

Telecoms and Internet: Strategy & Policy

Law 617 * George Mason University School of Law * Spring 2009

Prof. Thomas W. Hazlett
Office: Hazel Hall 325
Office Hours: by appointment
Phone: 703-993-4244
Email: thazlett@gmu.edu
Information Economy Project: <http://iep.gmu.edu/>

Webpage: <http://mason.gmu.edu/~thazlett/>
Class time: Wed 4:00PM to 5:50PM
14 meetings: Jan. 7–Apr. 15 (not Mar. 11)
Room: Hazel Hall 224
TWEN pass: George Marshall

Required Text:

Jack Goldsmith and Tim Wu,
Who Controls the Internet? Illusions of a Borderless World (Oxford, 2006).

Optional Texts: Robert W. Crandall, Competition And Chaos : U.S. Telecommunications Since The 1996 Telecom Act (Brookings, 2005); Jonathan Nuechterlein & Phil Weiser, Digital Crossroads: American Telecommunications Policy in the Internet Age (MIT Press, 2005); Stuart Benjamin, Doug Lichtman & Howard Shelanski, Telecommunications Law & Policy, 2nd Ed. (Carolina Academic Press, 2006); Peter Huber, John Thorne & Michael Kellogg, Federal Telecommunications Law with 2005 Supplement (Aspen, 1999).

This course focuses on Public Policy and Business Strategy issues at play in the rapidly evolving communications sector, including those related to law, economics, finance, technology, and public choice.

Each class will be lecture style, but questions and class participation are encouraged. Required readings should be completed prior to each class. Students should feel free to discuss issues or raise questions, not only during lectures but outside of class. Email is typically quite efficient, but other media (including face to face meetings) are still in use.

Assignment:

Students are responsible for writing a paper with a suggested length of 15-25 double spaced (standard) pages. This accounts for 90% of the final grade. The remaining 10% is accounted for by class participation.

Paper topics should be developed by students with input from the professor. Ideas abound in general interest law reviews, economics journals, telecommunications policy periodicals (such as TELECOMMUNICATIONS POLICY, INFO, or COMMUNICATIONS & STRATEGIES) or (especially) specialty law journals (such as the HARVARD JOURNAL OF LAW & TECHNOLOGY; STANFORD TECHNOLOGY LAW REVIEW; the JOURNAL OF TELECOMMUNICATIONS & HIGH TECHNOLOGY LAW, YALE JOURNAL ON REGULATION, etc.)

At a less academic, newsier level, there are many informative publications or web sites with coverage of ongoing developments, markets, or controversies, offering excellent ideas for research. Among these are magazines such as *The Economist*, *Forbes*, or *Wired*. The trade press is often more informative, and offers an extremely wide range of communications sector coverage in such publications as *Information Week*, *Cable & Broadcasting*, *Multichannel News*, *Electronic Media*, *Communications Daily*, *Telecommunications Reports*, *Telephony*, *Variety*, and countless others.

News websites (including blogs) that might be valuable include

<http://arstechnica.com/index.ars>, www.newslinx.com, www.zdnet.com, www.news.com, <http://www.teleclick.ca/>, <http://dailywireless.org>, <http://www.dailywireless.com/>, <http://www.zdnet.com/>, <http://www.techdirt.com/>, <http://www.technewsworld.com/>, <http://gigaom.com/>, <http://80211b.weblogger.com/>, <http://slashdot.org/>, <http://www.buzzmachine.com/>, www.unstrung.com, <http://www.wired.com/>, <http://nationaljournal.com/about/technologydaily/>, <http://blogs.cisco.com/gov/>, <http://463.blogs.com/>, <http://www.valleywag.com/tech/top/>, <http://boingboing.net/>, <http://googleblog.blogspot.com/>, <http://www.siliconvalley.com/>; <http://www.xchangemag.com/>, <http://telephonyonline.com/>, <http://www.mediabistro.com/tvnewser/>, <http://www.broadcastingcable.com/>; <http://www.variety.com/>, <http://hollywoodreporter.com/>, <http://www.tvweek.com/>, <http://techliberation.com/>, <http://www.andrewsebold.com/blog.asp>; <http://oreilly.com/>, <http://www.telecomasia.net/>, <http://www.theregister.co.uk/>, <http://news.bbc.co.uk/2/hi/technology/default.stm>, <http://www.redherring.com/>, <http://www.wirelessweek.com/>, <http://www.rcrwireless.com/>, <http://www.informationweek.com/>, <http://www.techweb.com/home>, and <http://www.rojo.com/front/?category=technology>.

