

Study sheet: Module 11, auction theory and behavioral economics

This session uses real auction transaction data to test the ideas that auction theory and behavioral economics predict about how buyers and sellers behave in a saleroom. Rather than treating the estimate, the reserve, and the hammer as abstractions from a textbook, students compute pricing power and sell-through directly from more than 10 million transaction records spanning more than 100 auction houses, and use those figures to examine three classic ideas together: the estimate as an anchor that shapes what buyers are willing to pay, the winner's curse that can follow from competitive bidding under uncertainty, and the reserve price as the mechanism that produces an unsold lot. The session builds toward a single, testable question: does the data support the textbook predictions, and where does it complicate them.

What you should be able to do

1. Define anchoring in the context of a pre-sale estimate and explain why measuring pricing power relative to the high estimate is a direct test of an anchoring effect.
2. Compute pricing power, the median of realized price over the high estimate, for a category or brand, and interpret a value above or below 1.0.
3. Explain the winner's curse in a competitive-bidding setting and describe what pattern in the pricing power data would be consistent with it.
4. Describe the economic function of a reserve price and explain why an unsold lot is a rational outcome for a seller rather than a failure of the auction.
5. Compute sell-through for a category or house and interpret it as a demand signal that is shaped jointly by buyer appetite and consignment quality.
6. Identify the limits of using realized-price data alone to test behavioral predictions, including the recency caveat on the newest quarters of data.

Key terms

- **Anchoring:** a cognitive bias in which an initial figure, here the pre-sale estimate, disproportionately shapes a subsequent judgment or bid.
- **Pricing power:** the median of realized price over the high estimate for sold lots, used here as a measurable proxy for anchoring and demand strength.
- **Winner's curse:** the tendency for the winning bidder in a competitive, uncertain-value auction to have paid more than the item's average valuation among bidders.
- **Reserve price:** the minimum price a seller will accept, below which the lot goes unsold rather than being sold at a loss.
- **Sell-through:** the share of offered lots that find a buyer, computed as sold lots divided by all offered lots.
- **Common-value auction:** an auction setting in which the item has a single true value that all bidders are uncertain about, the classic setting for the winner's curse.
- **Private-value auction:** an auction setting in which each bidder's valuation reflects individual taste and may legitimately differ from other bidders' valuations.

- **Hammer price:** the price at which the auctioneer's hammer falls, before any buyer's premium is added, distinct from the total price the buyer pays.

Core sandbox query

The query the module is built around. Run it, then change the brand or category and compare.

```
SELECT designer,  
       approx_percentile(usd_price_decimal / sale_estimates_high_usd_price, 0.5) AS pricing_power,  
       COUNT(*) AS sold_lots  
FROM all_watches_data  
WHERE status = 'sold'  
      AND sale_estimates_high_usd_price > 0  
      AND designer LIKE '%Rolex%'  
GROUP BY designer;
```

Full lesson, more queries, and the homework are in Module 11 at academy.altfndata.com. Questions: info@altfndata.com.