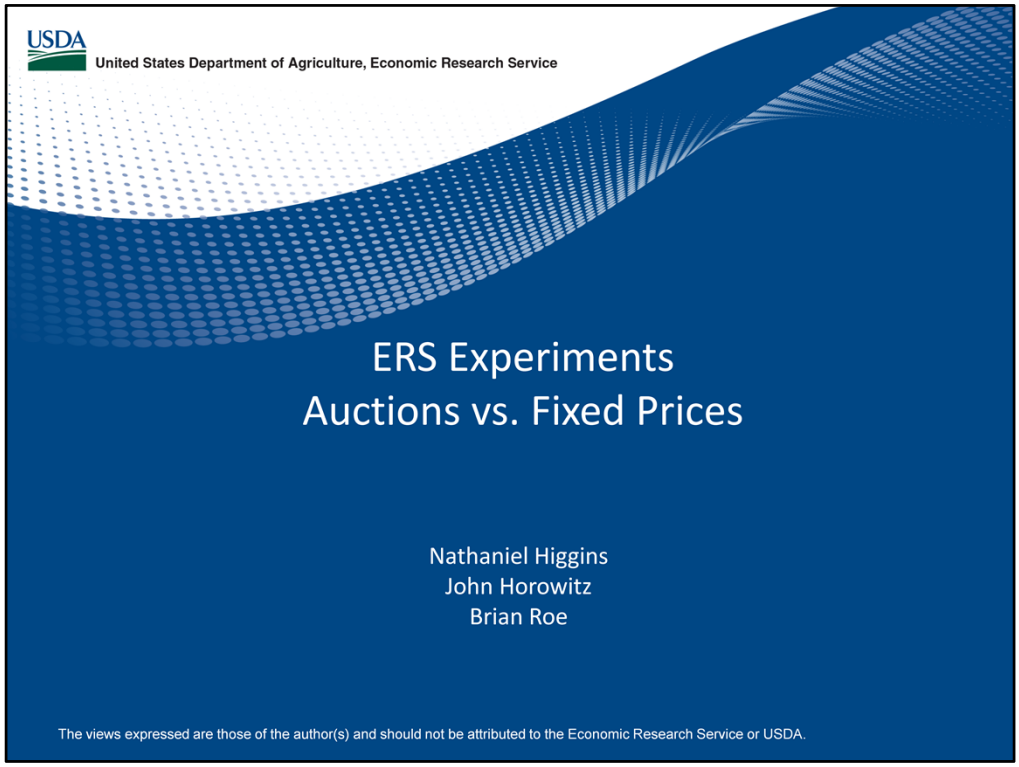

USDA
United States Department of Agriculture, Economic Research Service
ERS Experiments
Auctions vs. Fixed Prices
Nathaniel Higgins
John Horowitz
Brian Roe
The views expressed are those of the author(s) and should not be attributed to the Economic Research Service or USDA.

ERS behavioral and experimental effort

- ERS has invested substantial resources in developing a research program that uses behavioral and experimental methods
  - Includes building capacity to foster and perform experiments
  1. Funded cooperative agreements (several of you here)
  2. Advised cooperative agreements
  3. Executed field experiments with FSA (Wallander et al.)
  4. Obtained *generic clearance* from OMB to engage in lab / field experiments organized by ERS

Government-wide behavioral and experimental Initiative

- What has come of this?
- July 26 OMB memo
  - Encourage "using experimentation and innovation to test new approaches to program delivery."
  - Guidance for 2015 agency budget submissions, prioritizing budget requests that strengthen the use of evidence and innovation
  - High quality proposals "will yield credible evidence of program or policy impacts, for example by utilizing randomized controlled trials"
  - Signed by Director of OMB, Director of Domestic Policy Council, Director of OSTP, and Chairman of the CEA (2012 memo contained none of these signatures)

Synergies

- ERS is well-positioned to help the behavioral and experimental community working in agriculture to contribute to this effort
- OMB generic clearance is being used as a model
  - Allow for rapid experimentation and iteration

ERS Research under the generic

- …anything but "rapid!"
- First experiment under the new initiative is a small-scale laboratory study

- Objective: compare outcomes under two basic procurement mechanisms
  - Auctions vs. Fixed Prices

