

Industrial Organization (G): 631

Course Requirements. Mid-term exam (30% of the grade), final exam (50%), and a short report on one of several articles that I'll identify (20%). I reserve the right to raise your grade for exceptional class participation (measured by quality not quantity ...) I will also distribute about six exercises. Work on these in groups and turn them in. The exercises do not earn formal credit, but I will use them to gauge your progress and give you feedback.

Readings. The text is: J. Tirole, *The Theory of Industrial Organization*, MIT Press, 1988. It provides excellent coverage of theoretical work in IO, which will be the focus of this course. You should read supplementary empirical and policy related material according to interest. Some useful books and web sites:

P. Belleflamme and M. Peitz, *Industrial Organization: Markets and Strategies*, Cambridge U. Press, 2010.

Jeffrey Church and Roger Ware, *Industrial Organization: A Strategic Approach*, Irwin/McGraw-Hill 2000 ("Church & Ware"). Less advanced theoretically than Tirole, but has nice chapters on antitrust and regulation. The book is out of print (it's being revised for the 2nd edition) but the authors have kindly let any user download for free and print 1 copy from: <<http://homepages.ucalgary.ca/~jrchurch/page4/page4.html>> (click on IOSA pdf)

Handbook of Industrial Organization, Elsevier ("HIO") contains good survey articles. Volumes 1 and 2 are edited by R. Schmalensee and R. Willig (1989), Volume 3 is edited by M. Armstrong and R. Porter (2007).

K. Viscusi, J. Vernon and J. Harrington, *Economics of Regulation and Antitrust*, 4th ed., MIT Press, 2005 ("Viscusi et al."). Advanced undergraduate level, but contains good discussions of policy, especially regulation.

D. Carlton and J. Perloff, *Modern Industrial Organization*, 3rd ed., HarperCollins, 2000. Mix of theory and empirical examples (but less advanced on theory than Tirole, and less comprehensive on policy than Viscusi et al.).

M. Motta, *Competition Policy: Theory and Practice*, Cambridge U. Press, 2004 ("Motta 2004").

G. Stigler, *The Organization of Industry* (Irwin, 1968). This contains many of Stigler's pioneering essays and gives a feel for the Chicago School analysis.

P. Milgrom and J. Roberts, *Economics, Organization and Management*, Prentice Hall, 1992. It has excellent discussions of contracting problems and the internal organization of firms.

X. Vives, *Oligopoly Pricing: Old Ideas and New Tools*, MIT Press, 1999.

<<http://www.stern.nyu.edu/networks/site.html>> (run by N. Economides; references on networks, broadly defined)

NOTE: additional readings on some topics are listed in my past syllabi. This is indicated, for example, by: "see 631 F05" where 631 is the course number and F05 is the semester and year. For more readings on antitrust and regulation see my syllabi from various years for the undergraduate course Topics in Competition & Regulation 429.

You are definitely **not** expected to read all the references below. They serve as a bibliography, in case you wish to pursue the topics further for your dissertation or general interest. Required readings will be noted by *. You can get many articles at <www.jstor.org> accessible for free from any GU campus computer.

Numbers in parentheses after section headings indicate approximate # of classes. We do not have time to cover all the topics—I change the menu a bit each year. Please come and see me if you have questions about the material, or want to discuss other topics.

1. Introduction and Welfare Background (1)

- * Tirole, 1-14. (You may also want to *skim* pp. 15-51 on Theory of the Firm, though it uses many ideas that get developed only later in the book. We address some of these ideas later under Vertical Control.)
Mas-Collel, Whinston, and Green, *Microeconomic Theory*, Oxford University Press, 1995, Ch. 10.
Church & Ware 2000, Ch. 2 (The Welfare Economics of Market Power) and pp. 889-900 (succinct overview of antitrust laws in US, Canada and Europe).

2. Monopoly: Linear Pricing (3)

A. Pricing of Single Good and Multiple Goods (Substitutes or Complements)

- * Tirole, 65-72.
G. Weyl and M. Fabinger, "Pass-Through as an Economic Tool," October 2009.
A. Schiff, "The "Waterbed" Effect and Price Regulation," *RNE*, vol. 7, iss. 3 (2008), 392-414.

