

Topics in Competition & Regulation: 429

Course Description: This course applies microeconomics and industrial organization (IO) mainly to study government policy toward monopoly or other cases of market power. *Antitrust* or “competition policy” forbids practices and transactions that threaten competition. *Regulation* controls the pricing or other actions of firms (e.g., entry or exit) in industries where unrestricted competition is viewed as not feasible or not desirable, notably “natural monopolies.” The combination of IO theory and evolving topics should help keep the course fresh and relevant, and demonstrate the use of economics in the “real world” (though as a famous economist quipped, “the real world is just a special case...”).

My syllabi from Spring 2007 and 2011 have additional references on antitrust; Spring 2003 has more on regulation. These syllabi will be on Blackboard, along with course readings and announcements.

Note: from p.3 on, “+S11” means that further references on a topic are in the Spring 2011 syllabus.

Prerequisites: I will stress issues over formal techniques. But intermediate micro theory is required. IO is recommended; prior exposure to IO will let you get more from this course.

Grade components: mid-term exam 25%; mock trial 25%; *final exam or term paper* 40%; and 3 take-home exercises 10%. Both exams will rely heavily on material covered in class, so regular attendance is vital. In special cases, I reserve the right to lower or raise a student’s score based on poor attendance or exceptionally good class participation. So attend regularly, and chime in!

- **Mock trial:** You will take part in a mock antitrust trial or debate on a policy issue. Typically a team of 4 students will represent each side. To encourage team collaboration, half the grade on the trial will be based on your team’s report and half on your individual oral work. The trials will be in the last month of the course. I will post more details on what’s expected, logistics, etc.
- **Term paper:** Instead of the final exam, you may write a term paper (about 10 pages) and it should be a serious effort. I will post a document discussing the paper further. The ensuing reading list — and my previous syllabi — should give you ideas about possible paper topics, but we can also explore others. The paper can be on the same issue as your mock trial.
- **Exam dates:** Mid-term – Thursday, Feb 20. Final – Wednesday, May 7, 9-11 am. Paper – May 6, 4 pm. If you wish to do a paper, you must tell me by Tuesday, March 4 so we can discuss it.

Readings: There is no required text, but many readings will be from J. Church and R. Ware, *Industrial Organization: A Strategic Approach*, Irwin/McGraw-Hill 2000 (“CW”). The book is out of print but the authors allow royalty-free copying for class use. I posted a copy on Blackboard, or you may download and print 1 personal copy from: <<http://homepages.ualgary.ca/~jrchurch/page4/page4.html>>

You are certainly *not* expected to read most of the items on this syllabus; but you should read a fair bit on an area if you’re writing your paper or doing the mock trial on it. The next page lists additional useful books, journals, and web sites. A good electronic source is <www.jstor.org> accessible for free from any GU computer. It has many economics journals relevant to this course, with a few years’ lag.

Strongly recommended readings are denoted by *; d indicates more difficult.

The following are helpful sources of information for term papers, in addition to the articles listed later:

BOOKS

W.D. Collins ed., *Issues in Competition Law and Policy*, American Bar Association, 2008 (“Collins ed. 2008”)

J. Kwoka and L. White eds. *The Antitrust Revolution*, Oxford U Press. Several editions have been published since 1989, each offering useful overviews of the economics & law, and chapters on specific antitrust cases. I’ll reference them by the edition # and year, e.g., “K&W 4th, 2004.”

JOURNALS (focusing on antitrust and regulation; * items are especially good sources)

Antitrust Bulletin (AB, contains occasional symposia on “hot” topics)*

Antitrust Law Journal (ALJ, contains occasional symposia on “hot” topics)*

Competition Policy International (CPI, <<https://www.competitionpolicyinternational.com/>>)*

Economic Report of the President (annual; typically has a chapter on competition or regulation)

Information Economics and Policy (IEP)

Journal of Economic Perspectives (JEP, relatively non-mathematical; occasional relevant symposia)*

Journal of Industrial Economics (JIE, relatively technical)

Journal of Law and Economics (JLE)

Journal of Regulatory Economics (JRE relatively technical)

Public Utilities Fortnightly (covers telecom and energy; relatively non-technical)

Review of Industrial Organization (<<http://ideas.repec.org/s/kap/revind.html>> Includes an annual review by chief economists at DOJ, FTC, FCC and DG IV of their agencies’ main actions)*

Review of Network Economics (RNE)*

Telecommunications Policy

The Electricity Journal (relatively non-technical)

The Energy Journal (relatively technical)

INTERNET

W. D. Collins, Applied Antitrust, NYU Law School: <http://www.appliedantitrust.com/index.htm>
(excellent bibliography of antitrust cases & filings, often with web links).

