**Syllabus**

**Course title** Empirical Industrial Organization 1: Production

and Consumer Demand

**Instructor** Sergey Lychagin

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Office by appointment

**Credits**  2 credits (4 ECTS credits)

**Module**

**Term**  Winter 2022-2023

**Course level** PhD/Master’s

**Prerequisites** Programming skills (MATLAB or Python) and passing the first-year MA sequence in microeconomics and econometrics are the minimum requirements. Prior knowledge of advanced econometrics (ML and GMM) is highly complementary with this course.

**1. Course Description**

This course gives an introduction into empirical methods used in modern industrial organization. We will discuss typical issues and solutions that come up in the estimation of production functions and demand systems. We will examine applications of these methods to merger simulation, welfare analysis of market interventions and product innovation. There is no textbook in this course; we will discuss papers on the reading list spending approximately one class per paper.   
This course is a part of a two-course sequence in empirical IO. These two courses are not prerequisites to one another; they can be taken in any order, together or alone.

**2. Learning Outcomes**

By the end of the course, students will be able to

* Use econometric tools to model static industry competition.
* Predict the impact of external interventions on consumer welfare, profits and other market outcomes.
* Choose an appropriate method for measuring productivity of plants, firms and industries.

**3. Reading List**

1. Production functions
   * Griliches, Z., and J. Mairesse, “Production functions: The search for identification,” NBER Working Paper No. 5067 (1995).
   * Klette, T., and Z. Griliches, “The inconsistency of common scale estimators when output prices are unobserved and endogenous,” Journal of Applied Econometrics, 11 (1996).
   * Olley, G., and A. Pakes, “The dynamics of productivity in the telecommunications equipment industry,” Econometrica, 64 (1996).
   * Levinsohn, J., and A. Petrin, “Estimating production functions using inputs to control for unobservables,” Review of Economic Studies, 70 (2003).
   * Ackerberg, D., K. Caves, and G. Frazer, “Structural identification of production functions,” unpublished manuscript, (2006).
   * Blundell, R., and S. Bond, “GMM estimation with persistent panel data: An application to production functions,” Econometric Reviews, 19 (2000).
2. Models of demand and their applications
   * Porter, R., “A study of cartel stability: The Joint Executive Committee, 1880–1886,” Bell Journal of Economics, 14 (1983).
   * Bresnahan, T., “Competition and collusion in the American automobile industry: The 1955 price war,” Journal of Industrial Economics, 35 (1987)
   * Nevo, A., “A practitioner’s guide to estimation of random-coefficients logit models of demand,” Journal of Economics & Management Strategy, 9 (2000)
   * Berry, S., J. Levinsohn, and A. Pakes, “Automobile prices in market equilibrium,” Econometrica, 63 (1995).
   * Berry, S., “Estimating Discrete-choice Models of Product Differentiation,” RAND Journal of Economics, 25 (1994).
   * Nevo, A., “Measuring market power in the ready-to-eat cereal industry,” Econometrica, 69 (2001).
   * Nevo, A., “Mergers with differentiated products: The case of the ready-to-eat cereal industry,” RAND Journal of Economics, 31 (2000).
   * Petrin, A., “Quantifying the benefits of new products: The case of the minivan,” Journal of Political Economy, 110 (2002).

**4. Teaching Method and Learning Activities**

The course will be fully based on lectures and class discussion.

**5. Assessment**

Final assessment will consist of the following:

1. Home assignments (contributing 80% to the final grade)  
   The assignments will give hands-on experience with the tools studied in class and will involve writing code in Python and Stata.
2. A referee report (20% of final grade)  
   Each student will submit a referee report on a very recent unpublished paper. The paper must be of high quality; if you want to write on a paper of your own choice, make sure you talk to me before working on your report.