

ADVANCED ECONOMETRICS: MARKET MECHANISMS

Overview: This course is on the structural estimation of markets mechanisms. It is divided into three roughly equal segments:

- The first four lectures analyze auctions.
- The next three focus on two-sided market microstructures.
- The last four lectures are devoted to optimal contract design.

The remaining three lecture periods are taken up with a tutorial to guide you through the assignment, a lecture devoted to class presentations and a final in-class examination.

Lectures notes, assignment, and reading material: They are posted [here](#).

Assessment: There are three parts. There is:

- an assignment in which you are required to estimate an auction model worth 25 percent.
- a detailed referee report (25 percent) accompanied by a class presentation (25 percent) of a published paper.
- a final in-class open book examination based on the lecture material for the remaining 25 percent.

A. AUCTIONS

1. *Sealed Bid Auctions*

Athey, S. and P. Haile (2002): “Identification of Standard Auction Models,” *Econometrica*, 70, 2107–2140.

Athey, S. and P. Haile (2006) “Empirical Models of Auctions,” in *Advances in Economics and Econometrics, Theory and Applications: Ninth World Congress, Volume II*, R. Blundell, W. Newey, and T. Persson, eds., Cambridge University Press, 2006, 1–45.

Guerre, E., I. Perrigne, and Q. Vuong (2000): “Optimal Nonparametric Estimation of First Price Auctions,” *Econometrica*, 68, 525–574.

Krasnokutskaya, E. (2011): “Identification and Estimation in Procurement Auctions under Unobserved Auction Heterogeneity,” *Review of Economic Studies*, 28, 293–327.

2. Auction Dynamics

Groeger, J. (2014): “A Study of Participation in Dynamic Auctions,” *International Economic Review*, 55, 1129–1154.

Barkley, A., J. Groeger, and R. Miller (2021): “Bidding Frictions in Ascending Auctions,” *Journal of Econometrics*, 223, 376–400.

Pesendorfer, M. and M. Jofre-Bonet (2003): "[Estimation of a Dynamic Auction Game](#)," *Econometrica*, 71, 1443–1489.

3. Common Value Auctions

Nguyen, A: (2023): “Information Design in Common Value Auction with Moral Hazard: Application to OCS Leasing Auctions”, working paper.

4. Procurement

Bajari, P., S. Houghton, and S. Tadelis (2014): “Bidding for Incomplete Contracts: An Empirical Analysis of Adaptation Costs,” *American Economic Review* 104, 1288–1319.

Kang, K. and R. Miller (2022): “Winning by Default: Why is there so Little Competition in Government Procurement?” *Review of Economic Studies* 89, 1495 – 1556.

Krasnokutskaya, E. and K. Seim (2011): “Bid Preference programs and participation in highway procurement auctions,” *American Economic Review* 101, 2653–2686.

5. Tutorial for Assignment

B. MARKET MICROSTRUCTURE

6. Limit Order Markets

Hollifield, B., R. Miller and P. Sandas (2004): "Empirical Analysis of Limit-Order Markets," *The Review of Economic Studies*, 71, 1027–1063.

Hollifield, B., R. Miller, P. Sandas and J. Slive (2006): "Estimating the Gains from Trade in Limit-Order Markets," *Journal of Finance*, 61, 2753–2804.

Kong, Y. (2023): “Liquid Markets: An Empirical Analysis of a Water Exchange”, working paper.

Sandas, P. (2001): “Adverse Selection and Competitive Market Making: Empirical Evidence from a Limit Order Market,” *Review of Financial Studies*, 14, 705–734.

7. Search and Hiring

Hollifield, B., R. Miller and P. Sandas (2004): "Empirical Analysis of Limit-Order Markets," *The Review of Economic Studies*, 71, 1027-1063.

Hollifield, B., R. Miller, P. Sandas and J. Slive (2006): "Estimating the Gains from Trade in Limit-Order Markets," *Journal of Finance*, 61, 2753-2804.

Sandas, P. (2001): "Adverse Selection and Competitive Market Making: Empirical Evidence from a Limit Order Market," *Review of Financial Studies*, 14, 705–734.

8. Matching Models

References to come.

C. OPTIMAL CONTRACTING

9. Pure Moral Hazard

Gayle, G., and R. Miller (2009): "Has Moral Hazard Become a More Important Factor in Managerial Compensation?" *American Economic Review* 99, 1740-69.

Margiotta, M., and R. Miller (2000): "Managerial Compensation and the Cost of Moral Hazard," *International Economic Review* 41, 669-719.

10. Moral Hazard and Hidden Information

Gayle, G. and R. Miller (2015): "Identifying and testing models of managerial compensation," *The Review of Economic Studies*, 82, 1074-1118. Supplementary Online Appendix.

Gayle, G., C. Li, and R. Miller (2022): "Was Sarbanes-Oxley costly: Evidence from Optimal Contracting on CEO Compensation," *Journal of Accounting Research* 60, 1189 – 1234.

11. Life Cycle Career Concerns

Gayle, G., L. Golan, and R. Miller (2015): "Promotion, Turnover and Compensation in the Executive Labor Market," *Econometrica*, 83, 2293-2369. Supplementary Online Appendix.

12. Long term optimal contracting

Miller R., and A Ngyen (2024): " "Long-term Contracts in CEO Compensation"

13. Class Presentations

14. Examination