Short Lists in Centralized Clearinghouses

Nick Arnosti
Stanford University
narnosti@stanford.edu

ABSTRACT

Stable matching mechanisms are used to clear many two-sided markets. In most settings, frictions cause participants to submit short preference lists (even if there are many potentially acceptable matches). As a result, many agents on both sides go unmatched.

This paper studies the way that correlations in agent preferences influence the quantity and quality of matches formed in the marketplace. I consider three canonical preference structures: fully independent (or idiosyncratic) preferences, vertical preferences (agents agree on the attractiveness of those on the opposite side), and aligned preferences (potential partners agree on the attractiveness of their match).

I find that when agent preferences are idiosyncratic, more matches form than when agents are vertically differentiated. Perhaps more surprisingly, I show that the case of aligned preferences causes the fewest matches to form. When considering quality of matches, the story reverses itself: aligned preferences produce the most high quality matches, followed by correlated preferences, with independent preferences producing the fewest.

These facts have implications for the design of priority structures and tie-breaking procedures in school choice settings, as they point to a fundamental tradeoff between matching many students, and maximizing the number of students who get one of their top choices.

Categories and Subject Descriptors

J.4 [**Social And Behavioral Sciences**]: Economics; G.2.2 [**Discrete Math**]: Graph Algorithms

General Terms: Economics, Theory

Keywords

matching, market design, frictions, school choice

AMMA 2015, August 08-09, Chicago, United States

DOI 10.4108/eai.8-8-2015.2260677