

REWRITING U.S. TELECOMMUNICATIONS LAW WITH AN EYE ON EUROPE

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(Preliminary Draft)

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Introduction

Much has been written about the theoretical and pragmatic clashes between U.S. antitrust law and the competition law of the European Union. A little over ten years ago, Diane Wood declared real international antitrust to be the “impossible dream,” and, since then, only inconsistent substantive harmonization (albeit more significant procedural cooperation) has occurred between the U.S. and Europe.¹ Nevertheless, despite the occasional American criticism heaped on European authorities (for example, following the EU’s blocking of the GE/Honeywell merger²), sentiment also exists that “[s]everal aspects of EU competition law are noteworthy, in deed praiseworthy,” in particular “a more compact and intellectually appealing taxonomy than that which currently afflicts American antitrust law.”³ Owing in part to its much more recent beginnings, European antitrust doctrine does not exhibit an accretion of separate rules for what are (from an economic perspective) only artificially different kinds of behaviors.⁴

In a similar vein, Europe has recently re-conceived communications law in an attempt to respond to developing convergence and competition. America must soon face the need to do so as well. This paper addresses some of the significant policy questions that a re-write of U.S. communications law would have to face, and it looks to the European model for comparative guidance. The paper then considers the ways in which certain aspects of the European approach might be received when viewed through the specific economic principles that seem currently to dominate U.S. thinking about communications regulation. In this regard, the dual intent is, first, to begin thinking about U.S. telecommunications reform by using the European model, and, second, to further the dialogue between the U.S. and Europe on telecommunications policy.

¹See Diane P. Wood, *The Impossible Dream: Real International Antitrust*, 1992 U. Chi. L. Forum 277; see also Diane P. Wood, *International Harmonization of Antitrust Law: The Tortoise or the Hare?*, 3 Chi. J. Int’l L. 391, 396-98 (2002) (noting significant convergence of U.S. and E.U. law since 1992).

²See, e.g., Robert J. Reynolds & Janusz A. Ordover, *Archimedean Leveraging and the GE/Honeywell Transaction*, 70 Antitrust L.J. 171 (2001).

³Fred S. McChesney, *Talking ‘Bout My Antitrust Generation: Competition for and in the Field of Competition Law*, 52 Emory L.J. 1401, 1432 (2003).

⁴See, e.g., *id.* (“To revert to Justice O’Connor’s lament in the *Jefferson Parish* case, there is no separate statutory ‘box’ in EU competition law for tying, for example, akin to section 3 of the Clayton Act.”).

The time may, in fact, be ripe for an overhaul of U.S. communications law. U.S. telecommunications regulation has long been criticized for too much adherence to a “silos” approach – where each type of telecommunications service (broadcasting, telephony, cable television, information services) is subject to its own regulatory structure.⁵ The Telecommunications Act of 1996, which notably embraced competition as the governing philosophy for (almost) all communications markets, did little to dissolve regulatory separation among services.⁶ More than ever before, however, technological advances in wireless communications, data compression, and voice-over-Internet-protocols threaten to make meaningless the historic connection between types of communications technologies and the services they are used to deliver. Indeed, a growing consensus in the United States – including leading Senators and the Chairman of the Federal Communications Commission – seems to embrace the need to rewrite telecommunications law from the ground up.⁷

The unfolding European approach, which attempts a unified approach to an “information society” is therefore of particular relevance. Over the past 18 years,⁸ Europe has attempted a comprehensive agenda of privatizing formerly state-owned communications companies, eliminating market entry barriers, and harmonizing Member-State law. Of particular interest to this paper, the March 2002 “New Regulatory Framework” seems to take as its goal the adoption of competition law-based reasoning for regulation of communications markets – with the ultimate goal of the elimination of sector-specific regulation.⁹

This new European approach therefore provides a structure that is appealing in the United States. Notably, the Framework Directive seems to adopt a market analysis and regulatory structure familiar to U.S. antitrust economics. Prior to the Framework Directive, European law subjected any market participant with over 25% market share to mandatory access and unbundling rules.¹⁰ The Framework Directive, by contrast, premises most regulation upon a finding that an entity has “significant market power.”¹¹ And the prescribed approach to determining significant market power has the steps of market definition (by considering demand and supply substitutability) and of ability to raise price through restricting output without incurring significant loss of sales or revenues that echo the U.S. merger guidelines and antitrust economics generally.¹² The Framework Directive therefore

⁵See, e.g., Kevin Werbach, *A Layered Approach to Internet Policy*, 1 J. Telecom. & High Tech. L. 25, 26 (2001).

⁶See Monroe E. Price & John Duffy, *Technological Change and Doctrinal Persistence: Telecommunications Reform in Congress and the Courts*, 97 Colum. L. Rev. 976, 983-84 (1997) (detailing how 1996 continued historic “regulatory apartheid” governing communications services).

⁷Hearing of the Senate Commerce Committee, Feb. 24, 2004 (transcript available on Lexis, Federal New Service file).

⁸Towards a Dynamic European Economy: Green Paper on the Development of the Common Market for Telecommunications Services and Equipment, COM(87) 290 (July 30, 1987).

⁹Directive 2002/21 of March 7, 2002, on a Common Regulatory Framework for Electronic Communications Networks and Services, O.J. 2002 L108/33 (“Framework Directive”).

¹⁰See Council Directive 92/44/EEC of 5 June 1992 on The Application of Open Network Provision to Leased Lines, 1992 O.J. L 165/27, Article 2(3); Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on Interconnection in Telecommunications With Regard to Ensuring Universal Service and Interoperability Through Application of the Principles of Open Network Provision (ONP), 1997 O.J. L 199/32, Article 4(3); Directive 98/10/EC of the European Parliament and of the Council of 26 February 1998 on The Application of Open Network Provision to Voice Telephony and on Universal Service for Telecommunications in a Competitive Environment, 1998 O.J. L 101/24, Article 2(2)(I).

¹¹Framework Directive, Article 14(2).

¹²See generally *id.*; European Commission, Guidelines on Market Analysis and the Calculation of Significant Market Power under the Community Regulatory Framework for Electronic Communications Networks and Services, 2002 O.J. C 165/6 (July 11, 2002); Jens-Daniel Braun & Ralf Capito, *The Framework Directive*, in EC Competition and Telecommunications Law 309, 312-13 (C. Koenig, et al. eds., 2003).

suggests a profitable model for U.S. telecommunications regulation seeking to transcend service-bound approaches and to complete a transition to reliance on economic principles of antitrust.

Nevertheless, other aspects of the Framework Directive suggest that some of the underlying economic assumptions of the European approach may not be compatible with U.S. understandings, or, at a minimum, require further analysis. For example, the Framework Directive and its implementing Directives embrace presumptions of joint action, monopoly leveraging, and abuse of dominant position that do not enjoy similar currency in the United States. Quite to the contrary, the U.S. courts have increasingly required *proof* of joint action, even in concentrated industries, and U.S. regulators have largely rejected rules such as cable ISP open access that might have been based on a monopoly leveraging theory.

Part I of this paper briefly revisits the service-bound approach of U.S. communications law and notes some developing political consensus to change it. Part II identifies some key areas of reform – in network competition policy, spectrum policy, media regulation, and universal service -- and discusses the approach stated in the new regulatory framework in Europe. The Part discusses the elements that might be imported into a new U.S. law, and also identifies European presumptions that seem less consistent with current American policy developments. Finally, Part III concludes, suggesting a model of limited interconnection regulation as perhaps the best policy for a new U.S. framework.

I. Current Regulatory Landscape in the United States

As hinted at in the introduction, the United States does not have an integrated communications law in the manner of the Framework Directive or the TWOF Directive, in which obviously competing forms of communications are dealt with under a single umbrella. Rather, the United States continues to be largely controlled by service distinctions begun in the 1934 Communications Act and added to that law as new technologies developed. Even the Telecommunications Act of 1996 did not attempt to integrate the Internet into the telecommunications sections of the Act. In this regard, it is perhaps essential to note that the Federal Communications Commission does not have comprehensive authority to regulate media (or even to regulate all electronic communications). Although the first section of the 1934 Act grandly describes the Commission's authority to regulate all "interstate communications by wire or radio,"¹³ the United States Supreme Court has made clear that the FCC's regulatory authority derives from more specific provisions of the Act, and that the FCC has only little power to act where Congress has not specifically outlined its authority.¹⁴

Title II of the Communications Act gives the FCC authority to regulate wireline common carriers. Services that fall within this section are today called "telecommunications services" and are characterized by being raw transmission services. Content and communication path are selected entirely by the user.¹⁵ The FCC must ensure that all such services are provided to all customers upon request, at just and reasonable prices, and on a

¹³ 47 U.S.C. § 151.

¹⁴ See generally James B. Speta, *FCC Authority To Regulate the Internet: Creating It and Limiting It*, 35 Loy. U. Chi. L.J. 15 (2003). To be fair, commentators in the United States disagree over the scope of the FCC's authority to regulate forms of communications not enumerated in the particular Titles of the Act, pursuant to its inherent authority over all interstate communications by wire or radio. In particular, Philip Weiser takes a broader view of the FCC's authority. See Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 Loy. U. Chi. L.J. 41 (2003).

