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Presentation Title

Principal-Agent VCG Contracts

(with Ron Lavi)

Abstract

We study a game of complete information with multiple principals and multiple common agents. Each agent takes an action that can affect the payoffs of all principals. Prat and Rustichini (Econometrica, 2003) who introduce this model assume first price contracts: each principal offers monetary transfers to each agent conditional on the action taken by the agent. We define a notion of VCG contracts which are a restricted natural class of contractible contracts and study its effect on the existence of efficient pure subgame perfect equilibrium outcomes. We identify a "generalized balancedness" condition that is necessary and sufficient for the existence of a pure subgame perfect equilibrium (SPE) with VCG contracts. As a consequence, we show that the class of instances of this game that admit an efficient SPE with VCG contracts strictly contains the class of instances of this game that admit an efficient SPE with first price contracts. Although VCG contracts broaden the existence of pure subgame perfect equilibria, we show that the worst case welfare loss in a SPE outcome, over all games with a fixed $M > 2$ number of principals, is the same for both VCG contracts and first price contracts.

Keywords

Principal-agent; games played through agents; contractible contracts; VCG

Affiliation

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