

Binary mechanism for the allocation problem with single-dipped preferences

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Abstract

We consider the problem of fairly allocating a fixed amount of a perfectly divisible resource among agents with single-dipped preferences. In this problem, it is known that any efficient and strategy-proof rule violates several fairness requirements. We alternatively propose a simple and natural mechanism, in which each agent reports only whether he or she wants a resource and the resource is divided equally among agents who want it. We show that any Nash equilibrium allocation of our mechanism belongs to the equal-division core. In addition, we show that our mechanism is Cournot stable. In other words, from any message profile, any path of better-reply must converge to a Nash equilibrium.

JEL Classification: C73, D63, D78.

Keywords: Single-dippedness, Binary mechanism, Equal-division core, Better-reply dynamics, Potential game.

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