And, of course, standard publications often feature excellent “tech” sites. Try

<http://www.washingtonpost.com/wp-dyn/content/technology/>;
<http://www.nytimes.com/pages/technology/index.html>;
<http://online.wsj.com/page/technology.html>;
<http://www.ft.com/technology>.

After deciding on a topic, please prepare a one-page outline of what you plan to research and write about. Send this to me for comment via email. This should be done by the end of the 6th week of class. The paper is due on the last day of final exams, May 13. It is recommended that students also consider submitting their papers to the Telecommunications Policy Research Conference (<http://www.tprcweb.com/node/32>), the Pacific Telecommunications Conference (www.ptc.org), or other “student paper” competitions in the field. TPRC is in late Sept. at GMULS; PTC is mid-Jan. in Honolulu.

An outline of planned festivities follows; please note that events and sequencing are subject to revision.

LECTURE 1

Jan. 7, 2009

Convergence in Communications: Competition Across Platforms

This introductory session will begin with a discussion of basic concepts, including connectivity, fixed-to-mobile substitution, convergence of platforms, and the network of networks (also known as the Internet). Recent decades have seen a confluence of events, including privatization, deregulation, and advances in communications technology, combine to revolutionize the manner in which economies operate and governments function. One notable byproduct of this emerging marketplace for information and entertainment goods is that markets are more difficult to define.

READINGS:

- 1) Glen O. Robinson and Dennis L. Weisman, [*Designing Competition Policy for Telecommunications*](#), 7 REVIEW OF NETWORK ECONOMICS (Dec. 2008), 509-46.
- 2) Robert W. Crandall, [*Letting Go? The Federal Communications Commission in the Era of Deregulation*](#), 7 REVIEW OF NETWORK ECONOMICS (Dec. 2008), 481 – 508.
- 3) Scott Wallsten, [*Understanding International Broadband Comparisons*](#), Technology Policy Institute (May 2008).

OPTIONAL:

Marius Schwartz, [*Reforming Telecommunications Reforming Telecom Regulation: An Essay Review of Nuechterlein and Weiser's Digital Crossroads*](#), 7 REVIEW OF NETWORK ECONOMICS (Sept. 2008), 415 – 447.

Thomas W. Hazlett, [*Liberal Rules for a 21st Century World*](#), paper presented to Keidanren (Tokyo, Japan; Feb. 26, 2008).

LECTURE 2
Jan. 14, 2009

Strategies for Rivalry: Network Sharing v. Facilities-Based Competition

The 1996 Telecommunications signaled policy realignment in the United States, with the federal government declaring that the regulatory regime prevailing since 1934 was inoperative. Henceforth, policies were prescribed that relied on market forces as the primary form of consumer protection. Competition would be actively aided, however, by transitional rules designed to provide a “stepping stone” enabling new networks to challenge incumbent systems. The rules were complicated. Incumbents and entrants argued. Litigation ensued.

READINGS:

- (1) Alfred Kahn, [LESSONS FROM DEREGULATION: TELECOMMUNICATIONS AND AIRLINES AFTER THE CRUNCH](#), AEI-Brookings Joint Center for Regulatory Studies (Nov. 2003), pp. 21-45.
- (2) Thomas W. Hazlett, [Rivalrous Telecommunications Networks With and Without Mandatory Sharing](#), 58 FED. COMM. L.J. (June 2006), 477-509.

OPTIONAL:

Gerry Faulhaber, [Policy-Induced Competition: The Telecommunications Experiments](#), 15 INFO. ECON. & POL’Y (2003), 79-97.

Dennis Saputo, James Veneau, Mark Alexander, and Julia Turner, [The Far-Reaching Impact of UNE-P Regulation](#), MOODY’S INVESTORS SERVICE (Oct. 2003).

Robert S. Pindyck, [Mandatory Unbundling and Irreversible Investment in Telecom Networks](#), NBER Working Paper No. W10287 (Feb. 2004).

