

Strategy-Proofness and Efficiency of Probabilistic Mechanisms for Excludable Public Good

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Abstract

We study strategy-proof probabilistic mechanisms in a binary excludable public good model. We construct a new class of probabilistic mechanisms satisfying strategy-proofness, called α -mechanisms.

We first show that the α -mechanisms are second-best efficient. Next, we identify the optimal α -mechanism with respect to the supramal welfare loss, and show that it improves the inefficiency of the equal cost sharing with maximal participation mechanism [Moulin (1994)] and the anonymous augmented serial mechanisms [Ohseto (2005)].

Keywords: Strategy-proofness; Probabilistic mechanism; Excludable public good; Second-best efficiency; Supramal welfare loss.

JEL codes: D61; D71; H41.

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