¹⁵ See 47 U.S.C. § 153 (definitions of "telecommunications" and "telecommunications services").

non-discriminatory basis.¹⁶ Under the 1996 Act, incumbent local carriers are required to “unbundle” and sell at cost any of the natural-monopoly elements that new entrants need to provide service.¹⁷ The FCC is also required to terminate its regulation of common carrier services whenever it finds that competition in the marketplace makes such regulation unnecessary.¹⁸ Standing opposed to “telecommunications services” are services where the provider also determines the content of the communication, or processes the user’s content, or otherwise provides some service other than raw transport. These so-called “information services” include most Internet services (including e-mail) and are largely exempt from regulation. The FCC generally prefers to leave “new” services unregulated and so it attempts to classify them as “information services” where possible. Currently, the FCC’s flexibility is being tested by the onset of voice-over-Internet-protocol telephony, which the FCC would prefer to remain unregulated, but which operates from the user’s perspective exactly like traditional telephony.

Title III of the law gives the FCC plenary authority to issue spectrum licenses in the “public interest.”¹⁹ But the FCC largely may not regulate commercial mobile telephone carriers²⁰ or DBS carriers, and it does not have jurisdiction over spectrum used by the federal government.²¹ The FCC has also long restricted its broadcasting regulations to those entities that provide free over-the-air service. That is, any service (such as DBS) that is encoded and sold on a subscription basis is not considered to be a broadcast service.²²

Title VI of the Act gives the FCC certain powers over cable companies, but it forbids the FCC to regulate cable companies as common carriers and it largely precludes rate regulation of cable services.²³ Cable services are defined as one-way video programming or other programming selected by the user, together with whatever interactive means are necessary to operate the service.²⁴ Some cable companies argued, and the FCC for a time agreed, that cable modem service was a cable service. (More recently, the FCC has opined that it should be an information service, although one appellate court has held it to be a telecommunications service.)²⁵

Although federal law does not give plenary authority to the FCC to regulate communications markets, federal law also does not leave individual states free to regulate where the FCC cannot. One of the most important sections of the 1996 Act provided that the states could not “prohibit” or adopt laws that “have the effect of prohibiting” the entry of any entity into telecommunications services.²⁶ Federal law likewise forbade states and municipalities from granting exclusive licenses for cable television service.²⁷ And federal authority over spectrum licensing is exclusive. No one may operate any radio transmitter

¹⁶ 47 U.S.C. §§ 201(a), (b), 202(a).

¹⁷ See 47 U.S.C. § 251(c).

¹⁸ 47 U.S.C. §§ 160, 161.

¹⁹ 47 U.S.C. § 309(j).

²⁰ 47 U.S.C. § 332.

²¹ That spectrum is controlled by the Departments of Commerce and Defense.

²² See generally Howard A. Shelanski, *The Bending Line between Conventional Broadcast and Wireless Carriage*, 97 Colum. L. Rev. 1048 (1997).

²³ 47 U.S.C. § 541(c).

²⁴ 47 U.S.C. § 522(6).

²⁵ Inquiry Concerning High-Speed Access to the Internet over Cable and other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 18 FCC Rcd. 4798 (2002), *rev’d in part*, *Brand X Internet Servs. v. FCC*, 345 F.3d 1120 (9th Cir. 2003).

²⁶ 47 U.S.C. § 253(a).

²⁷ 47 U.S.C. §§ 541(a), 546.

without FCC authorization (unless it falls within one of the spectrum bands specifically left open to the public for unlicensed use, with approved equipment).²⁸

As should be immediately obvious, this continued use of service-specific categories has lent itself to significant controversy in recent years. For one example, the FCC initially litigated the cases involving open access regulation on cable modem service on the premise that such high-speed Internet service over cable lines was a “cable service.”²⁹ This stood in contrast to its earlier position that telephone companies’ DSL services were interstate telecommunications services (or, alternatively, information services).³⁰ After an appellate court rejected its position that cable modem service was a “cable service,” the FCC then opined that it was best considered an unregulated interstate information service. The appellate court again rejected the FCC’s classification, holding that cable modem services were telecommunications services.³¹

Given the Act’s regulatory structure, service classification determines the type of regulation, and, in the case of cable modem services, the difference is striking. If cable modem services are “cable services,” then they are exempt from common carrier regulation and state and local governments are without any regulatory jurisdiction.³² If they are “information services,” then they are not subject to common carrier regulation at the federal level, but the FCC’s authority to impose any regulation at all and, especially, and its ability to preempt state and local regulation is doubtful.³³ Finally, if cable modem services are telecommunications services, then the cable companies must offer interconnection and the FCC must ensure that they are provided at just and reasonable prices and at non-discriminatory terms.³⁴ The FCC may waive these features of public utility regulation only if it finds that there is competition in the market for high-speed Internet access.³⁵ But, given that high-speed Internet is dominated by only two entities – the incumbent cable companies and the incumbent telephone companies – such a finding would be difficult to sustain.³⁶

The FCC is facing similar classification problems with emerging VoIP services. From the consumer’s perspective, VoIP provides exactly the same service as traditional telephony. From the perspective of a communications network, VoIP is simply an application riding on a general purpose IP network. It does not fit comfortably within any provisions of the Act. But, if it is left entirely outside of the regulatory apparatus, widespread adoption could threaten the system for funding universal service – which today depends entirely on a tax on “telecommunications services.”³⁷

It is for these reasons that key policy makers in the United States have begun taking the prospect of re-writing the U.S. communications law seriously. Senate Commerce

²⁸ 47 U.S.C. § 301.

²⁹ See *AT&T Corp. v. City of Portland*, 216 F.3d 871 (9th Cir. 2000).

³⁰ See *id.* at 873-75.

³¹ *Brand X Internet Servs., Inc. v. FCC*, 345 F.3d 1120 (9th Cir. 2003).

³² See generally James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 *Yale J. on Reg.* 39, 61-76 (2000) (explaining these regulatory consequences in detail).

³³ This depends on whether the FCC has the ancillary jurisdiction discussed previously. See *supra* note 14.

³⁴ 47 U.S.C. §§ 201, 202, 251.

³⁵ See 47 U.S.C. § 160 (conditions for FCC forbearance from regulation).

³⁶ The FCC’s alternative position in its decision before the *Brand X* decision, see 18 FCC Rcd. at 4790-93, was that it might forbear in just this manner. It remains to be seen what course the FCC will take, however.

³⁷ See 47 U.S.C. §§ 214(e), 254.

Committee Chairman John McCain recently declared that “[w]e began the 108th Congress with a hearing on the state of competition in the industry and I reminded the public, the FCC Commissioners, and my colleagues then of my long held belief that the 1996 Act is a fundamentally flawed piece of legislation. Since then, some of my colleagues have joined me in expressing the need for Congress to take a serious look at reforming the Act.”³⁸ FCC Chairman Michael Powell agreed: “[W]hether it’s now or in the near future, it is my responsibility as your expert agency to tell you, I think the days are numbered on the way we’re doing this under the current statute. I do believe there is going to have to be a statute in the future that recognizes these dramatic technical changes and gets us out of the buckets of the ’96 Act.”³⁹

II. The Likely Direction of U.S. Regulatory Reform and Lessons From Europe

Reform of U.S. telecommunications policy, if it can be accomplished politically, needs to focus on four major areas: (1) network competition policy, (2) spectrum reform, (3) mass media, and (4) universal service. In this section, I sketch the basic direction for U.S. policy in each area and discuss the extent to which the European Directives can provide useful starting points. The analysis focuses on the European Directives themselves, as opposed to their implementation by the Member States. The focus is concededly incomplete, for the true measure of the Directives as a regulatory system will depend on their operation in practice. Nevertheless, that implementation is still in the early stages, with seven member states not yet having compliant national laws and many others still in the midst of the required market analyses.⁴⁰ Moreover, as the project is the reform of the basic U.S. laws governing telecommunications, the Directives seem an appropriate starting place.

A. Network Competition Policy

The service-bound categories of U.S. law must be replaced by a more general approach to network competition policy. Already, some consensus is developing that the current U.S. communications law should be replaced by a regulatory system constructed around a “layered model.”⁴¹ This model flows from network engineering, and it separates a communications system into four elements: (1) the physical infrastructure; (2) the logical systems used to coordinated transit of information across the infrastructure; (3) the applications operated by computers at the edges of the network; and (4) the content created for particular applications.

The layered model focuses regulation on technology neutral aspects of communications networks. Nevertheless, all regulation shares in common the need to justify its basic mission and to delimit a domain of that mission.

³⁸ Senate Commerce Committee Hearing, Voice over Internet Protocol, Feb. 24, 2004 (text available on Lexis).

³⁹ *Id.*

⁴⁰ See First Review of Markets in New Regulatory Framework for Electronic Communications Planned for the End of 2005, IP/04/845 (July 2, 2004) (continuing in force 2003 list of markets subject to ex ante regulation, in part due to slow implementation of Directives).

