President's Corner   By Vernon L. Smith

Special Topic: AUCTIONS, New Results and Understanding

In this issue, you will find brief summaries of two exciting experimental project reports funded under the IFREE Small Grants program. Both are on the topic of auctions, and both contribute new results and understanding of the performance of these special but ancient rule-governed forms of economic exchange.

The word AUCTION comes from the Latin *auctio* (noun), 'increase', from *augere* 'to increase,' indicating that the sale procedure involved ascending price bids. The so-called English ascending bid auction originates with the Romans. In the Empire, merchant auctioneers followed the Roman army to sell the spoils captured by the soldiers. A soldier would insert his spear in the ground marking his goods for sale. Hence, sale was *sub hasta*, under the spear. An old English term for auction was subhasta, making its Roman origins transparent. In Spanish an auction is la subasta, still reflecting its historical origin in the Roman Empire.

The first project discussed in this issue originated with an IFREE research grant to Diego Aycinena (UFM), the second to Wei-Shiun Chang (now at Humboldt U. Berlin) and Timothy C. Salmon (SMU). Both studies introduce bidder costs into the auction model they examine.

In Diego's work, buyers are bidding to obtain title to the same unique item. Each has his own private personal (utility) value for the item measured by its monetary worth to that individual. Imagine that you are considering an antique desk, and come up with a valuation number representing the most you would be willing to pay for it. This situation is achieved in the experiments by assigning differing private monetary values for the item to different subjects. The experimenter knows the values but each subject know only his or her own value. Auction theory refers to this as the "private values" framework. Diego adds to this traditional framework the assumption that each bidder incurs a cost in preparing a bid.

In Chang and Tim's work, the context and auction model is entirely different. Individuals are bidding to win a contract from a buyer for a given sum of money—the same for all bidders—but they each incur different costs in the process of delivering on the contract if they win. Auction theory refers to this case as a common value auction.

By the way, an excellent source on the history and practice of auctions is Ralph Cassady (1967) *Auctions and Auctioneering*. If you are interested in the colorful history of auctions from their recorded beginning in Babylon, 500 BC, and their subsequent well-practiced use by the Romans, you will be fascinated by this book.

I trust you are well underway into a good summer! Thank you for your interest and support of IFREE...*Vernon…*

Kiviq: Free Web-based Experiments for Economic Educators

-By Kyle Hampton, University of Alaska

Kiviq is the new IFREE-sponsored website that provides economic educators the means to run economic experiments in large lecture classes without having to sacrifice significant class time. For now see http://auction.akresearch.org/.

The first time I saw an economics experiment was in 1997 as an undergraduate at a workshop for Washington D.C. interns where Vernon Smith and Kevin McCabe were teaching. The centerpiece of their lecture was the familiar hand-run double auction experiment. Though I had taken a few economics courses, this was my first time experiencing an economic experiment.

Every person who is lucky enough to see markets for what they are through experiments can never see the world in the same way again! Geologists can look upon the land and see tectonic forces in motion. Biologists see in each living thing the most recent chapter in a long story of mutation and adaptation. And economists see the subtle interplay of competition and cooperation in the progress of the human race.

Experiments are crucial to the task of exposing this interplay to students. An experiment begins with students being placed into the familiar role of making individual decisions. But the real magic occurs when the experiment ends. At this point, the data from the experiment allows each student to see their own decisions in the context of decisions made by others. This kind of abstraction is precisely what economists mean when they describe "the economic way of thinking."

As I started integrating experiments into my teaching I recognized that there are significant impediments to other teachers exploiting the full power of this pedagogy.

SeaLife Center

IFREE ANNOUNCES SPRING 2013 SMALL GRANTS AWARDS

"A Zero Cost Incentives Mechanism Against Free-riding: Field Experiments on Italian Local Transportation Systems"

by Marco Fabbri, PhD candidate and Erasmus Mundus Scholar at the European Doctorate in Law & Economics; Paola Nicola Barbieri, PhD candidate in Economics, University of Bologna; Maria Bigoni, Assistant Professor, Economics, University of Bologna

Previous research suggests that when people face probabilistic decisions, many choose as though they overestimate the value of low probability, high-stakes events. Indeed, Las Vegas is driven by the fact that people from many walks of life are willing to take gambles that on average are unfavorable, and which enable gambling houses to profit from supplying people with opportunities to immerse themselves in such risks.

