

**H.J. RES 37, DISAPPROVING THE RULE SUB-
MITTED BY THE FEDERAL COMMUNICATIONS
COMMISSION WITH RESPECT TO REGULATING
THE INTERNET AND BROADBAND INDUSTRY
PRACTICES**

HEARING
BEFORE THE
SUBCOMMITTEE ON COMMUNICATIONS AND
TECHNOLOGY
OF THE
COMMITTEE ON ENERGY AND
COMMERCE
HOUSE OF REPRESENTATIVES
ONE HUNDRED TWELFTH CONGRESS

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H.J. RES 37, DISAPPROVING THE RULE SUBMITTED BY THE FEDERAL COMMUNICATIONS COMMISSION WITH RESPECT TO REGULATING THE INTERNET AND BROADBAND INDUSTRY PRACTICES

WEDNESDAY, MARCH 9, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:34 a.m., in room 2123 of the Rayburn House Office Building, Hon. Greg Walden (chairman of the subcommittee) presiding.

Members present: Representatives Walden, Terry, Stearns, Shimkus, Rogers, Blackburn, Bilbray, Bass, Gingrey, Scalise, Guthrie, Kinzinger, Barton, Upton (ex officio), Eshoo, Markey, Doyle, Matsui, Barrow, and Waxman (ex officio).

Also present: Representatives Christensen and Inslee.

Staff present: Jim Barnette, General Counsel; Neil Fried, Chief Counsel, Communications and Technology; David Redl, Counsel, Communications and Technology; Ray Baum, Senior Policy Advisor; Peter Kielty, Senior Legislative Analyst; Alex Yergin, Legislative Clerk; Roger Sherman, Minority Chief Counsel; Shawn Chang, Minority Counsel; Jeff Cohen, Minority Counsel; Sarah Fisher, Minority Policy Analyst; Pat Delgado, Minority Chief of Staff (Waxman); and Phil Barnett, Minority Staff Director.

Mr. WALDEN. I would like to call the Subcommittee on Communications and Technology to order.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Today, we have a hearing and a markup on network neutrality and H.J. Res 37, the resolution of disapproval I introduced to stop the FCC from regulating the Internet. This is our second hearing on this topic. On February 16, 2011, this committee had a 3-hour hearing with all five FCC commissioners. At the request of our Democrat colleagues, I delayed a previously scheduled markup and scheduled this hearing to shed even more light on the impact of the FCC's rules for deregulating the Internet—for regulating the Internet.

I have introduced the resolution under the Congressional Review Act, which provides Congress with an expedited process to nullify agency rules. The resolution requires a simple majority in each

chamber, and is filibuster-proof in the United States Senate. Because the form of the resolution is provided for in statute, it is not subject to amendment.

Senate Majority leader Harry Reid, an original co-sponsor of the CRA, has described the process as “reasonable, sensible approach to regulatory reform”.

We have an open and thriving Internet, thanks to our historical, hands-off approach. The Internet works pretty well. It is the government that doesn’t. However, on December 21, 2010, the FCC adopted rules regulating the Internet without statutory authority to do so.

Before we get into the harm that government regulation of the Internet will cause, it is important to realize that the FCC’s underlying theory of authority would allow the Commission to regulate any interstate commerce communications services on barely more than a whim and without any additional input from Congress. I do not want to cede such authority to the Federal Communications Commission.

Section 230 of the Communications Act makes it U.S. policy to “preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services unfettered by federal or state regulation.” Under the FCC’s rationale, its authority is bounded only by its imagination. This new rule is little more than a weak attempt to do an end run-around the D.C. Circuit’s Comcast/BitTorrent ruling that the FCC failed to show it had authority to regulate the Internet.

Do my Democratic colleagues agree the FCC has the authority to regulate the Internet in coffee shops and bookstores and airlines and other entities? Well, the FCC believes it has that authority, and in its rule it declined to subject those entities to their new regulations. My opinion, this is an agency exceeding its congressional authority, and its actions will hurt investment and cost jobs.