⁴¹ See, e.g., Kevin Werbach, *A Layered Model for Internet Policy*, 1 J. Telecomm. & High Tech. L. 37 (2002); Timothy Wu, *Application-Centered Internet Analysis*, 85 Va. L. Rev. 1163 (1999); Craig McTaggart, *A Layered Approach to Internet Legal Analysis*, 48 McGill L.J. 571 (2003); Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Policy Framework Based on the Network Layers Model*, 56 Fed. C. omm. L.J. 587 (2004); Lawrence B. Solum & Minn Chung, *The Layers Principle: Internet Architecture and the Law*, 79 Notre Dame L. Rev. 815 (2004).

1. *The Burden To Justify Sector-Specific Regulation.* The threshold question in the U.S., however, is whether sector-specific regulation continues to be necessary at all. A number of academics have taken the position that antitrust and common law can provide all of the regulation necessary.⁴² And the Telecommunications Act of 1996 seemed to embrace the notion that regulation could soon fall away, in deference to antitrust law's general rules. The 1996 Act's remarkable grant to the FCC of authority to terminate the requirement of communications law when competition took hold is only the most optimistic example.⁴³

Nevertheless, some consensus toward continued sector-specific regulation remains, to address some of the traditional bases of communications regulation. In particular, most commentators, while impressed by increasing levels of competition and technological advance, are unwilling to declare that communications markets are free from bottlenecks. Moreover, although most see developing technologies as a cure for bottleneck monopolies, it is my view that new technologies could, in some circumstances, create important new bottlenecks. For example, interactive video products, such as movies with interactive elements or high-speed gaming or multi-media distance education, might require up- and downstream bandwidths that only cable television can supply.⁴⁴ Similarly, interactive or multimedia applications for wireless devices could tip the market toward an early provider of high-bandwidth mobile wireless, creating an entry barrier to a market (2G wireless telephony) that currently is fairly competitive.⁴⁵ If competition will not eliminate bottlenecks, then interconnection rules are likely necessary.

The Framework Directive and the Access Directive, of course, recognize this possibility of bottlenecks as one of the rationales for continued regulation. The basic approach of the Framework Directive – that regulators may place specific restrictions and obligation on entities having significant market power in communications markets – is familiar in the U.S. and would certainly be continued in a new U.S. telecommunications law. Indeed, the common carrier and the cable television chapters of the U.S. law both have their beginnings in concerns over monopoly power – of the Bell System on the one hand and of the local cable companies on the other. The U.S. Communications Act did not codify that regulation depended upon market power, although, as noted, the 1996 Act did provide that regulation should sunset when competition developed.

Importantly, however, the European approach also emphasizes the need for a minimum of regulation even where bottlenecks are not yet in evidence. The Access Directive makes clear that all public communications networks must interconnect with one another, and all access providers must interconnect with other networks in order to ensure the provision of a single, interoperable network.⁴⁶ These obligations (on the part of networks and access providers) and this regulatory power (granted to Member State national regulatory authorities) are not dependent on a finding of significant market power in a particular market.⁴⁷ This stands in contrast to the likely trend of U.S. reform, where most commentators argue that regulation cannot be justified unless a bottleneck is shown to exist and to impede competition.

⁴² See, e.g., Peter W Huber, *Law and Disorder in Cyberspace: Abolish the FCC and Let Common Law Rule the Telecom* (1997).

⁴³ 47 U.S.C. § 160.

⁴⁴ See James B. Speta, *Deregulating Telecommunications in Internet Time*, 61 Wash. & Lee L. Rev. (forthcoming 2004).

⁴⁵ See James B. Speta, *Maintaining Competition in Information Platforms: Vertical Restrictions in Emerging Telecommunications Markets*, 1 J. Telecom. & High Tech. L. 185 (2002).

⁴⁶ Access Directive, art. 4(1), 5(1).

⁴⁷ *Id.*

By contrast, the Access Directive's minimum, but mandatory interconnection requirements ensure that competition does not lead to fragmentation of those parts of the communications network that ought to remain integrated.

The European approach seems more consistent with standard network economics. Many communications markets depend on interconnection, and all communications markets are characterized by some form of network effect, in which consumer value for the communications good depends in part on the number of others who are similarly demanding the good.⁴⁸ Network markets can be tippy, and that feature sometimes creates incentives for companies to compete for the entire market by refusing interconnection or by engaging in a standards battle. I have written elsewhere that mandatory interconnection rules seem valuable at the physical and logical layers of communications networks – so that competition is channeled to the quality of service and price dimensions and away from the possibility of fragmenting an integrated communications network.⁴⁹ Although such interconnection could potentially entrench certain kinds of networks, the social and economic benefits of maintaining an interoperable network probably outweigh the risks of entrenchment.⁵⁰

2. *Delimiting the Regulated Domain.* Following from the foregoing, a new communications law for the United States ought to take as its limited domain two particular areas: those communications markets in which there is continuing bottleneck power, and those areas in which network interconnection is an overriding social value. The European approach seems to follow this design. The Framework Directive initially sweeps within its grasp all “electronic communications networks” and “electronic communications services,” which include all systems and services “convey[ing] signals by wire, by radio, by optical or by other electromagnetic means, including satellite networks, fixed (circuit- and packet-switched, including Internet) and mobile terrestrial networks.”⁵¹ This remarkably broad definition, with the exception of the mandatory interconnection and access obligations just described, is then limited by the significant market power requirement – that national

⁴⁸ Such effects may be, in the language of network economics, either direct or indirect. A direct network effect is where the good itself is a connectivity good, such that value derives from the number of others that one can connect with – such as telephony or fax machines. Indirect network effects prevail in markets characterized by a hardware and a software good – such as computer operating systems and software applications or video tape players and prerecorded movies – such that greater numbers of consumers purchasing the hardware good drives demand for a wider variety of software goods, which variety in turn makes the hardware good itself more valuable. See generally Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 Am. Econ. Rev. 424, 426-27 (1985). Some network goods, such as the Internet, exhibit both characteristics.

⁴⁹ See Stanley Besen & Joseph Farrell, *Choosing How To Compete: Strategies and Tactics in Standardization*, 8 J. Econ. Persp. 117, 119 (1994).

⁵⁰ In a recent working paper, Professor Christopher Yoo argues that a “network neutrality” principle, by which he means a vertical and horizontal interconnection requirement, actually creates disincentives for the deployment of new, competing infrastructures – because it limits the degree to which networks may differentiate themselves from one another. Christopher S. Yoo, *Would Mandating Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. Telecom. & High Tech. L. (forthcoming 2004). Yoo is probably right that interconnection decreases some of the incentive to invest in new network infrastructure. However, Yoo's assertion that the net effect is to decrease consumer welfare does not necessarily follow. In particular, Yoo does not seem to acknowledge that his differentiated networks necessarily give up some of the network effect. Moreover, although he makes much of the differentiated network's ability to earn greater revenues because of product differentiation, he does not seem to acknowledge that those revenues come at the cost of some consumers' dropping off the networks entirely.

⁵¹ Framework Directive, art. 2(a).

regulatory authorities may, in general, regulate only in those markets in which an undertaking has significant market power.⁵²

From a U.S. perspective, however, the Framework Directive's regulatory domain – and in particular its approach to significant market power -- presents two potential difficulties. First, the Framework Directive includes all communications services within its regulatory domain, instead of identifying a more limited domain in which bottleneck problems are particularly likely to arise and as to which regulation is therefore particularly justified. Second, the Framework Directive embraces certain notions of market power that are not as well accepted in the United States.

a. *Limiting Regulators' Discretion.* Despite the service-specific categories of the U.S. Communications Act, the FCC and a number of commentators have, from time to time, asserted an authority to regulate any sort of communications by wire or radio – an authority that would be as broad as the Framework Directive's initial cut.⁵³ In fact, the FCC has asserted that its authority over all communications includes the broader authority to structure communications markets and services – for, by example, requiring the use of digital rights management technologies, limiting competition between cable companies and terrestrial broadcasters, and by requiring cable-ready televisions to also include tuners for terrestrial television.⁵⁴

I have already noted that I disagree with this broad interpretation of the FCC's current authority,⁵⁵ but, whatever the answer to this interpretive question, there are important reasons to ensure that the regulators' authority is limited to only those areas in which regulation is likely to be necessary to protect consumers. The mere prospect of regulation creates business uncertainty, an uncertainty to which new entrants are particularly vulnerable. Similarly, regulatory processes create the possibility of strategic action by incumbents to protect markets. At a minimum, regulation creates costs; at worst, regulators are captured and the process itself hurts competition.

Thus, I would prefer a communications statute that limits regulators' powers both to those markets in which interconnection is required to prevent network fragmentation and to those minimum regulatory tools of necessary to solve interconnection disputes. (The matter of appropriate regulatory tools is addressed *infra*.) Under this approach, the regulatory domain would include only those networks and services providing what used to be called "message service" – i.e., those networks in which horizontal (two-way) interconnection is the essence of the good. This would include telecommunications and data services – no matter what technology is used to provide them – but would not include cable television, broadcast, satellite, or any other emerging "one-way" services.

