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Telecommunications: Competition Policy in the Telecommunications Space

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**2014 NATIONAL LAWYERS CONVENTION
MILLENNIALS, EQUITY, AND THE RULE
OF LAW**

**TELECOMMUNICATIONS: COMPETITION
POLICY IN THE TELECOMMUNICATIONS
SPACE**

Panelists:

GENE KIMMELMAN, President and CEO, Public Knowledge

***HON. MAUREEN K. OHLHAUSEN, Federal Trade
Commission***

***HON. MICHAEL O'RIELLY, Federal Communications
Commission***

***PROFESSOR CHRISTOPHER S. YOO, John H. Chestnut
Professor of Law, Communication, and Computer &
Information Science, and Founding Director, Center for
Technology, Innovation & Competition, University of
Pennsylvania***

Moderator:

***HON. STEPHEN F. WILLIAMS, Senior Circuit Judge, U.S.
Court of Appeals, D.C. Circuit***

*3:45 to 5:15 p.m.
Thursday, November 13, 2014
Mayflower Hotel
Washington, D.C.*

JUDGE STEPHEN F. WILLIAMS: This is the panel on Competition Policy in the Telecommunications Space. We have two commissioners, from the Federal Trade Commission and the Federal Communications Commission. We have a professor, Professor Yoo of Pennsylvania and Gene Kimmelman, President of Public Knowledge. They are lined up in the sequence that they agreed on to speak, and some may speak from their chairs and some may speak from here. The hope is that they will speak somewhere between five to ten minutes each, leaving us plenty of time for internecine warfare and questions from you.

MAUREEN K. OHLHAUSEN: Thank you, Judge, and thank you to the Federalist Society for having me. I'm delighted to be here to talk to you about net neutrality, one of my favorite topics, as well as how the FTC and the antitrust law and the consumer protection law should all fit together in this space. I'm currently a commissioner at the Federal Trade Commission but my prior experience as the head of the Internet Access Task Force at the FTC, which issued a report on broadband connectivity competition policy in 2007, actually has, in some ways, much more relevance to this topic.

And as I think about these issues, about competition in the telecommunications space, a couple of antitrust related questions come to mind. What are the tools that antitrust can bring to bear for the kinds of concerns that people are raising in this area, about lack of competition, about foreclosure, about the ability of a gatekeeper to prevent other competitors in the marketplace or to reduce consumer choice? I think the FTC has two very useful tools that it can bring to bear on these kinds of issues. First of all, antitrust enforcement. The FTC and the Department of Justice have long brought enforcement actions against companies who are engaging in anticompetitive practices or conduct, including the telecommunications space. I will note the FTC has a common carrier exemption and I'll return to that, so our authority has been limited to reach certain players in the market.

What are some of the benefits that an antitrust approach can bring to addressing these kinds of competitive and consumer concerns in the telecommunications market? First of all, I think we can give businesses and consumers predictability, reliability,

and transparency in carrying out our enforcement mission. Antitrust issues have been long explored. They're very heavily influenced by economics and overseen by the court system. There's a lot of scholarly research in this area.

I think there's also a very good track record of a fairly quick resolution. I don't think the AT&T breakup, necessarily, is a good example of that. That went on a very long time, but perhaps because there was a very regulatory approach to the breakup. But I do think antitrust can generally offer a quicker solution.

One of the other benefits is expertise and procedural tools to develop an extensive factual record quickly and efficiently. We ask, is there a harm occurring in the market or likely to occur in the market? It's a very fact-based and very fact-specific inquiry. I think one of the real challenges with prescriptive regulation that's forward-looking is a knowledge problem. Hayek would talk about it in those terms. Does the enforcer or the regulator have the necessary information at hand about what's really occurring in the marketplace? It's very hard to predict the future. It's very hard to foresee problems that may arise or good things that an overly restrictive approach might prevent. So a fact-specific, case-by-case enforcement method, I think, has great advantages.

One of the other benefits of an antitrust approach is the emphasis on economics. That's a very, very important part of antitrust analysis these days. The broadband market is a two-sided market. What does that mean? What is the impact that that may have? Two-sided markets are very hot these days. Jean Tirole won the Nobel Prize in Economics for his observations on this topic. But what is so important about two-sided markets that requires proceeding with care? Whatever solution or restriction is adopted on one side of the market can have important effects on the other side of the market, and if you don't understand how these two sides of the market are interrelated restrictions might, on balance, make consumers worse off.

The second relevant tool the FTC has is our consumer protection authority. You may be aware that the FTC recently brought an enforcement action against AT&T. It's in active litigation so I'll just tell you what was said in the complaint. AT&T had promised unlimited access to some of its wireless Internet subscribers, yet it throttled the access for some of those

subscribers. The FTC brought a consumer protection action based on our deception authority, and also on our unfairness authority, but primarily our deception authority, saying that if a company has promised a certain level of broadband service and they don't provide that level, that's a fairly straightforward consumer protection violation that the FTC can challenge.

So to bring this all back to some of the debate that's going on today about net neutrality, there is one issue that I want to bring to the fore because it hasn't gotten that much attention. The FTC has a common carrier exemption, so we can't bring an enforcement action against a common carrier providing common carrier services. Right now, broadband is not classified as a common carrier service, so, for example, we were able to bring the action I just mentioned against AT&T. If broadband is reclassified as a Title II service, that is very likely to oust the FTC's jurisdiction over these kinds of practices.

I'm concerned about that. I'm concerned about it on the consumer protection side as well as on the antitrust side. For example, the previous open Internet order upheld by the D.C. Circuit includes a transparency requirement, so broadband providers right now have to give consumers information about how they manage traffic. That's a promise that they make to consumers. If they don't adhere to that promise, right now the FTC could bring an enforcement action against them, much like we brought one against AT&T in the throttling case.

Thus one of the concerns that I have is losing the ability of the FTC to act as an enforcer on both the antitrust and the consumer protection side. If we pursue some other values through a regulatory approach, does losing the FTC's authority to act in this area, on balance, make consumers better off? Given our active enforcement, and given the tools that we have to protect consumers on both the antitrust and the consumer protection front, I have my doubts.

So I'll stop there and look forward to the debate.

[Applause.]

MICHAEL O'RIELLY: Well, thank you so much. I hope you will forgive me. I am going to stay tied to my written script. Given the sensitivities of everything happening right now, I think it's best if I don't go off the cuff with anything being said. So I hope you'll forgive me on that point and I'm happy to answer any questions as we go along.

I want to start by thanking the Federalist Society for having me and the opportunity to participate with such distinguished guests. Before I begin, I should mention that I intend to keep my comments rather general, so as not to address any particular item or situation presently before the Federal Communications Commission. Moreover, as a practice, I do not publicly comment on pending or potential mergers, so if people have questions on those issues, I'm bound to punt on them later on.

Similar to our fellow agency, as ably represented by my good friend, Commissioner Ohlhausen, part of the Federal Communications Commission's mission is focused on competition. In particular, the Commission focuses on competition within the telecommunications space, and, more broadly, the overall communication marketplace. Unlike the FTC, however, the FCC has a much different regulatory paradigm, resulting from a vastly different statutory construct. Practitioners of communication policy know that almost all authority provided by Congress to the FCC is contained in the Communications Act of 1934. From this statute, the Commission is structured to be a proactive oversight agency as opposed to adhering to an antitrust model. For good or bad, this means that the provisions in the statute provide the Commission with authority to respond to circumstances or conditions in the market, or to preempt circumstances that may happen.

From a historical perspective, the concepts of competitive markets and competition within the communication space are a relatively new phenomenon in the life of communications policy. It is only within the last thirty years of the overall 130 year-or-so history that today's vision of competition, rather than monopoly-created policy, has garnered the focus and attention of legislators and regulators. This emphasis was solidified as one of the cornerstones of the landmark Telecommunications Act of 1996, which enacted a number of deregulatory measures and operated

numerous market segments to competitive forces where only government-sanctioned monopolies previously existed. By rejecting artificial monopolies and embracing competition, the Telecommunications Act also provided the Commission with authority to prevent some private actors from engaging in certain practices that would harm competition.

Separately, the Commission often uses its long-standing merger authority to consider and impose conditions on parties to transactions, regulate couching of these conditions under a pro-competitive banner. These statutory provisions, including Section 214(a) and 310(d), authorize the Commission to approve or reject the transfer of communications licenses between parties. In order to obtain Commission approval to complete a merger or a licensed sale, the parties traditionally have been required to show how a particular transfer would meet the so-called public interest, which has proven over time to be a moving, subjective target.

To be clear, competition-related provisions in the statute do not necessarily always induce additional regulations but can lead to the deregulatory actions as well. For instance, Section 10 of the Communications Act, as added by the Telecommunications Act, and establishes a forbearance process to exclude any regulation from applying to a particular carrier or a telecommunications service or class thereof, under certain conditions. In fact, in considering whether to approve a forbearance petition, the Commission is required to consider whether doing so will promote competitive market conditions, including the extent to which such forbearance will enhance competition among providers of telecommunications services.

