Kagel, J. H. et Levin, D. (1986). The winner's curse and public information in common value auctions. American Economic Review

INSTRUCTIONS

This is an experiment in the economics of market decision making. The National Science Foundation has provided funds for conducting this research. The instructions are simple, and if you follow them carefully and make good decisions you may earn a CONSIDERABLE AMOUNT OF MONEY which will be PAID TO YOU IN CASH at the end of the experiment.

1. In this experiment we will create a market in which you will act as buyers of a fictitious commodity in a sequence of trading periods. A single unit of the commodity will be auctioned off in each trading period. There will be several trading periods.

2. Your task is to submit written bids for the commodity in competition with other buyers. The precise value of the commodity at the time you make your bids will be unknown to you. Instead, each of you will receive information as to the value of the item which you should find useful in determining your bid. The process of determining the value of the commodity and the information you will receive will be described in Sections 6 and 7 below.

3. The high bidder gets the item and makes a profit equal to the difference between the value of the commodity and the amount they bid. That is,

(VALUE OF ITEM) - (HIGHEST BID) = PROFITS

for the high bidder. If this difference is negative, it represents a loss.

If you do not make the high bid on the item, you will earn zero profits. In this case, you neither gain nor lose money from bidding on the item.

4. You will be given a starting capital credit balance of $10.00. Any profit earned by you in the experiment will be added to this sum, and any losses incurred will be subtracted from this sum. The net balance of these transactions will be calculated and paid to you in CASH at the end of the experiment.

The starting capital credit balance, and whatever subsequent profits you earn, permit you to suffer losses in one auction to be recouped in part or in total in later auctions. However, should your net balance at any time during the experiment drop to zero (or less), you will no longer be permitted to participate. Instead we will give you your participation fee and you'll be free to leave the auction.

You are permitted to bid in excess of your capital credit balance in any given period.

5. During each trading period you will be bidding in a market in which all the other participants are also bidding. After all bids have been handed in they will be posted on the blackboard. We will circle the high bid and note the second high bid, and post the value of the item. We will also indicate whether a profit or loss was earned by the high bidder.

6. The value of the auctioned commodity (V*) will be assigned randomly and will lie between $25.00 and $225.00 inclusively. For each auction, any value within this interval has an equally likely chance of being drawn. The value of the item can never be less than $25.00 or more than $225.00. The V* values are determined randomly and independently from auction to auction. As such a high V* in one period tells you nothing about the likely value in the next period- whether it will be high or low. It doesn't even preclude drawing the same V* value in later periods.

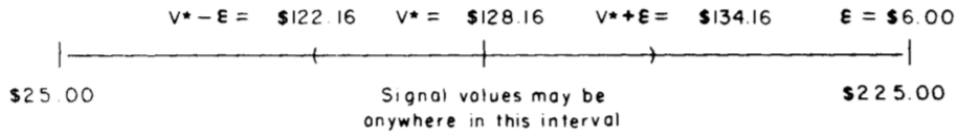
7. Private Information Signals:

Although you do not know the precise value of the item in any particular trading period, you will receive information which will narrow down the range of possible values. This will consist of a private information signal which is selected randomly from an interval whose lower bound is V* minus epsilon (ε), and whose upper bound is V* plus epsilon. Any value within this interval has equally likely chance of being drawn and being assigned to one of you as your private information signal. You will always know what the value of epsilon is.

For example, suppose that the value of the auctioned item is $128.16 and that epsilon is $6.00. Then each of you will receive a private information signal which will consist of a randomly drawn number

that will be between \$122.16 ($V^* - \varepsilon = \$128.16 - \$6.00$) and \$134.16 ($V^* + \varepsilon = \$128.16 + \$6.00$). Any number in this interval has an equally likely chance of being drawn.

The line diagram below shows what's going on in this example.



The data below show the entire set of signals the computer generated for our sample bag. (Note we've ordered these signal values from lowest to highest.)

$V^* = 128.16$ $\varepsilon = \$6.00$ Signal values

\$122.57
124.14
124.68
126.76
128.84
129.51
129.96
129.98
132.07

You will note that some signal values were above the value of the auctioned item, and some were below the value of the item. Over a sufficiently long series of auctions, the differences between your private information signal and the value of the item will average out to zero (or very close to it). For any given auction, how- ever, your private information signal can be above or below the value of the item. That's the nature of the random selection process generating the signals.

You will also note that V* must always be greater than or equal to your signal value $-\varepsilon$. The computer calculates this for you and notes it. Further, V* must always be less than or equal to your sample value $+\varepsilon$. The computer calculates this for you and notes it.

Finally, you may receive a signal value below \$25.00 (or above \$225.00). There is nothing strange about this, it just indicates V* is close to \$25.00 (or \$225.00) relative to the size of epsilon.

8. Your signal values are strictly private information and are not to be revealed to anyone else prior to opening the bids.

You will be told the value of E prior to bidding and it will be posted on the blackboard. However, you will not be told the value of V* until after the bids have been posted. Finally we will post all of the signal values drawn along with the bids.

9. No one may bid less than \$0.00 for the item. Nor may anyone bid more than their signal value + E. Any bid in between these two values is acceptable.

Bids must be rounded to the nearest penny to be accepted.

In case of ties for the high bid, we will flip a coin to determine who will earn the item.

10. You are not to reveal your bids, or profits, nor are you to speak to any other subject while the experiment is in progress.

11. As promised, everyone will receive \$4 irrespective of their earnings for participating in the experiment.

Let's summarize the main points: (1) High bidder earns the item and earns a profit = value of item - high bid price. (2) Profits will be added to your starting balance of \$10.00, losses subtracted from it. Your

balance at the end of experiment will be paid in cash. If balance turns negative you're no longer allowed to bid. (3) Your private information signal is randomly drawn from the interval $V^* - \varepsilon, V^* + \varepsilon$. The value of the item can never be more than your signal value of $+\varepsilon$, or less than your signal value $-\varepsilon$. (4) The value of the item will always be between $25.00 and $225.00.

Are there any question ?

ADDITIONAL INSTRUCTIONS: PERIODS WITH PUBLIC INFORMATION

1. From now on bidding will be done twice during each trading period, once under each of two different information conditions. First, you will bid on the basis of your private information signals, just as you have been doing. After these bids have been made and collected, but before they are opened, you will be provided with additional information (to be described shortly) concerning the value of the item and be asked to bid again on the commodity. This additional information will be posted on the blackboard for everyone to see and will be referred to as a public information signal.

2. The public information signal will consist of posting on the blackboard the lowest of the private information signals any of you received. Note we will not reveal the bid of the player with the lowest information signal, just the signal value.

3. Note that V* does not change between auctions. Your private information signals do not change between auctions either. However, what the public information signal does do is provide everyone with additional information about the possible value of V*.

4. After both sets of bids have been collected they will be opened and the bids posted in each market and the high bid noted. We will also post the value of the item and compute profits and/or losses in the two markets as before:

PROFITS = (VALUE OF ITEM) - (HIGH BID PRICE).

Finally, to speed things up a bit we will no longer post all of the signal values drawn along with the bids.

5. However, we will only actually pay profits (or hold you accountable for losses) in one of the two markets. We will flip a coin to decide which market to pay off in. Heads we pay off in the market with private information values only, tails we pay off in the market with private and public information.

6. There is no obligation to make the same bid, or to bid differently in the two markets. This is strictly up to you to decide what to do in terms of what you think will generate the greatest profits.

Are there any questions?