Now consider the problem of improving the incentives of individuals to contribute to a public good, a facility available in common to all users. A naturally occurring example is the stock of king crab in a common property fishing ground that all fishermen are dipping into to harvest crabs. But there are artificial examples created by public policy. Thus, in Europe public transportation systems are available for all to use such that anyone can board and each is expected to voluntarily pay the fare. Free riders caught not paying are subject to penalty. The system works very imperfectly: there are lots of free-riders, revenue is reduced, and more of the cost of the facility is financed by taxpayers.

Are there better ways? Much research shows that carrots are often better than sticks in prodding people to do what they might otherwise not choose to do.

The hypothesis testing in this proposal is: will people contribute more in total to the public transportation facility if they can buy a lottery ticket when they board, as an alternative to voluntarily paying the fare? In effect, the street car becomes a mini-casino and the profits support the facility cost.

This field experiment will be conducted in Italy with the cooperation of a transportation company. The basic idea has huge potential for application to other common property resource problems, whether naturally or artificially created.

"Eminent Domain and Efficient Land Assembly"

by Abel Winn and Matthew McCarter, George L. Argyros School of Business and Economics at Chapman University

Eminent domain explicitly abrogates free choice with the justification that free choice would fail to efficiently coordinate decentralized knowledge in the case of land assembly. The purpose of the research proposal is to compare the efficiency of land assembly under regimes of eminent domain vs. secure property rights.

Prior laboratory experiments have demonstrated that land assembly under secure property regimes is not perfectly efficient, though it is highly efficient in the presence of seller competition. It is tempting to conclude on these grounds that eminent domain is an economically justifiable policy. Yet we must remember that while experimental researchers have examined secure property rights and found imperfections, they have not examined eminent domain at all.

Society does not face the choice of imperfect markets versus perfect governments. This proposed study would provide more context in which to place our knowledge of inefficiency in land assembly. This study is a first to experimentally test the effectiveness of eminent domain at overcoming the holdout problem. This study could prove useful to policy makers. Knowing the strengths and weaknesses of eminent domain will be useful to state and local government in crafting their legal framework for land development.

⭐ IFREE SUMMER SCHOLARS AT CHAPMAN STILL AT IT AND HAVING FUN TOO!

From June 16—July 27, 2013 seven high school and undergrad students from the U.S. are in attendance at the IFREE Summer Scholars Program sponsored by the Thomas W. Smith Foundation and IFREE. Besides compiling and analyzing data and conducting experiments, these students are reading Adam Smith, Thomas Schelling, Robert Nozick and Patricia Farra, and numerous studies in experimental economics.

H.S. Workshops

ALL ABOUT LEARNING AND EARNING!

The *Vernon L. Smith High School Workshops* held at Chapman University, June 16-22 and June 23-29, 2013, were a complete success, as evaluated by students who participated. The Thomas W. Smith Foundation and IFREE sponsored this learning experience for high school students across the U.S. "Economics was once considered a 'dismal science', but the experiments made it fascinating!"

CONGRATULATIONS TO JIM MURPHY!

Kudos to IFREE Board Member, Jim Murphy, for the first application of experimental economics in a museum/aquarium, Alaska SeaLife Center, Seward, AK.

See: http://www.adn.com/2013/06/01/2923808/hometown-u-video-game-lets-players.html

Many economic experiments optimized for teaching are hand-run and require significant class time. Computer-mediated experiments which help speed the process are very difficult to run with the large lecture-style economics classes. As a result, economic experiments are still the exception rather than the rule in economic education.

Kiviq aims to change that. Kiviq provides free web-based experiments that are optimized for use with smartphones and tablet devices. The experiments can be run in large introductory classes and are designed to be completed in ten minutes or less. A variety of double auction experiments help illuminate topics like price controls, tax incidence, international trade, externalities, and asset market bubbles.

Thanks for supporting IFREE in helping finance the development of more experiments!