B. Welfare Effects: Output Distortion, X-Inefficiency (Inflated Costs), Rent-Seeking (Wasteful Struggles over Wealth Transfers)

- * Tirole, 67 (output distortion under uniform pricing) 75–76 (cost distortion), 76-78 (rent seeking).
- * M. Schwartz, "Welfare Losses from Monopoly: Slack and Rent Seeking," (class notes).
- H. Leibenstein, "Allocative Efficiency vs. 'X-Efficiency'," *AER* 56 (1966) 392–415.
- R. Posner, "The Social Costs of Monopoly and Regulation," *JPE* 83 (1975), 807–827.

3. Monopoly: Product Selection (2)

A. Quality and Number of Products – Potential Biases

- * Tirole, 100-104 (quality choice), 104-106 (variety choice; read only until end of section 2.2, not 2.3).
M. Spence, "Monopoly, Quality, and Regulation," *Bell Journal of Economics* 6 (Autumn, 1975), 417-29.

B. Product Differentiation Models: Heterogeneous Consumers with Unit Demands

- * Tirole, 95-97 (introduction, and vertical differentiation), 97-99 (horizontal differentiation).

C. Other Representations of Product Differentiation

- Tirole, 99-100 (representative consumer with CES utility).
- S. Berry, "Estimating Discrete-Choice Models of Product Differentiation," *RJE* 25 (Summer 1994), 242-262.
- S. Anderson, A. de Palma and J. Thisse, *Discrete Choice Theory of Product Differentiation*, MIT Press, 1992.
- A. Nevo, "A Practitioner's Guide to Estimation of Random Coefficients Logit Models of Demand," *JEMS* 9 (2000), 513-548.

4. Static Noncooperative Oligopoly: Bertrand and Cournot (3)

- * Tirole, 205–223 and 279-80 (Hotelling linear city; read only through the ¶ after (7.2), ending with "result").
C. Shapiro, "Theories of Oligopoly Behavior," *HIO*, Vol 1, 329–352 only.
Tirole, 423-432 (review of noncooperative game theory under complete information).
- * N. Singh and X. Vives, "Price and Quantity Competition in a Differentiated Duopoly," *RJE* 15 (1984), 546-54.
Belleflamme and Peitz, 2010, pp. 64-70 (differentiated Cournot vs. Bertrand, and strategic substitutes vs. strategic complements).
- M. Schwartz, "Differentiated Bertrand Competition and Mergers," class notes (5 pp)

5. Welfare Tradeoffs from Entry: Fixed Costs, Asymmetries in Cost or Demand (2)

A. The “No–Tradeoff” Case: Contestable Markets (see 631 F05, topic 5.A)

Tirole, 307–311.

M. Schwartz and R. Reynolds, “Contestable Markets . . . Comment,” *AER* 73 (1983) 488–490, and reply by W. Baumol, J. Panzar, and R. Willig, same issue, 491–496.

A. Joskow, G. Werden, and R. Johnson, “Entry, Exit, and Performance in Airline Markets,” *IJIO* 12 (1994), 457–494.

B. Homogeneous Products

* M. Schwartz, “Investments in Oligopoly: Welfare Effects and Tests for Predation,” *OEP* 41 (1989), 698–719 (can skip 709–714 for now, as these pages discuss predation tests).

J. Brander and P. Krugman, “A Reciprocal Dumping Model of International Trade,” *JIntE* 15 (1983), 313–21.

G. Faulhaber, “Cross–Subsidization: Pricing in Public Enterprises,” *AER* 65 (1975), 966–977.

C. Spatial Circle Model

* Tirole, 282–285.

S. Salop, “Monopolistic Competition with Outside Goods,” *BJE* 10 (1979), 141–156.

F. Mathewson and R. Winter, “Buyer Groups,” *IJIO* 15 (1996), 137–164.

D. Monopolistic Competition (CES) Model

Tirole, 287–289, 298–300.

G. Mankiw and M. Whinston, “Free Entry and Social Inefficiency,” *RJE* 17 (1986), 48–58.

A. Dixit and J. Stiglitz, “Monopolistic Competition and Optimal Product Diversity,” *AER* 67 (1977), 297–308.

M. Spence, “Product Selection, Fixed Costs and Monopolistic Competition,” *RES* 43 (1976), 217–235.

Y. Chen and M. Riordan, “Price and Variety in the Spokes Model,” *EJ* 117 (2007), 897–921.

6. Innovation Incentives (see 631 F05, topic 17) (2)

A. Incentives and Market Structure: Secure vs. Threatened Monopolist

* Tirole, 389–394.

