Implementation with Near Complete Information: The Case of Subgame Perfection[*]

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Abstract

The use of equilibrium concepts that have a closed graph in the space of information is a natural requirement in implementation theory, especially under complete information. It is well-known that while monotonicity is a necessary and almost sufficient condition for Nash implementation and often a demanding one, almost any (non-monotonic, for instance) social choice rule can be implemented using undominated Nash or subgame perfect equilibrium. Chung and Ely [2003, Econometrica] have shown that only monotonic social choice rules can be implemented in the closure of the undominated Nash equilibrium correspondence. In this paper, we complete the picture and show that only monotonic social choice rules can be implemented in the closure of the subgame perfect equilibrium/sequential equilibrium correspondence. Furthermore, through an example, we offer a foundation for contractual incompleteness in the hold-up problem.

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