Peter Huber, *Telecom Undone – A Cautionary Tale*, Commentary (Jan. 2003):
<http://www.manhattan-institute.org/html/comm-telecom.htm>

Teleport Communications Group, [Effects of Resale on Facilities-Based Competition in the Local Exchange Market](#) (Nov. 1995).

LECTURE 3
Jan. 21, 2009

The Wireless Telephone Market

Mobile phone networks, now used by 4 billion subscribers world-wide, are rapidly displacing fixed line phone systems for voice services, and are beginning to compete vigorously for data (Internet access). The U.S., Japan, Europe, and developing countries all face conflicts between the tendency to impose administrative allocations (and micro-manage markets) and gains from market liberalization. Where rules permit, the marketplace hosts experiments in economic organization. Diverse business models include MVNOs (e.g., TracFone), managed content platforms (e.g., DoCoMo in Japan), and network overlays (as with wireless broadband, M2M, On-Star, and Blackberry).

READINGS:

- 1) W. Taylor & H. Ware, [*The Effectiveness of Mobile Wireless Service as a Competitive Constraint on Landline Pricing: Was the DOJ Wrong?*](#) NERA (Dec. 1, 2008).
- 2) H. K. Sabat, [*The Evolving Mobile Wireless Value Chain and Market Structure*](#), 26 TELECOMMUNICATIONS POLICY (2002), 505-35.
- 3) Sara Corbett, [*Can the Cellphone End Global Poverty?*](#) NY TIMES (April 13, 2008).
- 4) Kevin Sullivan, [*For India's Traditional Fishermen, Cellphones Deliver a Sea Change*](#), WASHINGTON POST (Oct. 15, 2006).
- 5) Frank Rose, [*Pocket Monster: How DoCoMo's Wireless Internet Service Went from Fad to Phenom – and Turned Japan into the First post-PC Nation*](#), WIRED (9.01).

OPTIONAL:

Robert Jensen, [*The Digital Divide: Information \(Technology\), Market Performance, and Welfare in the South Indian Fisheries Industry*](#), 72 Q J ECON (Aug 2007), 879-924.

Thomas W. Hazlett, [*Is Federal Preemption Efficient in Cellular Phone Regulation?*](#) 59 FED. COMM. L.J. 155 (Dec. 2003), 155-238.

Christian Dippon & Aniruddha Banerjee, [*MOBILE VIRTUAL NETWORK OPERATORS: BLESSING OR CURSE?*](#) NERA Economic Consulting (2006).

Babette E.L. Boliek, [*Network Neutrality Regulation in Telecommunications: A Cautionary Tale from the Era of Price Regulation*](#), Working Paper (Oct. 2008).

Marko Repo, [*Regulation of Wireless Stakeholders*](#), Seminar on Net. Bus. (Oct. 2006).

Charles Jackson, [*The Handset is Part of the Network*](#), CTIA (Apr. 27, 2007), 88-126.

Ville Saarikoski, [*THE ODYSSEY OF THE MOBILE INTERNET*](#) (Dec. 2006).

LECTURE 3
Jan. 21, 2009

Regulating Monopoly: The Cable TV Market

U.S. policy toward cable television illustrates virtually every aspect of government regulation. Initially, cable TV competition was blocked, to protect broadcast TV audience share; deregulation led to precisely the competitive results broadcasters feared. The rise of cable, however, led to concerns about monopoly, and rate regulation was imposed in the 1992 Cable Act. The mechanism proved unworkable, however, and deregulation (again) soon followed. While new entry has materialized, in the form of inter-modal (satellite) rivals, local franchise barriers deter additional competition (from telephone carriers). Ongoing regulatory interest in “a la carte” pricing reveal interesting aspects of markets and interesting aspects of the regulatory process itself.

READINGS:

- 1) Thomas W. Hazlett, “Cable Television,” Chapter in M. Cave, et al., eds., Handbook of Telecommunications Economics, Vol. II (2005).
- 2) Thomas W. Hazlett, *Shedding Tiers for A La Carte? An Economic Analysis of Cable TV Pricing*, 5 J TELECOM & HIGH TECH L (2006).

OPTIONAL:

Thomas W. Hazlett, *Cable Franchises as Barriers to Entry*, 11 VA J LAW & TECH (2007).

