

# Tamás Solymosi

## *Presentation Title*

### **Sensitivity of Fair Prices in Assignment Markets**

#### ***Abstract***

In assignment markets, as proved by Shapley and Shubik (1972), the set of competitive equilibrium payoffs coincides with the core of the related assignment game, and there are two special core allocations: one is simultaneously the best for all buyers, the other is simultaneously the best for all sellers. If prices are set by a market mechanism that is known to determine the minimum equilibrium prices with respect to agents' stated valuations, the buyers have no incentive to falsify their true values. The sellers, however, can manipulate the mechanism to their benefits. We investigate the sensitivity of the two special core allocations and that of their average, called the 'fair' allocation. We show that if an agent unilaterally falsifies all of his stated valuations by the same amount, his payoff in the 'fair' allocation cannot decrease, but can increase by at most half of that amount. Our proof basically relies on a new characterization of the buyer-optimal and seller-optimal allocations.

#### ***Keywords***

Two-sided market; assignment game; minimum equilibrium price

#### ***Affiliation***

Corvinus University of Budapest