There have been multiple debates and criticism over the application of this provision by the Commission since its enactment. Recently, the Commission determinations have effectively narrowed the existing forbearance authority and expanded the scrutiny of most applications, to the point of undermining its utility. Overall, the exercise of the Commission's authority is subject to findings about the conditions in the marketplace. Since the advent of competition-centered policy, the Commission has tended to refrain from imposing new regulations or to withdraw existing regulations where a market or market

segment is competitive; that is, there has been an inverse relationship between competition and regulation. As competition within a communication market segment increases, the necessity of regulation decreases, and consumers, whether commercial or retail, are able to move to other providers for the same or similar product or service. This light-tough regulatory approach has been the relative norm for a number of years and helped produce a sound economic growth generated by the communications industry. Lately, however, the Commission seemed to be turning its back on this approach by imposing regulations even in competitive markets. In general, many of the communications market segments in the United States are experiencing fairly significant levels of competition. While critics always seek more, this must be balanced with the high capital and labor costs required in this sector to operate and compete effectively.

The limitations of the Commission's statutory oversight authority arguably rest at the front door of the Internet. Despite what some people suggest, the statute provides limited authority to the Commission to oversee or regulate the Internet backbone networks for applications and services. Accordingly, the Commission has declined in the past to subsume the Internet in the bowels of the Communications Act. Recently, I've started to see the prior decisions, the ones that have allowed the Internet to flourish absent government mandates and involvement, become the subject of the Commission's rethinking process.

I am a fervent believer of competitive forces, instead of imposing regulatory mandates or burdens. Whereas real, stable and lasting competition can tend to lead to lower prices for consumers, increased economic efficiencies, greater productivity, and advances in product and service offerings, regulations carry with them added costs, unintended and sometimes unforeseen consequences, lost productivity, and dead weight. Moreover, regulations interfere with the free market system, steering consumers and providers in directions that can be detrimental to innovation and the development of future marketplace. It is not an understatement to acknowledge that each regulation changes the path of communications history by some degree.

I find the argument that you cannot have initial competition without the imposition of regulation to be completely fictitious.

Think of the multiple Internet e-mail and text offerings that compete today, without the imposition of any direct regulation. I also subscribe to the premise that government entities do not actually create markets or competition, except in the extremely problematic event, when a government enters the field as a participant. Even in the most positive light, governments can, at best, create an atmosphere or an environment for competition by private entities, who are willing to put capital at risk, put their financial future at risk, put their employees' future at risk, and much more, to generate a product or service. Detrimentally, some governments, however, exert their power to bolster existing market players, often under the guise of preserving competition for market forces, such as bankruptcy, liquidation, or consolidation.

With that framework outlined, I'm prepared to cede podium to the next presenter.

[Applause.]

PROFESSOR CHRISTOPHER S. YOO: I'm delighted to be here, and I thank Judge Williams for doing such a great job and for Commissioners Ohlhausen and O'Rielly for setting up this discussion so well. I would like to take the conversation in a slightly different direction. I would like to present some data on competition. Policymaking is at its best when it is based on a solid factual foundation. In the absence of data, people are free to base their arguments on their personal preferences or their business interests so long as they are theoretically plausible. Absent data, advocates can base their positions on anything that *might* happen instead of focusing more narrowly on the more important context of what is actually happening.

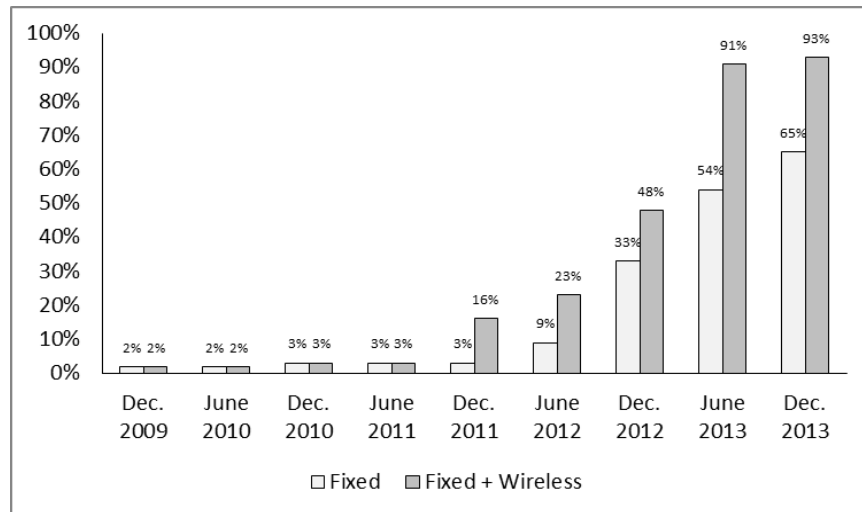
I will offer one fairly standard caveat: No data collection methodology is perfect. There is always some degree of incompleteness or inconsistency in the data. The solution is to acknowledge the limitations of the data and interpret it with those limitations in mind. The alternative would be not to rely on any data and to base policy on conjecture. One of the strengths of the data on which I am relying is that almost all of it was collected by

the EU government or by the U.S. government, specifically the FCC and the National Telecommunications and Information Administration (NTIA). That means that the data was collected through a process that was subjected to extensive public scrutiny and comment and was analyzed by public servants doing their best to promote the public interest. Indeed, many of the objections to these data were actually raised during the collection process and rejected. So even if there are people who would disagree with the result, I don't think we can attribute that to bad faith or special interests. These data were collected by government officials attempting to do their job as well as they could.

The conventional wisdom is that broadband service is a fixed-line duopoly. I have two qualms with that characterization. The first is that there is growing evidence that for many Americans, wireless is beginning to supplant fixed-line broadband service. Almost every projection has fixed-line service remaining flat both in terms of the number of subscribers and utilization, while wireless subscribership and utilization are projected to increase steadily. The technical community is working on a variety of ways to meet this demand, by retiring 2G spectrum during the 3G-to-4G transition, repurposing other spectrum bands that are not in heavy demand, and by deploying more cell towers operating at lower power. Others argue that there is not enough spectrum to permit wireless to completely replace fixed-line service. Rather than resolve this argument, I will present data that consider fixed-line service by itself as well as data that consider both fixed-line and wireless service together.

The first set of data that I am going to show you are collected by the FCC (Figure 1). The FCC has collected data semiannually on the number of providers offering service in every census tract in the U.S. The agency uses that data to calculate the percentage of U.S. households located in census tracts that enjoy broadband service, as well as the number of competitive options each of them enjoy. These data have the advantage of having been collected for the longest amount of time, so they are the best at showing trends. Although the FCC collects data on 3 Mbps, 6 Mbps, and 10 Mbps service, I will focus on the fastest tier, which is sufficient for most uses except for video.

Figure 1: Percentage of Households Served by Three or More Broadband Providers, FCC Census Tract Data



Source: FCC

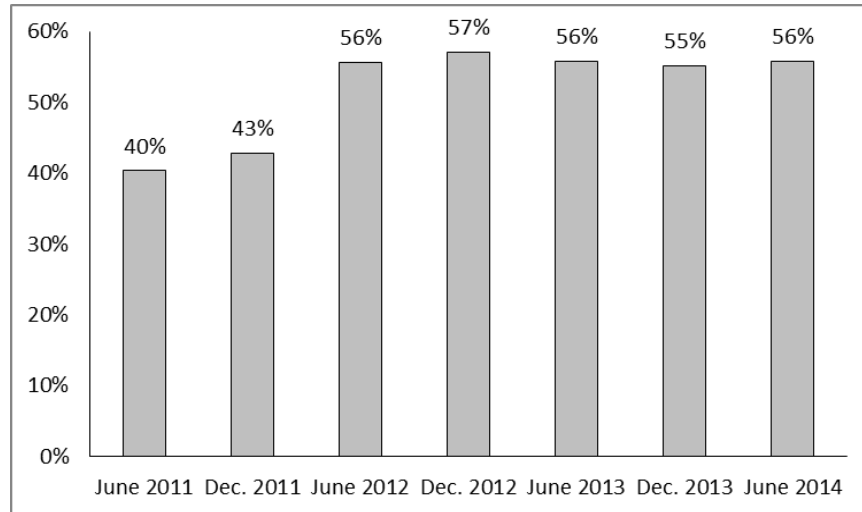
What we see is that through 2011, the level of competition was relatively low, with only 3 percent of U.S. households being located in census tracts served by three or more providers. That situation begins to change dramatically in late 2011, reaching 93 percent by the end of 2013, which is the last year for which the FCC has collected data. Even if one considers only fixed-line broadband, by the end of 2013, 65 percent of American households were located in census tracts served by three or more providers. So casual assertions that broadband represents a duopoly in the U.S. is not fully supported by the FCC's data.

