Topics in Empirical Auctions

Module 5, 2018-19

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Course information

Course Website: http://www.nes.ru/ru/programs/econ/acad-progr/

Instructor's Office Hours: by appointment

Class Time: TBA

Room Number: TBA

TAs: TBA

Course description

The course is dealing with an empirical analysis of auctions..

Course requirements, grading, and attendance policies

It includes 14 lectures and 6 seminars. The final grade will be based on 3 problem sets (30%) and the final written exam (70%). Problem sets will include both theoretical and practical questions and they will be distributed biweekly starting from the second week. The knowledge of Auction Theory and Applied Econometrics is preferred but is not required.

Course contents

Week 1: Introduction to Auction Theory.

Week 2: Introduction to Empirical Auctions (EA).

Week 3: Non-structural approaches in EA.

Week 4: Structural approaches in EA.

Week 5: Private values in EA.

Week 6: Common values in EA.

Week 7: EA in Russian Federation.

Description of course methodology

A typical lecture includes a theoretical part on course material. During the second part of the lecture we discuss applied cases.

Sample tasks for course evaluation

Problem 1. Consider the setting of the Revenue Equivalence Theorem, which was discussed on the lectures. Let private value v of a representative buyer has an exponential distribution with parameter $\lambda>0$ (pdf is $\lambda\exp(-\lambda v)$). Find the bidding strategies of buyers in 'all-pay' auction (every competitor always pays her bid but only the highest-payer wins the object). Suppose we test this model by calculating an expectation of bid conditional on number of bidders n. Let $f(n)=E(b|n)$ be this expectation. What monotonicity properties does the function f(n) have?
Hint: Check the paper of Klemperer (1999).

Problem 2. The file Data.xls contains a simulation of bids submitted by 5 bidders (firms) on 1000 procurement auctions. A baseline model presumes that bids should be independent when there is no collusion. It is possible that some two firms cooperate. By checking the independence of submitted bids try to reveal those two firms. Provide a detailed analysis.
Hint: Check the paper of Bajari and Ye (2001).

Course materials

Required textbooks and materials

Klemperer, P. (1999) "Auction Theory: A Guide to the Literature," Journal of Economic Surveys, 68, 227-286

Hendricks, K. and R. Porter (1988) "An Empirical Study of an Auction with Asymmetric Information," American Economic Review, 12, 865-883

Porter, R. and D. Zona (1993) "Detection of Bid Rigging in Procurement Auctions," Journal of Political Economy, 101, 518-538

Bajari, P. and L. Ye (2001) "Competition Versus Collusion in Procurement Auctions: Identification and Testing," working paper, Stanford University

Paarsch, H. (1997) "Deriving an Estimate of the Optimal Reserve Price: An Application to British Columbian Timber Sales," Journal of Econometrics, 78, 333-357

Li, T., I. Perrigne and Q. Vuong (2002) "Structural Estimation of the Affiliated Private Value Auction Model," Rand Journal of Economics, 33(2), 171-193

Athey, S. and P. Haile (2002) "Identification of Standard Auction Models," Econometrica, 70(6), 2107-2140

Haile, P. and E. Tamer (2003) "Inference with an Incomplete Model of English Auctions," Journal of Political Economy, 111(1), 1-51

Hortacsu, A. (2002) "Mechanism Choice and Strategic Bidding in Divisible Goods Auctions: An Empirical Analysis of The Turkish Treasury Auction Market", working paper, Chicago University

Hendricks, K., J. Pinkse and R. Porter (2003) "Empirical Implications of Equilibrium Bidding in First-price, Symmetric, Common Value Auctions," 70, 115-145

Haile, P., H. Hong and M. Shum (2003) "Nonparametric Tests for Common Values in First-price Auctions," working paper, Yale University

Paarsch, H. (1992) "Deciding Between the Common and Private Value Paradigms in Empirical Models of Auctions," Journal of Econometrics, 51, 191-215

Additional materials

Donald, S., H. Paarsch and J. Robert "An Empirical Model of the Multi-Unit, Sequential, Clock Auction," working paper, University of Iowa

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.