To be sure, the Framework Directive contains important limits on the discretion of national regulatory authorities. The substantive significant market power requirement is the most important. But there are others as well. The Framework Directive contains procedural requirements that NRAs be established with a degree of regulatory independence, provide

⁵² Framework Directive, art. 8.

⁵³ The leading academic proponent of the FCC's broad regulatory authority is Philip Weiser. *See* Weiser, *supra* note 14.

⁵⁴ *See* Speta, *supra* note 14.

⁵⁵ *See supra* note 14 and accompanying text.

notice of intent to regulate,⁵⁶ and provide supporting reasons and evidence for regulatory decisions. And the structure of the Framework Directive flows in part from the domain of the EU itself and the relevant treaties, issues that are beyond the scope of this paper to explore. Nevertheless, a more limited grant of regulatory authority ensures that market participants can proceed with less uncertainty.

b. *Finding Significant Market Power.* Keying regulatory authority to a finding of significant market power is common ground between most proposed U.S. approaches and the Framework Directive. Indeed, the Commission Guidelines on the finding of significant market power largely mirror similar guidance contained in the U.S. antitrust authorities' merger guidelines.⁵⁷ Both documents define markets through an economic lens, taking account of demand substitution, supply substitution, and other market characteristics. And each document defines market power as a company's ability to increase profits by increasing prices unilaterally (without an offsetting demand reduction).

Two features of the Framework Directive's approach to market power, however, do not resonate in current U.S. communications policy – the approach to collective dominance and the seeming approach to monopoly leverage. These differences mirror a debate between the U.S. and the EU on antitrust law, of course, but it bears setting out how these economic theories have fared in U.S. communications law.

First, the Framework Directive permits the regulators very wide latitude in finding that firms “*jointly*” have significant market power.⁵⁸ The specific criteria state that “[t]wo or more undertakings can be found to be in a joint dominant position . . . if, even in the absence of structural or other links between them, they operate in a market the structure of which is considered to be conducive to coordinated effects.”⁵⁹ Indeed, the Commission's guidance seems to endorse a finding of joint market power based only on “an oligopolistic or highly concentrated market whose structure alone in particular, is conducive to coordinated effects on the relevant market.”⁶⁰ This is consistent with an important strain of EU competition law.⁶¹

As a matter of competition law doctrine, the U.S. seems more restrictive. That is, U.S. antitrust law by contrast has been reluctant to find tacit collusion (and hence an antitrust violation), absent specific evidence of a facilitating practice or other evidence that confirms in the strongest terms that firms are acting jointly and not independently.⁶²

In the communications law context, U.S. courts have been pushing the FCC to justify any presumptions that joint action can be inferred merely from concentration. A typical case

⁵⁶ Framework Directive, art. 3.

⁵⁷ 1992 Horizontal Merger Guidelines (<http://www.ftc.gov/bc/docs/horizmer.htm>).

⁵⁸ See Framework Directive, Article 14(2) (“An undertaking shall be deemed to have significant market power if, either individually *or jointly with others*, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.”) (emphasis supplied).

⁵⁹ *Id.*, annex II.

⁶⁰ Commission Guidance ¶ 94.

⁶¹ See generally Lambros Papadias, *Some Thoughts on Collective Dominance From A Lawyer's Perspective*, in *The Economics of Antitrust and Regulation in Telecommunications: Perspectives for the New European Framework 114* (Pierre Buiges & Patrick Rey eds., 2004); Patrick Rey, *Collective Dominance and the Telecommunications Industry*, in *id.* at 91.

⁶² See generally Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 *Antitrust Bull.* 143 (1993).

is *Time Warner Ent. Co. v. FCC*, in which the United States Court of Appeals for the D.C. Circuit struck down the FCC's long-standing horizontal concentration limits for cable companies.⁶³ That rule "impose[d] a 30% limit on the number of subscribers that may be served by a multiple cable system operator."⁶⁴ The rule was based on a statutory requirement that the FCC set rules to ensure that no single "cable operator or group of operators can unfairly impede ... the flow of video programming from the video programmer to the consumer."⁶⁵ The FCC chose 30% to ensure that the market for program purchasing would have at least three cable companies acting in the market for programming. The Court, however, held that the FCC had not proved why collusion was likely if only two cable companies participated in the market. The FCC could not "simply posit the existence of the disease sought to be cured."⁶⁶ The *Time Warner* decision itself applied heightened scrutiny to the FCC's decision, because the structural rules implicated the free speech rights of cable companies. (More on free speech concerns below.) But the D.C. Circuit also made clear in the context of the AT&T Consent Decree that it would not assume collusive action by the regional Bell companies simply because few companies dominated the market.⁶⁷

Apart from whether coordinated behavior should be presumed in concentrated markets, the U.S. is also struggling to decide whether regulation is justified simply because the market is oligopolistic. In merger review, the U.S. seems clearly to hold that a merger which creates an oligopoly or that increases concentration in an already oligopolistic market should be blocked under the "substantially lessens competition" standard. As one communications-market example, this was the reason that the Justice Department blocked the Echostar/DirecTV merger. The merger would have reduced the number of competing multichannel video operators from three to two,⁶⁸ and this reduction in competition was deemed too significant – notwithstanding that the satellite carriers argued that the merger would increase their ability to compete with cable companies.⁶⁹ But, outside merger review, many are skeptical that oligopoly justifies economic regulation – and especially more burdensome and costly forms of regulation such as price controls. The presence of multiple companies suggests an absence of barriers to entry and the possibility that oligopolies will break down due to cheating or to the development of powerful purchaser interests both weigh against regulation. The Framework Directive and the Commission's Guidelines do acknowledge that regulating pure oligopoly is sometimes unnecessary, and so the difference between the U.S. and the European framework may be more one of approach than of serious doctrinal difference. Nevertheless, it is unlikely that anything as broad as the provisions on joint action will be included in a new U.S. statute.

Second, both the Framework Directive and the Commission's guidelines for implementing the significant market power analysis seem largely to adopt monopoly leveraging theory. The Framework Directive states that "[w]here an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such

⁶³ *Time Warner Ent., L.P. v. FCC*, 240 F.3d 1126 (D.C. Cir. 2001).

⁶⁴ *Id.* at 1129.

⁶⁵ 47 U.S.C. § 533(f)(2)(A).

⁶⁶ 240 F.3d at 1133.

⁶⁷ Jonathan B. Baker, *Mavericks, Mergers, and Exclusion: Proving Coordinated Competitive Effects under the Antitrust Laws*, 77 N.Y.U. L. Rev. 135, 138 (2002).

⁶⁸ The two DBS companies and the local cable company were, in most areas, the only sources of multi-channel video programming. The FCC has long held that broadcast television is not a substantial competitor to cable, as evidenced by the fact that nearly 90% of all American households subscribe to either cable or DBS.

⁶⁹ By increasing their ability to use spot-beams to carry terrestrial channels.

as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking.”⁷⁰ The Commission states that “[t]his is often the case in the telecommunications sector, where an operator often has a dominant position on the infrastructure market and a significant presence in the downstream, services market.”⁷¹ Indeed, the Access Directive, in implementing the framework, seems to contemplate the imposition of interconnection, unbundling, access, or tariffing regulation on most infrastructure companies.⁷²

In the U.S., by contrast, monopoly leveraging as the basis for communications access rules is receiving very little traction. The FCC has largely refused to adopt rules granting access to high-speed Internet facilities.⁷³ The Commission rejected the imposition of open-access rules, which would have required cable companies to unbundle or sell capacity at wholesale to competing ISPs.⁷⁴ Although that decision remains mired in litigation, there is little chance that the FCC will change its mind.

On the telephone side, the FCC has reversed its prior course on high-frequency unbundling (also called line sharing).⁷⁵ And, although competing DSL providers may still purchase local loops at regulated rates from the incumbent local telephone companies, a significant roll-back in those rules is imminent. The FCC has long required the incumbents to sell loop access at so-called TELRIC prices, but the courts have strongly questioned the continued necessity of those rules. In its most recent decisions vacating FCC rules, the United States Court of Appeals for the D.C. Circuit has held that the FCC must limit its unbundling rules – even for local loops – to markets in which an affirmative showing of competition can be made. The court’s opinion strongly suggests that unbundling requirements should be far less common than they currently are.⁷⁶ Most analysts and commentators believe that significant changes, eliminating mandatory unbundling and raising rates in many markets, will come before the end of the year. The D.C. Circuit’s decisions, as noted, are controversial, but the Bush administration decided not to seek review in the U.S. Supreme Court. A case can be made⁷⁷ that the D.C. Circuit is not giving adequate deference to the FCC’s statutory mandate and institutional expertise. In any case, however, the unbundling rules are undeniably in a state of retreat.