Stan Liebowitz & Steve Margolis, *Bundles of Joy*, J COMP L & ECON (2008).

Thomas W. Hazlett and George Ford, *The Fallacy of Regulatory Symmetry: An Economic Analysis of Level Playing Field Statutes in Cable Television*, 3 BUS & POL (2001).

Thomas W. Hazlett, *Predation in Local Cable TV Markets*, 40 ANTITRUST BULLETIN (Fall 1995), 609-44.

FCC, *Report on the Packaging and Sale of Video Programming Services to the Public* (Nov. 18, 2004).

FCC, *Further Report on the Packaging and Sale of Video Programming Services to the Public* (Feb. 9, 2006).

Deception and Distrust: The Federal Communications Commission Under Chairman Kevin J. Martin, A Majority Staff Report, Committee on Energy and Commerce, U.S. House of Representatives (Dec., 2008).

LECTURE 4
Jan. 28, 2009

Content v. Conduits: "Open Access"

Owners of advanced networks typically provide customers access to services and applications provided by other suppliers. What is the efficient relationship – or level of economic integration -- between content and the transport network? While a high degree separation has evolved in largely unregulated markets, the resulting modularity may – or may not – be a design that warrants protection by government rules. In the late 1990s, a debate about “open access” broke out: should independent Internet Service Providers (ISPs) be able to rent local “last mile” connections from cable TV (cable modem) or telephone (DSL) networks at regulated rates? The issue was front and center during the AOL/Time Warner merger in 2000-2001. This phase of the “open access” controversy was seemingly ended by the *Brand X* decision by the U.S. Supreme Court (June 2005).

READINGS:

- 1) Mark A. Lemley and Lawrence Lessig, [*The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*](#), UCLA LAW REVIEW (2001).
- 2) Lawrence Lessig, [*The Internet Under Siege*](#), FOREIGN POLICY (Nov./Dec. 2001).
- 3) Thomas W. Hazlett & Anil Caliskan, [*Natural Experiments in U.S. Broadband Regulation*](#), 7 REVIEW OF NETWORK ECONOMICS (Dec. 2008), 460-80.
- 4) Barbara Espin, [*Internet Over Cable: Defining the Future in Terms of the Past*](#), Federal Communications Commission OPP Working Paper No. 30 (Oct. 1998).

OPTIONAL:

[*NATIONAL CABLE & TELECOMMUNICATIONS ASSN. V. BRAND X*](#) (June 27, 2005).

Federal Communications Commission, [*Broadband Today*](#), (Oct. 1999).

Francois Bar, Stephen Cohen, Peter Cowhey, Brad DeLong, Michael Kleeman, & John Zysman, [*Access and Innovation Policy for the Third-Generation Internet*](#), 24 TELECOMMUNICATIONS POLICY 489 (July/Aug. 2000).

James B. Speta, [*Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*](#), 17 YALE JOURNAL ON REGULATION 39 (2000).

Thomas W. Hazlett and George Bittlingmayer, [*The Political Economy of Cable "Open Access"*](#) STANFORD TECHNOLOGY LAW REVIEW (Dec. 2003).

Joseph Farrell & Phil Weiser, Modularity, *Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 [*HARVARD JOURNAL OF LAW AND TECHNOLOGY*](#) (Fall 2003).

LECTURE 5

Feb. 4, 2009

The Network of Networks

Internet Protocol (IP) networks are now at the core of modern communications. This by itself flips much of the telecom world on its head, because IP networks have largely developed without administrative planning or regulation. In this section, we explore the dynamic factors influencing the operations and future direction of what is called “the Internet.”

READINGS:

- 1) David Clark, et al., [*Complexity of Internet Connections...*](#), TPRC (Sept. 2007).
- 2) David Talbot, [*The Internet is Broken \(An Interview with David Clark\)*](#), MIT TECHNOLOGY REVIEW (Dec. 2005/Jan. 2006).
- 3) George Ou, [*Managing Broadband Networks: A Policymaker's Guide*](#), Info. Tech. & Innovation Foundation (Dec. 2008).

OPTIONAL:

Andrew Odlyzko, [*Pricing and Architecture of the Internet: Historical Perspectives from Telecommunications and Transportation*](#), REV OF NETWORK ECON (Sept. 2004).

