

INDEPENDENT RANDOM MATCHING

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[Joint work with Darrell Duffie.¹]

We provide micro-foundations for independent random matching of a large population, as widely used in the economics and genetics literatures. We consider both static and dynamic systems with random mutation, partial matching arising from search, and type changes induced by matching. Under independence assumptions at each randomization step, we show that the time evolution of the cross-sectional type process is completely determined from a Markov chain with known transition matrices. Based on generalized Fubini and Ionescu-Tulcea theorems for Loeb transition probabilities, we also construct a joint agent-probability space, and random mutation, partial matching, and match-induced type-changing functions that satisfy the required independence conditions.

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