These specific regulatory debates reflect the continuing theoretical debate in the U.S. about the rationality of monopoly leveraging theory. In the 1970s, Richard Posner, Robert Bork, and other members of the so-called Chicago School posited the “one monopoly rent” theory. Under this theory, monopoly leveraging (in general) is not economically rational, for any rent earned in a secondary, leveraged market simply dissipates the rent earned in the primary (leveraging) market. This theory has significantly colonized antitrust law in the U.S., even as more recent work has suggested potential flaws. As competition law has increasing

⁷⁰ Framework Directive, Article 14(3).

⁷¹ Commission Guidance ¶ 84.

⁷² See Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002, on Access to, and Interconnection of, Electronic Communications Networks and Associated Facilities, 2002 O.J. L 108/7, Article 5.

⁷³ See High Speed Access to the Internet over Cable and Other Facilities, 17 FCC Rcd. 4798 (2002) (refusing to require open access to cable modem infrastructure), *rev’d in part*, *Brand X Internet Servs. v. FCC*, 345 F.3d 1120 (9th Cir. 2003); FCC Triennial Review Opinion, Aug. 21, 2003 (removing line sharing rules for DSL).

⁷⁴ *Id.*

⁷⁵ See Triennial Review Opinion.

⁷⁶ *U.S. Telecom Ass’n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004).

⁷⁷ I make it in a forthcoming article. See Speta, *supra* note 44.

influenced telecommunications law, the one-monopoly rent theory has similarly come along. The open-access debate in the U.S., in particular, was made explicitly in terms of monopoly leveraging theory. Other Internet policy debates similarly turn on whether one views monopoly leveraging as common or uncommon – meaning whether one views it as economically rational in general or whether one views it as economically rational in only a small number of circumstances.⁷⁸

I will not here attempt to resolve the debate over monopoly leveraging (if a final resolution is even possible), although I have previously been among those who argue that it is too soon to conclude that Internet markets will be characterized by leveraging by infrastructure providers into other markets.⁷⁹ Following the lead of Judge Easterbrook, however, I believe that “the economic system corrects monopoly more readily than it corrects [regulatory] errors.”⁸⁰ A monopoly leveraging theory permits a much wider scope of regulation, and regulation at a minimum creates costs for regulated entities. At worst, of course, regulation creates the possibility of industry capture and the use of legal process to erect artificial barriers to entry.

* * *

What Judge Easterbrook means when he says that “the economic system corrects monopoly” is nothing more than the simple economic truth that the presence of monopoly profits attracts entry. The hope is that monopoly profits not only attract new companies in the short run, but also provide incentives for companies to invest in research and development if new technology is the answer to correcting monopoly. One need not be an Internet utopian to note that technological advance in the telecommunications industry now proceeds at a much faster pace than it did before the digital era. In economic terms, the “long run” is not nearly so long.

This truism, however, highlights two of the most difficult issues and interrelated problems in regulatory policy – attempting to predict the future, and grappling with oligopoly (as opposed to monopoly power). In fact, the topics just discussed, joint market power and monopoly leveraging, raise precisely these issues. If one or more entities have current market power, a regulator must decide whether that market power is likely to persist – for the costs of regulation cannot be justified if market developments would eliminate the monopoly naturally. Even more importantly, the choice to regulate is not costless, for imposing regulation – especially economic regulation such as rate caps – can eliminate market incentives. Similarly, leveraging into a complementary market will be contested by companies in the competitive market and, indeed, they will have an incentive not only to attack the leveraging practice (such as the tie), but they will also have an incentive to try to break the monopoly power in the primary market. Last, the presence of oligopoly, as opposed to monopoly, makes these issues particularly salient, for oligopolies are notoriously unstable, especially when oligopolists face large and sophisticated purchasers, as often happens in telecommunications markets where infrastructure companies face media and other content providers with significant weight.

⁷⁸ The debate is comprehensively reviewed in Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 Harv. J.L. & Tech. 85 (2003).

⁷⁹ See Speta, *supra* note 32.

⁸⁰ Frank Easterbrook, *The Limits of Antitrust*, 63 Tex. L. Rev. 1, 15 (1984).

The Framework Directive and the Commission's Guidelines address these issues directly, by requiring that national regulatory authority take regard of several factors, including the relative level of technological innovation in the market, the possible presence of countervailing buying power, and the likely persistence of significant market power.⁸¹ Nevertheless, both the Directive and the Guidelines seem quite willing to regulate oligopoly, and this tendency is reinforced by the Commission's list of markets that justify *ex ante* regulation, a list that includes virtually all communications market.

B. Spectrum Reform

In the U.S., demand for new spectrum to provide new broadband services, both fixed and mobile, has created a substantial move for spectrum policy reform. The FCC convened a spectrum policy task force that acknowledged the need for additional spectrum,⁸² and offered a number of proposals to change the "command and control" process of administering spectrum to a more flexible regime. An influential working paper at the FCC calls for a "big bang" auction,⁸³ in which most spectrum could be re-auctioned to the highest bidders and dedicated to whatever use the purchaser chooses. Such an auction, of course, would largely complete the transition of spectrum to a property-rights system, a transition which has been occurring in fitful steps over the past fifteen years.

Even more importantly, fundamental spectrum reform would allow wireless technologies to take their place as true competitors to wireline systems. The past several years have demonstrated that some of the most likely prospects for competition in telecommunications markets come from intermodal competition, and wireless has been the most successful. The example of DBS competition with cable companies is only the most obvious. In the United States, DBS has experienced double-digit growth over the past several years, while cable company growth has significantly slowed.⁸⁴ DBS companies claim that they are winning customers away from cable. Whether this continues depends in part on the prospects for broadband Internet service, and whether the DBS companies and the DSL companies can develop an integrated product that challenges the cable companies' ability to provide both. But early indications are that such a product will be forthcoming.

Here, the European framework provides much less direction. Indeed, the Radio Spectrum Decision,⁸⁵ although issued contemporaneously with the Framework Directive, is not expressly part of the new regulatory framework, leaving two current commentators to contend that "one cannot consider that there exists, as of the present time, any real common policy in the field of spectrum."⁸⁶ The obvious difference is that, in the EU, spectrum policy has long been a matter for the Member States, and certain aspects of spectrum policy – especially mass media policy (on which more below) – have important sovereignty aspects. The Framework Directive recognizes this, even as it suggests (gently) that Member States

⁸¹ See, e.g., Commission Guidelines, § 3.1, paras. 78, 81, 84, 96.

⁸² FCC, Spectrum Policy Task Force Report, Nov. 2002 (http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228542A1.pdf).

⁸³ See Evan Kwerel & John Williams, A Proposal for a Rapid Transition to Market Allocation of Spectrum, OPP Working Paper No. 38, Nov. 2002 (http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228552A1.pdf).

⁸⁴ FCC, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Tenth Annual Report, FCC 04-5 (released Jan. 28, 2004).

⁸⁵ Decision of the Council and of the Parliament 676/2002 on a Regulatory Framework for Radio Spectrum Policy in the European Community, 2002 OJ L108/1.

⁸⁶ Paul Nihoul & Peter Rodford, EU Electronic Communications Law: Competition and Regulation in the European Telecommunications Market § 7.86, at 720 (2004).

work to make spectrum policy more transparent, predictable, and efficient. In the United States, by contrast, spectrum policy has been an exclusively federal enterprise since the Federal Radio Act of 1927.

Nevertheless, the state of U.S. and European spectrum policy reforms yields interesting contrasts in two areas that bear mentioning. First, European policy has not ruled out spectrum allocation by comparative hearing – the so-called “beauty contest” in which subjective factors play an important role.⁸⁷ The Framework Directive suggests that these procedures should be reformed to increase their transparency, but Member States are permitted to select licensees in such manner. To some extent, this seems inconsistent with the general tenor of the Authorizations Directive, which strives to eliminate subjective government choice from the process by which entities receive legal permission to offer communications services. The Directive itself seems to acknowledge this tension.⁸⁸

In the United States, by contrast, licensing by beauty contest has been dead for some time. By statute, all spectrum licenses, other than licenses for television and radio broadcast, must be allocated by auction.⁸⁹ Certain entities, such as pioneers and, occasionally, minority-owned enterprises, have received “credits” in the auctions, such that they need only pay a percentage of their winning bids.⁹⁰ But, given the success in raising money for the treasury, Congress has mandated auctions. The exception for television broadcast licenses, far from reflecting some deliberate attempt to maintain government control over mass media policy, reflects nothing more than the political power of the incumbent broadcasters.

Indeed, the principal debate on allocation method is between the property-rights advocates, who would auction and privatize spectrum licenses,⁹¹ and the so-called “commons advocates,” who contend that the government can best promote access and technological innovation by setting aside significant parts of the spectrum in which users can operate on an unlicensed basis (so long as they use equipment meeting certain technical requirements).⁹²

Each of these approaches has in its favor that it decreases the government role in deciding the uses to which spectrum may be put. In a fully-property model, the government role falls away, and licensees are permitted to provide any type of service that fits within their spectrum rights. In a spectrum commons, the government sets standards for the types of equipment that may be operated and it supervises the certification process, but government again does not set any limit on the types of services that may be offered using approved equipment. In both, government may be involved in resolving interference problems or enforcing license rights or equipment standards, either through an expert agency

⁸⁷ See, e.g., Authorisations Directive para. 23-24.