Nicholas Economides, [*The Economics of the Internet Backbone*](#), in S. Majumdar, et al., eds., HANDBOOK OF TELECOMMUNICATIONS ECONOMICS II (2005), 373-412.

Kevin Werbach, [*Digital Tornado: The Internet and Telecommunications Policy*](#), Federal Communications Commission OPP Working Paper No. 29 (March 1997).

LECTURE 6
Feb. 11, 2009

Can the Internet Be Regulated?

Modern communications systems have given rise to the assertion that traditional legal authority is impotent to regulate e-transactions or e-communications. This technology triumphalism is largely false. What is true, however, is that the costs and benefits of particular rules or public policies have been shifted, as in every technological revolution, altering the net payoffs of alternative regulatory strategies for policy makers and for society.

Readings:

- 1) Goldsmith & Wu: Chapters 1-5
- 2) Federal Communications Commission, [*Comcast Network Management Order*](#) (Aug. 20, 2008).
- 3) Barbara Esbin, [*The Law is Whatever the Nobles Do; Undue Process at the FCC*](#), Progress and Freedom Foundation (Aug. 2008).

OPTIONAL:

Jason Oxman, [*The FCC and the Unregulation of the Internet*](#), Federal Communications Commission OPP Working Paper No. 31 (July 1999).

LECTURE 7
Feb. 18, 2009

User Generated Content, Two Sided Markets, and the Google Model. There is a great buzz about the changing nature of markets and, perhaps, of capitalism itself. Is the rise of Wikipedia, where volunteers contribute key inputs to produce valuable content, undermining the importance of for-profit economic activity? Are two-sided markets, such as those created by Google's intention-based advertising, leading to a new way of organizing markets? Are innovative development of "open source" software (e.g., Linux) or productive use of unlicensed radio spectrum (e.g., with cordless phones or wi-fi), making exclusive ownership rights passé or obsolete?

READINGS:

- 1) Sergey Brin and Lawrence Page, *The Anatomy of a Large-Scale, Hyper-textual Search Engine* (1998); <http://infolab.stanford.edu/~backrub/google.html>
- 2) Thomas Hazlett, *The Don't Be Evil Principle...* BARRON'S (Nov. 17, 2008); <http://mason.gmu.edu/~thazlett/opeds/GoogleAndTheMythOfAnOpenNet.htm>
- 3) Jonathan Barnett, *Sharing in the Shadow of Property: Rational Cooperation in Innovation Markets*, U.S.C. Law & Economics Working Paper (2008).

OPTIONAL:

iq²/U.S., [Debate: Is Google Evil?](#) (Nov. 18, 2008) (transcript).

Thomas Hazlett, [Google's Beautiful China Paradox](#), FINANCIAL TIMES (Jan. 25, 2006);

Thomas Hazlett, [Google and the Myth of an Open Net](#), FINANCIAL TIMES (Oct. 10, 2006).

Thomas Hazlett, [On a Clearwire, You Can See Everything](#), FIN. TIMES (July 23, 2008).

[The Google Story: An Excerpt, from David Vise, Google](#), WASH POST (Dec. 16, 2005);

Nicholas Carr, [Is Google Making Us Stupid?](#) ATLANTIC MONTHLY (July/Aug 2008).

Yochai Benkler, [Coase's Penguin, or, Linux and the Nature of the Firm](#), 112 YALE L J (2002).

LECTURE 8
Feb. 25, 2009

Content v. Conduits: “Net Neutrality”

Beyond “open access,” a new but familiar debate is raging: “net neutrality” rules would limit the ability of an Internet access provider to price its produce, seeking to prevent discrimination between rival applications. Applications suppliers like Google generally argue that such rules are needed to constrain the market power of broadband ISPs like Comcast or Verizon; the ISPs and Internet equipment suppliers like Cisco oppose it.

Readings:

- 1) Jon Peha, [Technology and the Benefits and Risks of Network Neutrality Requirements](#) (FTC Presentation; Feb. 17, 2007).
- 2) Tim Wu, *Network Neutrality*, [Network Neutrality, Broadband Discrimination](#) J. TELECOM & HIGH TECH LAW (2003).
- 3) Bruce Owen, [Antecedents to Net Neutrality](#) REGULATION (Jan. 2007).
- 4) Tim Wu, [Wireless Net Neutrality](#), New America Foundation (Feb. 2007).
- 5) Jonathan Nuechterlein, [Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate](#), J. TELECOM & HIGH TECH LAW (2008).