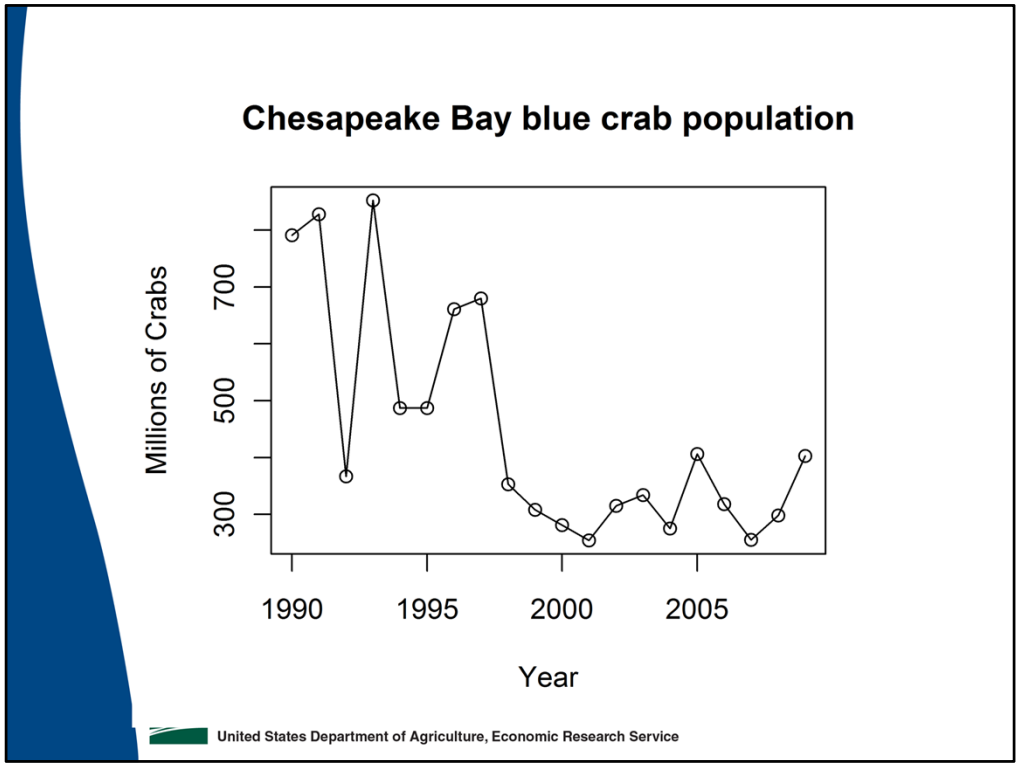
Motivation

- Motivation for this research comes from two places:
  1. Field data
  2. Lack of direct comparison between competitive and fixed-price mechanisms

Motivation: Field data

- Maryland and Virginia manage the Chesapeake Bay Crab Fishery independently but in coordination
- In 2008, Maryland and Virginia asked the Department of Commerce to declare the fishery a disaster
- Declaration made funds available to the states which could be used to restore the fishery
- In 2009, both developed plans that included “buybacks” of crabbing licenses

USDA United States Department of Agriculture, Economic Research Service


Chesapeake Bay blue crab population
Millions of Crabs
300
500
700
1990
1995
2000
2005
Year
United States Department of Agriculture, Economic Research Service

Buybacks

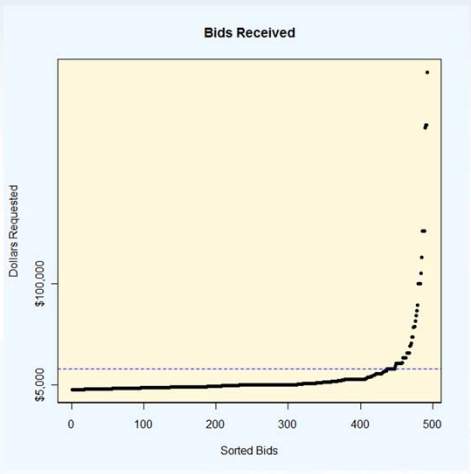
- Similar fisheries, similar objectives, very different mechanisms used
- Maryland and Virginia both proposed the use of reverse auctions
- Comparison of the two outcomes provides insights into successful market design
- Insight that motivated the current research came from inspecting the outcomes in Maryland only