* Y. Chen and M. Schwartz, “Product Innovation Incentives: Monopoly vs. Competition,” Georgetown University, Department of Economics Working Paper 09-02, revised January 2010.

R. Gilbert and D. Newbery, “Preemptive Patenting and the Persistence of Monopoly,” *AER* 72 (1982), 514–526. See also comments and reply in *AER* 74 (1984) 238–253.

Belleflamme and Peitz, 2010, ch. 18: Innovation and R&D, 479–90.

B. Intellectual Property Rights System and Alternatives

* Tirole 399–401.

Belleflamme and Peitz, 2010, ch. 19: Intellectual Property, 505–39.

S. Scotchmer, *Innovation and Incentives*, MIT Press 2004, ch. 4—On the Optimal Design of Intellectual Property; ch. 5—Standing on the Shoulders of Giants: Protecting Cumulative Innovators.

J. Hirshleifer, “The Private and Social Value of Information and the Reward to Inventive Activity,” *AER* 61 (1971), 561–574.

P. Klemperer, “How Broad Should the Scope of Patent Protection Be?” *RJE* 21 (1990), 113–130.

E. Kitch, “The Nature and Function of the Patent System,” *JLE* 20 (1977), 265–290.

7. Price Discrimination (4.5)

A. Necessary Conditions, Identification Problems, Perfect (1st-Degree) Discrimination (Monopoly)

- * Tirole, 133–137.
- M. Schwartz, “The Perverse Effects of the Robinson–Patman Act,” *Antitrust Bulletin* 31 (1986), 733–57.

B. Direct (3rd-Degree) Discrimination (Monopoly)

- * Tirole, 137–142.
- M. Schwartz, “Third-Degree Price Discrimination and Output: Generalizing a Welfare Result,” *AER* 80 (1990), 1259–1262. Reprinted in M La Manna, ed, *Readings in Microeconomic Theory*, Dryden, 1997.
- A. Iñaki, S. Cowan, and J. Vickers. “Monopoly Price Discrimination and Demand Curvature,” *AER* 100 (2010), 1601–1615.
- W. Baumol and D. Bradford, “Optimal Departures from Marginal Cost Pricing,” *AER* 60 (1970), 265–283.
- * D. Malueg and M. Schwartz, “Parallel Imports, Demand Dispersion, and International Price Discrimination,” *JIntE* 37 (1994), 167–195.
- D. Malueg, “Direction of Price Changes in Third-Degree Price Discrimination: Comment,” A.B. Freeman School of Business Working Paper 92–ECAN–04, Tulane University, 1992.
- D. Malueg, “Bounding the Welfare Effects of Third-Degree Price Discrimination,” *AER* 83 (1987), 1011–21.
- D. Malueg and C. Snyder, “Bounding the Relative Profitability of Price Discrimination,” *IJIO* 24 (2006), 995–1011.
- * T. Ikeda and T. Toshimitsu, “Third-Degree Price Discrimination, Quality Choice, and Welfare,” *Economics Letters* 106 (2010) 54–56.
- R. Inderst and T. Valletti, “Price Discrimination in Input Markets,” *RJE* 40 (2009), 1–19.
- M. Katz, “The Welfare Effects of Third-Degree Price Discrimination in Intermediate Goods Markets,” *AER* 77 (1987), 154–167.

C. Indirect (2nd-Degree) Discrimination: Quantity & Quality Menus for Self-Selection (Monopoly)

- * Tirole, 142–149, 153–154 (both on quantity discrimination).
- W. Oi, “A Disneyland Dilemma: Two-Part Tariffs for a Mickey Mouse Monopoly,” *QJE* 85 (1971), 77–90.
- * Tirole, 149–152 (quality discrimination).
- Belleflamme and Peitz, 2010, ch. 9.1: 217–9; ch. 9.2: 219–27.
- R. Deneckere and P. McAfee, “Damaged Goods,” *JEMS* 5 (Summer 1996), 149–174.
- S. Salop, “The Noisy Monopolist: Imperfect Information, Price Dispersion, and Price Discrimination,” *RES* 44 (1977), 393–406.
- I. Gale and T. Holmes, “Advance-Purchase Discounts and Monopoly Allocation of Capacity,” *AER* 83 (1993), 135–146.

