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The *Seat* is right: Bidder heterogeneity in *The Price Is Right*

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Abstract

We study the game show *The Price Is Right*, where bidders compete with three opponents by submitting public bids for an item. The contestant with the bid that is closest to the actual retail price, without exceeding it, gains the item and earns the opportunity to play for more expensive prizes. Since the game is sequential, the fourth bidder has an informational advantage and a strategic advantage over her competitors. Using clustered logit regression analysis, we find further evidence in support of the bounded rationality hypothesis. We further find that bidder heterogeneity, as demonstrated by the seat choice of the first contestant announced at the beginning of the show, leads to greater winning by bidders in the fourth position.

JEL classification: C93; C25

Keywords: The Price Is Right; Natural experiment; Bidding; Clustered logit

1. Introduction

CBS has been airing *The Price Is Right*, hosted by Bob Barker, for over three decades now, as the hugely popular game show draws fans from diverse age, income, and race backgrounds. The show's setup is simple: To start the show, four contestants are told to "come on down" from the audience and take their positions on contestants' row (see Fig. 1). The four contestants participate in a sequential auction for a known item by publicly announcing their bids, with the winner gaining the item and the opportunity to play for more expensive prizes. The winner of the auction is the

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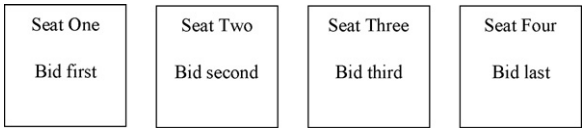

Fig. 1. Sequential bidding nature of auction 1.

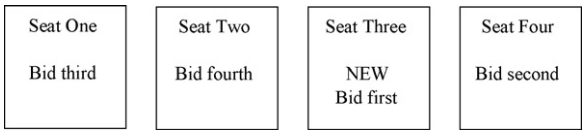

Fig. 2. Subsequent auction round. This is the situation where the bidder in Seat 3 won the previous auction.

bidder who bids closest to the actual retail price (ARP) without exceeding it. If all bidders in a particular auction bid more than the value of the prize, the auction is repeated with an admonition to reduce the bid below the previous lowest bid. Once a contestant wins an auction, she goes on to participate in a substantially different pricing game. The sequential bid auction renews after the pricing game ends as a new contestant is called to replace the previous winner in contestants' row. Another item is made available for bids, with the newest bidder assuming the role of the first bidder. See Fig. 2 for an example. Overall, the sequential bid auction occurs six times (henceforth called rounds) over the course of a show.

The show has also become popular with economists[2] as well, since there have been several attempts to explain contestant bidding behavior. The sequential nature of the auction to determine the pricing game participants is of interest, since the fourth bidder has both an informational advantage and a strategic advantage over her competitors.

The informational advantage lies in the fact that this bidder not only receives a signal of the ARP from the prize on stage and shouts from the audience but she also learns the values of her opponents' bids. Similarly, the second bidder has an advantage over the first, as does the third bidder over the second. The bonanza for the fourth bidder is that she alone has the opportunity to maximize her probability of winning by placing a cutoff bid[3]—bidding exactly US$ 1 above a competitor. Since such a strategy effectively reduces that competitor's probability of winning the auction to zero, unless the competitor had tendered the exact value of the prize with her bid,[4] the ability to submit a cutoff bid is the strategic advantage of bidding fourth. If the fourth bidder believes that the three previous bids exceed the ARP of the prize, she can bid US$ 1. Since the ARPs of prizes at this stage range from US$ 400 to 2500, a bid of US$ 1 is also a cutoff bid. Clearly, a bidder who submits a bid of US$ 1 is attempting to maximize her probability of winning.

Thus, the fourth bidder has four possibilities of cutting off another competitor. She can bid US$ 1 above the highest bid, US$ 1 above the middle bid, US$ 1 above the lowest bid, or US$ 1. In play, however, the fourth bidder submits a bid other than a cutoff bid more than 40% of the

[2] Bennett and Hickman (1993) and Berk et al. (1996) consider fairness and learning as predictors of bidding behavior on the show. Healy and Noussair (2004) use experimental methods to study this behavior.

[3] Bennett and Hickman (1993) and Berk et al. (1996) characterize a cutoff bid as an optimal bid, as it is a necessary condition for the Nash Equilibrium of the sequential auction. We wish to eschew the term optimal here, as it is value-laden and fails to consider a bidder's preference for fairness, among other things.

[4] This occurred in 18 of 702 auctions in our data set. The show also presents a US$ 500 bonus to any bidder whose bid exactly matches the ARP of the prize.