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## **450-3: INDUSTRIAL ORGANIZATION AND PRICES III** **Spring 2019**

This course sequence provides a graduate-level introduction to Industrial Organization (IO). It is designed to provide a broad introduction to topics and industries that current researchers are studying as well as to expose students to a wide variety of techniques. It will start the process of preparing Ph.D. students to conduct thesis research in the area.

**Lectures:** Monday/Wednesday 9:00-10:50, KGH 3301

**Course Web Page:** see Canvas

Grading will be based on several problem sets and a final exam. We will not discuss all of the papers on the reading list, but *we expect you to read all of the papers we discuss in detail in class.*

The following abbreviations are used for journal titles:

AER	American Economic Review
AEJ: Micro	American Economic Journal: Microeconomics
BJE	Bell Journal of Economics
BPEA	Brookings Papers on Economic Activity
EMA	Econometrica
IER	International Economic Review
IJIO	International Journal of Industrial Organization
JE	Journal of Econometrics
JEH	Journal of Economic History
JEL	Journal of Economic Literature
JEMS	Journal of Economics & Management Strategy
JEP	Journal of Economic Perspectives
JET	Journal of Economic Theory
JIE	Journal of Industrial Economics
JLE	Journal of Law and Economics
JPE	Journal of Political Economy
QJE	Quarterly Journal of Economics
QME	Quantitative Marketing and Economics
ReStat	Review of Economics and Statistics
ReStud	Review of Economic Studies
RJE	Rand Journal of Economics

**I. General References**

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P. Davis and E. Garces, *Quantitative Techniques for Competition and Antitrust Analysis*, Princeton University Press, 2010.

R. Schmalensee and R. Willig, eds., *Handbook of Industrial Organization*, Volumes 1 and 2, North-Holland, 1989. (*HIO1 and HIO2*)

**II. Collusion and Cartels (Porter)****1. Tests of Market Power**

O. Ashenfelter and D. Sullivan, "Nonparametric Tests of Market Structure: An Application to the Cigarette Industry," *JIE*, June 1987, 483-98.

J. Azar, M. Schmalz and I. Tecu, "Anti-Competitive Effects of Common Ownership," *Journal of Finance*, August 2018, 1513-65.

M. Backus, C. Conlon and M. Sinkinson, "Common Ownership and Competition in the Ready-to-Eat Cereal Industry," mimeo, NYU Stern, 2018.

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T. Bresnahan, "Competition and Collusion in the American Automobile Market: The 1955 Price War," *JIE*, June 1987, 457-482.

T. Bresnahan, "Empirical Studies of Industries with Market Power," *HIO2*, Chapter 17.

A. Carvajal, R. Deb, J. Fenske and J. Quah, "Revealed Preference Tests of the Cournot Model," *EMA*, November 2013, 2351-79.

K. Corts, "Conduct Parameters and the Measurement of Market Power," *JE*, November 1998, 227-50.

D. Genesove and W. Mullin, "Testing Static Oligopoly Models: Conduct and Cost in the Sugar Industry, 1890-1914," *RJE*, Summer 1998, 355-77.

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J. Panzar and J. Rosse, "Testing for 'Monopoly' Equilibrium," *JIE*, June 1987, 443-56.

R. Schmalensee, "Inter-Industry Studies of Structure and Performance," *HIO2*, Chapter 16.

## **2. Repeated Interaction**

S. Borenstein and A. Shepard, "Dynamic Pricing in Retail Gasoline Markets," *RJE*, Autumn 1996, 429-51.

G. Ellison, "Theories of Cartel Stability and the Joint Executive Committee," *RJE*, Spring 1994, 37-57.

R. Porter, "A Study of Cartel Stability: The Joint Executive Committee, 1880-1886," *BJE*, Autumn 1983, 301-14.

## **3. Collusion**

Y. Awaya and V. Krishna, "On Communication and Collusion," *AER*, February 2016, 285-315.

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D. Bernheim and E. Madsen, "Price Cutting and Business Stealing in Imperfect Cartels," *AER*, February 2017, 387-424.

