Strategy-proofness, Efficiency, and the Core in Matching Problems with Transfers

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Abstract

We study a class of one-to-one matching problems in which monetary transfers are possible. This class includes the two-sided matching and roommate problems with transfers as special cases. Sönmez (1999, *Econometrica* 67: 677–689) establishes that, *for a general class of indivisible goods allocation problems without monetary transfers, if an allocation rule satisfies strategy-proofness, efficiency, and individual rationality, then, for each preference profile under which the core is non-empty, each pair of core allocations are Pareto-indifferent and the allocation chosen by the rule is in the core.* In this study, we show that the result of Sönmez (1999) extends to our environment if an allocation rule satisfies *no subsidy* in addition to the three properties. As a corollary of this result, we show that, under *individual rationality* and *no subsidy*, *efficiency* is incompatible with *strategy-proofness* in many situations. We also establish that, in the two-sided matching problem with transfers, the "one-sided optimal core allocation rule" is the only rule that satisfies *one-sided strategy-proofness*, *efficiency*, *individual rationality*, and *no subsidy*.

Keywords: matching problem with transfers, core, strategy-proofness, efficiency

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