USDA United States Department of Agriculture, Economic Research Service

Maryland Buyback

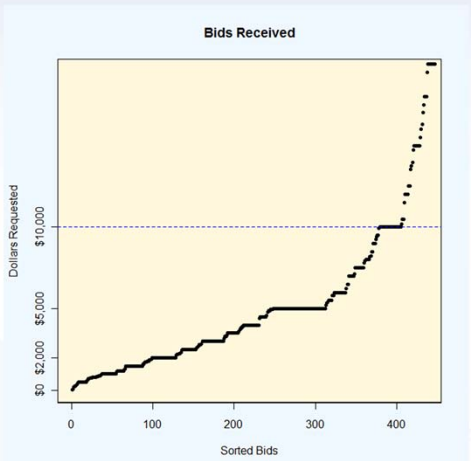
- Maryland sent out notices to all eligible license-holders, inviting them to participate in the reverse-auction buyback
  - (First-price, sealed-bid)
  - (Secret reserve price)

Bids received

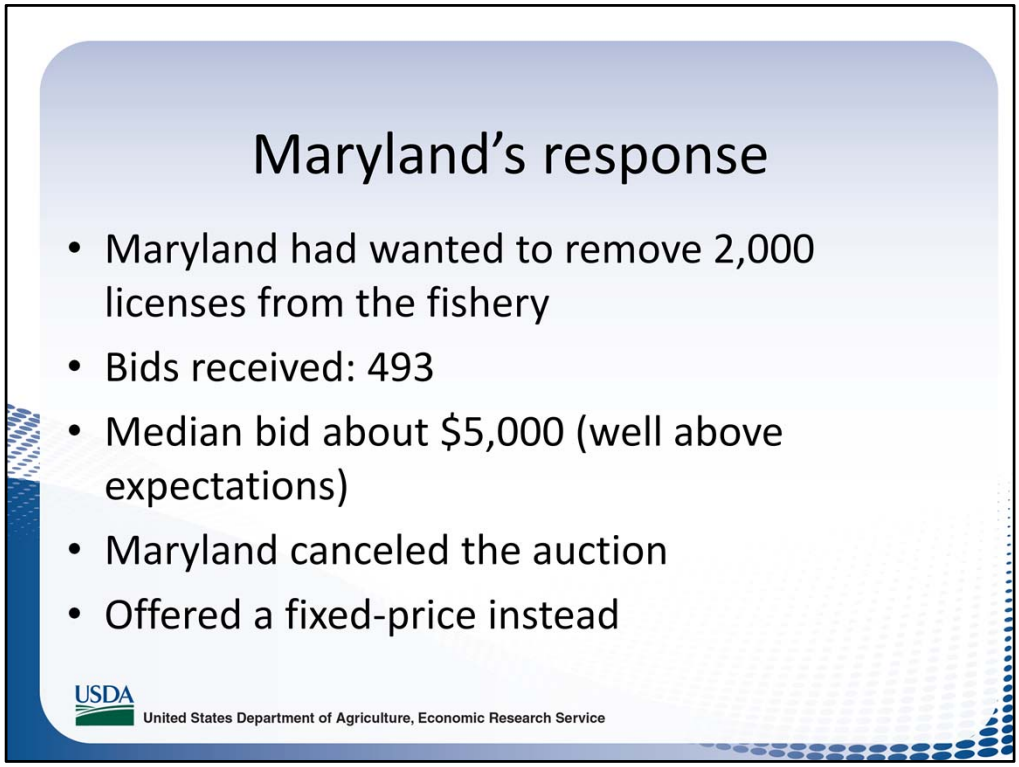


USDA
United States Department of Agriculture, Economic Research Service

Bids received

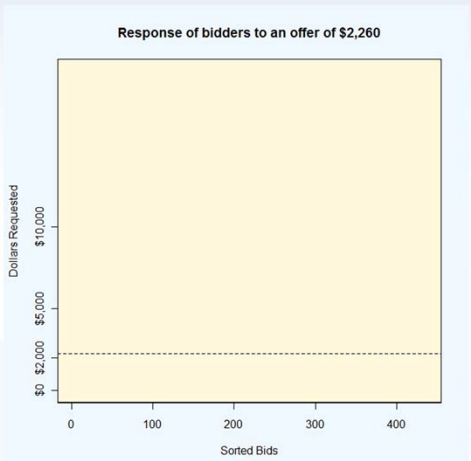


USDA United States Department of Agriculture, Economic Research Service



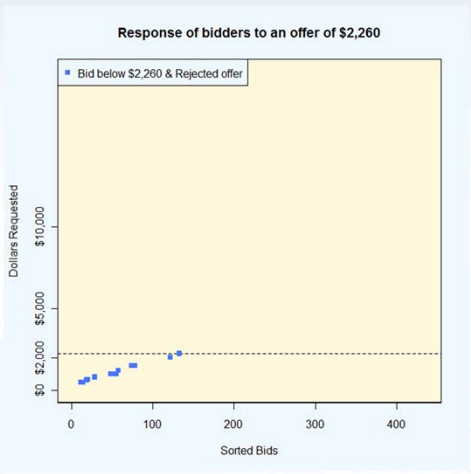
Even if they paid every bidder the median bid, they would have gone about a million dollars over their $1.5 budget to remove a quarter of the intended potential effort