American Antitrust Institute <http://www.antitrustinstitute.org>

European Commission, DG IV (Competition) http://ec.europa.eu/dgs/competition/index_en.htm

Federal Communications Commission www.fcc.gov

Federal Energy Regulatory Commission <https://www.ferc.gov>

Federal Trade Commission www.ftc.gov

National Association of Regulatory Utility Commissioners (NARUC) www.naruc.org

OECD www.oecd.org

U.K. Office of Fair Trading (OFT) <http://www.of.gov.uk>

U.S. Department of Justice, Antitrust Division www.usdoj.gov/atr

Estimated # of classes per topic is shown at right, e.g., Topic 1 is 0.5 class. Each class is ~ 2.25 hours.

1 WELFARE BACKGROUND, MONOPOLY PRICING AND DEADWEIGHT LOSS (0.5)

- * CW, ch. 2—only these pages: competitive model: pp. 19-25; consumer surplus, producer surplus, total surplus: 25-29; monopoly price and deadweight loss: 31-34; monopolist's inverse-elasticity rule: 36-37; monopoly with linear demand & constant cost: 34-36

2 MONOPSONY (0.5)

- * M. Schwartz, "Buyer Power Concerns and the *Aetna-Prudential* Merger," Address at the 5th Annual Health Care Antitrust Forum, Northwestern University School of Law, October 20, 1999: <<http://www.usdoj.gov/atr/public/speeches/3924.htm>>
- M. Schwartz, "Should Antitrust Assess Buyer Market Power Differently than Seller Market Power?" presentation at DOJ/FTC Workshop on Merger Enforcement, February, 2004 <<http://www.ftc.gov/bc/mergerenforce/presentations/040217schwartz.pdf>>

3 OTHER COSTS OR BENEFITS OF MONOPOLY, AND OVERVIEW OF ANTITRUST (0.5)

- * M. Schwartz, "Welfare Losses or Gains from Monopoly," class notes, 3 pp. — read just p.3
- * M. Schwartz, "Antitrust Overview," class notes, 4 pp.
- CW, 718 (output/cost tradeoff), Appendix—Legal Framework of Antitrust Enforcement, 889-900
- W. Kovacic and C. Shapiro, "Antitrust Policy: A Century of Economic and Legal Thinking," *JEP*, 14, Winter 2000, 43-60: <<http://faculty.haas.berkeley.edu/shapiro/century.pdf>>

4 HORIZONTAL MERGERS (2)

4.1 Anti-Competitive "Unilateral Effects" of Horizontal Mergers [+S11]

- CW, ch. 8—Classic Models of Oligopoly: Cournot: 231-8, 243-4; Bertrand: 256-63
- * M. Schwartz, "Cournot Competition and Mergers," class notes: read mainly pp. 3-4 on Cournot model, and p. 7 on mergers.
- * M. Schwartz, "Differentiated Bertrand Competition and Mergers," class notes, mainly pp. 2-4
- CW, ch. 23—Horizontal Mergers, pp. 732-9 (merger simulations; Gillette pens case)
- * M. Schwartz, "UPP and Merger Enforcement," conference presentation May 2013
- d J. Farrell and C. Shapiro, "Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition," *The B.E. Journal of Theoretical Economics*: Vol. 10: Issue 1 (2010): <http://faculty.haas.berkeley.edu/shapiro/alternative.pdf>

4.2 Merger Guidelines and Hypothetical Monopolist Test for Market Definition [+S11]

- * M. Schwartz, "Horizontal Merger Guidelines," notes summarizing "old" DOJ/FTC Guidelines, 6 pp.
- * CW, ch. 23—Horizontal Mergers, pp. 726-32
- U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines*, Issued August 19, 2010: <<http://www.justice.gov/atr/public/guidelines/hmg-2010.html>>
- L. Kaplow, "Why (Ever) Define Markets?" *Harv. L. Rev.*, vol. 124, no. 2, Dec. 2010, 437-516
- G. Werden, "Why (Ever) Define Markets? A Answer To Professor Kaplow," *ALJ*, vol. 78, no. 3, 2013, 729-46