A small cable and Internet provider from my district recently wrote to me about her concerns, stating “Last spring, the FCC chairman primed the pump, threatening to apply portions of Title II of the 1934 Telecom. Act to broadband. The cable industry has invested billions of dollars of private capital to build broadband and infrastructure to over 90 percent of American homes. Commissioners are looking in the rearview mirror, attempting to regulate the Internet of yesterday, absent any market failure. How will companies like BendBroadband be able to compete if we bear the brunt of the regulations against, while the giants like Google, Amazon, and Netflix go free? The Internet is evolving. All members of the ecosystem need to work together to innovate. The chairman has picked winners and losers in this recent effort to impose net neutrality regulations. These efforts will cost jobs, stall innovation, and dampen investment.”

This is not a partisan issue. In 2006, 58 Democrats voted with us on the House floor to oppose a network neutrality amendment to video legislation. Some of those Democrats are still on the full committee. Some are still on this subcommittee. That was not a vote against a Title II versus a Title I approach, that was a vote against imposing network neutrality rules.

There is no crisis warranting the FCC's deviation from our historical hands-off approach. Rather than show an actual problem, the Federal Communications Commission relies on speculation of future harm. The FCC even admits in the order that it conducted no market power analysis. See footnote 87. Dr. David J. Farber, grandfather of the Internet and former FCC chief technologist, warned on December 21, 2010, in an op ed that the FCC's "order will sweep broadband ISPs and potentially the entire Internet into the big tent of regulation. What does this mean? Customer needs take second place and a previously innovative and vibrant industry becomes a creature of government rulemaking."

This will also make it harder for upstarts to compete with web incumbents. New entrants will have fewer resources to advocate before the FCC, and will also lack the needed flexibility to strike creative deals to compete with web incumbents. As we will hear today, what is even more universally damaging is the rule's potential to destroy the ability of infrastructure providers to raise capital. That would threaten the infrastructure which both customers and content providers rely.

We will also hear that the FCC's rule will transfer wealth from broadband providers to application providers. "That does not begin to grasp the problem for both parties. The transfer of wealth between two independent parties can be beneficial to one at the expense of the other. A transfer of wealth that will ultimately cripple the party in which the other relies for its very existence is profoundly harmful to both." These regulations will cost jobs. They will hinder the necessary investment in network upgrades on which customers and content providers rely, thus thwarting the competitive free market vibrancy, and innovation of the Internet.

Let us keep the Internet open and innovative. I urge my colleagues to support the resolution.

[The prepared statement of Mr. Walden follows:]

**Statement of the Honorable Greg Walden
Chairman, Subcommittee on Communications and Technology
Hearing on “Congressional Review Act”
March 9, 2011**

Today we have a hearing and markup on network neutrality and H. J. Res. 37, the resolution of disapproval I introduced to stop the FCC from regulating the Internet.

This is our second hearing on the topic. On Feb. 16, 2011, this Committee had a three hour hearing with all five FCC Commissioners. At the request of our Democratic colleagues, I delayed a previously scheduled mark-up and scheduled this hearing to shed even more light on the impact of the FCC’s rules for regulating the Internet.

I have introduced the resolution under the Congressional Review Act, which provides Congress with an expedited process to nullify agency rules. The resolution only requires a simple majority in each chamber, and is filibuster proof in the Senate. Because the form of the resolution is provided for in statute, it is not subject to amendment. Senate Majority Leader Harry Reid, an original cosponsor of the CRA, has described the process as a “reasonable, sensible approach to regulatory reform.”

We have an open and thriving Internet thanks to our historical hands-off approach. The Internet works pretty well; it’s the government that doesn’t. However, on Dec. 21, 2010, the FCC adopted rules regulating the Internet without statutory authority to do so.

But before we get into the harm government regulation of the Internet will cause, it’s important to realize that the FCC’s underlying theory of authority would allow the commission to regulate any interstate communication service on barely more than a whim and without any additional input from Congress. I do not want to cede such authority to the FCC.

Section 230 of the Communications Act makes it U.S. policy “to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.”

