

Syllabus 846

Fall 2019

Gary Biglaiser, Office phone 966-4884, email gbiglais@email.unc.edu

Grade Assessment. Your grade will be based on a paper due on the last day of class. As you know, the field requirement for industrial organization is a paper. The paper for this class ideally will be a springboard for your field requirement. The paper will consist of a brief review of the literature, a model, and some basic results of the model. All students will present an article in class; this should be related to your paper topic. I will be happy to go over specific papers to examine and present in class.

I will tell you what papers that we will cover each week. You are expected to have read the papers before class. At the start of each class, I will randomly ask one of you to give a five minute synopsis of the paper that we will discuss. This is to induce to be familiar with the paper that will be discussed in class to enable to both understand the paper better and how the model works.

#### General References

Bolton and Dewatripont, Contract Theory, MIT (2005) (B-D)

Friedman, J., Oligopoly Theory, Cambridge University Press, 1983.

Fudenberg and Tirole, Dynamic Models of Oligopoly, in Fundamentals of Pure and Applied Economics, edited by Lesourne and Sonnenschein, Harwood Press, 1986.

Laffont and Martimort, The Theory of Incentives I: The Principal-Agent Model, Princeton, 2002.

Laffont and Tirole, A Theory of Incentives in Procurement and Regulation, MIT, 1993. (L-T)

Laffont and Tirole, Competition in Telecommunications, MIT, 1999.

Milgrom and Roberts, Economics Organization and Management, Prentice Hall.

Myerson, Game Theory, Harvard, 1993.

Phlips, The Economics of Price Discrimination, Cambridge University Press, 1983.

Spulber, Regulation and Markets, MIT, 1989.

Tirole, The Theory of Industrial Organization.

#### Abbreviations

AER *American Economic Review*

BJE *Bell Journal of Economics*

RAND *RAND Journal of Economics*

RESTUD *Review of Economic Studies*

JPE *Journal of Political Economy*

Econometrica *Econometrica*

JEMS *Journal of Economics Management and Strategy*

JLEO *Journal of Law Economics and Organization*

JPUBE *Journal of Public Economics*

JLE *Journal of Law and Economics*

JRE *Journal of Regulatory Economics*

IJIO *International Journal of Industrial Organization*

QJE *Quarterly Journal of Economics*

EJ *Economic Journal*

## A. Standard IO Product Markets Models and Traditional Frameworks

\*Tirole Chapters 5 and 7

\*Dixit "The Role of Investment in Entry Deterrence," EJ, 1980, 95-106.

Bulow, Geanakoplos, Klemperer "Multimarket Oligopoly: Strategic Substitutes and Complements", JPE 1985, 93, 488-511.

\*Shaked and Sutton, "Relaxing Price Competition Through Product Differentiation" RESTUD, 1982, pp. 3-13

## B. Price discrimination and Product Differentiation

\*Tirole Chapter 3

\* Laffont and Martimort, The Theory of Incentives I: The Principal-Agent Model, Chapter 3.

\*B-D Chapter 6.

\* Stole, "Price Discrimination and Imperfect Competition," Handbook of IO vol. 3.

\*Mussa, M. and S. Rosen (1978), "Monopoly and Product Quality," JET, 18:301-317.

Maskin and Riley, "Monopoly with Incomplete Information" RAND 1984, 171-196.

\*Chapsaur, P. and J.C. Rochet, (1989), "Multiproduct Duopolists, *Econometrica*, 57:533-557.

Anderson, de Palma and Thisse *Discreet Choice Theory of Product Differentiation*, MIT Press, chapters 5 and 7.

\*Rochet, J.C. and Stole (2002), "Nonlinear Pricing with Random Participation," RESTUD, 277-311.

Johnson and Myatt (2003), "Multiproduct quality competition: Fighting brands and product line pruning," AER 93.3 748-774.

\*Johnson and Myatt (2018), "The determinants of product lines," RAND 49, 541-573.

## C. Bundling and Tying

\*McAfee, McMillan, and Whinston, "Multiproduct Monopoly, Commodity Bundling, and Correlation of Values", QJE, 1989, 371-384.

Armstrong (2011) "Bundling revisited: substitute products and inter-firm Discounts" working paper.

Fang and Norman (2006), "To Bundle or Not to Bundle," *RAND* 37(4), 946-963.

Biglaiser and Ma, (2003) "Multi-product Adverse Selection with Competition" *RAND* 266-286.

\*Zhao, "Competitive Bundling", *Econometrica*, 2017, 85(1), 145-172.

