

Lecture 24 5 Dec 07

Classes to take

156 b GT

200 b Firms, Markets, Game Theory

Seminars { 454 GT
455 Information Economics
472 Political Economy

PLSC 341 b Positive Political Theory

Auction

common values

value of good for sale is same for all $[v]$

oil well
- jars of coins

private values

value of good is different for all and my value is irrelevant to you

homes
pure consumption goods $[v_i]$

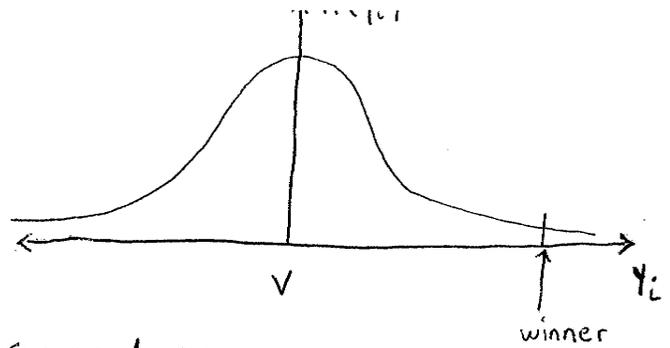
bid_i: 4.50 3 4 ...

winning bid \gg true value

winner's curse

payoff in this auction = $\begin{cases} v - b_i & \text{if you are highest} \\ 0 & \text{otherwise} \end{cases}$

estimate $y_i = v + \tilde{\epsilon}_i$



Suppose $b_i \approx y_i$

\Rightarrow winner will be the i whose y_i is max
ie ϵ_i is max

\Rightarrow (on avg) winning bid $\gg v$

$y_i = 150$

$y_i = 500$

$y_j = 130$

$y_j < 150$

$y_j < y_i$ for all j

\ll this is precisely what you learn when you win the auction \gg

You only care how many coins are in the jar... if you win

In this case, you would have $y_i \geq y_j$ for all j

The relevant estimate when bidding is:

"how many coins do I think there are given y_i , and 'given' $y_i \geq y_j$ for all j " ?

Bid as if you know you win

\gg \ll then you won't regret winning \gg

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Types of Auctions

(A) First-price sealed bid

B Second-price sealed bid winner pays the second bid (Vickery)

(C) Ascending open auction Ebay

D Descending open auction "Filen's Basement" (Dutch)

D = (A)

B \approx (C)

← difference comes when there's a common value component
then in (C) you see this information,
but in B you don't →

Private Value Auction

I Second-price sealed bid or open ascending
B (C)

Value v_i
bid b_i
payoff is $\begin{cases} v_i - \bar{b}_j & \text{if } b_i \text{ is highest, } \bar{b}_j = \text{the highest other bid} \\ 0 & \end{cases}$

bid your value

setting $b_i = v_i$ is weakly dominant

II First price auction
(A)

$\begin{cases} v_i - b_i & \text{if win} \\ 0 & \text{otherwise} \end{cases}$ bid $< v_i$

bidding your value is weakly dominated

« Does FP or SP auction generate more revenue? »

independence, symmetry, private values

Same revenue !

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