SEMINARIO

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The Recursive Bargaining Solution: Theory and Application

Abstract: We propose the recursive bargaining solution for n-person noncooperative differential games with nontransferable payoffs and preplay cooperative bargaining. Before the game has started the agents bargain over a tuple of stationary Markovian strategies where the noncooperative values generated by the Nash equilibrium strategies serve as an outside option.

Since rational agents only agree on strategies which yield as least the noncooperative value we increase efficiency against the noncooperative equilibrium. The bargaining solution is dynamically stable if deviations from the agreed upon solution are punished by grim strategies.

Then we study numerically the Nash, Kalai-Smorodinsky and Egalitarian bargaining solution by means of an advertising differential game with asymmetric firms. The asymmetry stems from the profit functions as well as discount rates.

We thus propose a new solution concept for time consistent cooperation with asymmetric discounting.

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