\*Armstrong, M. and J. Vickers (2010), "Competitive Nonlinear Pricing and Bundling," RESTUD, 30-60.

Armstrong, M. and J.C. Rochet, (1999), "Multidimensional Screening: A User's Guide," *European Economic Review*, 43:959-979.

Rochet, J.C. and P. Chone, (1998), "Ironing, Sweeping, and Multidimensional Screening," *Econometrica*, 66:783-826.

- Wilson, R. (1993) *Nonlinear pricing*, Oxford University Press.
- \*Chen and Rey (2012), "Loss Leading as an Exploitive Device," AER, 3462-3482.
- \*Whinston, M. "Tying, Foreclosure, and Exclusion," *AER* (80), September 1990, pp. 837-59.
- \*Carlton, Gans, and Waldman, "Why Tie a Product Consumers do not Use," *AEJ Micro*, 2010, 85-105.

#### D. Product Selection, Quality, and Advertising

- \*Tirole 95-129, Chapter 2
- Akerlof (1970) "The Markets for Lemons: Qualitative Uncertainty and The Market Mechanism," *QJE* 488-500.
- \*Shapiro (1983) "Premiums for High Quality Products as Rents to Reputation," *QJE*, 59-680.
- Milgrom and Roberts, (1986) "Prices and Advertising Signals of Product Quality", *JPE*, 796-821.
- \*Biglaiser, (1993) "Middlemen as Experts", *RAND*, 211-223.
- \*Biglaiser and Friedman, (1994) "Middlemen as Guarantors of Quality" *International Journal of Industrial Organization*, 509-531.
- \*Mailath and Samuelson, (2001), "Who wants a good reputation?" *RESTUD* 68 415-442.
- \_\_\_\_\_ and \_\_\_\_\_ "Adverse Selection with Competitive Inspection," *JEMS*, 1999, 1-32.
- Biglaiser and Li (2018), "Middlemen: The Good, the Bad, and the Ugly," *RAND* 3-22.
- Taylor (1995), "Economics of Breakdowns, Checkups, and Cures," *JPE*
- \*Emons, (1997), "Credence Goods and Fraudulent Experts," *RAND* 107-119.
- \*Pessendorfer and Wolinsky (2003), "Second Opinions and Price Competition: Inefficiency in the Market for Expert Advice," *RESTUD*, 417-439.

#### E. Vertical Control, Foreclosure, and Conditional Pricing

- \*Tirole Chapters 4 and 8.
- Katz, M., "Vertical Contractual Relations", *Handbook of IO*, 656-721.
- Mathewson and Winter, "An Economic Theory of Vertical Restraints", *RJE* 1984, 27-38.
- Hart, O. and J. Tirole, "Vertical Integration and Market Disclosure" *Brookings Papers*, 1990, 205-286.
- \*Rey and Tirole, "A Primer on Foreclosure", *Handbook of IO*, vol. III, 2145-2220, 2007.
- \*Aghion and Bolton (1987), "Contracts as Barriers to Entry," *AER*, 388-401.
- \*Figuera, Ide, Montera (2016), "Discounts as Barriers to Entry," *AER*, 1849-1877.
- \*Rey, P. and J. Tirole, "The Logic of Vertical Restraints", *AER*, 1986, 921-939.
- \* Asker and Bar-Isaac, "Raising Retailers' Profits: On Vertical Practices and the Exclusion of Rivals," *AER*, 104(2), 672-686, 2014.
- \*Bedre-Defolie and Biglaiser (2017), "Contracts as a barrier to entry when buyers are non-pivotal" *AER*, 2041-2071.
- Chone and Linnemer (2014, 2016), "Nonlinear pricing and exclusion" *RAND*.

- Segal and Whinston, Robust Predictions for Bilateral Contracting with Externalities,” *Econometrica*, 71(3), May 2003, pp. 757-791
- Nocke, V. and P. Rey (2014), Vertical Integration and Foreclosure in Interlocking Relationships,” working paper.
- Bolton and Whinston “Incomplete Contracts, Vertical Integration, and Supply Assurance,” *RESTUD*, January 1993, pp. 121-48. (with P. Bolton)
- Conditional Pricing Practices: Economic Analysis & Policy Implications, FTC workshop [https://www.ftc.gov/system/files/documents/public\\_events/302251/cpp\\_workshop\\_transcript.pdf](https://www.ftc.gov/system/files/documents/public_events/302251/cpp_workshop_transcript.pdf)
- \*Bernheim, and Whinston, “Exclusive Dealing,” *JPE*, 1998, 64-103.
- \*O'Brien, and Shaffer, “Vertical Control with Bilateral Contracts,” *RAND*, 1992, 299-308.
- \*Segal and Whinston, 2000 “Naked Exclusion- Comment” *AER*, 296-309.
- Rey, and Whinston 2013, “Does Retailer Power Lead to Exclusion,” *RAND* 75-81.
- \*Calzolari and Denicolo 2015 “Exclusive contracts and market dominance” *AER* 3321–3351.
- \* \_\_\_\_\_ and \_\_\_\_\_ 2013 “Competition with exclusive contracts and market-share discounts” *AER*, 2384-2411