⁸⁸ See *id.* at art. 5.

⁸⁹ 47 U.S.C. § 309(j).

⁹⁰ FCC Report to Congress on Spectrum Auctions, at 3 (Oct. 9, 1997) (1997 WL 629251).

⁹¹ See, e.g., Pablo T. Spiller & Carlo Cardilli, *Towards a Property Rights Approach to Communications Spectrum*, 16 Yale J. on Reg. 53 (1999); Lawrence J. White, “Propertyizing” the Electromagnetic Spectrum: Why It’s Important and How to Begin, 9 Media L. & Pol’y 19 (2000); Thomas W. Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, The Spectrum Allocation Faux Pas, and the Punchline to Ronald Coase’s “Big Joke”*: An Essay on Airwave Allocation Policy, 14 Harv. J.L. & Tech. 335 (2001).

⁹² See, e.g., Yochai Benkler, *Some Economics of Wireless Communications*, 16 Harv. J.L. Tech. 25 (2002); Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (2001). The debate is well-summarized by Stuart Benjamin. Stuart Minor Benjamin, *Spectrum Abundance and the Choice Between Private and Public Control*, 78 N.Y.U. L. Rev. 2007 (2003).

or through the courts, but government's authority does not extend to determining the type of service, the number of service providers, or their identity.

Public choice economics, which has been well-received in the U.S., explains a large portion of the desire to decrease the government's role in spectrum allocation. Beauty contests and other comparative process at a minimum create uncertainties for market participants. They are much slower than market-based allocation procedures, and they can never be as transparent. At worst, they create the opportunity for agency capture, for incumbents to use regulatory processes to create barriers to entry. Both phenomena threaten the innovation that is so important to communications markets. Notably, it is widely agreed in the U.S. that the 1996 Act missed an important opportunity to decrease the incumbents' control over spectrum. Outside of the broadcasting context, there is little sentiment for non-market allocation processes.

The concerns over comparative processes generally and over government selection of licensees in particular are also reflected in differing approaches to standard-setting. Reflecting European consensus that the setting of standards for second generation mobile telephones (GSM) was a big success in speeding deployment of those systems, the European framework explicitly contemplates a continued, significant government role in the setting of some telecommunications standards.⁹³ Historically, the U.S. has relied on private industry standard-setting processes, except in the realm of broadcast receivers.⁹⁴ More recently, the FCC has adopted standards for digital television receivers which, while they are based on the FCC's traditional authority over broadcast receivers, also go significantly further to embed digital rights management (DRM) technology – and which hint at the FCC's assuming authority to prescribe DRM for all digital network equipment, including general purpose PCs.

If, as I have maintained,⁹⁵ the network nature of many communications markets means that government must retain authority to order interconnection, government probably also needs to retain some standard-setting authority. But mandatory standard-setting, while it can further competition *within* a defined market, can also decrease competition *for* the market.⁹⁶ More importantly, government standard-setting has the potential to become a barrier to entry. Interconnection rules should be designed to prevent the fragmenting of important public networks, and the domain of government standard-setting should be similarly limited. Economic theory has not been able to identify as a general matter those situations in which a standards-setting battle helps or hurts consumers, and it is unlikely that government will do better. In the absence of a threat to the integrity of a network, government standard-setting should be sparing.

C. Media Policy

The past several years have seen a substantial deregulatory movement in U.S. media policy. The traditional structural regulations, which were designed to further the goals of media diversity and local coverage, have been substantially decreased in scope. Thus, traditional horizontal and vertical ownership limits have been lifted in television and radio

⁹³ Framework Directive, art. 17(1).

⁹⁴ See 47 U.S.C. § 330.

⁹⁵ See *supra* pp. 9-10.

⁹⁶ On competition for or within a market, see generally Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. Chi. L. Rev. 1, 10-14 (2001).

markets.⁹⁷ The FCC has also acted to lift television/newspaper cross-ownership limits and to replace them with more general limits on “media concentration.”⁹⁸ The courts have endorsed the idea in principle, although the most recent rules were vacated and remanded for further justification.⁹⁹

The U.S. tries to use these structural ownership limits to affect media content indirectly, avoiding specific regulation of content that would be suspect under the Constitution’s first amendment (free speech and press). But even the permissibility of this structural regulation is under constitutional assault. Although the lower courts’ recent decisions have refused to question Supreme Court precedent,¹⁰⁰ all of that precedent justifies regulation of media under a view that spectrum remains “scarce.”¹⁰¹ To the extent that such a view ever had merit, it is increasingly untenable, as the FCC itself has found. The consensus appears to be that a competitive media market will provide diverse and local programming; as a result, the continuation of some structural rules is designed only to eliminate residual market distortions created by the lack of adequate competition in video programming markets.

In the context of media policy, the European framework, however, diverges from its general commitment to regulating only upon a showing a significant market power. “In contrast to the telecommunications sector, the EU audio-visual sector is still to a significant extent regulated by unharmonised national legislation that covers a much wider scope than the limited aspects dealt with by Community Directives on television.”¹⁰² Indeed, the new framework does not seem to embrace competition as the end (or means) of media policy. The Access Directive states, without further explanation, that “[c]ompetition rules alone may not be sufficient to ensure cultural diversity and media pluralism in the area of digital television.”¹⁰³ Member States are given authority, “without prejudice to measures that may be taken regarding undertakings with significant market power in accordance with Article 8” authority to impose access requirements on digital and television broadcasting services.¹⁰⁴ The Universal Service Directive seems to go even farther, holding that “Member States may impose reasonable ‘must carry’ obligations, for the transmission of obligations . . . on undertakings under their jurisdiction providing electronic communications networks used for the distribution of radio or television broadcasts to the public where a significant number of end-users of such networks use them as their principal means to receive radio and television broadcasts.”¹⁰⁵ The threshold for must carry regulation – a ‘significant number of end-users’ is not synonymous with market power.¹⁰⁶

⁹⁷ For a useful summary, see *Prometheus Radio Proj. v. FCC*, 373 F.3d 372 (3d Cir. 2004).

⁹⁸ See *id.*

⁹⁹ *Id.* at 404-11.

¹⁰⁰ See *id.* at 401-02; *Fox Television Networks v. FCC*, 280 F.3d at 1046 (“contrary to the implication of the networks’ argument, this court is not in a position to reject the scarcity rationale even if we agree that it no longer makes sense. The Supreme Court has heard the empirical case against that rationale and still declined to question its continuing validity”).

¹⁰¹ *FCC v. Nat’l Citizens Comm. for Broad.*, 436 U.S. 775, 780 (1978) (upholding original cross ownerships rules under limited first amendment scrutiny, due to scarcity of broadcasting outlets); *FCC v. League of Women Voters*, 468 U.S. 364, 376 (1984) (refusing to revisit scarcity issue); *Turner Broadcasting v. FCC*, 512 U.S. 622, 638 (1994) (noting continuation of scarcity rationale).

¹⁰² Laurent Garzaniti, *Telecommunications, Broadcasting and the Internet: EU Competition Law & Regulation* § 2-001 (2d ed. 2003).

¹⁰³ Access Directive, preamble, para. (10).

¹⁰⁴ *Id.* art. 5(1)(b).

¹⁰⁵ Universal Service Directive, art. 31(1).

¹⁰⁶ See Nihoul & Rodford, *supra* note 86, at § 7.196 (also adopting this reading of the section).

Media policy does seem to be the principal area in which competition policy and other social goals come most directly into conflict. In the U.S., the conflict is less, for the first amendment generally points in a deregulatory direction. Indeed, U.S. courts have used first amendment scrutiny to strike down a number of FCC structural regulations, on grounds that evidence had not been developed to justify the restrictions on free speech that those regulations entailed.¹⁰⁷ As noted, the continued freedom that Congress and the FCC have to regulate television and radio will continue only so long as the courts continue to accept the scarcity rationale, for it is only that rationale that denies to broadcasters their full rights under the first amendment.¹⁰⁸

The differing directions of U.S. and European media policy seem not to be driven entirely by constitutional imperatives, though these are important (especially where, as in some Member States, there appears to be a constitutional requirement that the government affirmatively ensure pluralism and media diversity). Rather, both the absence of government broadcasting and the relatively small amount of non-commercial broadcasting in the U.S. testify to American comfort with market processes in video markets. Media deregulation is controversial in the U.S., to be sure, but the controversy generally rages over there is adequate competition in distribution technologies to justify deregulation. Only a few and diminishing number of U.S. commentators demonstrate any concern over whether a competitive media market would provide sufficient “good” programming – meaning educational, news, or cultural programming.¹⁰⁹

D. Universal Service

Both the U.S. and European law demonstrate a strong commitment to universal service. The 1996 Act in the U.S., while it turned to market processes in many regards, emphasized and expanded the U.S. commitment to universal service.¹¹⁰ The Universal Service Directive similarly affirms the importance of universal service and confirms the Members States’ ability to adopt universal service protections.¹¹¹

The U.S. statute and the European Directive similarly state that universal service funding should not alter competition in the market between carriers. The U.S. statute exhorts that universal service funding should be “competitively neutral”;¹¹² the Universal Service Directive says that “it is important to ensure . . . that any financing is undertaken with minimum distortion to the market and to undertakings.”¹¹³ Currently, the U.S. scheme falls well short of this aspiration, as universal service taxes are paid only by “telecommunications carriers,” which means the Internet providers do not contribute.¹¹⁴ By contrast, the Universal Service Directive calls for “spreading contributions as widely as possible.”¹¹⁵

¹⁰⁷ See generally James B. Speta, *Vertical Regulation of Digital Television: Explaining Why the United States Has No Access Directive* in *Regulating Access to Digital Television* (Eur. Audiovisual Obs. 2004).