This conclusion is subject to a number of caveats resulting from the limitations of the data. One well-recognized limitation is that under the FCC's methodology, a census tract is considered served by a provider if a single household within it can receive service from that provider. The problem is that some census tracts are quite large, so large that the fact that one household can receive service often says little about whether other households

located in the same census tract can also receive service. The result is that the FCC's methodology likely overstates the actual percentage of households receiving 10 Mbps service from three or more providers. While this criticism raises questions about the accuracy of the absolute coverage numbers reported by the FCC, it does not undercut the overall trend in broadband coverage, which is towards greater competition.

In addition, the NTIA has also collected data about the percentage of U.S. households with three or more competitive options for fixed-line broadband (Figure 2). Unlike the FCC data, which collects data by census *tract*, a geographic area slightly smaller than a ZIP code, the NTIA collects data by the smallest standard unit collected by any U.S. government agency, known as the census *block*, which is the rough equivalent of a city block. Unlike the FCC, which disaggregates coverage by speed tier, the NTIA data simply reports coverage for a single basic tier of service. These data suggest again that the market became more competitive, with the number of households served by three or more broadband providers increasing from 40 percent as of the end of 2011 to 56 percent as of June 2014. What is striking, however, is that the NTIA data on competitive have been largely flat since June 2012, which means the positive trend identified in the FCC data over this period is not reflected in the NTIA data. These inconsistencies merit further investigation. At a minimum, however, these data raise a serious question whether significant portions of the U.S. can be properly characterized as broadband duopolies and how long that will continue to be the case into the future.

Figure 2: Percentage of Households Served by Three or More Wireline Broadband Providers, NTIA Census Block Data



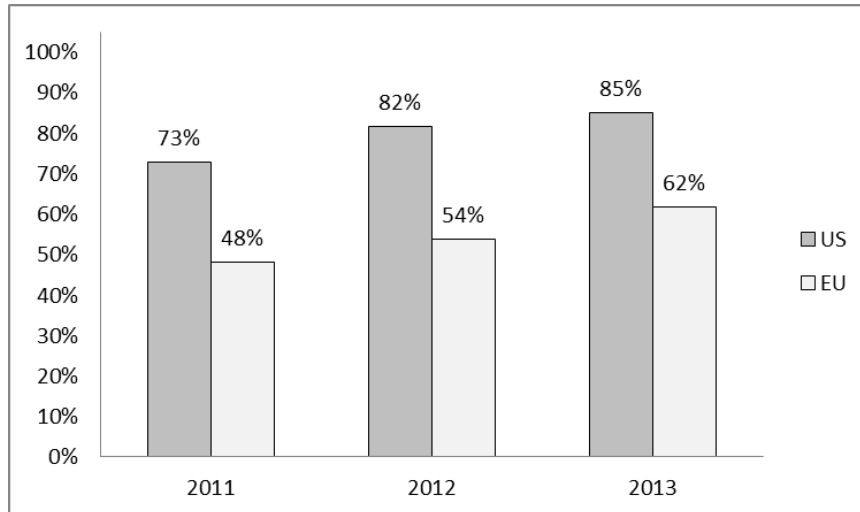
Source: NTIA

I am also conducting research comparing U.S. and European broadband deployment. The project is motivated by articles I've seen in the *New York Times* and other outlets claiming that the U.S. is behind Europe and, therefore, that the U.S. should adopt policies that are more like Europe's, focusing on service-based competition instead of facilities-based competition and subjecting the Internet to the regulatory regime that governs the telephone system. So Europe offers an interesting real-world comparison showing what happens when the Internet under the regulatory regime developed to govern the telephone system. If one compares 200 kbps, that is, first-generation DSL speeds, both the U.S. and the EU have 99.5 percent coverage.

When one examines 25 Mbps speeds, which is the only other tier for which both the U.S. and the EU have historically collected data, the story is quite different (Figure 3). The data indicate that Europe has been trailing the U.S. in terms of the number of

households that have service for the last three years by pretty significant margins.

Figure 3: Percentage of Households with 25 Mbps Service, Total

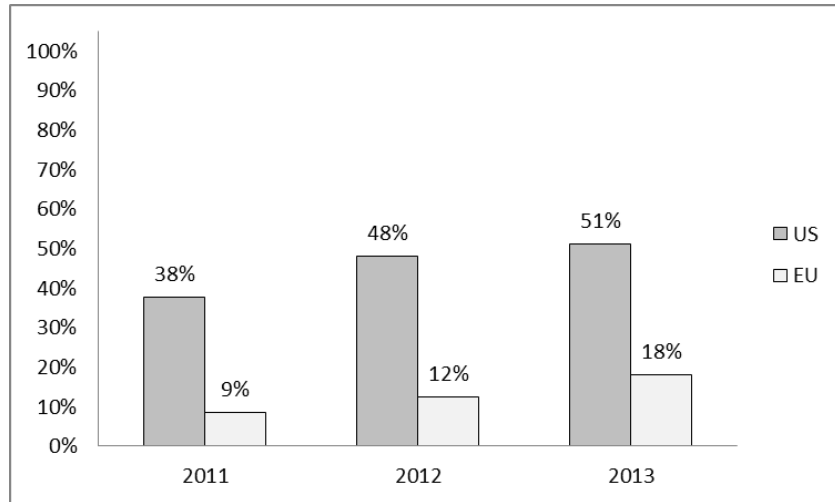


Sources: EU; NTIA

The disparity becomes even starker in rural areas (Figure 4). Whereas 25 Mbps service is available in 51 percent of U.S. rural households as of the end of 2013, only 18 percent of European rural households enjoyed that level of service.

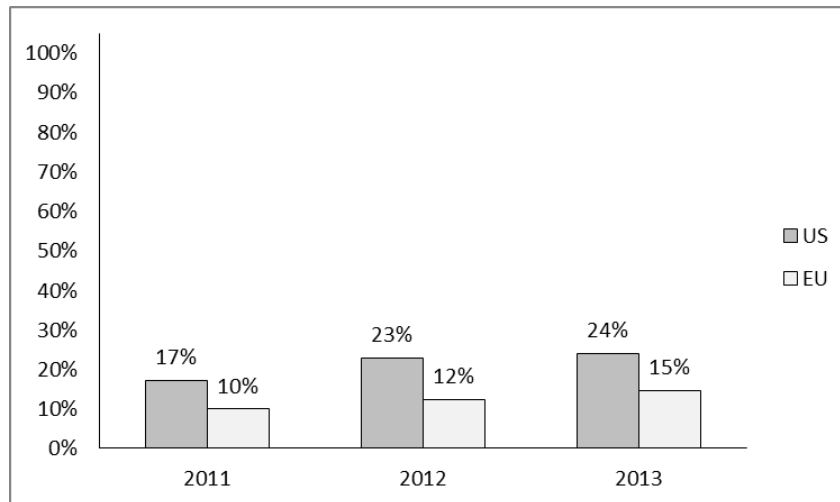
The disparity is equally striking in the newest broadband technologies: Fiber to the Home (FTTH) (Figure 5) and the fourth-generation (4G) wireless broadband networks known as Long Term Evolution (LTE) (Figure 6). The press often portrays Europe as a leader in FTTH, but the data indicate that the U.S. is in fact ahead of Europe in this regard.

Figure 4: Percentage of Households with 25 Mbps Service, Rural



Sources: EU;NTIA

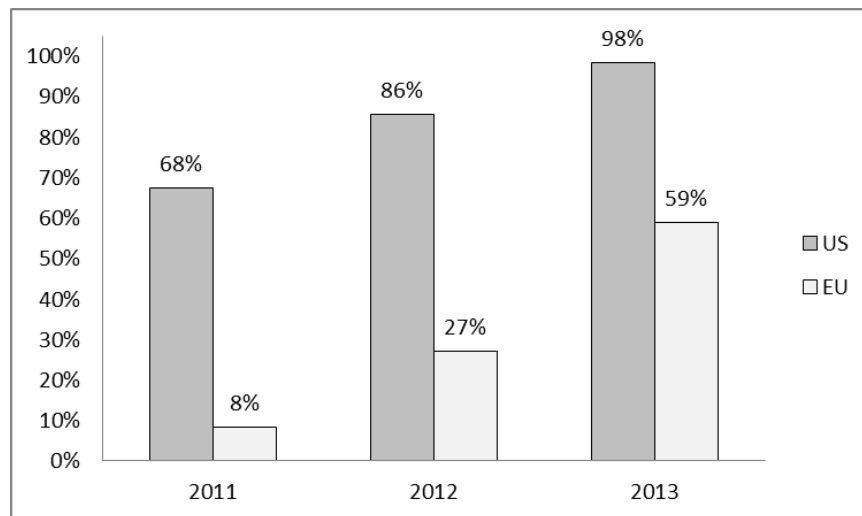
Figure 5: Percentage of Households Served by Fiber to the Home



Sources: EU;NTIA

LTE has emerged as an important platform for broadband service, with commercial studies indicating that leading U.S. LTE providers deliver average download speeds of between 12.7 and 19.1 Mbps, with peak service reaching 72 to 100 Mbps.¹ LTE coverage in the U.S. has consistently exceeded that of Europe, with multiple providers now offering LTE service on a nearly nationwide basis.²

Figure 6: Percentage of Households Served by LTE



Sources: EU; FCC

What is equally interesting is the diversity of approaches that different European countries have followed. Four of the newest and poorest members of the EU—Lithuania, Latvia, Estonia, and Romania—have the highest deployment levels of FTTH. The reason was the poor state of their traditional telephone networks, which placed these four countries among the six worst countries in the EU in terms of basic DSL coverage. Lacking a legacy infrastructure to leverage, these countries needed to install a new infrastructure and naturally opted to

¹ Sascha Segan, *Fastest Mobile Networks 2015*, PC MAG. (June 22, 2015),

² Christopher S. Yoo, *Possible Paradigm Shifts in Broadband Policy*, 9 I/S: J.L. & POL'Y INFO. SOC'Y 367, 384–86 (2014).

install FTTH as the state-of-the-art high-capacity technology. All four of these new member states were able to achieve rural NGA coverage rates that exceeded the EU average, although their national NGA coverage fell short of the EU average.

