

Auctions with Uncertain Numbers of Bidders

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We investigate bidders' and seller's responses to ambiguity about the number of bidders in the first price auction (FPA) and the second price auction (SPA) with independent private valuations. We model ambiguity aversion using the maxmin expected utility model. We find that bidders prefer the number of bidders to be revealed in the FPA, are indifferent between revealing and concealing in the SPA, and prefer the SPA to the FPA. If bidders are more pessimistic than the seller then the seller prefers to conceal the number of bidders in the FPA, and prefers the FPA to the SPA.