4.3 Efficiencies [+S11]

J. Farrell and C. Shapiro, "Scale Economies and Synergies in Horizontal Merger Analysis," *ALJ*, 68, 2001, 685-710 <<http://faculty.haas.berkeley.edu/shapiro/mergers.pdf>>

4.4 Challenged Mergers: Case Studies [+S11]

Labelstock (2003)

- * Verified complaint of U.S. Department of Justice vs. UPM and Bemis, 2003
<www.usdoj.gov/atr/cases/upm-kymmene.htm> (unilateral & coordinated effects)

US Airways/AMR (2013)

U.S. v. US Airways and AMR, Amended Complaint, Sep. 2013:
<www.usdoj.gov/atr/cases/upm-kymmene.htm> (coordinated effects)

AT&T/T-Mobile (2011) [We'll have guest speakers on this merger]

- * E. Kwerel, P. Lafontaine and M. Schwartz, "Economics at the FCC 2011-2012: Spectrum Incentive Auctions, Universal Service and Intercarrier Compensation Reform, and Mergers," *RIO*, vol. 41, no. 4 (2012), 271-302, see section 3.1 <<http://mariusschwartz.com/Home/Research.html>>
- S. Besen et al., "An Economic Analysis of the AT&T-T-Mobile USA Wireless Merger," *Journal of Competition Law & Economics*, 2013, 1-25

Staples-Office Depot (1997): CW, ch. 23, pp. 730-1 (market definition)

EchoStar/DirecTV (2002)

R. Gilbert and J. Ratliff, "Sky Wars: The Attempted Merger of EchoStar and DirecTV (2001)," in *K&W* 5th, 2009, 115-39. [See also Declaration of R. Willig, referenced by Gilbert & Ratliff.]

- * *XM-Sirius* (2007) [MOCK TRIAL – readings will be assigned]

5 COLLUSION (1.5)

[Note: For time constraints I will discuss collusion fairly briefly. But it is a central antitrust concern and involves interesting business practices, so you could consider writing a term paper on it.]

CW, ch. 10—Dynamic Models of Oligopoly:

- * 305-8 (famous case study: Great Electric Equipment Conspiracies)
- * 328-34: Punishing cheaters (335-40 are more technical you can skip or just skim them)
- 308-28: Reaching an Agreement. Some nice case studies are:
 - * 312-3: NCAA vs. Universities of Oklahoma and Georgia (limiting college football on TV)
 - * 314-8: Airline Tariff Publishing Company (airlines signaling proposed fares electronically)
 - * 318-21: Socony-Vacuum Oil Company (side payments to support cartel)
 - 326-28: NASDAQ (fixing minimum bid-ask spreads)
 - 340-48: Exogenous factors that help or hinder collusion
 - * 348-55: Business practices that may facilitate collusion
 - * 355-58: Antitrust approach to collusion and facilitating practices

J. Harrington, "Evaluating Mergers for Coordinated Effects and the Role of 'Parallel' Accommodating Conduct," *ALJ* vol. 38, no. 3 (2013), 651-668

- J. Harrington, "How Do Cartels Operate?" 2006: www.econ2.jhu.edu/people/Harrington/fnt06.pdf
- J. Connor, "Global Cartels Redux: The Amino Acid Lysine Antitrust Litigation (1996)," March 2007, <http://ssrn.com/abstract=1408070> (you can skip the damages sections)
- E. Granitz and B. Klein, "Monopolization by 'Raising Rivals' Costs': The Standard Oil Case," *JLE*, 39, 1996, 1-47 (SO's dominance in refining came from its policing a railroads cartel)
- G. Priest, "Rethinking the Economic Basis of the Standard Oil Case: Dominance Against Competing Cartels," Feb. 2012: <http://ssrn.com/abstract=1984242>

6 VERTICAL CONTROL BY SECURE & UNREGULATED MONOPOLIST (2.5)

[By assuming a *secure & unregulated* monopolist, we examine vertical control motives that are efficient or ambiguous for total welfare. "Bad" motives are considered later. The existence of good reasons for the same practices highlights the risk of convicting-the-innocent when analyzing vertical practices.]