IFREE Small Grants Program Research Results Summaries

Studies of the Winner's Curse in Procurement Auctions
Wei-Shiun Chang, Humboldt University Berlin; Timothy C. Salmon, Southern Methodist University

In many procurement auction contexts people are bidding to supply a buyer. All bidders are seeking the same sum of money (common value) conditional on winning, but their situations differ because there is wide variation in the estimated costs of providing the service. Because bidders only have estimates of the cost when bidding, in a standard lowest-bid-wins auction the winner is typically the bidder who most underestimated the eventual cost. While a buyer might initially think that the low price they receive by this procedure confers only benefit, serious problems for the buyer occur if the winning seller's losses are so great that the seller defaults on the project, and the buyer suffers re-contracting costs or production delays.

One popular proposal that has been implemented in aiming to overcome these problems is called an average bid auction, in which the winning seller is the one who bids closest to the average bid submitted, and the winning seller is paid a price equal to their bid. (The rule is used in Taiwan, Italy, Peru and several states in the US). The Winner's Curse occurs because bidders fail to fully anticipate that to win means that they have underestimated the cost by more than anyone else. Consequently, the optimal bid must apply a discount to the estimated cost. Intuitively, the idea in this procedural fix is that the bidder who has bid closest to the average might have estimated the true cost with the greatest accuracy (The bids above the average are too optimistic, so the procedure builds in a "correction" device). The problem, however, is that it presumes that the change in procedure does not itself alter bidding behavior.

This study asks: Is a reduction in the probability that a winning seller makes losses offset by raising the price to the buyer?

What do the new experiments show? Essentially, the average bid mechanism solves the bidder loss problem without an excessive increase in price. The researchers provide some additional arguments to show why one should expect these results to apply outside of the lab in certain environments. In the end, the results support the intuition by many auctioneers around the world who have chosen to use this odd appearing mechanism.

Bidder Behavior and Performance of Auction Institutions with Costly Participation
Diego Aycinena, Universidad Francisco Marroquin

This study contributes new results to the understanding of the performance of two commonplace but distinct auction procedures that are used to award items that differ greatly in utility value to the bidders: (1) First price sealed bid auctions in which a single item is awarded to the individual submitting the highest bid (there are auctions in which the award corresponds to the second high bid); (2) Ascending bid clock (English) auctions in which the highest, or last, bid price is accepted. In each case it is costly for an individual to submit a bid; the cost is incurred and the bid submitted if and only if there is a net individual gain.

One set of experiments explores whether revenue is the same or not to the seller, and whether or not the award is efficient (made to the individual who most highly values the item). Since some potential bidders will not bid if it is too costly relative to their value, individuals are uncertain as to the number of actual bidders. The researchers measure the effect of two conditions: the number of actual bidders is revealed or it is not.

The results show that revenue is greater in first price auctions relative to ascending clock auctions, regardless of whether the number of entrants in an auction is revealed or not. In ascending clock auctions, revealing the number of bidders does not affect revenue, but in first price auctions, not revealing the number of bidders generates higher revenue. Efficiency is higher in ascending clock auctions—the more so when the number of bidders is not revealed—indicating that there is a trade-off between efficiency and revenues.

A second project—too technical to describe here in detail—tests an equilibrium prediction model of the number of entrants.

Build IFREE

IFREE's Mission Statement:

To advance the understanding of exchange systems and the testing and application of market-based institutions by:

- *funding* basic research in economics through experimental methods,
- *supporting* the scholarly development of students and pre- and post-doctoral visitors,
- *sponsoring* innovative hands-on participatory learning in experimental economics in a variety of settings, and
- *promoting* extended discussion of experimental economics research applications to policy.

At the heart of IFREE are the contributors who bring life to the IFREE mission through their financial support of projects funded by IFREE.

IFREE, founded in 1997, is a public 501(c)(3), tax-deductible charitable foundation. Contributions made to IFREE can be provided as general support or directed to a specific research or outreach program. To learn more about the work of IFREE please contact us!

Thank you for your support!

Phone: (520) 991-0109 | csmith@ifreeweb.org
info@IFREEweb.org ✉ www.ifreeweb.org