The more established European countries are also pursuing different strategies and achieving quite different results. Interestingly, two countries often identified as broadband leaders, France and Sweden, have emphasized FTTH to the exclusion of all other technologies. Interestingly, both countries consistently fall in the bottom half of EU countries in terms of 25 Mbps coverage, with France ranking 25th out of 28 EU states in 2012 and 2013 and with Sweden ranking 20th and 16th during the same time period. Fiber-focused countries have faced particular challenges in serving rural areas.

In contrast, Germany and the UK are largely foregoing FTTH (with only 4 percent and 1 percent coverage respectively) and are instead relying on VDSL to support 50 Mbps service to a larger percentage of their population. Interestingly, a report by Analysys Mason indicates that of the five largest EU states, Germany and the UK are the only ones projected to exceed the average coverage levels for Western Europe.³ The reality of limited resources presents policymakers with a stark choice captured nicely by a rhetorical question posed by an industry observer: “Is it better to provide 75–100 Mbps to 80–90 percent of the population or 1 Gbps to 10–20 percent of the population? Especially when that 10–20 percent is already enjoying faster speeds than the rest.”⁴

What explains the persistent advantage enjoyed by the U.S.? The most likely explanation is the different policy approaches taken on either side of the Atlantic. U.S. policy focuses on promoting facilities-based competition, while European policy

³ ANALYSYS MASON, REPORT FOR BT: INTERNATIONAL BENCHMARK OF SUPERFAST BROADBAND 8 fig. 3 (Nov. 27, 2013), http://www.analysismason.com/PageFiles/44401/Analysys_Mason_Superfast_broadband_benchmark_Nov2013.pdf [<https://perma.cc/7YU7-JQHN>].

⁴ Teresa Mastrangelo, *Is VDSL2 Vectoring Destroying the FTTH Business Case?*, BROADBAND TRENDS (July 29, 2013), <https://broadbandtrends.wordpress.com/2013/07/29/is-vdsl2-vectoring-destroying-the-ftth-business-case/> [<https://perma.cc/256T-W64C>].

generally emphasizes infrastructure sharing. Regression analysis that takes advantage of the considerable policy heterogeneity across Europe reveals that this difference in approach is strongly correlated with broadband coverage. Indicators of infrastructure sharing and service-based competition are statistically significantly negatively correlated with 25 Mbps coverage. Indicators of facilities-based competition are statistically significantly positively correlated with 25 Mbps coverage.⁵

This conclusion is corroborated by direct measurements of investment per household. Consistently, since 2007, U.S. companies invested 2 to 2.5 times more per household in broadband than did their European counterparts.⁶ Surprisingly, EU telecommunications providers have seen their revenues decline throughout this period despite increased utilization. Moreover, the average U.S. household uses 50 to 60 percent more bandwidth than the average European household.⁷ This underscores the danger of relying exclusively on download speeds as a measure of broadband quality. The engineering community has long recognized that the better measure is the bandwidth-delay product, which is the download speed times utilization, which reveals that U.S. users are getting significantly more value from the Internet, which explains in part why they pay higher prices for the highest-bandwidth services.

The last thing I would say is there remains a lingering problem with adoption. Although 25 Mbps service is available in 85 percent of U.S. households, only 32 percent subscribe. Europe exhibits the same pattern with 25 Mbps service being available in 62 percent of households and with only 15 percent of them subscribing.⁸ This underscores the need for regulators to look at more than just supply side considerations, such as pricing and network build-out that have traditionally been the focus of regulation. Data collected by the Pew Internet Study, UK

⁵ Christopher S. Yoo, *U.S. vs. European Broadband Deployment: What Do the Data Say?* 9–12 (University of Pennsylvania Law School Institute for Law and Economics Research Paper No. 14-35 June 2014), <http://ssrn.com/abstract=2510854> [<https://perma.cc/MPJ2-HC4R>].

⁶ *Id.* at 13 fig.5.

⁷ *Id.* at 19.

⁸ *Id.* at 14–15.

regulator Ofcom, and the European Commission indicate that pricing and availability are not the primary obstacles to adoption.⁹

This finding is corroborated by a study conducted by two FCC staffers and two people from a Kentucky-based organization called Connected Nation that focuses on wiring rural communities. They surveyed families from the roughly thirty percent of U.S. households that do not subscribe to broadband in order to find out why. This study revealed that two-thirds would not subscribe to broadband even if it were free.¹⁰ Although many have attempted to dismiss this fact as mere ignorance, those interested in promoting broadband adoption must recognize the need to complement supply-side strategies focusing on pricing and with demand-side strategies that increase and demonstrate the value of broadband.

These surveys underscore the need to value proposition. Providers in other countries are pursuing novel approaches known as zero-rating strategies, such as Facebook Zero and Twitter Zero, that provide clear benefits to those who have not yet adopted broadband.

[Applause.]

JUDGE STEPHEN F. WILLIAMS: Christopher talks twice as fast as other people, so he should have been cut by 50 percent. Gene.

GENE KIMMELMAN: Thank you, Judge. Thank you to the Federalist Society for inviting me and to my colleagues for engaging this afternoon. I'm going to present a slightly different perspective that actually, I think, brings some of this together,

⁹ See European Commission Directorate-General for Communications Networks, Content and Technology, Communications Committee, Working Document, Broadband Lines in the EU: Situation at 1 July 2012, at 13 (2013), http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?doc_id=1700 [<https://perma.cc/7GZU-2A4M>]; OFCOM, COMMUNICATIONS MARKET REPORT 2013, at 368 (Aug. 1, 2013), http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013_UK_CMR.pdf [<https://perma.cc/LW7R-XZ98>]; Kathryn Zickuhr, *Who's Not Online and Why*, PEW RESEARCH CENTER (Sept. 25, 2013), <http://www.pewinternet.org/2013/09/25/whos-not-online-and-why/> [<https://perma.cc/RTZ7-B9D4>].

¹⁰ Octavian Carare et al., *The Willingness to Pay for Broadband of Non-Adopters in the U.S.: Estimates from a Multi-State Survey*, 30 INFO. ECON. & POL'Y 19 (2015).

and I recognize that Commissioner O'Rielly couldn't speak to the specific issues in front of the FCC and I'm going to try not to, as well, so that we don't have to ex parte this.

[Laughter.]

GENE KIMMELMAN: I think that there's a lot of merit to antitrust enforcement. I worked in the Justice Department in antitrust and I think there's just tremendous benefit to it, but not to the exclusion of a lot of work that the Federal Communications Commissions does in and around broadband policy, and then, more specifically, net neutrality. My theme is that the critical issue here is how to harmonize split jurisdiction appropriately as Congress has directed to three agencies—DOJ, FTC, and the FCC—to engage appropriately, whether it's in a transactional context or in the behavior of individual or multiple companies in the marketplace.

The important issue is whether there can be consistency between antitrust enforcement and FCC regulatory activity. I believe there are ways to do it well and there are ways to do it not so well. Each approach, as you've heard today, is thoroughly engaged in competition analysis, under different statutory guidance, but I see no reason why they cannot be generally consistent and harmonious. For example, I think that in some cases Commissioner Ohlhausen is right—you can have quick antitrust enforcement. In some cases, it's not so fast. It's not just the recent enforcement action against AT&T, but the FTC's Google investigation was quite lengthy and in Europe it's still going on. So there are issues in innovative markets where technology is changing quickly, where you can look at pros and cons of antitrust enforcement and pros and cons of a case-by-case analysis. The benefit may be that you're very fact specific. The difficulty may be that if you are an innovator with a new service in a garage, and you are having trouble getting access to the Internet, or speeds, or quality, the time it takes to do the case-by-case analysis may not be beneficial to your ever reaching the market or sustaining your business—which is not to say that regulation is fast.