6.1 The Vertical / Horizontal Distinction and Methods of Vertical Control

- * M. Schwartz, "Vertical Restraints," presentation notes, 1-3
CW, ch. 21—Vertical Integration and Vertical Restraints, pp. 688-90

6.2 Fixed-Proportions Benchmark and the "One-Monopoly-Rent" Argument

- * M. Schwartz, "Vertical Restraints," 4-5

6.3 Double Marginalization by Complementary Monopolists

- * M. Schwartz, "Vertical Restraints," 5-6

6.4 Contracting Problems with Complementary Services and Investments

- * M. Schwartz, "Vertical Restraints," 7-11
L. Telser, "Why Should Manufacturers Want Fair Trade?" *JLE*, 3, 1960, 86–105
H. Marvel, "Exclusive Dealing," *JLE*, 25, 1982, 1–25
M. Schwartz and G. Werden, "A Quality-Signaling Rationale for Aftermarket Tying," *ALJ*, 64, 1996, 387-404

6.5 Hold-Up Problems (Ex Post Opportunism)

- * CW, ch. 3, 69-79 (on holdups, and contracts vs. integration); 81-4 (Limits to Firm Size); 101-2 (Chapter Summary)
M. Lemley and C. Shapiro, "Patent Holdup and Royalty Stacking," *Texas Law Review*, 85 (2007), 1991-2049
D. Geradin, A. Layne-Farrar, and J. Padilla, "The Complements Problem Within Standard Setting: Assessing the Evidence on Royalty Stacking," *B.U. J. Sci. & Tech. L.*, vol. 14 (2008), 144-176
J. Kattan, "FRAND Wars and Section 2," *Antitrust*, vol. 27, no. 3 (20013), 3-35
L. Greenfield, H. Schneider, and J. Mueller, "SEP Enforcement Disputes Beyond the Water's Edge: A Survey of Recent Non-U.S. Decisions," *Antitrust*, vol. 27, no. 3 (20013), 50-56

6.6 Price Discrimination

- * M. Schwartz, "Vertical Restraints," 12-13 (integration to foil arbitrage), 13-15 (tying for metering)

7 EXCLUSION 1: PREDATION [+S11] (0.5)

- * CW, ch. 21—Exclusionary Strategies II: Predatory Pricing, 643-5 (AA case), 654-62 (Empirical Evidence on Predation; Predation in Antitrust)
- T. Hazlett, “Predation in Local Cable TV Markets,” *AB*, vol. 40, 1995, 609-44

U.S. v. American Airlines

DOJ’s filings: <www.usdoj.gov/atr/cases/indx199.htm> see especially DOJ’s Complaint (5/13/1999), Brief for Appellant (1/11/2002), and Reply Brief (3/19/2002) (AA used to have its own web page at <www.aadoj.com> but the link is no longer active)

- f A. Edlin and J. Farrell, “The American Airlines Case: A Chance to Clarify Predation Policy (2001),” *K&W* 4th, 2004, 502-27

8 EXCLUSION 2: CONTRACTS WITH CUSTOMERS OR SUPPLIERS [+S11] (1)

- * M. Schwartz and D. Vincent, “Quantity ‘Forcing’ and Exclusion: Bundled Discounts and Nonlinear Pricing,” in Collins ed. 2008, only sections 1, 5, 7
- d E. Rasmusen, M. Ramseyer, and J. Wiley, “Naked Exclusion,” *AER*, 81, 1991, 1137–45 (more advanced, but Introduction is accessible)
- T. Krattenmaker and S. Salop, “Competition and Cooperation in the Market for Exclusionary Rights,” *AER*, 76, May 1986, 109-13

LePage’s v. 3M (2003) Some of the briefs by both sides are well worth reading

AMD v. Intel (2005-9) [originally a private suit, but NY AG and FTC also sued Intel in US; European Commission also intervened]

9 EXCLUSION 3: ACCESS TO INPUTS, COMPLEMENTS, OR NETWORK EFFECTS (1)

9.1 Access to Inputs or Complements Owned by Alleged Excluder (“Vertical Foreclosure”)

9.1.1 Raising Rivals’ Costs: Competitive Fringe

- * CW, ch. 20—Exclusionary Strategies I: Raising Rivals’ Costs, pp. 628-30 (competitive fringe)
- * *United States v. Enova Corporation* (1998) (vertical integration – gas pipeline & electric utility)
DOJ Competitive Impact Statement <<http://www.usdoj.gov/atr/cases/f1700/1789.htm>>
[Read through Section III.A]

9.1.2 Vertical Mergers in Oligopoly: Double Marginalization and Rent Shifting [+S11]

CW, ch. 20, pp. 626-7 and 631-3 (differentiated Bertrand downstream)

