

Title: How to Boost Revenues in First-Price Auctions? The Magic of Disclosing Only Winning Bids from Past Auctions

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Extended abstract:

Consider an auctioneer who repeatedly sells identical or similar items using a first-price sealed-bid auction. The auctioneer has a choice of what information about past auctions to disclose. We hypothesize that disclosing winning bids generates more revenue in the steady state than disclosing all bids. This is due to some bidders not realizing that winning bids are not representative of all bids and hence best-responding to the historical distribution of winning bids. We test this hypothesis using a laboratory experiment in which bidders repeatedly compete in pairs drawn from a group of 12 subjects and receive feedback only about the aggregate distribution of bids or winning bids in the group before the next repetition of bidding. Bidders receive no feedback about the outcome of their individual auctions until the end of the experiment. After 11 repetitions of bidding, we observe that the distribution of bids in the winning-bids treatment first-order stochastically dominates the distribution of bids in the all-bids treatment. Under the uniform distribution of valuations, the average revenue is 8

percent higher in the winning-bids treatment, consistently with our hypothesis. To test our hypothesis further, we perform a structural estimation of best-responses. Using bids from the all-bids treatment, we estimate a CRRA risk aversion parameter for each subject. We repeat the same exercise for the winning-bids treatment, with the exception that the estimated parameters now represent a combination of risk aversion and bias in best-responding. Comparing the two distributions of parameters allows us to identify the average extent of the bias in perceiving the distribution of competing bids. We find that a significant fraction of bidders are subject to such bias, consistently with our hypothesis. Moreover, the ones who are not are also affected since they respond to higher competing bids.

Keyword(s): auctions, bidding, feedback, mechanism design

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