Under the FCC’s rationale, its authority is bounded only by its imagination. This new rule is little more than a weak attempt to do an end-run around the D.C. Circuit’s Comcast ruling that the FCC failed to show it had authority to regulate the Internet. And do my Democratic colleagues agree that the FCC has the authority to regulate the Internet in coffee shops, bookstores, airlines and other entities? The FCC believes it has that authority but declined to subject those entities to their new regulations. This is an agency exceeding its congressional authority and its action will hurt investment and cost jobs.

A small cable and Internet provider from my district recently wrote to me about her concerns, stating:

“Last spring the FCC Chairman primed the pump, threatening to apply portions of Title II of the 1934 Telecom Act to broadband. The cable industry has invested billions of dollars of private capital to build broadband infrastructure to over 90% of American homes.

“Commissioners are looking in the rearview mirror, attempting to regulate the Internet of yesterday absent any market failure. How will companies like Bend Broadband be able to compete if we bear the brunt of the regulations while the giants, like Google, Amazon and Netflix, go free? The Internet is evolving. All members of the ecosystem need to work together to innovate. The Chairman has picked winners and losers in this recent effort to impose ‘net neutrality’ regulations. These efforts will cost jobs, stall innovation and dampen investment.”

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Dr. David J. Farber, grandfather of the Internet and former FCC chief technologist, warned in a Dec. 21, 2010 op-ed that the FCC’s “order will sweep broadband ISPs, and potentially the entire Internet, into the Big Tent of Regulation. What does this mean? ... Customer needs take second place and a previously innovative and vibrant industry becomes a creature of government rule-making.”

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As we will hear today, what is even “more universally damaging...is the rule’s potential to destroy the ability of infrastructure providers to raise capital. That would threaten the infrastructure on which both consumers and content providers rely.”

We will also hear that the FCC’s rule will transfer wealth from broadband providers to application providers, “...but that does not begin to grasp the problem for both parties. A transfer of wealth between two independent parties can be beneficial to one at the expense of the other. A transfer of wealth that will ultimately cripple the party on which the other relies for its very existence is profoundly harmful to both.”

These regulations will cost jobs. They will hinder the necessary investment in network upgrades on which consumers and content providers rely thus thwarting the competitive free market vibrancy and innovation of the Internet.

Let’s keep the Internet open and innovative. I urge my colleagues to vote for the resolution.

Mr. WALDEN. With that, I will recognize my friend from California, Ms. Eshoo, for an opening statement.

Mr. WAXMAN. Mr. Chairman, I am going to——

Mr. WALDEN. With that, I will recognize my friend, the gentleman from California, Mr. Waxman, for an opening statement, as he needs to go to another committee hearing.

Mr. WAXMAN. Thank you very much, Mr. Chairman, and I want to thank my colleague, the Ranking Member of the Committee, Representative Eshoo, for allowing me to go before her in making this statement.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

I want to thank you, Mr. Chairman, for agreeing to our request for a legislative hearing on H.J. Res 37. It is a resolution of disapproval under the Congressional Review Act. Democrats on this subcommittee felt strongly that before we rush to consider this legislation, we would all benefit from hearing from companies, public interest groups, and economists.

My concern is that there is an enormous disconnect between the facts and the Majority's policy objectives. As we will learn today, technology innovators oppose the disapproval resolution, consumers oppose the resolution, and economists oppose the resolution. Even broadband providers do not support the resolution.

In a letter the Committee received on Monday, the cable industry said it supports the FCC order because "it largely codified the status quo which the industry has voluntarily committed. It contains helpful clarifying language around what constitutes reasonable network management. It provides greater certainty about our ability to manage and invest in our broadband services, and the alternative of Title 2 regulation presented a stark and much worse risk." Well, here is similar testimony from AT&T today. Yesterday, the Consumer Federation of America and Consumers Union released a poll showing the overwhelming public support for an open Internet. By a two to one margin, consumers opposed congressional action to block the FCC rule.

But none of these facts seem to matter. The reason we are debating the disapproval resolution is that Republicans claim that FCC regulation will stifle the Internet and hurt our economy. But the fastest growing, most innovative companies in America, companies like Google, Amazon, Netflix, and others say exactly the opposite. They urge the FCC to adopt open Internet rules because "baseline rules are critical to assuring that the Internet remains a key engine of economic growth, innovation, and global competitiveness." In fact, most of the Internet companies wanted stronger rules than those adopted by the FCC.

