

VIRTUAL IMPLEMENTATION IN NASH EQUILIBRIUM: COMPLETE INFORMATION

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ABSTRACT. In this paper we characterize the social choice rules which are virtually implementable Nash equilibrium, in the sense of Abreu and Sen (1991), using finite mechanisms. As a starting point, we study environments with complete information. Under a domain restriction known as “Quasi-Transferability,” we show that in a society with more than three agents any social choice rule is virtually implementable in Nash equilibrium *via* finite mechanism. Also, the mechanism we construct achieves virtual implementation in the *iterated elimination of strictly dominated strategies*. Thus equilibrium in mixed strategies is explicitly taken into account without relying on infinite mechanisms. Thus our paper extends the permissive results reported in Abreu and Sen (1991) if one restricts to finite mechanisms. The results in this paper build off from a seminal paper by (Abreu and Matsushima, 1992) on finite mechanisms. In particular, we propose a modification of the mechanism proposed in (Abreu and Matsushima, 1992) which applies to social choice rules.

Keywords: Implementation, Social choice correspondences, Monotonicity, Rationalizability

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