- * S. Salop, C. Shapiro, D. Majerus, S. Moresi and J. Murdoch, “News Corporation’s Partial Acquisition of DIRECTV: Economic Analysis of Vertical Foreclosure Claims,” July 1, 2003, read pp. 62-64, 74-79
- * W. Rogerson, “A Further Economic Analysis of the Proposed Comcast-NBCU Transaction,” Aug. 19, 2010, read pp. 1-18
- M. Schwartz, “Comcast/NBCU Merger 2011,” class notes
- NOTE: Many comments on this merger are at: <http://www.fcc.gov/transaction/comcast-nbcu.html>

9.2 Network Effects: Installed Base Advantage and Compatibility / Interconnection

- * CW, ch. 20, 637-8
- * CW, ch. 22, 698-703 (U.S. v. Microsoft) [this will be a class trial – see topic 13 for more readings]
D. Malueg and M. Schwartz, “Compatibility Incentives of a Large Network Facing Multiple Rivals,” *JIE*, 54, 2006, 527-567 (read only Introduction).
M. Schwartz, “Network Effects and Market Tipping,” class notes, 11 pp (mainly 1-2, 5-6, 10-11)
J. Kwoka and L. White, “Network Issues: The Economic and Legal Context,” *K&W* 4th, 2004, 413-27

10 REGULATED MONOPOLIST COMPETING IN ADJACENT MARKETS: CROSS-SUBSIDIES, AND (MORE IMPORTANT) ACCESS DISCRIMINATION AGAINST RIVALS [+ S11, S07, S03]

Note: I won't have time to cover this topic this time, but you might consider it for term papers.

- * CW, ch. 26.3—Regulatory Reform in Network Industries, 861-70
M. Schwartz, “Reforming Telecom Regulation: An Essay Review of Nuechterlein and Weiser’s *Digital Crossroads*,” *RNE* 7 (2008), 415-47 (read only sections 3 and 4: pp. 419-31):
J. Farrell and P. Weiser, “Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age,” *Harvard Jr. of Law and Technology*, 17, Fall 2003, 85-134
T. Brennan, “Why Regulated Firms Should Be Kept Out of Unregulated Markets: Understanding the Divestiture in *United States v. AT&T*,” *AB* 32 (1987), 741–93

11 EXCLUSIONARY CONDUCT: POLICY DILEMMAS

11.1 Preserving Investment Incentives [+S11]

- * P. Areeda, “Essential Facilities: an Epithet in Need of Limiting Principles,” *ALJ*, 58, no. 3, 1990, 841-53
J. Vickers, “Competition Policy and Property Rights,” *Economic Journal*, vol. 120, May 2010, 375-392: <<http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0297.2010.02360.x/pdf>>
G. Hay and K. McMahon, “The Diverging Approach to Price Squeezes in the United States and Europe,” *Journal of Competition Law & Economics*, 2012: <http://ssrn.com/abstract=1997384>
- * CW, ch. 13, p. 465 (*Aspen Skiing* case, 1985)

11.2 Distinguishing Good vs. Bad Conduct [+S11]

- * J. Vickers, “Abuse of Market Power,” *Economic Journal*, vol. 115, June 2005, pp. F244-F261
D. Melamed, “Exclusive Dealing Agreements and Other Exclusionary Conduct Are There Unifying Principles?” *ALJ*, 73, 2006, 375-412
D. Carlton, “A General Analysis of Exclusionary Conduct and Refusal to Deal—Why *Aspen* and *Kodak* Are Misguided,” *ALJ*, 68 (2001), 659-683
EC’s Article 82 review: at link below, see December 2008 Guidelines (“guidance”) and 2005 Staff Discussion Paper: <<http://ec.europa.eu/comm/competition/antitrust/art82/index.html>>
J. Cooper, L. Froeb, D. O’Brien, and M. Vita, “Vertical Restrictions and Antitrust Policy: What about the Evidence?” *Competition Policy International*, 1, Autumn 2005, 45-63
R. Gilbert, “The Protected Profits Benchmark: A Refusal to Deal Metric?” *ALJ*, 78 (2013), 689-702
J. Baker, “Exclusion as a Core Competition Concern,” *ALJ*, vol. 78 (2013), 527-589
S. Hemphill and Tim Wu, “Parallel Exclusion,” *Yale Law Jrl.*, vol. 122 (March 2013), 1182-1251