D. Byrne and N. De Roos, "Learning to Coordinate: A Study in Retail Gasoline," *AER*, February 2019, 591-619.

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R. Clark and J.F. Houde, "Collusion with Asymmetric Retailers: Evidence from a Gasoline Price-Fixing Case," *AEJ: Micro*, August 2013, 97-123.

R. Clark and J.F. Houde, "The Effect of Explicit Communication on Pricing: Evidence from the Collapse of a Gasoline Cartel," *JIE*, June 2014, 191-227.

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- J. Harrington and A. Skrzypacz, "Private Monitoring and Communication in Cartels: Explaining Recent Cartel Practices," *AER*, October 2011, 2425-49.
- M. Igami and T. Sugaya, "Measuring the Incentive to Collude: The Vitamin Cartels, 1990-1999," mimeo, Yale, 2018.
- L. Kaplow and C. Shapiro, "Antitrust," in M. Polinsky and S. Shavell, eds., *Handbook of Law and Economics*, Vol. 2, Elsevier, 2007, Chapter 16.
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- R. Marshall and L. Marx, *The Economics of Collusion: Cartels and Bidding Rings*, MIT Press, 2012.
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- C. Sullivan, "The Ice Cream Split: Empirically Distinguishing Price and Product Space Collusion," mimeo, Wisconsin, 2017.

### **III. Advertising and Information Disclosure (Porter)**

- K. Bagwell, "The Economic Analysis of Advertising," *HIO3*, Chapter 28.
- B. Bollinger, P. Leslie and A. Sorensen, "Calorie Posting in Chain Restaurants," *AEJ: Policy*, February 2011, 91-128.
- B. Bronnenberg, J.P. Dube, M. Gentzkow and J. Shapiro, "Do Pharmacists Buy Bayer? Informed Shoppers and the Brand Premium," *QJE*, November 2015, 1669-726.
- D. Dranove and G. Jin, "Quality Disclosure and Certification: Theory and Practice," *JEL*, December 2010, 935-63.
- G. Jin and P. Leslie, "The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards," *QJE*, May 2003, 409-51.
- F. Luco, "Who Benefits from Information Disclosure: The Case of Retail Gasoline," mimeo, Texas A&M, 2018; forthcoming, *AEJ: Micro*.

- A. Mathios, “The Impact of Mandatory Disclosure Laws on Product Choice: An Analysis of the Salad Dressing Market,” *JLE*, October 2000, 651-77.
- R. McDevitt, “‘A’ Business by Any Other Name: Firm Name Choice as a Signal of Firm Quality,” *JPE*, August 2014, 909-44.
- J. Milyo and J. Waldfogel, “The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart,” *AER*, December 1999, 1081-96.
- R. Sauer and K. Leffler, “Did the Federal Trade Commission’s Advertising Substantiation Program Promote More Credible Advertising?” *AER*, March 1990, 191-203.
- J. Zinman and E. Zitzewitz, “Wintertime for Deceptive Advertising?” *AEJ: Policy*, January 2016, 177-92.

#### **IV. Auctions**

##### **1. Structural Analysis of the Standard Model (Porter)**

#### **Theory**

- V. Krishna, *Auction Theory*, 2<sup>nd</sup> edition, Academic Press, 2010.
- P. Milgrom, *Putting Auction Theory to Work*, Cambridge University Press, 2004.

#### **Empirics**

- A. Aradillas-Lopez, A. Gandhi and D. Quint, “Identification and Inference in Ascending Auctions with Correlated Private Values,” *EMA*, March 2013, 489-534.
- S. Athey and P. Haile, “Nonparametric Approaches to Auctions,” *Handbook of Econometrics*, Volume 6A, Chapter 60.
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- D. Coey, B. Larsen, K. Sweeney and C. Waisman, "Ascending Auctions with Bidder Asymmetries," *QE*, March 2017, 181-200.
- M. Gentry, T. Hubbard, D. Nekipelov and H. Paarsch, "Structural Econometrics of Auctions: A Review," *Foundations and Trends in Econometrics*, 2018.
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- X. Tang, "Bounds on the Revenue Distributions in Counterfactual Auctions with Reserve Prices," *RJE*, Spring 2011, 175-203.

