Experimental Economics
Market Composition and Experience in
Common-Value Auctions
Online Appendix

Johanna M. M. Goertz[*]

Instructions

All-Inexperienced Market

This is an experiment in the economics of market decision making. The National
Science Foundation and Ohio State University have provided funds for conduct-
ing 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.

1. In this experiment there will be 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 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 shortly.

3. The high bidder earns the item and makes a profit equal to the difference
between the value of the commodity and the amount he/she bid. That is

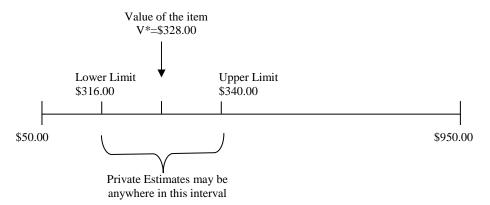(VALUE OF ITEM) - (HIGHEST BID) = PROFITS

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 profit. In this case, you
neither gain nor loose money from bidding on the item.

[*]University of Guelph, Department of Economics, 50 Stone Road East, Guelph, Ontario
N1G 2W1, Canada, and Université catholique de Louvain, CORE, B-1348 Louvain-la-Neuve,
Belgium. E-mail: jgoertz@uoguelph.ca.

4. The value of the auctioned item (V*) will be assigned randomly and will lie between $50.00 and $950.00 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 $50.00 or more than $950.00. 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.

5. Private Estimates of V*:

Although you do not know the value of the item V* prior to bidding, you will receive information which will narrow down the range of possible values. This will consist of a randomly drawn number from the interval whose lower bound is V*-$12.00, and whose upper bound is V*+$12.00. ANY VALUE within this interval has an EQUALLY LIKELY chance of being drawn and being assigned to you as your own private estimate of V*. (Each bidder gets their own private estimate - different random draws from the interval V*-$12.00 and V*+$12.00.) For example, suppose that V* = $328.00. Then each of your private estimates will consist of a randomly drawn number that will lie between $316.00 ($328.00-$12.00) and $340.00 ($328.00+$12.00). Any number in this interval has an equally likely chance of being drawn as your own private estimate. The line diagram below shows what is going on in this example.

The data below provide some examples of the private estimates drawn in past auctions with 4 bidders. (Note that we have ordered these estimates from lowest to highest.)

Value of the item V*	$328.00
Private Estimates	323.89
	324.58
	335.82
	339.45

You will note that some private estimates are above the V* and some are below the V*.

Over a sufficiently long series of auctions, the differences between your private estimate and V* will average out to zero (or very close to it). For any given auction, however, your private estimate can be above or below the value of the item V*. That is the nature of the random selection process generating the private estimates.

You will also note that V* must always be greater than or equal to your private estimate minus $12.00. The computer calculates this for you and notes it. Further, V* must always be less than or equal to your private estimate plus $12.00. The computer calculates this for you and notes it.

Finally, you may receive a private estimate below $50.00 (or above $950.00). There is nothing strange about this, it just indicates that V* is close to $50.00 (or $950.00).

6. At the beginning of today's session, you will be given a starting cash balance of $15.00. The starting cash balance, and whatever subsequent profits you earn from the auction permit you to suffer losses in one auction to be recouped in part or in total in later auctions. However, should your cash balance drop to zero (or less) during the experiment you will not longer be permitted to participate in today's session. Instead, you will be asked to leave the auction. You ARE permitted to bid in excess of your cash balance in any given period.

7. There are   participants in this experiment. In each trading period you will be randomly assigned to one of two positions: Either you will bid in one of the   markets with each four bidders or you will randomly be selected to be inactive in that period. The random assignment is done after each trading period so that the others bidding in your market will probably be different every period.

The   auction markets operate simultaneously each period but are separate in the sense that bids in one market are irrelevant to the other market. At the end of each period, you will only see results of the market in which you were participating. Results posted on your computer screen will include the value of the item V*, the private estimates of all bidders in your market along with their bids, and the earnings of the high bidder. Inactive bidders will not see any results for that period.

8. No one may bid less that $0.00 for the item and bids must be rounded to the nearest penny to be accepted. In case of ties for the high bid, the computer will randomly determine who will earn the item.

There will be a reserve price of V*-$24.00 in each auction. If the high bid is below the reserve price the item will not be sold that auction period and the high bidder will earn $0.00.

9. You are not to speak or in any way communicate with any other participant while the experiment is in progress. This is important to the validity of the study and will not be allowed.

Let's summarize the main points:

Auction Rules:
1. The high bidder earns the item and makes a profit = value of item V* - amount he/she bid. All other bidders earn zero. Profits can be positive or negative.
2. Prior to bidding, the value of V* is unknown to you but is always between $50.00 and $950.00. Any value in this interval has an equally likely chance of becoming V*.
3. Your private estimate of V* will be randomly drawn from the interval V*-$12 and V*+$12. Any value in this interval has an equally likely chance of being drawn as your own private estimate of V*. Note that V* can never be more than your private estimate plus $12 and never be less than your private estimate minus $12.
4. In each auction period, you can be an active or inactive bidder. Active bidders are randomly assigned to separate markets with 4 bidders each.

YOUR TOTAL EARNINGS FOR THIS SESSION come from these sources:
1. Starting cash balance of $15.00.
2. Auction earnings as explained above. There will be 2 practice runs of the auction with no money at stake. This will be followed by 25 auctions played for cash.