I wanted to get independent advice, so our staff contacted economists at Stanford, NYU, USC, and other leading academic institutions. They told us that the FCC got the rules right. The phone and cable companies have near monopolies as providers of Internet access, especially wireless Internet access. Without sensible regulation, they could choke off innovation by charging Internet companies for the right to communicate with consumers.

One of the costs of this misguided resolution is that it is distracting us from important telecommunications issues that we should be addressing, and we could do so on a bipartisan basis. We are to be working together to grow our economy by freeing up spectrum. We should be working together to make our Nation safer by building a broadband network for public safety. We should be protecting taxpayers and consumers by enacting Universal Service reform. But we are doing none of these things. Instead, we are wasting time with a destructive resolution that should threaten openness and innovation on the Internet.

I thank our witnesses for being here. I look forward to your testimony. I want to yield the balance of my time to Mr. Markey.

Mr. MARKEY. Thank you, Mr. Waxman, very much.

Why is the Internet so important? It enables freedom of expression and the sharing of ideas across town or around the world. It prevents a single entity, whether it is a broadband behemoth or the government from exercising total control. It is a vital tool that helps small businesses compete and expand, pumping life into our economy. That is what an open Internet is all about.

One of our witnesses here this morning, Robin Chase, embodies the importance of an open Internet to our economy. Ms. Chase co-founded and ran Zipcar, a car-sharing service that is available in more than 200 cities across the U.S. She used the open nature of the Internet to build her innovative business from the ground up, without having to ask permission from Verizon, AT&T, Comcast, or any other carrier for permission. Here are Zipcar's current numbers: 474 full-time employees, \$186 million in revenue, 540,000 members. That is what the open Internet means to our economy.

This debate we are having today is not just a solution in search of a problem, it is a resolution in search of a problem. If we want to move forward here in a way that deals with this issue, Comcast agrees they can live with these Rules. AT&T agrees they can live with these rules. The key to the Internet is ensuring that it is open so that new companies, new applications, new gadgets are being invented on a daily basis in hundred and thousands of cities across our country that utilize this engine for economic growth as a way that keeps America's lead over the rest of the world. That is what makes us great, the open Internet. If we allow a small number of companies to control how fast that change, that innovation moves, then we will be stifling our ability to continue to be the engine of growth in the world, using the Internet as our way of revolutionizing the rest of the world.

If we did not have an open Internet, no Facebook, no Twitter, Hulu, YouTube.

Thank you, Mr. Chairman, for extending graciously that extra time to me.

Mr. WALDEN. Thank the gentleman from Massachusetts. I would now turn to the chairman of the full committee, Mr. Upton, for opening statement.

Mr. UPTON. I would just thank you, Mr. Chairman. I just remind my friend from Massachusetts that we have all of those currently, and we don't have net neutrality now.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. I urge my colleagues to support H.J. Res 37 that nullifies the FCC's attempt to regulate the Internet. President Obama has said that it is now his priority to focus on jobs. He has also said that his Administration will avoid onerous and unnecessary regs that stifle investment and innovation. In fact, in a January Executive Order, the President said that agencies must base regulations on a reasoned determination that the benefits, in fact, justify their cost.

While the Executive Order does not apply to independent agencies like the FCC, the President urged such agencies to follow it. FCC chair Genachowski has said that he does agree with the Order's principles. Well, if the FCC had taken this approach for the last year, we might not have needed this resolution today. The reality is that if the FCC was truly weighing the costs and benefits of its actions, that the agency would not be attempting to regulate the Internet.

There is no crisis warranting intervention. The Internet is open and it is thriving, precisely because we have refrained from regulating it. Imposing these rules will cause more harm than good by chilling the very investment and innovation that we need to ensure that the Internet keeps pace with the growing demands being placed on it. This will only hurt our economy.

The Internet is not broken. The market has not failed. To justify its power grab for a favored sector, the FCC is simply speculating about the possibility of future harm. Apparently, they never heard the old phrase, "If it ain't broke, don't fix it." Well, we can go one step further. As the late James Crowell, who served as Democratic FCC commissioner, said, "If it ain't broke, don't break it."