But one of the benefits of an appropriate structural regulatory model might be to send very clear signals and very

strong signals to the marketplace of what is acceptable behavior, what is prohibited behavior, and how things in the middle could be balanced. The important thing is that the signals to the marketplace actually work effectively to indicate what behavior to watch out for and what is almost invariably green-lighted. I'm not sure the fact that something is a two-sided market changes the matter that much if the regulatory process is being done appropriately and thoughtfully, because surely it should consider all the ramifications, not just to the user side but to the supply side, in any regulatory paradigm.

I fully understand the need to worry about jurisdiction, and I think that what we ought to be most concerned about, societally, is that we're not duplicating regulation and we're not promoting inconsistent rules and enforcement practices, but I'm not so sure it matters whether it's done at one agency or another if they're practicing sound policy and being very straightforward, and subject to judicial review, as each of these agencies is.

I appreciate Commissioner O'Rielly highlighting the FCC focus on competition. One thing has jumped out to me over the years, in looking at the transactional side of this. Whether it's DOJ or the FTC, looking at mergers and acquisition, or the FCC, is that in areas where there may be limited competition going in, there are some interesting statutory limitations that can apply. If you're not dealing with a straight monopolization case in antitrust, you might be looking at a market that is highly concentrated, even possibly monopolistic, and the discussion with the antitrust enforcement agency of overcharging consumers, harming innovation, might be, is this transaction making it worse?

That is the most likely conversation. And if it's already substantially bad and the market isn't working competitively, many times my colleagues in antitrust would say, "You have a problem but it's not our problem. Go over there." For this industry, "over there" is the FCC. Within the FCC's statutory mandate, however vague the public interest may be, Congress has specifically directed the FCC to look to actually promote competition, and that is something that can be difficult in some instances, in pure antitrust enforcement.

From my perspective, the ideal would be harmonizing the tasks of the two functions within our government and making sure that what is being done in antitrust enforcement is consistent with what is being done in regulatory policy or reviewing transactions and license transfers at the FCC. The FCC might realistically be able to do something that can actually open a market to more competition. I agree with Commissioner O’Rielly that the goal should really be to seek competitive forces and not use regulation as a tool or a surrogate for competition, where it certainly doesn’t always promote competition.

However, then we get into the factual analysis. What does the market look like? I think Professor Yoo’s data are interesting—I’d like to review them. It does remind me a little bit of the history in the early twentieth century, when we had a lot of companies trying to come in and compete in what we call telephone service. It didn’t really work economically. So I don’t know if we’re hitting a plateau or if we’re on some great ascendancy for broadband. I also would love to see your 10-megabits numbers put into the 25-megabits range, just to see what happens.

We just released a survey today at Public Knowledge, John Horrigan did, looking at the different side of this, the consumer attitudes. It is on our website and available, but the short headline is that when we asked people, “Would you use wireless as a substitute for wired-line broadband?” more than 90 percent said no, and on the questions related to how easy or difficult it is to switch broadband service, consumers were profoundly concerned that it was not at all easy. There was an enormous amount of stickiness, whether there is one other provider or two. There were some important issues there on substitutability and how markets really work, that I would love you to look at, in conjunction with your data.

What we see right now, from my perspective, is that as much as we would love competition and more players, there are problems in broadband that do need public oversight. We ought to be looking at how to use antitrust appropriately in conjunction with communications policy oversight, and just make sure they are consistent and truly harmonized. Thank you.

[Applause.]

JUDGE STEPHEN F. WILLIAMS: Perhaps speakers would like to take issue with each other.

PROFESSOR CHRISTOPHER S. YOO: I'm happy to start off, just because Gene directed his last comment towards me. I always appreciate talking with you, Gene, just because I think you are very thoughtful. I find that a lot of times people talk past each other in this space, and I think you have always been engaged and constructive.

It is true that we saw a spate of voice competition once, following the 1996 Act, that fell off. That was all based on the infrastructure sharing model that Europe largely follows today, and it wasn't robust. It was all reselling someone else's pipe. And there are a lot of us who have been skeptical about that. Herb Hovenkamp is a great author. It's like saying are we going to have competition for bananas within a grocery store? Are we going to have all these banana carts running around the store? They all get the same bananas from the same wholesale place in the back, the same product, and all they're doing is squeezing margin.

Frankly, if you have a monopoly pipe and, really, that's all you're going to get, that's not an unreasonable policy to adopt. We're in a different space now, where we're having to make investments. For voice, in particular, wireless—you've seen what's happened with fixed-line subscriptions. They're dropping like a stone and none of my students have them anymore. So one of the things that we've understood in certainly the voice space, the facilities-based competition ended up being a wonderful solution that became much more robust.

I understand Gene's skepticism about the future of wireless. I do see a lot of numbers pointing that way. Interestingly, a survey that was published and presented at TPRC said 11 percent of U.S. households are now wireless-only for broadband. Some countries in Europe are in excess of 20 percent. And if you look at the numbers—well, I guess what I would say is it's plausible to me that this would happen, and I find so many people doing what I think of as technologically determined views—oh, this can't happen, or this must happen.

And anyone who has followed this business long enough knows that that's a good way to go broke, because a lot of things

that we thought were so sure—I mean, we talked about the impending fiber monopoly for a while, and then we talked about the impending cable monopoly, and right now AT&T has upgraded to VDSL and they're taking subscribers away from cable. And, actually, I think that's what's wonderful about this is we don't really know. I do see, actually, a lot of my students don't have fixed-line connections anymore and are relying exclusively on wireless broadband. I always keep an eye on them because they're a trend of where things are going.

But my point is, one of the brilliant things of the U.S. policy is we're flexible. When I started in this business fifteen years ago, AT&T was focusing on U-verse when Verizon was focusing on FiOS. One of my students asked, "Isn't AT&T being incredibly shortsighted?" I replied, "Well, the great thing is we get to find out." We have an environment in which we have that kind of experimentation, I think looking back what they would say is Verizon doesn't talk about FiOS anymore, and it costs 2-1/2 to 3 times more, or 3-1/2 times more. So it's a wonderful experiment that Europe is repeating.

Don't get me wrong—I'm not trying to bash AT&T. Verizon did the same bit on LTE when AT&T wasn't ready to move and got tremendous benefit out of that, but this is equity risk, people putting their money on the table with major investments, and if it pays off, that's how we drive it forward, and I want people trying to out-invest each other instead of trying to out-regulate each other, by trying to get some regime where they're trying to use the system to get a legal advantage as opposed to something in the marketplace.

MAUREEN K. OHLHAUSEN: I probably neglected to say this at the beginning but I should say it now, which is that I do only speak for myself and not the Federal Trade Commission.

[Laughter.]

MAUREEN K. OHLHAUSEN: I do think the discussion raises a couple of interesting issues. Gene, I think you're right that having a regulation in place is quicker and more certain than a case-by-case enforcement approach, but I think you have to look at Type 1 and Type 2 errors—what are the bad things you're preventing but also what are some of the good things that you

may be preventing. My concern is that adopting a regulatory model that freezes into place what the Internet looks like right now, we don't know what we're missing out on. And I agree—competition, I think, is the first line of defense for consumers in telecommunications policy as well as everywhere else in the economy, and I think we need to take a hard look at regulatory proposals and ask will they lead to more competition in networks, or will they limit how these networks can evolve? We've certainly seen a lot of competition, a lot of innovation at the edge, and I think that's a good thing, but I think we need to think hard about innovation and competition in the networks as well.

MICHAEL O'RIELLY: I'd be interested—if I understood, Gene, and without talking about anything specific or inquisitive item—

[Laughter.]

MICHAEL O'RIELLY: —if I understand your points, and I took them very well, that consistency and harmonization between the agencies that we represent is a good thing, and I wondered if you couldn't comment about the point that the Commissioner made regarding the lack of authority, that if certain decisions are made that the FTC would have no authority in some items, and how does that fit with the consistency and harmonization if the FTC has no authority in its space?

GENE KIMMELMAN: I would worry if nobody has authority over something that's as important as either something directed by Congress or agencies to oversee, or something that we just think is important for society, and agencies would at least be cognizant of. So, in this regard, if broadband were a Title II service—

MICHAEL O'RIELLY: Well, I didn't really say that.

[Laughter.]

GENE KIMMELMAN: The FCC has Customer Proprietary and Network Information authority to protect privacy. It has authority under Title 6 over cable privacy issues, as well, so there are a variety of things the FCC has. It would be interesting to look

and see what the actual dividing line would be. Again, the same principle applies in antitrust, following the line of the *Trinko* case, as an example. We're very careful to make sure that antitrust isn't interfering with the regulatory regime. Using the same logic here, again, to be consistent and harmonized, it's important to make sure that we have protections for consumers from one of the agencies or the other and that certainly we don't have both of them going in the opposite directions. That's my main point here.

But I'm pleased to see the FTC move on the AT&T question of fairness in the presentation of its services. There are things the FCC could do if the FTC weren't doing them, and the important thing is that there's always an agency that can address an issue.