F. Models with Switching Costs and Network Externalities

- \*Klemperer, (1995) “Competition when Consumers have Switching Costs,” *RESTUD*, 513-539.
- \* \_\_\_\_\_ and Farrell (2007) “Coordination and Lock-In: Competition with Switching Costs and Network Effects” *Handbook of Industrial Organization*, Vol 3. M. Armstrong and R. Porter (eds.), North-Holland.
- Villas-Boas, (1999), “Dynamic Competition with Customer Recognition,” *RAND*, 604-631.
- \*Chen, (1997), “Paying Customers to Switch,” *JEMS*, 877-897.
- \*Fudenberg, D. and J. Tirole (2000), “Customer Poaching and Brand Switching,” *RAND*, 31: 634-657.
- Farrell and Shapiro, “Dynamic Competition with Switching Costs” *RAND* 1988, 123-137.
- \*Taylor (2003), “Supplier Surfing: Price Discrimination in Markets with Repeat Purchases,” *RAND*, 34. 223-246
- \*Biglaiser, Cremer, Dubos (2013), “The value of Switching Costs” *JET*, Vol. 148, pp. 935-952.
- \*Cabral (2011), “Dynamic Price Competition with Network Effects,” *RESTUD* 78, 83–111.
- \*Biglaiser and Cremer (2019), “The value of incumbency when platforms face heterogeneous customers,” mimeo.
- Halaburda, Jullien, and Yehezkel (2019), “Dynamic Competition with Network Externalities: Why History Matters” mimeo.
- \*Biglaiser, Cremer, and Veiga (2019), “Migration between Platforms” mimeo.

G. Two-Sided Markets

- Caillaud, B. and B. Jullien (2003), “Chicken and Egg: Competition Among Intermediation Providers” *RAND* 309-328.

- \*Rysman, M. (2009) “The Economics of Two-Sided Markets” *Journal of Economic Perspectives*, Volume 23, Number 3, Pages 125–143
- \*Armstrong, M. (2006), “Competition in Two-sided Markets,” RAND, 2006,
- Haggiu, A. (2009) “Product Variety and Two-Sided Platform Pricing,” JEMS, 18(4), pp. .
- Rochet and Tirole (2003), “Platform Competition in Two-Sided Markets.” *Journal of European Economic Association*, 990-1029.
- Rochet and Tirole (2005), “Two-Sided Markets: A Progress Report” mimeo.
- \*Anderson and Coate (2005), “Market Provision of Broadcasting: A Welfare Analysis”, *Review of Economic Studies*, 72(4), 947-972.
- Wright (2003), “Optimal Card Payment Systems” *European Economic Review*, 587-612.
- \*Weyl, G. (2010) “A Price Theory of Multi-Sided Platforms,” *AER*, 100(4): 1642-72.
- Weyl, G. and A. White (2013), “Insulated Platform Competition,” mimeo.
- \*Bulow, J. and J. Levin, (2006), “Matching and Price Competition,” *AER*, 652-668.
- \*Damiano and Li, (2008), “Competing Matchmaking,” *Journal of the European Economic Association* 6(4), pp.819-844.
- Halaburda and Yehezkel, (2013) “Platform Competition under Asymmetric Information,” *AEJ Micro* 22-68.
- Ambrus, Calvano, and Reisinger (2016), “Either or Both Competition: A two-Sided Theory of Advertising with Overlapping Viewership,” forthcoming *AEJ*.
- \*Haggiu and Jullien, (2011) “Why do Intermediaries Divert Search,” *RAND* 337-362.
- .

## H. Search and Industrial Organization

- \* Anderson and Renault (2006), “Advertising Content,” *AER*, 93-113.
- \* Zhou (2015), “Multiproduct Search and the Joint Search Effect,” 2018-2039.
- \* Choi, Dai, and Kim (2018), “Consumer Search and Price Competition,” *Econometrica* 1257-1281.
- Janssen and Shelegia (2015), “Consumer Search and Double Marginalization,” *AER*, 1683-1710.