D. Unprofitable Monopoly Discrimination: Lack of Commitment, Strategic Buyers

- * R. Coase, “Durability and Monopoly,” *JLE* 15 (1972), 143–149.
- Tirole, 72–74, 80–86 (Coase conjecture for durable–good monopolist).
- T. Cooper and T. Fries, “The Most Favored Nation Pricing Policy and Negotiated Prices,” *IJIO* 9 (1991), 209–224.
- K. Elzinga and D. Mills, “The Distribution and Pricing of Prescription Drugs,” *International Journal of the Economics of Business* 4 (1997), 287–299.

E. Price Discrimination Under Imperfect Competition (see 631 F05, topic 17)

- * L. Stole, “Price Discrimination and Competition,” *HIO*, vol 3 (2007), 2221–99 (hereafter “Stole 2007”) see 2221–8 (Introduction) and 2229–30 (First-degree price discrimination).

V. Bhaskar and T. To, "Is Perfect Price Discrimination Really Efficient? An Analysis of Free Entry," *RJE* 35, No. 4 (2004), 762-776.

* Stole (2007), see 2231-49 (Third-degree price discrimination).

T. Holmes, "The Effects of Third-Degree Price Discrimination in Oligopoly," *AER* 79 (1989), 244-250.

Stole (2007), see 2259-62 (Intrapersonal price discrimination) and 2262-81 (Nonlinear pricing).

* Belleflamme and Peitz, 2010, ch. 9.3: 227-37 (Menu pricing under imperfect competition).

M. Armstrong and J. Vickers, "Competitive Price Discrimination," *RJE* 32, No. 4 (2001), 579-605.

8. Monopoly Tying and Bundling: Non-strategic Motives (1.5)

* Tirole, 146-8 (tying-for-metering), 159-160 (bundling).

Belleflamme and Peitz, 2010, ch. 11.1: 259-69 (bundling); ch. 11.2: 269-71 (tying and metering)

F. Mathewson and R. Winter, "Tying as a Response to Demand Uncertainty," *RJE* 28 (1997), 566-583.

M. Burtstein, "The Economics of Tie-In Sales," *REStats* 42 (1960), 68-73.

* P. McAfee, J. McMillan and M. Whinston, "Multi-product Monopoly, Commodity Bundling and Correlation of Values," *QJE* 104 (1989), 371-384.

G. Shaffer, "Capturing Strategic Rent: Full-Line Forcing, Aggregate Rebates, and Maximum Resale Price Maintenance," *JIndE* 39 (1991), 557-76.

B. Klein and L. Saft, "The Law and Economics of Franchise Tying Contracts," *JLE* 28 (1985), 345-362. See also comments, 363-404.

M. Schwartz and G. Werden, "A Quality-Signaling Rationale for Aftermarket Tying," *ALJ* 64 (1996), 387-404.

9. Vertical Control by Unregulated & Secure Monopolist: Incentives and Methods (4.5)

A. Overview

* Tirole, 169-173.

M. Perry, "Vertical Integration: Determinants and Effects," *HIO* vol. 1, 1989.

M. Katz, "Vertical Contractual Relations," *HIO* vol. 1, 1989.

M. Salinger, "The Meaning of "Upstream" and "Downstream" and the Implications for Modelling Vertical Mergers," *JIndE* 38 (1989), 541-556.

B. Successive Monopoly and Double Marginalization

* Tirole, 174-177.

M. Salinger, "Vertical Mergers in Multi-Product Industries and Edgeworth's Paradox of Taxation," *JIE* 39 (1991), 541-556.

* M. Schwartz and D. Vincent, "The No Surcharge Rule and Card User Rebates: Vertical Control by a Payment Network," *RNE*, 5 (2006): 72-102 (double-marginalization, price discrimination, and 2-sided markets).

C. Variable-Proportions Production and Input Substitution (also 631 F05, topic 7.D)

* Tirole, 179-181.

M. Riordan, "Anticompetitive Vertical Integration by a Dominant Firm," *AER* 8 (1998), 1232-1248.

D. Non-contractible "Services" and Non-Price Competition (see 631 F05, topic 7.E)

* Tirole, 177-179, 182-184.