The FCC actually confesses in the order, albeit in the footnotes, that it did not conduct a market analysis. Where is the rigorous cost benefit analysis and demonstration of need? We have reviewed the response to our follow-up, and quite frankly, it is lacking. They point to paragraphs that contain little more than conclusory statements or summaries of comments.

Let us be clear. I do not believe we should be regulating the Internet, but if we follow the FCC's logic, the agency would ultimately be regulating Google and any number of other Internet companies. Press accounts indicate that Google engages in subjective prioritization of some search results over others. This not only affects what traffic Internet users see, it also can have a financial impact on Web sites. Should the FCC be determining whether Google is engaged in unreasonable discrimination? Is Google's traffic management reasonable? Would it be appropriate for the government to intervene because of the possibility of future harm without an analysis of current problems or market power? I think not. Not for Google, and not for anybody else.

Ultimately, there is a question of authority. The FCC has changed its story about where it gets the power to issue these rules more times than it has uttered the word "transparency". Each time it teeters from one weak explanation to another, based on the most legal or political impediment it is facing. None are consistent with its own precedent, and all are end runs around the D.C. Circuit's

decision in the Comcast case that the FCC has failed to show its authority in the space.

For these reasons, I urge my colleagues to vote for the resolution, and I yield the balance of my time to my friend, the Chairman Emeritus, Mr. Barton.

[The prepared statement of Mr. Upton follows:]

**Opening Statement of Chairman Fred Upton
Communications and Technology Subcommittee Hearing on H.J. Res 37**

I urge my colleagues to support H.J. Res. 37 nullifying the FCC's attempt to regulate the Internet. President Obama has said it is now his priority to focus on jobs; he has also said his administration will avoid onerous and unnecessary regulations that stifle investment and innovation. In fact, in a January 18, 2011, Executive Order, the President said that agencies must base regulations on a reasoned determination that their benefits justify their costs. While the executive order does not apply to independent agencies, the President urged such agencies to follow it, and FCC Chairman Genachowski has said he agrees with the order's principles.

If the FCC had taken this approach for the last year, we might not have needed this resolution today. The reality is, if the FCC was truly weighing the costs and benefits of its actions, the agency would not be attempting to regulate the Internet.

There is no crisis warranting intervention. The Internet is open and thriving precisely because we have refrained from regulating it. Imposing these rules will cause more harm than good by chilling the very investment and innovation we need to ensure the Internet keeps pace with the growing demands being placed on it. This will only hurt our economy.

The Internet is not broken; the market has not failed. To justify its power grab for a favored sector, the FCC is simply speculating about the possibility of future harm. Apparently they have never heard the old phrase 'if it ain't broke, don't fix it.' In fact, let's go one step further. As the late James Quello, who served as a Democratic FCC Commissioner, said: 'If it ain't broke, *don't break it.*'

The FCC actually confesses in the order—albeit in the footnotes—that it did not conduct a market analysis. Where is the rigorous cost benefit analysis and demonstration of need? We've reviewed their response to our follow-up and, quite frankly, it is lacking. They point to paragraphs that contain little more than conclusory statements or summaries of comments.

Let me be clear: I do not believe we should be regulating the Internet. But if we follow the FCC's logic, the agency would ultimately be regulating Google and any number of other Internet companies. Press accounts indicate that Google engages in subjective prioritization of some search results over others. This not only affects what traffic Internet users see; it can have a financial impact on Web sites. Should the FCC be determining whether Google is engaged in unreasonable discrimination? Is Google's traffic management reasonable? Would it be appropriate for the government to intervene because of the possibility of future harm, without any analysis of a current problem or market power? I think not – not for Google, or anyone else.

Ultimately, this is a question of authority. The FCC has changed its story about where it gets the power to issue these rules more times than it has uttered the word "transparency." Each time it teeters from one weak explanation to another based on the most recent legal or political impediment it is facing. None are consistent with its own precedent and all are an end-run around the D.C. Circuit's decision in the Comcast case that the FCC has failed to show it has authority in this space.