12 COOPERATION AMONG COMPETITORS ON INPUTS OR STANDARDS [+S11] (1)

12.1 Potential Benefits & Risks and the Antitrust Framework

- M. Schwartz, "Competitor Cooperation and Exclusion in Communications Industries," in H. Davis and R. Dick, Eds., *E-Commerce Antitrust & Trade Practices: Practical Strategies for Doing Business on the Web*, Practising Law Institute, New York, 2001
- FTC and U.S. DOJ, *Antitrust Guidelines for Collaborations Among Competitors*, April 2000
- B. Klein, "Single Entity Analysis of Joint Ventures after *American Needle*: An Economic Perspective," *ALJ*, vol. 78 (2013), 669-688

12.2 Intellectual Property

- U.S. DOJ and FTC, *Antitrust Guidelines for the Licensing of Intellectual Property*, issued April 1995: <<http://www.usdoj.gov/atr/public/guidelines/0558.htm>>
- C. Shapiro, "Technology Cross-Licensing Practices: *FTC v. Intel* (1999)," *K&W* 4th, 2004, 350-72
- CW, ch. 2—The Welfare Economics of Market Power, pp. 40-41 (ASCAP and BMI)
- R. Gilbert, "Antitrust for Patent Pools: A Century of Policy Evolution," *Stan. Tech. L. Rev.*, vol. 3 (2004)

12.3 Airline Alliances

- * W. Gillespie and O. Richard, "Antitrust Immunity Grants to Joint Venture Agreements: Evidence from International Airline Alliances," *ALJ*, vol. 78, issue 2 (2012), 501-527
- W. T. Whalen, "A Panel Data Analysis of Code Sharing, Antitrust Immunity and Open Skies Treaties in International Aviation Markets," of *International Airline Alliances*," *RIO*, 30, 2007, 39-61
- J. Brueckner and W. T. Whalen, "The Price Effects of International Airline Alliances," *JLE*, October 2000, 503-45

12.4 Online Advertising

- Google-Yahoo! search advertising deal, abandoned 2008: M. Schwartz, class notes
- D. Evans, "The Economics of the Online Advertising Industry," *RNE*, 7, September 2008, 359-91

12.5 Telecommunications

- * M. Schwartz, "*Verizon /SpectrumCo* Agreements: Some Competitive Concerns," conference presentation, April 2013
- DOJ Complaint in same case, August 2012: <<http://www.justice.gov/atr/cases/verizoncable.html>>
- FCC Order: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-12-95A1.pdf
- Skim only Sections VI.A (Competitive Analysis), IX (Backhaul and Wi-Fi) and X (Review of the Commercial Agreements)

13 MOCK TRIALS: ANTITRUST CASES

13.1 XM-Sirius Merger [readings will be posted]

13.2 U.S. v. Microsoft

* CW, ch. 22, 698-703 (U.S. v. Microsoft)

* "The Microsoft Case," Symposium in *Journal of Economic Perspectives* 15, Spring 2001, 25-80
(three papers – by Gilbert and Katz, by Klein, and by Whinston)

U.S. Court of Appeals Opinion, Decided June 28, 2001

<http://www.esp.org/misc/legal/USCA-DC_00-5212.pdf>

District Court's Findings of Fact, November 5, 1999

<<http://www.usdoj.gov/atr/cases/f3800/msjudgex.htm>>

W. Dunham, "The Determination of Antitrust Liability in *U.S. v. Microsoft*: The Empirical Evidence the Department of Justice Used to Prove Its Case," *Journal of Competition Law and Economics* 2, 2006, 549-571

13.3 U.S. v. Apple, Inc. et al. (E-Books) (2013) [readings will be posted]

14 CALL TERMINATION RATES: REGULATION AND ARBITRAGE

(1)

* E. Kwerel, P. Lafontaine and M. Schwartz, "Economics at the FCC 2011-2012: Spectrum Incentive Auctions, Universal Service and Intercarrier Compensation Reform, and Mergers," *RIO*, vol. 41, no. 4 (2012), 271-302, see section 2.2 <<http://mariussschwartz.com/Home/Research.html>>

D. Malueg and M. Schwartz, "International Telecom Settlements: Gaming Incentives, Carrier Alliances, and Pareto-Superior Reform," *JIE*, 49 (2001), 335-377

S. Littlechild, "Mobile Termination Charges: Calling Party Pays versus Receiving Party Pays," *Telecommunications Policy*, vol. 30, Issues 5-6 (2006), 242-277