L. Telser, "Why Should Manufacturers Want Fair Trade?" *JLE* 3 (1960), 86-105.

R. Winter, "Vertical Control and Price versus Non-Price Competition," *QJE* (February 1993), 61-76.

H. Marvel, "Exclusive Dealing," *JLE* 25 (1982), 1-25.

E. Price Discrimination

M. Perry, "Forward Integration by Alcoa: 1888-1930," *JIndE* 29 (September 1980), 37-53.

Y. Chen, "Oligopoly Price Discrimination and Resale Price Maintenance," *RJE* 30 (Autumn 1999), 441-455.

F. Specialized Assets, Incomplete Contracts, Post-Contractual Opportunism (see 631 F05, topic 7.F)

* Tirole, 15-34.

* B. Holmstrom and J. Tirole, "The Theory of the Firm," *HIO* vol 1, 1989, pp. 61-78 only.

Belleflamme and Peitz, 2010, ch. 17.3.4: 452-4 (exclusive contracts and investment incentives)

Church & Ware 2007, ch. 3, 69-79 (on holdups, and contracts vs. integration; read through Case Study 3.6)

P. Milgrom and J. Roberts, *Economics, Organization and Management*, 1992, Chs. 5, 6, 8,9 (especially pp. 126-40, 192-4, 269-80, 288-94, 303-19.

B. Klein, R. Crawford, and A. Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," *JLE* 21 (1978), 297-326.

B. Klein, "Transaction Cost Determinants of 'Unfair' Contractual Arrangements," *AER* 70 (1980), 352-362.

O. Williamson, *The Economic Institutions of Capitalism*, New York: Free Press, 1985.

G. Multilateral Vertical Relations with Lack of Commitment (see 631 F05, topic 7.G)

* P. McAfee and M. Schwartz, "Opportunism in Multilateral Vertical Contracting: Nondiscrimination, Exclusivity, and Uniformity," *AER* 84 (1994), 210-30.

P. McAfee and M. Schwartz, "Opportunism in Multilateral Vertical Contracting: Nondiscrimination, Exclusivity, and Uniformity: Reply," *AER* 94 (2004): 802-803.

D. O'Brien and G. Shaffer, "Vertical Control with Bilateral Contracts," *RJE* 23 (1992), 299-308.

10. Vertical Control: Regulated Markets (see 631 F05, topic 8; 429 S03 parts I, II) (0.5)

* Church & Ware 2000, 861-877 (Regulatory Reform in Network Industries).

Economic Report of the President, Chapter 6: "Promoting Competition in Traditionally Regulated Industries," Council of Economic Advisers, Washington DC, 1996.

M. Armstrong and D. Sappington, "Recent Developments in the Theory of Regulation," *HIO*, vol 3 (2007), 1557-1700 (especially 1669-87).

J.J. Laffont and J. Tirole, "Creating Competition Through Interconnection: Theory and Practice," *JRE* 10 (1996), 227-56.

T. Brennan, "Why Regulated Firms Should Be Kept Out of Unregulated Markets: Understanding the Divestiture in United States v. AT&T," *Antitrust Bulletin* 32 (1987), 741-793.

M. Schwartz, "Reforming Telecom Regulation: An Essay Review of Nuechterlein and Weiser's *Digital Crossroads*," *RNE* 7 (2008), 415-447 (section 4 only).

11. Reducing Competition by Committing to Be Tough or Soft (3)

A. Sunk Costs, Scale Economies and Entry Deterrence (see 631 F05, topic 9.A)

* Tirole, 314-323.

M. Spence, "Entry, Capacity, Investment and Oligopolistic Pricing," *BJE* 8 (Autumn 1977), 534-44.

A. Dixit, "The Role of Investment in Entry Deterrence," *EJ* 90 (1980), 95-106.

D. Malueg and M. Schwartz, "Preemptive Investment, Toehold Entry, and the Mimicking Principle," *RJE* 22 (1991), 1-13.

M. Schwartz and E. Thompson, "Divisionalization and Entry Deterrence," *QJE* 101 (1986), 307-321.

B. Two-Stage Games and the “Animals” Taxonomy of Strategies

- * Tirole, 207-8 and 323–328.
- C. Shapiro, “Theories of Oligopoly Behavior,” *HIO* vol 1, 381–389, 389–397 (overview of applications).