OPTIONAL:

Scott Hemphill, [Network Neutrality and the False Promise of Zero-Price Regulation](#), YALE J. ON REG. (2008).

Robert Hahn, Robert Litan & Hal Singer, [The Economics of Wireless Net Neutrality](#), JOURNAL OF COMPETITION LAW & ECONOMICS (2008).

Craig McTaggart, [Was the Internet Ever Neutral?](#) TPRC (Sept. 2007).

Christopher Yoo, [Network Neutrality and the Economics of Congestion](#), GEORGETOWN L (June 2006).

Larry Lessig & Robt McChesney, [No Tolls on the Internet](#), WASH POST (June 8, 2006).

David Farber & Michael Katz, [Hold Off on Net Neutrality](#), WASH POST (Jan. 19, 2007).

LECTURE 9
March 4, 2009

The Origins and Structure of Spectrum Allocation

Wireless communications form an increasingly important aspect of information technology markets, yet traditional regulatory structures continue to administratively assign rights to spectrum users. This structure has long been criticized by scholars; one of the most important paradigms in economic analysis – the Coase Theorem – was discovered when Ronald Coase attempted to decipher the broadcast licensing regime. The politically important role of broadcast – distributing content of keen interest to policy makers and office-holders – has helped determine a century of rule making.

READINGS:

- 1) Ronald H. Coase, *The Federal Communications Commission*, 2 JOURNAL OF LAW & ECONOMICS (1959), 1-40.
- 2) Thomas W. Hazlett, [*The Rationality of U.S. Regulation of the Broadcast Spectrum*](#), 33 JOURNAL OF LAW & ECONOMICS (April 1990), 133-175.

OPTIONAL:

- Thomas W. Hazlett, [*Physical Scarcity, Rent-Seeking and the First Amendment*](#), 97 COLUMBIA LAW REVIEW (May, 1997), 905-44
- Thomas W. Hazlett & David W. Sosa [*Was the Fairness Doctrine a "Chilling Effect"? Evidence from the Post-Deregulation Radio Market*](#), 26 JOURNAL OF LEGAL STUDIES (Jan., 1997), 307-29
- Thomas W. Hazlett, [*Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*](#) 41 JOURNAL OF LAW & ECONOMICS (Oct., 1998), 529-76.

LECTURE 10
March 18, 2008

Spectrum Liberalization

Some reforms have been made, in the U.S. and elsewhere, that considerably expand the property rights afforded wireless licensees. These reforms have generally proven highly beneficial, increasing consumer welfare and ushering in new market innovation. But political obstacles to further reforms, extending more generous spectrum allocations and more flexible rules to operators, remain in place. Some suggest that the political obstacles are not simply associated with rent seeking opportunism, but with the inherent complex nature of the task of defining and enforcing spectrum property rights.

READINGS:

- 1) Phil Weiser & Dale Hatfield, [*Spectrum Policy Reform and the Next Frontier of Property Rights*](#), 15 GEORGE MASON L R (W 2008).
- 2) Thomas W. Hazlett, [*A Law & Economics Approach to Spectrum Property Rights*](#), 15 GEORGE MASON L R (Spring 2008).
- 3) Thomas W. Hazlett, [*Optimal Abolition of FCC Spectrum Allocation*](#), 22 JOURNAL OF ECONOMIC PERSPECTIVES 103-28 (W 2008).
- 4) Stephen Labaton, [*Earthly Idea for Doubling the Airwaves*](#), NY TIMES (Apr. 8, 2001).
- 5) Thomas W. Hazlett, [*Entrepreneurs Need Not Apply*](#), FINANCIAL TIMES (Jan. 15, 2004).