Your cumulative earnings, which are shown on your computer screen, are the sum of 1 and 2 above. Should they become zero or negative during the experiment, you will no longer be permitted to participate in today's session.

As announced in the email, PAYMENTS IN CASH to you will be made as follows:
1. Today you receive half of your total earnings of today's session.
2. The other half of today's total earnings will be paid after the completion of the second session. Then you will also receive the total earnings of the second session along with the $20 participation payment.

Summary Instructions - All-Experienced Markets

In today's sessions we invited back experienced bidders to see what happens when we do so. Each of you has participated in the same experiment last week.

We will go briefly over summary instructions:

Auction Rules:
1. The high bidder earns the item and makes a profit = value of item V* - amount he/she bid. All other bidders earn zero. Profits can be positive or negative.
2. Prior to bidding, the value of V* is unknown to you but is always between $50.00 and $950.00. Any value in this interval has an equally likely chance of becoming V*.
3. Your private estimate of V* will be randomly drawn from the interval V*-$12 and V*+$12. Any value in this interval has an equally likely chance of being

drawn as your own private estimate of V*. Note that V* can never be more than your private estimate plus $12 and never be less than your private estimate minus $12.

4. In each auction period, you can be an active or inactive bidder. Active bidders are randomly assigned to separate markets with 4 bidders each.

YOUR TOTAL EARNINGS FOR THIS SESSION come from these sources:
1. Starting cash balance of $15.00.
2. Auction earnings as explained above. There will be 1 practice run of the auction with no money at stake. This will be followed by 25 auctions played for cash.

Your cumulative earnings, which are shown on your computer screen, are the sum of 1 and 2 above. Should they become zero or negative during the experiment, you will no longer be permitted to participate in today's session.

PAYMENTS IN CASH to you will be made as follows:
1. You will receive today's total earnings.
2. You will also receive half of last session's total earnings and the participation payment promised to you when we recruited you.

Inexperienced and Experienced Bidders in Mixed Markets

The instructions for the inexperienced bidders in mixed market are the same as for inexperienced bidders in all-inexperienced markets up to point 9. I added the following.

10. You are all inexperienced bidders, having never participated in an auction like this before. In a moment we will be inviting in a number of experienced bidders who have participated in an experiment just like this one last week. Markets will either have inexperienced and experienced buyers, only inexperienced buyers, or only experienced buyers. The number of experienced and inexperienced bidders in your market for the current period will be noted on your computer screens. Notice that these numbers might differ from auction period to auction period.

The following instructions were read after the experienced bidders had been invited in:

In today's session, we are mixing inexperienced and experienced bidders together to see what happens when we do so. The students who have just entered the room have all participated in an experiment just like this one some time last week. The students who were in the room when you all just entered are inexperienced bidders. They have never participated in an experiment like this before.

There are a total of   participants in this experiment.   of you are inexperienced, participating in this experiment for the first time. There are   expe-

rienced bidders all of which have participated in the same experiment last week.

In each auction we will try and mix 2 inexperienced bidders with 2 experienced bidders in the same market. In case we do not have an even number of inexperienced and experienced bidders so we can mix in this fashion, the computer will try to make groups of 4 bidders with all the same type - 4 experienced or 4 inexperienced. If we cannot make any more groups of that fashion, then the computer tries to make groups of 4 players independent of their types. However, if afterwards there are still some players left, these players will be on a standby basis.

Note that players are put into groups randomly after each auction period.

Note, you will know the number of experienced and inexperienced players in your current group from the information given at the top of your computer screens. Also, when we report back the results from your auction market, bids of inexperienced bidders will have an "I" next to them, while bids for experienced bidders will have an "E" next to them.

In what follows we will briefly summarize the auction rules and then do two dry runs. We recognize this may be a bit boring for the experienced bidders, but we trust you will bear with us while we answer questions and go through the dry runs.

Let's summarize the main points:

Auction Rules:
1. The high bidder earns the item and makes a profit = value of item V* - amount he/she bid. All other bidders earn zero. Profits can be positive or negative.
2. Prior to bidding, the value of V* is unknown to you but is always between $50.00 and $950.00. Any value in this interval has an equally likely chance of becoming V*.
3. Your private estimate of V* will be randomly drawn from the interval V*-$12 and V*+$12. Any value in this interval has an equally likely chance of being drawn as your own private estimate of V*. Note that V* can never be more than your private estimate plus $12 and never be less than your private estimate minus $12.
4. In each auction period, you can be an active or inactive bidder. Active bidders are randomly assigned to separate markets with 4 bidders each. Markets have experienced and inexperienced bidders, only experienced bidders, or only inexperienced bidders. The number of experienced and inexperienced bidders in your market for the current period will be noted on your computer screen. Notice that these numbers might change from period to period.

YOUR TOTAL EARNINGS FOR THIS SESSION come from these sources:
1. Starting cash balance of $15.00.
2. Auction earnings as explained above. There will be 2 practice runs of the auction with no money at stake. This will be followed by 25 auctions played for

cash.

Your cumulative earnings, which are shown on your computer screen, are the sum of 1 and 2 above. Should they become zero or negative during the experiment, you will no longer be permitted to participate in today's session.

PAYMENTS IN CASH to you will be made as follows:
1. Today you receive today's earnings.
2. If this is your first session, you will also receive a participation payment of $6.
3. If this is your second session, you will also receive half of last session's total earnings and the participation payment promised to you when we recruited you.