

Empirical Approaches to Auctions

Overview: What can be learned from observed bids in an auction about the bidders' willingness-to-pay that lead to these bids? Put differently, how can we estimate the value distribution in auctions? In this seminar, we will look at various auction formats and discuss estimators for the value distribution.

Mode: In an introductory lecture at the beginning of the semester, students can choose one of the seminar papers. The students then have to read and analyze the papers and present them. In addition, they have to write a term paper and perform an empirical exercise.

Mode of Examination:

- Discussion of the assigned paper (30 minutes)
- Written summary/assessment of the paper and the related literature; empirical exercise (12-15 pages)

Examination process: Term paper (60%), presentation (30%), discussion (10%).

Target group: Master students with a knowledge in game theory and econometrics (for example, you should know/be willing to learn what order statistics are).

1 Basics

(*) Emmanuel Guerre, Isabelle Perrigne, and Quang Vuong. Optimal nonparametric estimation of first-price auctions. *Econometrica*, 68(3):525–574, 2000

(*) Susan Athey and Philip A. Haile. Identification of standard auction models. *Econometrica*, 70(6):2107–2140, 2002

Elena Krasnokutskaya. Identification and Estimation of Auction Models with Unobserved Heterogeneity. *The Review of Economic Studies*, 78(1):293–327, 01 2011

Philip A. Haile and Elie Tamer. Inference with an incomplete model of english auctions. *Journal of Political Economy*, 111(1):1–51, 2003

2 Multi-unit auctions

(*) Ali Hortaçsu. Recent progress in the empirical analysis of multi-unit auctions. *International Journal of Industrial Organization*, 29(3):345–349, 2011

(*) Ali Hortaçsu and David McAdams. Empirical work on auctions of multiple objects. *Journal of Economic Literature*, 56(1):157–84, March 2018

Ali Hortaçsu and David McAdams. Mechanism choice and strategic bidding in divisible good auctions: An empirical analysis of the turkish treasury auction market. *Journal of Political Economy*, 118(5):833–865, 2010

Jakub Kastl. Discrete bids and empirical inference in divisible good auctions. *The Review of Economic Studies*, 78(3):974–1014, 2011

3 Applications

Patrick Bajari and Ali Hortaçsu. Are structural estimates of auction models reasonable? Evidence from experimental data. *Journal of Political Economy*, 113(4):703–741, 2005

Ali Hortaçsu and Steven L. Puller. Understanding strategic bidding in multi-unit auctions: a case study of the texas electricity spot market. *The RAND Journal of Economics*, 39(1):86–114, 2008

Elena Krasnokutskaya and Katja Seim. Bid preference programs and participation in highway procurement auctions. *American Economic Review*, 101(6):2653–86, October 2011

(*)-papers can't be selected

References

- [1] Susan Athey and Philip A. Haile. Identification of standard auction models. *Econometrica*, 70(6):2107–2140, 2002.
- [2] Patrick Bajari and Ali Hortaçsu. Are structural estimates of auction models reasonable? Evidence from experimental data. *Journal of Political Economy*, 113(4):703–741, 2005.
- [3] Emmanuel Guerre, Isabelle Perrigne, and Quang Vuong. Optimal nonparametric estimation of first-price auctions. *Econometrica*, 68(3):525–574, 2000.
- [4] Philip A. Haile and Elie Tamer. Inference with an incomplete model of english auctions. *Journal of Political Economy*, 111(1):1–51, 2003.
- [5] Ali Hortaçsu. Recent progress in the empirical analysis of multi-unit auctions. *International Journal of Industrial Organization*, 29(3):345–349, 2011.
- [6] Ali Hortaçsu and David McAdams. Mechanism choice and strategic bidding in divisible good auctions: An empirical analysis of the turkish treasury auction market. *Journal of Political Economy*, 118(5):833–865, 2010.
- [7] Ali Hortaçsu and David McAdams. Empirical work on auctions of multiple objects. *Journal of Economic Literature*, 56(1):157–84, March 2018.
- [8] Ali Hortaçsu and Steven L. Puller. Understanding strategic bidding in multi-unit auctions: a case study of the texas electricity spot market. *The RAND Journal of Economics*, 39(1):86–114, 2008.
- [9] Jakub Kastl. Discrete bids and empirical inference in divisible good auctions. *The Review of Economic Studies*, 78(3):974–1014, 2011.
- [10] Elena Krasnokutskaya. Identification and Estimation of Auction Models with Unobserved Heterogeneity. *The Review of Economic Studies*, 78(1):293–327, 01 2011.
- [11] Elena Krasnokutskaya and Katja Seim. Bid preference programs and participation in highway procurement auctions. *American Economic Review*, 101(6):2653–86, October 2011.