

Auction: An Introduction

Dr. Vimal Kumar, Assistant Professor of Economics

Indian Institute of Technology Kanpur,
vimalk@gmail.com

Auction

- Augere (a Latin word) = To increase. The past participle of augere is auctus. And from auctus, we get auction.
- Long history of auction: Auction for right to marry in ancient Babylon, Tax collection rights and Slave Auctions in ancient Greece and Rome.
- In present world: 3G Spectrum Auction, Sotheby's, Christie's, Baazee.Com, EBay and also in many Hollywood and Bollywood movies.
- Why Auction?: The seller/s doesn't know potential buyers' true

Typical Setting: A seller and many potential buyers (This is not always the case)

- The seller doesn't know potential buyers' valuation, otherwise a "Bargaining" happened between the seller and the potential buyer with the highest valuation.
- Auction: Basically, A price discovery mechanism. Much more wider than the typical uses.

Different Auction Types.

Based on Bidding Process

- **Open vs. sealed-bid**
- One-sided vs. two-sided
- Determination of Winner/s
- **Number of bids allowed**

Based on Bidders' way of Valuation

- Based on the Aim of the Auction

Sealed Bid Auctions

- One seller and many potential buyers.
- Typically One Sided: Only buyers bid.
- Single round of simultaneous bids
- The buyer who submits the highest bid wins
- Example: Common in Procurement, commodities, and construction
- Two Variants:
 - First Price: The winner pays the amount equal to his bid.
 - Second Price: The winner pays the amount equal to the highest among remaining bids. It is known as Vickrey Auction.
- Why would the seller ever use the Second Price Sealed Bid Auction?

Open Bid Auctions

- One seller and many potential buyers
- Typically one sided: Only buyers bid.
- Multiple rounds of open bids.
- Two variants
 - Ascending Price: Bids must be increasing and the auction closes when only one bidder is left. It is typically observed in English Auctions.
 - Descending Price: Bids must be decreasing and the auction closes as soon as one bids. It is called Dutch Auction
- Examples: Ebay auction, Google Ad-sell, Auctions by English Auction Houses.

Valuation

Private Value

Common Value

Correlated value