### **3. Unobserved Heterogeneity (Bhattacharya)**

- J. Freyberger and B. Larsen, "Identification in Ascending Auctions, with an Application to Digital Rights Management," mimeo, 2017.
- C. Hernandez, D. Quint, and C. Turansick, "Estimation in English Auctions with Unobserved Heterogeneity," mimeo, Wisconsin, 2018.
- Y. Hu, D. McAdams and M. Shum, "Identification of First-Price Auction Models with Non-Separable Unobserved Heterogeneity," *JE*, June 2013, 186-93.
- \* E. Krasnokutskaya, "Identification and Estimation in Highway Procurement Auctions under Unobserved Auction Heterogeneity," *ReStud*, January 2011, 293-327.
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### **4. Participation Effects in Auctions (Bhattacharya)**

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- M. Gentry and T. Li, "Identification in Auction Models with Selective Entry," *EMA*, January 2014, 315-44.

- \* E. Krasnokutskaya and K. Seim, “Bid Preference Programs and Participation in Highway Procurement Auctions,” *AER*, October 2011, 2653-86.
- D. Levin and J. Smith, “Equilibrium in Auctions with Entry,” *AER*, June 1994, 585-599.
- T. Li and X. Zheng, “Entry and Competition Effects in First-Price Auctions: Theory and Evidence from Procurement Auctions,” *ReStud*, October 2009, 1397-429.
- V. Marmer, A. Shneyerov and P. Xu, “What Model for Entry in First-Price Auctions? A Nonparametric Approach,” *JE*, September 2013, 46-58.
- \* J. Roberts and A. Sweeting, “When Should Sellers Use Auctions?” *AER*, Aug 2013, 1830-61.
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- 5. Other Extensions of the Standard Model (Bhattacharya)**
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- J. Balat, T. Komorova, and E. Krasnokutskaya, “Ex-ante and Ex-post Subcontracting in Highway Procurement Markets,” mimeo, 2017.
- V. Bhattacharya, A. Ordin, and J. Roberts, “Bidding and Drilling Under Uncertainty: An Empirical Analysis of Contingent Payment Auctions,” mimeo, 2018.

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S. Athey and D. Nekipelov, "A Structural Model of Sponsored Search Advertising Auctions," mimeo, Stanford, 2012.

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K. Hendricks and A. Sorensen, "The Role Intermediaries in Dynamic Auction Markets," mimeo, Wisconsin, 2015.

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- A. Hortacsu and D. McAdams, "Mechanism Choice and Strategic Bidding in Divisible Good Auctions: An Empirical Analysis of the Turkish Treasury Auction Market," JPE, October 2010, 833-65.
- A. Hortacsu and S. Puller, "Understanding Strategic Bidding in Multi-Unit Auctions: A Case Study of the Texas Electricity Spot Market," RJE, Spring 2008, 86-114.
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- H. Cai, V. Henderson, and Q. Zhang, "China's Land Market Auctions: Evidence of Corruption?" RJE, Fall 2013, 488-521.
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- \* K. Kawai and J. Nakabayashi, "Detecting Large-Scale Collusion in Procurement Auctions,"

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## **V. Empirics of Matching (Bhattacharya)**

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- A. Kapor, C. Neilson, and S. Zimmerman, "Heterogeneous Beliefs and School Choice Mechanisms," mimeo, Princeton, 2017.
- M. Luflade, "The Value of Information in Centralized School Choice Systems," mimeo, University of Pennsylvania, 2018.
- D. Waldinger, "Targeting In-Kind Transfers Through Market Design: A Revealed Preference Analysis of Public Housing Allocation," mimeo, NYU, 2018.

## **VI. Bargaining and Vertical Relationships (Bhattacharya)**

### **1. Theory**

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- \* M. Igami, “Estimating the Innovator’s Dilemma: Structural Analysis of Creative Destruction in the Hard Disk Drive Industry, 1981-1998,” *JPE*, June 2017, 798-847.
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