¹⁰⁸ In the indecency context, the Court has often rested on the notion that television and radio intrude into a person’s home to a greater degree or are more likely to take a child by surprise than other media. *E.g.*, *FCC v. Pacific Found.*,

¹⁰⁹ See Newton N. Minow & Fred H. Cate, *Revisiting the Vast Wasteland*, 55 Fed. Comm. L.J. 407 (2003).

¹¹⁰ See 47 U.S.C. § 254; see generally Milton Mueller, *Telecommunications Access in an Era of E-Commerce: Towards a Third Generation Universal Service Policy*, 49 Fed. Comm. L.J. 655 (1997).

¹¹¹ Universal Service Directive, preamble, art. 1.

¹¹² 47 U.S.C. § 254(d).

¹¹³ Universal Service Directive, para. 18; see also *id.* para. 23.

¹¹⁴ See Mueller, *supra* note 110, at 655-57.

¹¹⁵ Universal Service Directive, para. 23.

Given the commitment to universal service in principle, the difficult questions arise in providing appropriate tools to implement the policy. As an initial matter, it is well-understood that the least distorting mechanism for providing universal service would be through general revenues,¹¹⁶ but, reflecting similar political realities, neither the U.S. nor Europe makes that system mandatory.¹¹⁷ Thus, the U.S. system opts for a telecommunications-sector specific tax and funding mechanism.

Here, the Universal Service Directive seems to empower regulators to a much more significant extent than does the U.S. system. The Directive, consistent with the central tenets of the new regulatory framework, does express that primary reliance should be made on market mechanisms for providing universal service.¹¹⁸ Nevertheless, the Directive authorizes national regulatory authorities to use an extremely wide variety of tools to implement universal service goals, including tariff review,¹¹⁹ quality of service review,¹²⁰ information obligations,¹²¹ cost of service monitoring,¹²² and even unbundling.¹²³

U.S. regulation has moved decidedly away from each of these techniques, even in markets which are not fully competitive. In markets demonstrating higher levels of competition, the U.S. has dismantled tariffing regimes and largely eliminated consumer protections on quality of service and non-discrimination.¹²⁴ Even in less-competitive markets, full tariff and cost regulation has been replaced by price-cap regulation,¹²⁵ a technique which is not forbidden by the Directive, but one which is not required either.

Indeed, the U.S. law is likely to continue in the direction of limiting the appropriate domain of economic regulation to the domain in which markets fail. And universal service is neither an economic regulation nor a response to market failure. Although universal service can be justified on the basis that it creates long-term economic benefits by reducing unemployment or enhancing education and information, universal service is not itself a policy designed to correct for an externality in the market.¹²⁶ More importantly, universal service policies – as the Directive straightforwardly acknowledges – are designed to ensure each citizen a certain level of telecommunications service as a “basic good” and to provide it at prices lower than even a competitive market might establish.¹²⁷

¹¹⁶ See Jerry Hausman & Howard Shelanski, *Economic Welfare and Telecommunications Regulation: The E-Rate Policy for Universal Service Subsidies*, 16 Yale J. on Reg. 19, 32-34 (1999).

¹¹⁷ See Universal Service Directive, para. 22, 23 (permitting general funds to subsidize universal service, but also permitting taxes on communications companies).

¹¹⁸ *Id.* art. 3(2) (“Member States ... shall seek to minimize market distortions, in particular the provision of services at prices or subject to other terms and conditions which depart from normal commercial conditions.”).

¹¹⁹ *Id.* art. 9.

¹²⁰ *Id.* art. 11.

¹²¹ *Id.* art. 10.

¹²² *Id.* art. 12.

¹²³ *Id.* art. 10(1) (“Member States shall ensure that designated undertakings ... establish terms and conditions in such a way that the subscriber is not obliged to pay for facilities or services which are not necessary or not required for the service requested.”).

¹²⁴ See Charles H. Helein, et al., *Detariffing and the Death of the Filed Tariff Doctrine: Deregulating in the “Self” Interest*, 54 Fed. Comm. L.J. 281 (2002).

¹²⁵ Gregory J. Vogt, *Cap-Sized: How the Promise of the Price Cap Voyage To Competition Was Lost in a Sea of Good Intentions*, 54 Fed. Comm. L.J. 281, 285-90 (1999).

¹²⁶ Economists, of course, have established that a network provider cannot capture all of the gain from adding subscribers to the network – the definition of a “network externality.” But the scope of universal service policy is designed to go far beyond this rather small phenomenon.

¹²⁷ Universal Service Directive, paras. 4-7.

The wide range of regulatory tools granted by the Universal Service Directive to national regulatory authorities thus presents two difficulties from the U.S. perspective. First, tools such as tariffing and cost-of-service regulation raise the prospect of continuing the inefficient internal cross-subsidization that impeded competition in some markets. Second, granting regulators a wide range of discretion without a limiting concept such as “significant market power” raises the possibility of entrenchment and capture – of continuing in place regulators that themselves may be barriers to entry of new services. To be sure, the new regulatory framework limits regulatory authority in other of its Directives, but the breadth of regulatory powers under the Universal Service Directive seems to cut in the opposite direction.

III. Conclusions

It is probably unfair, at this date, to draw any firm conclusions about the European regulatory framework. Europe still is at a relatively early stage of implementation of the new regulatory framework. Some Member States are still implementing its provisions in national legislation. France, for example, has just promulgated its new telecommunications laws,¹²⁸ and public consultations on market analysis are continuing. More importantly, this implementation comes against the backdrop of only recently liberalized markets. Until quite recently by comparative standards, telecommunications was the subject of state enterprises and a rigid legal monopoly.¹²⁹

Nevertheless, given the need for statutory and regulatory reform in the United States, where the law still follows service-specific categories, the European framework provides an important and unavoidable example. There is no doubt that its attempt to develop rules addressing all communications services is worthy of emulation. Moreover, the basic approach of the European framework – to make regulation contingent upon a finding of significant market power – is exactly the direction that U.S. theory and practice has been heading. Indeed, it is no exaggeration to state that the FCC is already applying this approach where, given the constraints of legacy regulation, it can.

More importantly, the European framework identifies areas on which U.S. regulatory reform must focus. Principal among these is the definition of market power, or, more accurately, the definition of those kinds of market power which will justify the costs of intensive sector-specific regulation. It seems unlikely that the U.S. will adopt leveraging theory wholesale, when so many current decisions have been premised on its rejection. But the U.S. must also devise policies to address oligopolistic markets, especially those that seem likely to have persistent, concentrated structures. In this regard, media policy is especially problematic, for the harm of a concentrated media structure rests not only in the economics of purchase and sale (higher price and smaller quantities) but also in the provision of information, analysis, and cultural goods that are essential to functioning politics.

The most likely direction for U.S. policy – and one that seems advisable – is to continue to diminish the realm of economic regulation and to rely on a single regulatory tool

¹²⁸ LOI no 2004-669 du 9 juillet 2004 relative aux communications électroniques et aux services de communication audiovisuelle (Journal Officiel de la République Française, July 10, 2004, Texte 1 sur 164).

¹²⁹ The U.S. Bell System had a de facto monopoly over many services, but, it is difficult to say that it ever enjoyed a full legal monopoly. See William J. Baumol & Thomas W. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996*, 72 N.Y.U.L. Rev. 1037 (1997).

to address whatever the continued effects are of concentration and of network markets' inherent tendencies toward "tippiness." That regulatory tool is interconnection rules. In horizontal markets, such as traditional telephone and newer data markets, interconnection is necessary to ensure against barriers to entry, and evolving competition seems best protected by legal rules requiring such interconnection. An interconnection rule, however, limits the regulators' power to wholesale markets, which decreases (but does not eliminate) the possibility for distortions from regulation. And a vertical interconnection rule (i.e., a rule forbidding carriers to discriminate against content and applications) can eliminate some of the dangers of concentration on infrastructure markets. In the Access Directive, the European scheme provides a useful starting point.

Last, Universal Service policy must evolve to more of a "tax and spend" structure, and the U.S. system is heading decidedly in this direction. The "tax" will remain on telecommunications entities, but the use of subsidies – and, ideally, of consumer directed subsidies such as vouchers – will again limit the domain of regulation and its distortions.

