Auctions with Tokens

Andrea Canidio (IMT Lucca)

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Research question

Does it matter when selling objects via auctions?

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- Potential buyers have an unobserved willingness to pay, drawn randomly in every period → Revenues are maximized by holding an auction
- The seller / auctioneer chooses the auction format and whether to accept payments in fiat currency (dollars) or instead in a new token.
  - the initial stock of tokens is owned by the auctioneer.
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- The seller / auctioneer may also issue a traditional financial instrument (for example, equity).

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- Then, each bidder sends $\frac{b_{i,t}}{p_t}$ tokens to the auctioneer. The winner receives the object and consumes it.
- The stock of tokens changes according to the monetary policy announced by the auctioneer.

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- **Special case**: the auctioneer burns all tokens he receives as payments → the auctioneer earns the present-discounted value of the expected revenues in period 1 with probability 1.
  - ▸ Always weakly better than the auction with dollars, strictly so if the auctioneer's utility is strictly concave.

Extension: infinite horizon
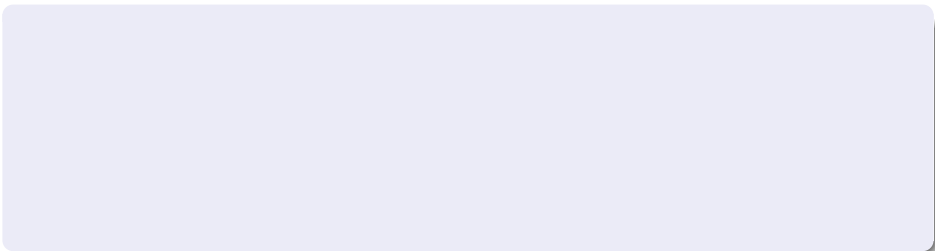
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If the auctioneer issues equity, financial bubbles on the equity issued are possible.

- **Bubble on tokens**: bidders buy all tokens initially and use them for bidding at a sufficiently low pace
- **Bubble on equity**: new investment in every period makes the price of equity grow.

Ongoing work: effort

Additional issue: renegotiation with investors

The outcome of the renegotiation may be different depending on whether tokens or a traditional financial instrument is used.

Literature

- **Implementation theory and money**: Ostroy and Starr (1974), Kocherlakota (1998), Samuelson (1958), Townsend (1980).
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- **Tokens and ICO**: Catalini and Gans (2018), Malinova and Park (2018), Canidio (2018), Bakos and Halaburda (2019), Goldstein et al. (2019), Cong et al. (2020), Canidio (2020), Gryglewicz et al. (2021), Garratt and van Oordt (2021), Chod and Lyandres (2021).

Thank you!