

# Equilibria under Deferred Acceptance: Dropping Strategies, Filled Positions, and Welfare

Flip Klijn  
IAE-CSIC

## Abstract

This paper studies many-to-one matching markets where each student is assigned to a hospital. Each hospital has possibly multiple positions and responsive preferences. We study the game induced by the student-optimal stable matching mechanism. We assume that students play their weakly dominant strategy of truth-telling.

Roth and Sotomayor (1990) showed that there can be unstable equilibrium outcomes. We prove that any stable matching can be obtained in some equilibrium. We also show that the exhaustive class of dropping strategies does not necessarily generate the full set of equilibrium outcomes. Finally, we find that the so-called ‘rural hospital theorem’ cannot be extended to the set of equilibrium outcomes and that welfare levels are in general unrelated to the set of stable matchings. Two important consequences are that, contrary to one-to-one matching markets, (a) filled positions depend on the particular equilibrium that is reached and (b) welfare levels are not bounded by the student and hospital-optimal stable matchings (with respect to the true preferences).