

WHY CAN'T A WOMAN BID MORE LIKE A MAN?

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 - How do bidders respond to these reserve prices?
 - Does it matter for the bidders whether they face human auctioneers or exogenous experimenter-generated reserve prices?

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- Assuming two bidders, in the first-price auction (FPA):

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- In the SPA, if the hazard rate of $F(\cdot)$ is non-decreasing (over the relevant range), then the optimal reserve price is implicitly characterized by

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- In the FPA, if both the bidders and the auctioneer are risk-neutral, the same characterization applies. If the bidders and/or the auctioneer are risk-averse, then the optimal reserve price in the FPA is lower than in the SPA (Hu, Matthews, Zou 2010).

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- *Sale efficiency* (prob. of sale) is decreasing in the reserve price in either auction format.
- *Allocative efficiency* (prob. of selling to the high valuation bidder conditional on sale) is equal to 1 in either auction format.

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$$f^1(x) = \begin{cases} \frac{3}{200} & \text{if } x \in \{1, \dots, 50\} \\ \frac{1}{200} & \text{if } x \in \{51, \dots, 100\} \end{cases}$$

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- Admissible bids: integers between 1 and 100; fair tie-breaking

SUMMARY OF SESSIONS

| Auction Mech. | Reserve Prices | No. of Auct's | Exch. Rates | | No. of Sessions | Average Payoffs | |
|------------------|-------------------|------------------|-------------|--------|--------------------|-----------------|---------|
| | | | Bidders | Auct's | | Bidders | Auct's |
| FPA | no | 0 | 20 | | 5 | \$12.37 | |
| | yes | 0 | 12 | | 5 | \$16.13 | |
| | yes | 4 | 12 | 60 | 5 | \$17.64 | \$18.91 |
| SPA | no | 0 | 20 | | 5 | \$19.08 | |
| | yes | 0 | 12 | | 5 | \$17.96 | |
| | yes | 4 | 12 | 60 | 5 | \$20.65 | \$17.62 |

SUMMARY STATISTICS

| | Bidders | | | | | | Auctioneers | |
|----------------------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-------------------|-------------------|
| | FPA | FPA _R | FPA _{RA} | SPA | SPA _R | SPA _{RA} | FPA _{RA} | SPA _{RA} |
| <i>Demographics:</i> | | | | | | | | |
| Female | 0.48 | 0.45 | 0.45 | 0.44 | 0.50 | 0.50 | 0.45 | 0.60 |
| Age | 20.7 ^A | 24.0 ^{AC} | 20.0 ^C | 23.0 ^B | 23.1 ^C | 20.5 ^{BC} | 21.1 | 20.9 |
| Number of Siblings | 1.45 | 1.43 | 1.53 | 1.68 | 1.38 | 1.53 | 1.45 | 0.95 |
| White | 0.43 | 0.43 | 0.58 | 0.43 | 0.41 | 0.60 | 0.55 | 0.65 |
| Asian/Asian American | 0.48 ^b | 0.38 | 0.23 ^b | 0.45 | 0.45 | 0.38 | 0.25 | 0.25 |
| African American | 0.05 | 0.13 | 0.05 | 0.08 | 0.10 ^c | 0.00 ^c | 0.10 | 0.05 |
| Hispanic | 0.00 | 0.03 | 0.05 | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 |
| Native | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Ethnicity | 0.05 | 0.05 | 0.05 | 0.05 | 0.04 | 0.03 | 0.05 | 0.00 |
| <i>Major:</i> | | | | | | | | |
| Mathematics and Statistics | 0.03 | 0.05 | 0.00 | 0.00 | 0.05 | 0.03 | 0.00 | 0.00 |
| Science and Engineering | 0.30 | 0.50 ^c | 0.23 ^c | 0.20 ^A | 0.55 ^{AC} | 0.20 ^C | 0.25 | 0.30 |
| Economics and Business | 0.08 | 0.08 | 0.05 | 0.25 ^{ab} | 0.05 ^a | 0.05 ^b | 0.15 | 0.05 |
| Other Social Sciences | 0.03 | 0.08 | 0.05 | 0.03 | 0.10 | 0.08 | 0.20 | 0.20 |
| Humanities and Others | 0.05 ^A | 0.30 ^{Ac} | 0.10 ^C | 0.15 | 0.25 | 0.13 | 0.05 | 0.15 |
| Unknown | 0.53 | | 0.58 | 0.38 | | 0.53 | 0.35 | 0.30 |

Notes:

1. "A" ("a") denotes statistically significant difference at 1% (5%) in the *t*-test of equality means when comparing FPA with FPA_R and SPA with SPA_R, respectively.
2. "B" ("b") denotes statistically significant difference at 1% (5%) in the *t*-test of equality means when comparing FPA with FPA_{RA} and SPA with SPA_{RA}, respectively.
3. "C" ("c") denotes statistically significant difference at 1% (5%) in the *t*-test of equality means when comparing FPA_R with FPA_{RA} and SPA_R with SPA_{RA}, respectively.

RESERVE PRICES: FPA

RESERVE PRICES: SPA

DYNAMICS OF RESERVE PRICES: FPA

DYNAMICS OF RESERVE PRICES: SPA

REVENUE AND SALE EFFICIENCY BY RESERVE PRICE: FPA

REVENUE AND SALE EFFICIENCY BY RESERVE PRICE: SPA

REVENUE DIFFERENCE BETWEEN FPA AND SPA

SALE EFFICIENCY DIFFERENCE BETWEEN FPA AND SPA

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 2. bidder bid less when faced with human auctioneers as opposed to exogenous reserve prices

EFFECT OF THE PRESENCE OF HUMAN AUCTIONEERS: FPA

EFFECT OF THE PRESENCE OF HUMAN AUCTIONEERS: FPA (CONT'D)

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- Spite: I prefer to reduce what I perceive as disadvantageous inequality by reducing the payoff of the better-off person if I can do that at a minimal cost to myself
- It has been argued before (Morgan, Steiglitz and Reis 1984) that spite may explain overbidding in the SPA
- We only find a somewhat significant auctioneer-presence effect in the SPA, which is consistent with the spite hypothesis

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- In SPA, we do not find any significant gender differences in bidding, probability of dominant strategy play or probability of overbidding
- Pill non-users have a flat bidding profile in FPA over the cycle, bidding more than men, but the difference can statistically be accounted for by differences in treatment, demographics and risk aversion