OPTIONAL:

- Thomas W. Hazlett & Roberto Muñoz, [*What Really Matters in Spectrum Allocation Design*](#), AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 4-16 (Aug. 2004).
- Evan Kwerel & John Williams, [*A Proposal for a Rapid Transition to Market Allocation of Spectrum, Federal Communications Commission*](#), Office of Plans & Policies Working Paper No. 38 (Nov. 2002).
- Pablo T. Spiller & Carlo Cardillo, [*Towards a Property Rights Approach to Communications Spectrum*](#), YALE JOURNAL ON REGULATION (1998):.
- Thomas W. Hazlett, Giancarlo Ibarguen, and Wayne Leighton, [*Property Rights to Radio Spectrum in Guatemala and El Salvador: An Experiment in Liberalization*](#), 3 REVIEW OF LAW & ECONOMICS (2007).
- Martin Cave, [*Review of Radio Spectrum Management*](#), Dept. of Trade & Industry (U.K. Government; Mar. 2002).

LECTURE 11
March 25, 2009

“Spectrum Commons” and the Digital TV Transition

A huge swath of highly valuable airwaves was allocated to over-the-air broadcast television 1939-1953. That allocation has recently been pruned via the “analogy shut-off,” now scheduled for Feb. 17, 2009. Exciting time to be taking this class, no? Well, perhaps not – as the bandwidth allocated decades ago for off-air TV will continue to be reserved for off-air TV transmissions now likened (with viewers having shifted to cable, satellite, and broadband) to vestigial organs. The FCC has provisionally accepted a plan to allow unlicensed devices to use the band, sharing spectrum with the TV stations according to government power limits and other rules. The costs of such an approach are found in the opportunities sacrificed by alternative arrangements, most notably a property rights overlay which would allow digital TV stations to relocate (or vacate) frequency assignments.

READINGS:

- 1) Gregory Staple & Kevin Werbach, [*The End of Spectrum Scarcity*](#), IEEE SPECTRUM (Mar. 2004).
- 2) Charles Jackson, Raymond Pickholtz, & Dale Hatfield, [*Spread Spectrum is Good – But it Does Not Obsolete NBC v. U.S.!*](#), 58 FED. COMM. L J (April, 2006).
- 3) Thomas W. Hazlett, [*The Spectrum Policy Debate: An Analysis*](#), IEEE INTERNET & COMPUTING (Sept./Oct. 2006).
- 4) Thomas Hazlett, [*A Transition to Yesterday: Subsidizing the Killer App of 1952*](#), ARS TECHNICA (Nov. 3, 2008).
- 5) Thomas W. Hazlett, [*The U.S. Transition to Digital Television: Time to Toss the Negroponte Switch*](#), AEI-Brookings Joint Center for Regulatory Studies Working Paper No. 01-15 (Nov. 2001).

OPTIONAL:

Stuart Minor Benjamin, [*Spectrum Abundance and the Choice Between Private and Public Control*](#), NYU LAW REVIEW (Dec. 2003).

Yochai Benkler, [*Overcoming Agoraphobia: Building the Commons of the Digitally Networked Environment*](#), 11 Harv. J. L. & Tech. (1998).

Yochai Benkler, [*Some Economics of Wireless Communications*](#), 16 HARV. J. L. & TECH. (Fall 2002).

Kevin Werbach, [*Supercommons: Toward a Unified Theory of Wireless Communication*](#), 82 TEXAS L. R. 863 (Feb. 2004).

LECTURE 12

April 1, 2009

Intellectual Property Rights and Advanced Communication Networks

Changing the distribution of content may substantially alter the optimal form of payment. Moreover, dynamic industry change gives rise to shifting political equilibria. Some argue that old property rules must be firmly applied in the new media, as unauthorized digital copying appropriates the returns to creative innovation, thereby undercutting its supply. Others see the new distribution mechanisms as producing greater stimulus by more efficiently bringing creative works to their intended audience. They tend to argue that strictly carrying over traditional rules for patents and copyrights will slow this transmission, and so tax socially productive innovation. What are the optimal rules?

READINGS:

- 1) Goldsmith & Wu: Chapter 7
- 2) Peter Menell, [*Intellectual Property and the Property Rights Movement*](#), REGULATION (Fall 2007).
- 3) Richard A. Epstein, [*The Property Rights Movement and Intellectual Property*](#), REGULATION (W 2007-08).
- 4) Associated Press, *Album Sales Drop Despite Digital's Rise* (Jan. 4, 2008) VIA: <http://www.ritholtz.com/blog/2008/01/cd-sales-plummet-15-digital-sales-gain-45/>.
- 5) [*MGM v. Grokster*](#), U.S. Supreme Court decision (June 27, 2005).

