

Abstract

Title: House Allocation with Overlapping Generations: A Dynamic Mechanism Design Approach

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Many real-life applications of house allocation problems are dynamic. For example, in on-campus housing for college students, each year freshmen move in and seniors leave. Each student stays on campus for a few years only. A student is a “newcomer” in the beginning and then becomes an “existing tenant.” Motivated by this observation, we introduce a model of house allocation with overlapping generations. In terms of dynamic mechanism design without monetary transfer, we examine two static mechanisms of *serial dictatorship* (SD) and *top trading cycles* (TTC), both of which are based on an ordering of agents and give an agent with higher order an opportunity to obtain a better house. We support a seniority-based SD mechanism in terms of Pareto efficiency. Similarly, we support a seniority-based TTC mechanism under time-invariant preferences in terms of Pareto efficiency and strategy-proofness. Moreover, we provide another dynamic mechanism that is strategy-proof and Pareto efficient.