C. Maximal or Minimal Differentiation?

- * Tirole, 277-282 (Hotelling’s spatial model), 286-287 (factors that may cause clustering), 295, 296–298 (location choices in vertical differentiation model).
- H. Hotelling, “Stability in Competition,” *EJ* 39, No. 13 (March 1929), 41-57.
- A. Shaked and J. Sutton, “Relaxing Price Competition through Product Differentiation,” *RES* 39 (1983), 3-13.
- Belleflamme and Peitz, 2010, ch. 5.3: Vertical Product Differentiation, 120-5.
- J. Fischer and J. Harrington Jr., “Product Variety and Firm Agglomeration,” *RJE* 27 (Summer 1996), 281-309.

D. Tying and Bundling (see 631 F05, topic 11)

- * Tirole, 333-5 (summarizes Whinston) 335-6 (summarizes Matutes and Regibeau).
- * Stole (2007), see 2281-6 (Bundling).
- * B. Hermalin and M. Katz, “Platform Differentiation through Exclusivity: Is There a One-Monopoly-Rent Theorem?” mimeo, November 2010: <<http://ssrn.com/abstract=1702632>>
- Belleflamme and Peitz, 2010, ch. 11.3: 272-8 (competitive bundling).
- Belleflamme and Peitz, 2010, ch. 16.3.2: 417-20 (bundling and leverage of market power).
- C. Matutes and P. Regibeau, “ ‘Mix and Match’ : Product Compatibility without Network Externalities,” *RJE* 19 (1988), 221–234.
- M. Whinston, “Tying, Foreclosure and Exclusion,” *AER* 80 (1990), 837–860. (Read especially the Introduction.)
- J. Carbajo, D. de Meza and D. Seidmann, “A Strategic Motive for Commodity Bundling,” *JIndE* 380 (1990), 283–298.
- B. Nalebuff, Barry, “Bundling as an Entry Barrier,” *QJE* 119 (2004): 159-187.

E. Some More Examples: Softening Competition (see 631 F05, topic 9.C)

- Tirole, 328-32 (330–332 summarizes Cooper 1986).
- T. Cooper, “Most-Favored-Customer Pricing and Tacit Collusion,” *RJE* 17 (1986), 377–388.
- C. Holt and D. Scheffman, “Facilitating Practices: The Effects of Advance Notice and Best-Price Policies,” *RJE* 18 (1987), 187–197.
- K. Krishna, “Trade Restrictions as Facilitating Practices,” *JIntE* 26 (1989), 251-270.

F. Predation: A Closer Look (see 631 F05, topic 9.D)

- Church & Ware 2000, Ch. 21 — Exclusionary Strategies II: Predatory Pricing.
- M. Schwartz, “Investments in Oligopoly: Welfare Effects and Tests for Predation,” *OEP* 41 (1989), 698-719.
- J. Ordover and G. Saloner, “Predation, Monopolization and Antitrust,” *HIO* Vol 1, 537-596.
- Thomas Hazlett, “Predation in Local Cable TV Markets,” *Antitrust Bulletin*, 40, 1995, 609-44
- M. Burns, “Predatory Pricing and the Acquisition Cost of Competitors,” *JPE* 94 (1986), 266–296.
- B. Yamey, “Predatory Price Cutting: Notes and Comments,” *JLE* 15 (1972), 120–142.

12. Vertical Control: Rent Extraction and Reducing Competition (3)

A. Exclusivity Contracts with Single Buyer: Rent Extraction with Linear vs. Nonlinear Pricing

- * F. Mathewson and R. Winter, "The Competitive Effects of Vertical Agreements: Comment," *AER* 77 (1987), 1057-62.
- * M. Schwartz and D. Vincent, "Quantity 'Forcing' and Exclusion: Bundled Discounts and Nonlinear Pricing," in W. D. Collins ed. *Issues in Competition Law and Policy*, ABA, 2008, vol. II, ch. 40, 939-76 ("M. Schwartz and D. Vincent 2008"), see section 5.2.1 (pp. 962-4) and Appendix, pp. 971-3.
- D. O'Brien and G. Shaffer, "Nonlinear Contracts, Foreclosure, and Exclusive Dealing," *JEMS* 6 (1997), 755-785.
- P. Aghion and P. Bolton, "Contracts as a Barrier to Entry," *AER* 77 (1987), 388-401.
- Tirole, 196-8 (summarizing Aghion and Bolton, *AER* 1987).
- Belleflamme and Peitz, 2010, ch. 17.3.2: 446-9 (summarizing Aghion and Bolton, *AER* 1987).