PROFESSOR CHRISTOPHER S. YOO: I support what the FTC is doing. I do not think that anyone would dispute that people should get what they have been promised. I also agree entirely with Gene that reducing switching costs makes markets work better. For example, number portability in the wireless space was a tremendous success. There are other measures we could take that would help reduce switching costs still further. What's fascinating in Europe, the inside wiring is almost always owned by the incumbent provider. Some regulatory agencies are experimenting with new ways to provide access to conduits and other network elements that are currently not subject to competition and are likely to be competitive in the foreseeable future.

So I think that there is a room for new thinking, but I love the idea of framing it in terms of reducing switching costs and increasing competition in networks, as Commissioner Ohlhausen said, which in turn directs the focus on those areas where we do not have enough competition. Many metropolitan areas do have a workable level of competition.

Another aspect of the debate that bothers me is that it is primarily focused on preserving competition in content and applications at the edge, which is the part of the industry that is already very competitive and unprotected by entry barriers and thus very likely to stay that way. Those advocating edge innovation often wrap themselves in the rhetoric of protecting the garage innovator. But a closer look reveals that the debate is usually between large companies who are in a position to take

care of themselves in any arm's-length negotiation. Instead, the debate should be reframed in terms of the real policy problem, which is how to enhance competition and encourage investment in last-mile networks.

JUDGE STEPHEN F. WILLIAMS: Questions from the floor? It's very hard for me to see, because the lights are coming right at my eyes. But if you put your hand up and wave it, I should be able to pick you out.

GENE KIMMELMAN: While you're pondering, I want to come back to Chris on the data issue. What I was referring to was not really the 1996 Telecommunications Act but really the early twentieth century, before the modern AT&T monopoly emerged. We had a lot of phone companies. It didn't really work. So there are some fundamental economics here. I think you mentioned economies and capital investment. There are obviously some big issues here. How many competitors are we really going to get?

PROFESSOR CHRISTOPHER S. YOO: Actually, like any good academic I have a standard answer—I have an article on this.

[Laughter.]

PROFESSOR CHRISTOPHER S. YOO: It came out in the *Texas Law Review*.¹¹ The conventional wisdom is that the U.S. has always had a privately owned telephone system, in contrast with the rest of the world where telephone service was traditionally operated by governments. The conventional wisdom overlooks the fact that the U.S. Postal Service took over the U.S. telephone system for one year during World War I, a fact that has been largely lost in history. And the big question is not why the government took over the telephone system. The exigencies of World War I had already led the federal government to take over the radio system and the railroads, and Postmasters General had been clamoring for such a takeover for fifty years. The question is why the Federal Government gave it back.

¹¹ Michael A. Janson & Christopher S. Yoo, *The Wires Go to War: The U.S. Experiment with Government Ownership of the Telephone System During World War I*, 91 TEX. L. REV. 983 (2013).

The government takeover of the telephone system followed the early competitive era of the telephone industry. AT&T was trying to replicate the business model used for the telegraph system, which focused on connecting major business centers with long-distance connections. The leaders of AT&T could not see why anyone would want a telephone in their home and declined to connect small towns, rural areas, and even suburban neighborhoods of large cities. This left a green-field opportunity for independent telephone companies to come in. AT&T also concluded that farmers do not need telephones. As it turns out, the fact that farmers were among the most isolated members of society meant that they were among the people who wanted phones the most. Farmers established service by connecting telephone wires up to their barbed-wire fences and using that to provide service to their houses. AT&T saw little potential in such attempts because the low quality of those connections would not support long-distance service. But 99 percent of connections were local calls within twenty miles of your home. People simply did not call long distance back then.

So what is fascinating is that the first quarter of the twentieth century saw a robust competitive environment emerge in the telephone industry. In 1907, AT&T undertook a clear change in policy. Rather than try to compete with the independents, AT&T attempted to merge to monopoly by acquiring the independent telephone systems with which it was competing. If the independent telephone system refused, AT&T instead employed a classic division of markets, in which AT&T agreed to withdraw from the independent telephone system's service area in return for a promise from the independent not to expand outside that area. These represent two classic, blatantly anti-competitive business practices that should have been blocked by an antitrust enforcement authority. AT&T addressed concerns that the withdrawal of competition would cause prices to go up by agreeing to submit to rate regulation.

So competition was possible in the early telephone industry, and competition died because the antitrust authorities did not stop AT&T from employing well-known anticompetitive strategies, not because the telephone system was a natural monopoly. Ironically, monopoly was not the justification for regulation, as is

commonly assumed. Regulation was instead the justification for monopoly. Moreover, these dynamics provide a classic example of a company using the political system and legal intervention to end competition and stands as a warning about the dangers associated with regulations designed to protect certain sectors of an industry against another. I prefer the preregulatory world in which two companies were racing to outbuild each other, as is happening to some extent right now between cable companies, telephone companies, and new entrants such as Google Fiber.

GENE KIMMELMAN: I think your story is right except one of the problems is that those companies refused to interconnect with each other. We could have possibly had a non-monopoly, totally competitive system if they could have either had a regulator just imposing meaningful interconnection rules or could have figured it out in the marketplace themselves. That was an important factor in play.

HOWARD LIM: Howard Lim, New York State Conservative Party. This Administration seems to enjoy doing things by executive order. In the area of net neutrality, if the Congress wanted to go in one direction and the President wanted to go in another, where does the ultimate authority lie?

MICHAEL O'RIELLY: I'm trying to be careful on my words here. The FCC is an independent agency and it is a creature and creation of Congress to implement the laws and the statutes enacted by Congress. We will faithfully do that. That is my charge and we'll continue to do so. The President has an opportunity, and does, and expresses his views from time to time, and Presidents do on many different issues, not just in front of the FCC. So that's something we will certainly take into account, just like we would take into account what comes from the Congress that's not in the form of a law.

GENE KIMMELMAN: There's one thing that I think is worth nothing. Within the law right now, any regulation can be reviewed by Congress. There is actually a streamlined process for that. So if the FCC did something that the Congress didn't like, it could reject it. That rejection would then go to the President who would have to sign it as a bill or veto it, and then it would be the question of whether the Congress would sustain or override that

veto. So there is at least a process by which one would naturally see a disagreement either worked out or just somehow resolved.

PROFESSOR CHRISTOPHER S. YOO: I'll go even farther. Agencies are creatures of Congress. They possess only the authority given to them by Congress. The executive may have direct authority over matters such as foreign affairs, national security, military affairs, and the means necessary to make an administration run, such as the removal power. But dictating communications policy has never, to my knowledge, been asserted to be within the prerogative authority of the President. I think that a good court would be appropriately skeptical about presidential attempts to regulate via executive order without proper legislative authorization.

JUDGE STEPHEN F. WILLIAMS: The President, of course, obviously has the power to appoint the commissioners, initially, and I often read in the papers that if some hypothetical commission does something that Congress doesn't like, Congress could respond by some kind of selective withdrawal of funds. I guess my intuitive reaction to that is that if they did it as a little stiletto, the President would pay no attention. If they wrapped it together with something, then you enter into the sort of bargaining position that we've seen an awful lot in the last few years, the outcome of which is uncertain, at any rate. But I'd be very interested in any reflections on that.

PROFESSOR CHRISTOPHER S. YOO: There's been a huge fight over the years about whether appropriations riders interfere with the executive power. My favorite one arose during the Administration of Lyndon Johnson, when Congress enacted an appropriations prohibiting the President from closing the Naval Academy's dairy farm. Johnson quipped, "Thus the Congress, which has given the Navy Department authority over the world's most powerful fleet, has withdrawn the Department's authority over 380 cows."¹² There is a sense in which such micromanagement can be taken to absurd lengths, but the bottom line is that the farm remained open. That's the nature of politics.

¹² STEVEN G. CALABRESI & CHRISTOPHER S. YOO, *THE UNITARY EXECUTIVE: PRESIDENTIAL POWER FROM WASHINGTON TO BUSH* 341 (2008).

MICHAEL O'RIELLY: And it's not just appropriations. Just to give you a historical perspective, there used to be seven FCC commissioners. There's only five.

MAUREEN K. OHLHAUSEN: What happened to the other two?

[Laughter.]

MICHAEL O'RIELLY: The spots were removed, not the people. The people themselves are I'm sure living somewhere next to the farm.

[Laughter.]

PROFESSOR CHRISTOPHER S. YOO: But there is a Supreme Court case called *U.S. v. Lovett*,¹³ where Congress attempted to effect the removal of three agency officials suspected of being "subversive" by enacting a statute providing that no salary or compensation should be paid to these officials unless they were reappointed by the President with the advice and consent of the Senate. The Supreme Court struck down the statute as an unconstitutional Bill of Attainder.

MAUREEN K. OHLHAUSEN: Speaking from a historical perspective, back in the 1970s the FTC had done some work on something called Kid-Vid, where it was going to restrict advertising of sugared cereals, and Congress wasn't happy about that. And the number of tools that Congress can bring to bear on an agency, when Congress is not happy, is quite remarkable. The FTC was shut down. The people didn't get salaries. The agency staffing was reduced. There are a lot of tools that Congress can use.

