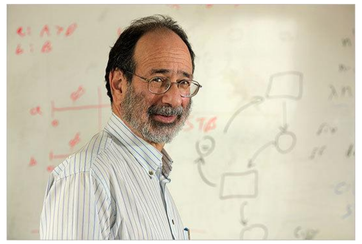
Veconlab: A Virtual Laboratory for Research and Teaching on Social and Economic Interactions

NSF Infrastructure Grant to Charles Holt, Department of Economics
University of Virginia, with Nine Co-PIs



Market Design

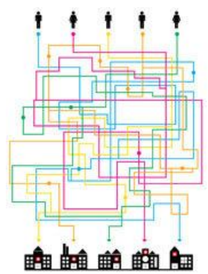
Al Roth, Economist
Harvard University
"The Matchmaker"

Used game theory and laboratory experiments to redesign the National Resident Matching Program,

for residents & hospitals

Other applications:

Law students & clerkships, students & high schools



Auction Design

Hierarchical Package Bidding, used by the FCC in the 2008 700 MHz Auction

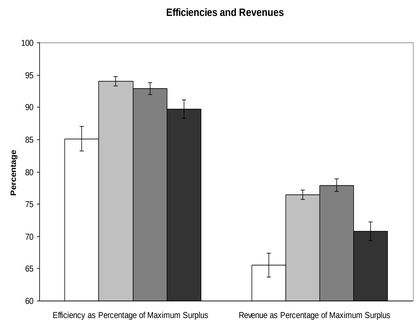
The first major combinatorial spectrum auction, designed by PIs Holt and Goeree (Caltech, Zurich).

Provided the ability to bid for valuable combinations of licenses, allowing firms to establish regional and national footprints or service upgrades.

The basic ideas of Hierarchical Package Bidding were refined with lab tests using financially motivated human subjects. The market design provided price feedback for combinations of licenses to promote efficient license allocations and to generate the target levels of revenue (billions of dollars).

Other applications funded in part by this grant include:

- Emissions Allowance Auctions for the Regional Greenhouse Gas Initiative (RGGI) ,
- TARP Reverse Auction for toxic assets considered (but not used) by Treasury in the Fall, 2008,
- Georgia Irrigation Reduction Auction, 2001, Flint River Basin.



Efficiencies and Revenues
Key: SMR (white), HPB-odd (light gray), HPB-even (dark gray), MPB (black)

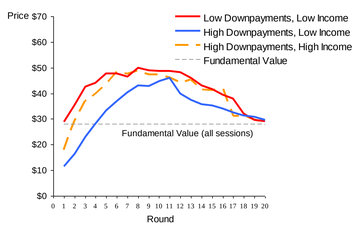
Field Studies

Jean Ensminger, Economic Anthropologist, Caltech

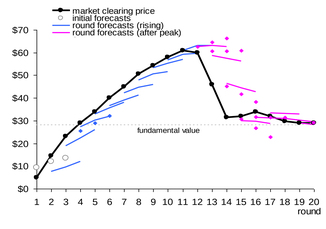
Studies of small societies using field observation and controlled experiments focused on:
Attitudes towards fairness, provision of public goods, and avoidance of uncooperative outcomes that impede economic development

Veconlab Web-based Experiment Site

with 5-10,000 participant logins from around the world each month, for teaching, basic research, and student research projects



Price Bubbles in the Lab with Leverage Effects (on left) and Price Expectations (on right)



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