OPTIONAL:

- R. Polk Wagner, [*Information Wants to Be Free: Intellectual Property and the Mythologies of Control*](#), 103 COLUMBIA LAW REVIEW 95 (2003):
- James Boyle, [*The Second Enclosure Movement and the Construction of the Public Domain*](#), LAW AND CONTEMPORARY PROBLEMS 33 (2003):
- Felix Oberholzer and Koleman Strumpf, [*The Effect of File Sharing on Record Sales An Empirical Analysis*](#), 115 JOURNAL OF POLITICAL ECONOMY (Feb. 2007).
- Stan Liebowitz, [*How Reliable is the Oberholzer-Strumpf Analysis of File Sharing?*](#) (Sept. 2007).
- Kal Raustiala & Chris Sprigman, [*The Piracy Paradox*](#), 92 VIRGINIA L.R. (2006).

LECTURE 13
April 15, 2008

DOS KAPITAL: Competition and Antitrust in the Age of Microsoft

Competitive markets in the information sector are governed by the same economic and political laws imposed elsewhere, but the facts differ. These distinctions have led to considerable policy confusion. For instance, the global nature of data networks and the communications they foster makes jurisdictional issues more complex. These have posed obstacles to governments, but have also spawned misunderstanding by pundits who claim that regulatory constraints are thereby moot. In antitrust law, legal analysis logically tries to apply traditional case law, adjusting incrementally to new facts. The case of *U.S. v. Microsoft* suggests how difficult this is, as does the government's 2004 defeat in the Oracle/Peoplesoft merger trial. Challenges facing both entrepreneurs and policy makers are further illustrated in the AOL-Time Warner merger and in XM-Sirius.

READINGS:

- 1) Goldsmith & Wu: Chapters 8-10
- 2) George Bittlingmayer and Thomas W. Hazlett, [*DOS Kapital: Did Antitrust Action Against Microsoft Create Value in the Computer Sector?*](#) J. FIN ECON (Mar. 2000).
- 3) Larry Lessig, [*I Blew It on Microsoft*](#), WIRED (Jan. 2007).
- 4) Thomas Hazlett, [*Some Dynamics of High-Tech Merger Analysis in General and with Respect to XM-Sirius*](#), JOURNAL OF COMPETITION LAW & ECONOMICS (2008).

OPTIONAL:

Federal District Court Opinion in [*U.S. v. Oracle*](#) (Sept. 9, 2004).

J. Gregory Sidak, [*Expert Declaration in XM-Sirius*](#) (for NAB) (March 29, 2007).

J. Gregory Sidak, [*Supplemental Declaration in XM-Sirius*](#) (for NAB) (July 9, 2007).

LECTURE 14
April 15, 2009

Standards

Hi-tech markets often involve races to establish a (soon-to-be) dominant technology or, alternatively, cooperative games in which firms seek to design a common platform for the use of many rival producers. Many interesting questions have arisen. One is the problem of “path dependency,” sometimes known as the QWERTY problem. Can a standard become so embedded in the market that it deters productive activity long after its usefulness has diminished or evaporated? Another issue is monopoly. Because a standard typically seeks to benefit from economies of scale and scope, it may be challenged under antitrust rules. How do policy makers differentiate between efficiency-creating agreements, and anti-competitive restraints of trade? Such issues may ironically intensify as competition between technology innovators increases.

READING:

- 1) Stan Liebowitz and Steve Margolis, [*Should Technology Choice be a Concern of Antitrust?*](#) 9 HARVARD JOURNAL OF LAW & TECHNOLOGY (Summer 1996), 283-318.
- 2) Lee Gomes, [*Economists Decide to Challenge Facts of the QWERTY Story*](#), WALL STREET JOURNAL (Feb. 25, 1998).
- 3) David Salant, Neil Gandal, and Len Waverman, [*Standards in Wireless Telephone Networks*](#), TELECOMMUNICATIONS POLICY (June/July 2003), 325-32.

OPTIONAL:

- J. Gregory Sidak, [*Patent Holdup and Oligopsonistic Collusion in Standard-Setting Organizations*](#), SSRN Working Paper (Oct. 2008).