SAM MIORELLI: I'm Sam Miorelli. I'm from the Orlando Lawyers Chapter. We hear a lot of the latest discussion is the battles of the different types of technology—cable and whether we should have net neutrality and all—and I'm wondering why we haven't heard more about how these different players mess with the ultimate devices. Once upon a time, AT&T owned the phones

¹³ 328 U.S. 303 (1946).

and they regulated what the individual handset can do, and you still see that in the mobile space. Verizon notoriously delays Windows phone updates going out. AT&T notoriously delays updates on Android going to Samsung devices longer than often going to Google devices. And that really creates some large dislocations using those large monopoly powers in the marketplace for the end device, that as a consumer you have to think eighteen months from now, will my device get treated like a second- or third- or fourth-class citizen by the carrier, regardless of what the device manufacturer tries to do?

I'm just wondering why it is we focus so much on the delivery of the data and we don't look at some of the broader issues, that it doesn't matter how good my pipe is if my phone crashes.

JUDGE STEPHEN F. WILLIAMS: Commissioner Ohlhausen, do you want to take that? It seems like a competition issue.

MAUREEN K. OHLHAUSEN: Sure. I guess the question that I would have there is, how much of an incentive do the networks actually have to do this. An individual consumer may have just signed up for their phone, and has to wait until eighteen months to switch. But the amount of switching that goes on every month likely has a disciplining effect on the ability of one network, one provider to disadvantage a different type of phone. So you were saying that the one network had an incentive to—

ATTENDEE: [Speaking off mic.]

MAUREEN K. OHLHAUSEN: But how big a share of the market of Verizon is Windows phones? I mean, Windows phones have a very small market share, I believe.

ATTENDEE: Verizon has less control over what apps they can put on Windows phones than they have on Android, and there's less market demand than there is for iPhones, so they essentially triple a platform so they push customers into a platform that they have more control over selling other services.

PROFESSOR CHRISTOPHER S. YOO: There are a lot of complicated issues in this. Wireless ISPs regard Windows updates as the biggest denial-of-service attack in the entire network—

[Laughter.]

PROFESSOR CHRISTOPHER S. YOO:—because they all go on one night, and they sometimes overwhelm networks. So wireless networks have to manage their networks, otherwise none of those updates would get through. Moreover, we often forget how heterogeneous wireless technologies are. People complained about the original exclusivity deal between the Apple iPhone and AT&T. AT&T's wireless network employed a technology known as HSPA+. Verizon and Sprint relied on a different technology known as EVDO. Interestingly, the iPhone was easier to deploy on HSPA+, and Apple had not worked out all the compatibility issue with EVDO. So the decision to launch initially with AT&T was driven in part by the technology. And what we are discovering is that companies are continuing to experiment with different designs that have can have a dramatic impact on the ecosystem.

The other consideration is that the network providers often need to provide incentives to app providers to conserve bandwidth and to manage the network to ensure the platform performs properly. The essential security patches get priority over other product features. Wireless companies also need to encourage apps that are designed to conserve on bandwidth and attempt to work with app providers to make sure the platform delivers what end users really want, which is a safe phone, and updated in a timely manner, and which supports a wide variety of apps.

You have to make some tradeoffs, and what you find is there is often a very difficult negotiation about how different actors are going to hand off data, when they are going to do so. All edge providers do not cooperate to the same extent. Both sides have interests in making their own lives as easy as possible. So what looks like intransigence and discriminatory behavior from one side may simply be a good faith disagreement over value or the normal tug and pull of the bargaining process. Regulators are ill-suited to resolve such disputes. My instinct would be to try to align incentives so that people would not have as much instinct to hold out or resort to legal resolution, to minimize the space of conflict.

ATTENDEE: Thank you. I came in late but some of the earlier questions have given me the confidence to ask this. I'll address it Professor Yoo since you're free to give an opinion.

[Laughter.]

PROFESSOR CHRISTOPHER S. YOO: I daresay Gene is in the same position.

ATTENDEE: Well, this gets worse because I work in the stock market, and I observed when President Obama made his comments about net neutrality. I mean, whoa, it just crashed a whole bunch of big stocks. That led me to attend this session and wonder—and I believe I saw you on television for this, also, thank you very much—what is your interpretation of what President Obama was doing? I mean, does that funnel into something real practical that he can put his hands on, or was he just making an expression, do you think, of his desired policy for what he'd like to see? It was quite mystifying. It certainly destabilized a whole bunch of companies and a lot of thought as to what competition policy currently is.

PROFESSOR CHRISTOPHER S. YOO: Before I answer the direct question, the fact that your observation about the market reaction actually, I think, is an important one, but many people suggested that, “Oh, markets don't care about this stuff.” It matters, and, in fact, we should expect it to change stock prices.

I am not a mind-reader. Let me speculate. Senator, Candidate, and President Obama repeatedly endorsed network neutrality, and that position was popular with many of his supporters. A political explanation might be that in a world in which you are unlikely to get legislation through Congress, playing to one's political base may be an excellent strategy. There are many Democratic members of Congress who are raising money around the issue of network neutrality. And he may look at the several million e-mails sent to the FCC and think there may be some political advantages to endorsing such a large public outpouring of sentiment. Another possibility is that the president was attempting to provide cover for the FCC by making a regulatory action that might have looked intrusive appear moderate in comparison. And it could simply be that some people in the White House studied the issue and concluded that on the merits, Title II reclassification was the best legal approach.

At this point, it is not entirely clear how this issue is going to play out because, as Commissioner O'Rielly points out, the FCC is an independent agency, a point that Chairman Wheeler has

reminded everyone about. I assume, in terms of the politics, that the President's remarks will make it more likely that the FCC will reclassify broadband as a Title II service. At the risk of putting Commissioner O'Rielly on the spot, I would note that there is a division in the Commission, and it's not entirely clear how the Chairman is going to get to three votes on his preferred proposal. I would say that the President's announcement now makes compromise even harder. So my guess is that if the President was trying to get this as an outcome, and it is quite likely that the FCC will embrace Title II.

JUDGE STEPHEN F. WILLIAMS: Unless someone has a question, I have a question. Okay. Go ahead.

BERIN SZOKA: Berin Szoka, TechFreedom. Gene, a lot of what's driving this debate, a lot of the argument for Title II boils down to this assertion that you made today that a 706 approach isn't workable to address concerns about discrimination because the administration of it would be just too difficult, it would be too burdensome for small providers. But there are many people—Hal Singer, for example, of the Progressive Policy Institute—who have called for an approach where you would work through 706 and you could actually marry rule of reason with a presumption. So you could say, at the outset, that prioritization is presumed lawful, but you place a fairly small burden on websites or edge providers to show that there's a harm to them, and at that point the burden would shift to the broadband providers to defend themselves. And that gets you a way of screening out frivolous complaints, without making it so difficult for edge companies, especially small companies, to raise their concerns. That's something that could be done under Section 706. It's something that's very consistent with where the Supreme Court came out in the *Activist* decision, or the Ninth Circuit came out recently in another decision.

What do you say to that? Are you open to such an approach, and, if so, why do we need Title II? Why can't we do that under 706?

GENE KIMMELMAN: We said from the outset that the commission should look to use all its tools and figure out what the best ones were, and that includes Section 706. I think there are some interesting things that could be done with 706. There are

also some things that could be way overreaching that would be much more regulatory than I think any of us would like, so one has to be a bit careful there.

My great concern is the history of the FCC in doing case-by-case analysis, which has been more in the media area, with programming disputes. From my perspective it's been a pretty dismal history—very slow-moving and contentious. And so it's implausible to do what you just described, Berin. But this is not the way that the commission has functioned very well in the past. One could use Title II and one could use certain 706 tools—one could use a variety of tools. The critical thing is actually what Commissioner O'Rielly said. We should be looking for something that's light-handed. This is a highly dynamic industry, a lot of technological changes, a lot of things moving, as Chris's charts show, and I think one should be cautious whatever the tools are, and do it carefully.

The question is whether you can come up with something that balances the right forces, sends the right signals to the marketplace, and actually avoids much regulatory intervention. So I don't know whether 706 tools, combined the way you just described them, would actually work that way. I don't think it's impossible but the history of the FCC in dealing with case-by-case analysis is not a very good one.

PROFESSOR CHRISTOPHER S. YOO: But you do have to have tools designed for the goals. I organized a panel in D.C. about a month ago, in which Mark Cooper spoke, and he doesn't support Title II, even though he's a strong network neutrality proponent, because he said Title II would not stop paid prioritization. Common carrier regimes permit multiple classes of service that cost different amounts of money. So what I find odd about the President's announcement is that he said, "We need to ban paid prioritization" at the same time he said that "we need to do so through Title II." Even if preventing paid prioritization was your goal, it is not clear that Title II is the proper tool. I think that there is some merit to prioritizing some traffic over other traffic. For example, I personally would pay more for a better connection from my home to my office, my e-mail server, and the other handful of locations that I tend to visit to the most. That would make my Internet connection more valuable to me. So I actually

think that pay prioritization opens up new sources of consumer value, because we value some connections more than others.