B. Exclusionary Contracts with Non-coordinating Buyers: Scale Economies and Other Externalities

- * E. Rasmusen, M. Ramseyer, and J. Wiley, "Naked Exclusion," *AER* 81 (1991), 1137-1145.
- * M. Schwartz and D. Vincent 2008, section 5 (pp. 959-56) and Appendix (pp. 973-6).
- * R. Jing and R. Winter, "Exclusionary Contracts," mimeo, September 2010.
- D. Bernheim and M. Whinston, "Exclusive Dealing," *JPE* 106 (1998), 64-103 (see section IV).
- J. Wright, "Exclusive Dealing and Entry, when Buyers Compete: Comment," *AER* 99 (2009), 1070-81.
- J. Abito and J. Wright, "Exclusive Dealing with Imperfect Downstream Competition," *IJIO* 26 (2008), 227-46.
- C. Fumagalli and M. Motta, "Exclusive Dealing and Entry, when Buyers Compete," *AER* 96 (2006), 785-95.
- R. Innes and R. Sexton, "Strategic Buyers and Exclusionary Contracts," *AER* 37 (1993), 566-584.
- I. Segal, "Contracting with Externalities," *QJE* 114 (1999), 337-388.
- T. Krattenmaker and S. Salop, "Competition and Cooperation in the Market for Exclusionary Rights," *AER* 76 (1986), 109-13.

C. Impeding Rivals' Access to Inputs or Complements (see 631 F05, topics 10.C & D)

- * Tirole, 193-196.
- P. Rey and J. Tirole, "A Primer on Foreclosure," *HIO* vol. 3 (2007), 2145-2220.
- J. Farrell and M. Katz, "Innovation, Rent Extraction, and Integration in Systems Markets," *JIndE* 48 (2000), 413-432.
- J.P. Choi and C. Stefanides, "Tying, Investment, and the Dynamic Leverage Theory," *RJE* 32 (2001), 52-71.
- S. Salop and D. Scheffman, "Raising Rivals' Costs," *AER* 73 (1983), 267-271.
- Church & Ware 2000, ch. 13, 465 (*Aspen Skiing* case, 1985), ch. 20, 625-31 (raising rivals' costs), 633-4 (Standard Oil case).
- P. Areeda, "Essential Facilities: an Epithet in Need of Limiting Principles." *ALJ*, 58 (1990), 841-53.
- * J. Vickers, "Abuse of Market Power," *EJ* 115 (June 2005), pp. F244-F261.

D. Network Effects and Compatibility / Interconnection (see 631 F05, topic 12)

- * Tirole, 404-9.
- D. Malueg and M. Schwartz, "Interconnection Incentives of a Large Network Facing Multiple Rivals," *JIndE* 54 (2006), 527-67 (read the Introduction).
- * T. Doganoglu and J. Wright, "Exclusive Dealing with Network Effects," *IJIO* 28 (2010), 145-54.
- J. Farrell and P. Klemperer, "Coordination and Lock-In: Competition with Switching Costs and Network Effects," *HIO* 3 (2007), 1967-2072.

- M. Katz and C. Shapiro, "Systems Competition and Network Effects," *JEP* 8 (1994), 93-115. See also other references in same *JEP* symposium.
- J. Cremer, P. Rey, and J. Tirole, "Connectivity in the Commercial Internet," *JIndE* 48 (2000), 433-472.
- M. Katz and C. Shapiro, "Network Externalities, Competition and Compatibility," *AER* 75 (1985), 424-40.
- J. Church and N. Gandal, "Systems Competition, Vertical Merger and Foreclosure," *JEMS* 9 (2000), 25-51.
- "Symposia: The Microsoft Case," *JEP* 15 (Spring 2001), 25-80 (three papers – by Gilbert and Katz, Klein, and Whinston).

E. Vertical Integration

- * Belleflamme and Peitz, 2010, ch. 17.4: 454-65 (Vertical mergers and oligopoly)
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