EXPERIMENT 8: THE DOLLAR AUCTION

OVERVIEW

The concepts of sunk and marginal costs can be difficult to get across to students. The following experiment involves auctioning dollar bills to students under a strict "all bidders must pay" rule. The auction induces a game of escalation in which bidders attempt to minimize their losses.[1]

MATERIALS NEEDED

- An ample supply of crisp one-dollar bills

ADMINISTERING THE EXPERIMENT

Tell the students that you will be auctioning dollar bills the next class period and to bring change if they are interested in participating. Impress upon them that there is no catch--you will be auctioning off genuine U.S. one-dollar bills, each bill will be sold to the highest bidder, and you will auction off at least two dollar bills--more if there is sufficient interest.

On the day of the auction, show the students the stack of crisp, new one-dollar bills that you will be selling. Choose an assistant from among the nonbidders to keep track of individual bids and then explain the rules of the auction.

The auction is conducted as an English auction, with the highest bidder taking the dollar bill. Each time a player bids, his or her bid is recorded by the assistant. If a player bids more than once, the higher bid replaces the lower bid, so that a player always has only one outstanding bid. As opposed to a standard English auction however, the winning bidder is not the only bidder who pays for the dollar. When the auction ends, all bidders who entered a bid during the auction must pay an amount equal to their highest bid. Only the highest bidder, however, gets the dollar. Once these rules are explained, you may begin auctioning the first dollar.

DISCUSSION

Predictably enough, the auction generally starts with a bid of a penny or two. Bids then slowly approach \$.50, \$.90, and then \$1. The person who bids \$.99 only to be outbid at \$1,

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[1]This is an edited version of an experiment that Michael Haupert contributed to the Spring, 1994, issue of *Classroom Expernomics*.

hesitates a few seconds before realizing that bidding $1.01 for a dollar is not such a crazy idea. She realizes that if she stops now, she will have spent $.99 for nothing; whereas spending only $.02 more may net her a dollar. The first bidder to go over a dollar generally elicits a roar of laughter from the class, which appreciates it even more as the bidding escalates further.

After auctioning off the first dollar you may want to ask the bidders what their strategies were and why they would pay more than $1 for a dollar. Invariably, you will find students talking about comparing marginal (versus sunk) costs and marginal benefits (though not using those precise terms).

After a few purchases, the bidders begin to scheme and wonder aloud about the possibility of colluding in order to depress prices. As a variation to the preceding rules you may want to encourage collusion (or at the least not discourage collusion) by, say, leaving the room so they may plot strategy. When you return to the room, it takes only a few bids before the collusion breaks down and price escalates beyond a dollar. This leads to a very interesting discussion about collusion and cartels and the difficulty of maintaining them.

After the auction, you are likely to find yourself in possession of a rather large sum of cash. After reimbursing yourself for your outlay of dollars, inform the class that you will return the rest of the money to them, but they must decide how to divide it up. Do not tell them before the auction begins that you will return any money. Inform them of this only when you have auctioned the last bill. Their decision on how to divide the money usually leads to yet another discussion, this one on allocation. Should only those who participated in the auction receive the money (usually one of the first criteria suggested)? Should the money be divided equally? Should only those who lost money or did not get a dollar receive money? Should a lottery determine who receives the money?

QUESTIONS

1. In what ways can U.S. involvement in the Vietnam War be described as an example of the dollar auction?

   [A common argument heard during the war was that, since the U.S. had already invested so much in terms of dollars and lives, to pull out before the war was won would cause us to have "wasted" all those dollars and lives. This can be interpreted as either a "win-at-all-cost" strategy or some form of regret over sunk costs.]

2. Can you think of other settings where there is a tendency on the part of participants to escalate their activities?

   [The British experience with cost-overruns while building the Concorde jet comes to mind.]