

A Theory of House Allocation and Exchange Mechanisms*

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Abstract

We study the allocation and exchange of indivisible objects without monetary transfers. In market design literature, some problems that fall in this category are the house allocation problem with and without existing tenants, and the kidney exchange problem. We introduce a new class of direct mechanisms that we call trading cycles with brokers and owners, and show that (i) each mechanism in the class is coalitionally strategy-proof and Pareto-efficient, and (ii) each coalitionally strategy-proof and Pareto-efficient direct mechanism is in the class. As corollaries, we obtain new characterizations in the aforementioned market design problems.

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