References

- [1] Jonathan B. Baker, *Mavericks, Mergers, and Exclusion: Proving Coordinated Competitive Effects under the Antitrust Laws*, 77 N.Y.U. L. Rev. 135 (2002).
- [2] Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 Antitrust Bull. 143 (1993).
- [3] William J. Baumol & Thomas W. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996*, 72 N.Y.U.L. Rev. 1037 (1997).
- [4] Yochai Benkler, *Some Economics of Wireless Communications*, 16 Harv. J.L. Tech. 25 (2002).
- [5] Stuart Minor Benjamin, *Spectrum Abundance and the Choice Between Private and Public Control*, 78 N.Y.U. L. Rev. 2007 (2003).
- [6] Stanley Besen & Joseph Farrell, *Choosing How To Compete: Strategies and Tactics in Standardization*, 8 J. Econ. Persp. 117, 119 (1994).
- [7] Jens-Daniel Braun & Ralf Capito, *The Framework Directive*, in EC Competition and Telecommunications Law 309 (C. Koenig, et al. eds., 2003).
- [8] Council Directive 92/44/EEC of 5 June 1992 on The Application of Open Network Provision to Leased Lines, 1992 O.J. L 165/27.
- [9] Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on Interconnection in Telecommunications With Regard to Ensuring Universal Service and Interoperability Through Application of the Principles of Open Network Provision (ONP), 1997 O.J. L 199/32.
- [10] Directive 98/10/EC of the European Parliament and of the Council of 26 February 1998 on The Application of Open Network Provision to Voice Telephony and on Universal Service for Telecommunications in a Competitive Environment, 1998 O.J. L 101/24.
- [11] Directive 2002/21 of March 7, 2002, on a Common Regulatory Framework for Electronic Communications Networks and Services, O.J. 2002 L108/33 (“Framework Directive”).
- [12] Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002, on Access to, and Interconnection of, Electronic Communications Networks and Associated Facilities, 2002 O.J. L 108/7.
- [13] European Commission, Guidelines on Market Analysis and the Calculation of Significant Market Power under the Community Regulatory Framework for Electronic Communications Networks and Services, 2002 O.J. C 165/6 (July 11, 2002).
- [14] Frank Easterbrook, *The Limits of Antitrust*, 63 Tex. L. Rev. 1, 15 (1984).
- [15] Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 Harv. J. L & Tech. 85 (2003).
- [16] Laurent Garzaniti, *Telecommunications, Broadcasting and the Internet: EU Competition Law & Regulation* § 2-001 (2d ed. 2003).
- [17] Jerry Hausman & Howard Shelanski, *Economic Welfare and Telecommunications Regulation: The E-Rate Policy for Universal Service Subsidies*, 16 Yale J. on Reg. 19 (1999).
- [18] Thomas W. Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, The Spectrum Allocation Faux Pas, and the Punchline to Ronald Coase’s “Big Joke”: An Essay on Airwave Allocation Policy*, 14 Harv. J.L. & Tech. 335 (2001).
- [19] Charles H. Helein, et al., *Detariffing and the Death of the Filed Tariff Doctrine: Deregulating in the “Self” Interest*, 54 Fed. Comm. L.J. 281 (2002).
- [20] Peter W Huber, *Law and Disorder in Cyberspace: Abolish the FCC and Let Common Law Rule the Telecosm* (1997).

- [21] Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 Am. Econ. Rev. 424, 426-27 (1985).
- [22] Evan Kwerel & John Williams, A Proposal for a Rapid Transition to Market Allocation of Spectrum, OPP Working Paper No. 38, Nov. 2002 (http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228552A1.pdf).
- [23] Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* (2001).
- [24] Fred S. McChesney, *Talking 'Bout My Antitrust Generation: Competition for and in the Field of Competition Law*, 52 Emory L.J. 1401 (2003).
- [25] Craig McTaggart, *A Layered Approach to Internet Legal Analysis*, 48 McGill L.J. 571 (2003).
- [26] Newton N. Minow & Fred H. Cate, *Revisiting the Vast Wasteland*, 55 Fed. Comm. L.J. 407 (2003).
- [27] Milton Mueller, *Telecommunications Access in an Era of E-Commerce: Towards a Third Generation Universal Service Policy*, 49 Fed. Comm. L.J. 655 (1997).
- [28] Paul Nihoul & Peter Rodford, *EU Electronic Communications Law: Competition and Regulation in the European Telecommunications Market* (2004).
- [30] Lambros Papadias, *Some Thoughts on Collective Dominance From A Lawyer's Perspective*, in *The Economics of Antitrust and Regulation in Telecommunications: Perspectives for the New European Framework* 114 (Pierre Buiges & Patrick Rey eds., 2004).
- [31] Monroe E. Price & John Duffy, *Technological Change and Doctrinal Persistence: Telecommunications Reform in Congress and the Courts*, 97 Colum. L. Rev. 976 (1997).
- [32] Patrick Rey, *Collective Dominance and the Telecommunications Industry*, in *id.* at 91.
- [33] Robert J. Reynolds & Janusz A. Ordovery, *Archimedean Leveraging and the GE/Honeywell Transaction*, 70 Antitrust L.J. 171 (2001).
- [34] *Schurz Communs., Inc. v. FCC*, 982 F.2d 1043 (7th Cir. 1992).
- [35] Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. Chi. L. Rev. 1, 10-14 (2001).
- [36] Howard A. Shelanski, *The Bending Line between Conventional Broadcast and Wireless Carriage*, 97 Colum. L. Rev. 1048 (1997).
- [37] Lawrence B. Solum & Minn Chung, *The Layers Principle: Internet Architecture and the Law*, 79 Notre Dame L. Rev. 815 (2004).
- [38] James B. Speta, *Deregulating Telecommunications in Internet Time*, 61 Wash. & Lee L. Rev. (forthcoming 2004).
- [39] James B. Speta, *Vertical Regulation of Digital Television: Explaining Why the United States Has No Access Directive*, in *Regulating Access to Digital Television* (Eur. Audiovisual Obs. 2004).
- [40] James B. Speta, *FCC Authority To Regulate the Internet: Creating It and Limiting It*, 35 Loy. U. Chi. L.J. 15 (2003).
- [41] James B. Speta, *Maintaining Competition in Information Platforms: Vertical Restrictions in Emerging Telecommunications Markets*, 1 J. Telecom. & High Tech. L. 185 (2002).
- [42] James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 Yale J. on Reg. 39, 61-76 (2000).
- [43] Pablo T. Spiller & Carlo Cardilli, *Towards a Property Rights Approach to Communications Spectrum*, 16 Yale J. on Reg. 53 (1999).
- [44] George J. Stigler, *A Theory of Oligopoly*, 72 J. Pol. Econ. 44 (1964).
- [45] *Time Warner Ent., L.P. v. FCC*, 240 F.3d 1126 (D.C. Cir. 2001).
- [46] Jean Tirole, *The Theory of Industrial Organization* (1988).

- [47] Towards a Dynamic European Economy: Green Paper on the Development of the Common Market for Telecommunications Services and Equipment, COM(87) 290 (July 30, 1987).
- [48] United States Federal Communications Commission, High Speed Access to the Internet over Cable and Other Facilities, 17 FCC Rcd. 4798 (2002) (refusing to require open access to cable modem infrastructure), *rev'd in part*, Brand X Internet Servs. v. FCC, 345 F.3d 1120 (9th Cir. 2003).
- [49] U.S. FCC, Spectrum Policy Task Force Report, Nov. 2002 (http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228542A1.pdf).
- [50] U.S. FCC, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Tenth Annual Report, FCC 04-5 (released Jan. 28, 2004).
- [51] United States Senate Commerce Committee, Hearing of the Senate Commerce Committee, Feb. 24, 2004 (transcript available on Lexis, Federal New Service file).
- [52] Gregory J. Vogt, *Cap-Sized: How the Promise of the Price Cap Voyage To Competition Was Lost in a Sea of Good Intentions*, 54 Fed. Comm. L.J. 281 (1999).
- [53] Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 Loy. U. Chi. L.J. 41 (2003).
- [54] Kevin Werbach, *A Layered Approach to Internet Policy*, 1 J. Telecom. & High Tech. L. 25 (2001).
- [55] Lawrence J. White, "Propertyizing" the Electromagnetic Spectrum: Why It's Important and How to Begin, 9 Media L. & Pol'y 19 (2000).
- [56] Richard S. Whitt, *A Horizontal Leap Forward: Formulating a New Communications Policy Framework Based on the Network Layers Model*, 56 Fed. Comm. L.J. 587 (2004).
- [57] Diane P. Wood, *The Impossible Dream: Real International Antitrust*, 1992 U. Chi. L. Forum 277.
- [58] Diane P. Wood, *International Harmonization of Antitrust Law: The Tortoise or the Hare?*, 3 Chi. J. Int'l L. 391 (2002).
- [59] Timothy Wu, *Application-Centered Internet Analysis*, 85 Va. L. Rev. 1163 (1999).
- [60] Christopher S. Yoo, *Would Mandating Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. Telecom. & High Tech. L. (forthcoming 2004).