a good transfer until he gives a good to his partner and gets a chip back.

I show that the average payoff achived by chip-strategy equilibria approximates the efficient (total, ex ante) payoff with order $(1-\delta)^{1/2}$, where $\delta \in (0,1)$ is the common discount factor of players. Moreover, I characterize the order by showing that the average payoff achived by the optimal perfect public equilibria approximates the efficient payoff again with order $(1-\delta)^{1/2}$. In other words, the chip-strategy equilibria approximate the efficient outcome with the optimal order.

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