Response



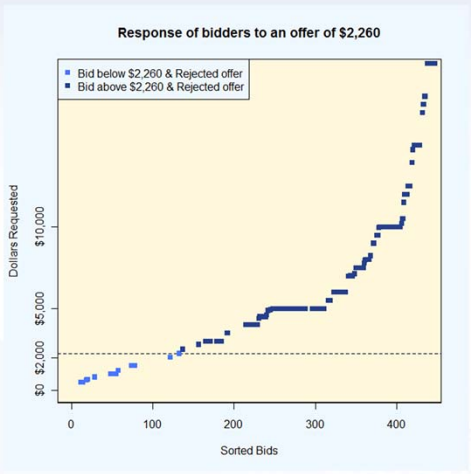
USDA United States Department of Agriculture, Economic Research Service

Response



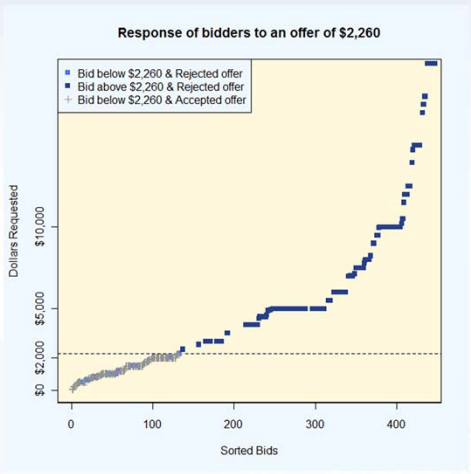
USDA United States Department of Agriculture, Economic Research Service

Response



USDA
United States Department of Agriculture, Economic Research Service

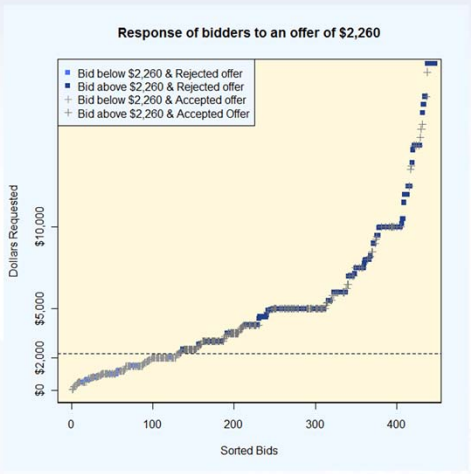
Response



USDA

United States Department of Agriculture, Economic Research Service

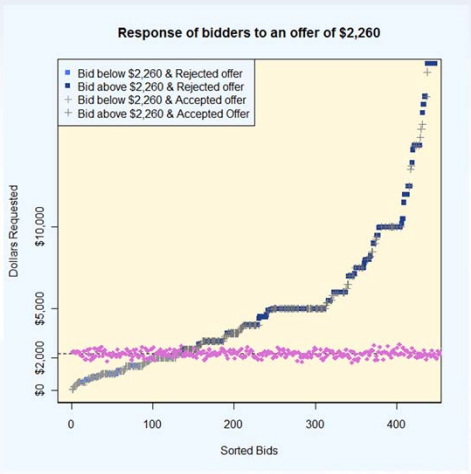
Response



USDA

United States Department of Agriculture, Economic Research Service

Response



USDA

United States Department of Agriculture, Economic Research Service

Summary

- Switching from an auction to a fixed-price mechanism garnered significantly more participation
- Why is this?
  - Auction consulting: job 1 is getting the bidder to do a valuation exercise – this is hard!
  - Fixed-price provides both a frame and a signal

Proposed research

- Simple lab experiment
  - Repurchase from subjects a good:
    1. of obvious quality (saliency) and broad appeal
    2. of uncertain value
  - Binoculars
- Give subjects identical pairs of binoculars and attempt to repurchase them using one of two procurement mechanisms
  - Paired-session design
  - Clearing price from auction session sets fixed price for the paired session
  - Outcome: offers to sell at the clearing price