But set that aside. I didn't quite see how Title II will accomplish all of the President's goals. I personally think Title I and 706 have more potential to accomplish the goals that the President set out.

MAUREEN K. OHLHAUSEN: Actually, I have a question about paid prioritization. The big edge players can already buy better delivery service through content delivery networks, like Akamai. Thus, the idea that right now everything is exactly the same and everyone on the edge has the same route and speed through the network, I don't even think is true right now. So I'm uncertain of why we're acting as if that's the case right now and we want to keep it that way.

PROFESSOR CHRISTOPHER S. YOO: The Internet is a network of networks, and people often forget what that means. If you look at the routing tables, there are 47,000 different autonomous systems that make up the Internet, and they mostly interconnect with each other through arm's length negotiations for different levels of investment and capacity. The idea that two bits coming to the same place from similar sources would pay the same amount and take the same amount of time blinks reality. Any attempt by regulators to equalize all of those differences will inevitably lead to fairly comprehensive regulation of interconnection disputes. Moreover, if the regulators set one price too low, traffic is going to flood through the mispriced link. In a normal market, the natural response would be to increase the price until demand equals supply. You cannot do that, however, if prices are regulated.

Commissioner Ohlhausen's comments also underscores that the Internet's topology is endogenous. The interconnection price is the last of a long series of decisions. Firms weigh the cost of interconnection against the cost of alternatives, such as employing a CDN or negotiating a direct connection instead indirect connections. Once one recognizes the full range of options open to a party negotiating an interconnection agreement, it becomes a much richer space. Focusing on the price paid is too narrow. I understand that one side of the bargain would like to pay as little

as possible, while the other side would like to pay as much as possible. Those who see a short-term advantage in government adjudication of prices may later find that the tables have turned.

JUDGE STEPHEN F. WILLIAMS: We can't speak simply of a quick system because obviously anything could happen and what's happening now is a mixture of systems. But I guess you still could pose the question of whether the focus on competition or the focus on regulation, which of them, as a practical, institutional matter, invites more rent-seeking than the other, and to what extent can one work out trade-offs between the two systems, which minimize rent-seeking? I would be interested in anyone's reflections on that.

MAUREEN K. OHLHAUSEN: Looking at public choice theory, when you think about an agency like the Federal Trade Commission or the Department of Justice, which are not industry-specific regulators, typically they're harder to capture. Who is going to invest the resources to capture them, when such agencies only look at your conduct and your deals every now and then? By comparison, I think when you have an industry-specific regulator which is making a lot of decisions about a very discrete set of players, the incentive to engage in rent-seeking tilts the playing field in your favor, and raise your rivals' costs, I think is probably a lot more beneficial a strategy for a company to engage in.

JUDGE STEPHEN F. WILLIAMS: Gene, did you want to say something?

GENE KIMMELMAN: From a perspective of captured agency concerns I can fully understand that. From a perspective of expertise, I can just say that as much as I think the Department of Justice Antitrust Division lawyers and economists are brilliant, they often feel like they have to defer to FCC expertise in certain areas, because they do so much in so many realms that they can't necessarily keep up with the details. I think, also, it's not just rent-seeking in a traditional analysis. It's a whole ecosystem. So if I get away from the Windows update example, but I get into a question of consumer inconvenience and problems of interoperability, those are things that are not very good antitrust issues, often. They're not pure market foreclosures. It doesn't have to be a monopolist or a dominant player, but it can be an

enormous drag on the economy and harm to consumers that is short of an antitrust violation.

But if you have an expert agency that has a mandate to look at that, you might be able to deal with that problem and actually augment competition. It's not necessarily an antitrust issue. So there are different issues that need to be addressed in this competitive analysis. And then, in this example you used of paid prioritization, you just mix interconnection and paid prioritization and, frankly, I don't know what the President meant, but even with what the President said, all of the interconnection companies don't think it addressed their issues of what they're paying for CDNs or direct transit or direct connection. So you have to look at a broader picture of this because it's a very complicated infrastructure issue. You have to look at what would be equal and what wouldn't be equal. My sense is many of the things you described, Chris, would not be touched as requiring equal payment or treatment. It's a much narrower set of issues where there's a terminating monopoly problem that at least will need to be looked at, with the President weighing in with one particular approach.

PROFESSOR CHRISTOPHER S. YOO: I think Gene is absolutely right. There are issues with which the FCC deals that are not competition issues. The one that I think is the most important right now is spectrum policy. That is an allocation decision that involves fighting with the Department of Defense and working to get more spectrum into play. I think allocating more spectrum to broadband is in the best interest of the country, and I think I hope the FCC can spend more time focusing on that.

MICHAEL O'RIELLY: It's an option if you want to play.

PROFESSOR CHRISTOPHER S. YOO: Yeah, absolutely. I've got a little change in my pockets. Let's see what we can do.

[Laughter.]

PROFESSOR CHRISTOPHER S. YOO: I also note that Europe once held aspiration of abolishing telecommunications regulation and relying entirely on competition policy. Their hope was that once markets became sufficiently competitive, sector-

specific regulation would disappear. European policymakers no longer regard that as a realistic outcome any time soon. It may happen someday that we can rely exclusively on competition policy, but no one is expecting it to happen soon.

JUDGE STEPHEN F. WILLIAMS: Let me just interrupt please. Why have the Europeans given up on sector-specific regulation?

PROFESSOR CHRISTOPHER S. YOO: The European telecommunications sector faces many challenges. National governments still own major stakes in incumbent telephone companies, such as Deutsche Telekom, Orange, and Telia Sonera, and they have shown little real interest in further privatization. The problem is exemplified by Europe's ongoing discussions about the need for a digital single market. Despite the rhetoric, they do not seem to want a single market because of the pressure it would place on many domestic companies that are not globally competitive. A good example of the challenges of creating a single market is the merger of East and West Germany. A large number of companies in East Germany that were unable to compete with West German companies went bankrupt, which in turn caused a great deal of unemployment and dislocation. Policymakers may find the prospect of something similar happening in their countries to be quite daunting.

So a huge gap exists between what Europeans say constitutes valid competition policy and what they actually do. Part of the reluctance to embrace competition stems from political concerns of not wanting to endure major dislocations. Part of it stems from the fact that governments with ownership stakes in European telecommunications companies derive real value from shielding those companies from competition. I was talking to a major figure in the German national regulatory agency. She explained that although institutional barriers existed designed to prevent those in charge of triose investments from exercising any influence over regulatory policy, she acknowledged that the government does enjoy the regular dividend that it receives from that investment. Increasing competition would place that revenue stream and that investment in jeopardy.

The interconnection point is quite complicated. Netflix recently changed network providers from Verizon to another

provider who had a peering arrangement with Comcast. Peering agreements are barter arrangements that necessarily reflect some notion of reciprocity. The complication is that Netflix represents one-third of prime-time Internet traffic. When a company that generates that amount of traffic changes providers, it is quite likely that the new traffic flows from the new connection will no longer comply with the reciprocity expectations. When traffic becomes sufficiently asymmetrical, most peering contracts call for the network generating excess traffic either to acquire more ports or to begin making payments to compensate the other network for the increased traffic that is out of balance. I think it is best to look at Netflix's decision as an endogenous choice. They used to be with a network provider who had no trouble providing adequate service because it was willing to pay additional compensation as Netflix's traffic grew. They switched to a cheaper provider that generally refused to pay more in an attempt to make Comcast and other similarly situated actors foot the bill. In short, they went looking for a bargain and got burned. Now Netflix is negotiating direct interconnection deals instead. The simple truth is that Netflix is the single largest source of traffic on the Internet and is still growing. The question is who is going to pay for the cost of transmitting this additional traffic. While both actors wish the other side will pay all of the costs, my instinct is that since both sides derive value from the additional traffic, both sides should bear some of the costs. The actual allocation between the two parties should be the subject of negotiation.

There is a tendency to think edge providers are at the mercy of the network providers. David Clark of M.I.T., just by coincidence, happened to be running trace route studies of the connection between Netflix and Comcast in the days leading up to their direct interconnection agreement. The data suggested that Netflix had more ability to control how the traffic was handled than did Comcast. Netflix appeared to shift its traffic among the three transit providers connecting Comcast and Netflix on a day-to-day basis, with one transit provider being completely congested one day and another one being completely congested on other days. So both sides are fairly nimble here, and they are, in a lot of ways, positioned to defend themselves.

This is happening in real time. A regulator coming in to clean up this mess after the fact is going to have a very, very hard time doing that. These data suggest that the edge providers are not simply at the mercy of the network providers. I think that both sides are in an excellent position to bargain with one another. In fact, edge providers and network providers are channel partners that depend on each other to create value. They should find ways to cooperate to maximize their joint business and agree to allocation of the surplus that will hold for the long run. That is my optimistic view. I don't see a great reason for optimism in the short run.

[Laughter.]

JUDGE STEPHEN F. WILLIAMS: I guess we're exhausted. I don't see any hands up. All right. Will you join me in thanking our panelists.

[Applause.]