

Semiparametric Estimation of Ascending Auctions

Abstract:

We propose an empirical framework to estimate sellers' utility functions in ascending auctions. Reserve prices observed in real-world auctions often are considered low. Existing studies on auctions assume sellers are risk neutral and often find the model implied optimal reserved prices to be higher than the observed ones. In practice sellers want to avoid a fail auction as it is typically costly to them. One way to reconcile these empirical facts using auction theory is to allow sellers to be risk averse. Our model can be used to empirically test this hypothesis. Our estimation procedure takes two-steps. First we estimate the bidders' valuations using a nonparametric quantile regression approach. The parameters in the utility function can be obtained from the first order condition of the seller's profit maximization problem in the second step.