Regulating the Internet would be a radical departure from longstanding federal policy. It would change the approach that has allowed the Internet to work so well. If there is a problem to be corrected, it is Congress that should thoughtfully analyze the problem and determine the most appropriate solution.

For an expert agency to deserve that title, it must abide the line between reasoned decision-making and political coercion. Over the past half-decade or so, the FCC has lost sight of that line. With increasing frequency, the commission seems to be twisting the arms of those who come before it to submit to predetermined agendas rather than conducting market-based analyses. This not only harms the particular policy matter at issue, but jeopardizes the FCC's credibility. How can legislators, industry, and the public rely on the agency's "expertise" if the Commission does not look to be applying it?

For all these reasons, I urge my colleagues to vote for the resolution.

Mr. BARTON. Thank you, Chairman Upton. You gave an excellent explanation of why we should all support H.J. 37.

**OPENING STATEMENT OF HON. JOE BARTON, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS**

Mr. BARTON. To be as succinct as possible, the Internet has thrived, I think, in large part because this Congress repeatedly has stated that we did not want it to be regulated, and the FCC keeps attempting to get some nose under the tent, so to speak, so that in the future they can come back with real heavy handed regulation. This latest attempt, the three to two vote, in my opinion is simply an effort to establish the principle that the FCC can regulate the Internet. It is not as important what they do now, but the fact that they have the authority to do it. H.J. 37 would explicitly say they do not have the authority. As Chairman Upton has just said, if it is not broke, don't fix it. All these great things that are happening are happening under a deregulated environment, and we should keep it that way.

With that, I yield back to the subcommittee chairman.

[The prepared statement of Mr. Barton follows:]

**Opening Statement of the Honorable Joe Barton
Chairman Emeritus, Committee on Energy and Commerce
Subcommittee on Communications, Technology, and the Internet
Hearing on H.J.Res. 37: Disapproving the FCC's Rules Regulating the
Internet
March 9, 2011**

Thank you, Mr. Chairman for holding this important hearing. As a long time opponent to FCC regulation of the internet, I support your efforts to advance H.J.Res. 37 through the legislative process.

Mr. Chairman, on February 16, 2011, the five commissioners of the Federal Communications Commission (FCC) came before this subcommittee to testify about what I would call a gross abuse of their authority. I am still in disbelief that the FCC legitimately believes that they have the power to statutorily regulate the Internet, which has become a thriving force in this country without any type of formal federal government regulation.

If strict regulation of the internet was warranted, Congress would have taken appropriate action. However, Congress, the American people, and those in the industry saw no looming danger because no looming danger exists.

During the hearing, we heard that it was imperative we "protect" American citizens from any possible future harm that could result from using the Internet. While I also care about the protection of our citizens, I believe that we must make sound decisions based on evidence to support a need for vast regulations. We would be doing America a disservice to act on assumptions.

I am a proud cosponsor of this joint resolution. The FCC's adoption of their network neutrality rules during the recess period in December were unacceptable, in my opinion, and I am happy that Congress is taking a proactive step to correct these actions.

Mr. WALDEN. Thank the gentlemen for their opening statements. I would now yield to the gentlewoman from California, Ms. Eshoo, for 5 minutes.

Ms. ESHOO. Good morning, Mr. Chairman, and all of my colleagues. To the witnesses, thank you for being here today.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Given the significance of the resolution under consideration today, I want to thank Chairman Walden for respecting the request of the ranking member of the full committee, Mr. Waxman, myself, and members of the subcommittee to have a legislative hearing. I think it is essential that members of the subcommittee have an opportunity to hear from key stakeholders who are here today before voting on a resolution that would overturn the FCC's Open Internet rules.

It is so fascinating to me to listen to the statements that members make. This is all about an open and free Internet. In fact, those words are really the hallmarks of the Internet. All of the reasons that my Republican colleagues are saying they are doing this is fascinating, because the stakeholders themselves are on the other side of the issue. They do not believe that the light touch of the FCC is menacing; in fact, they have said and weighed in. We know the testimony. You have seen it—not only the testimony, but the letters that have poured in to this committee of groups and organizations across the country, from religious leaders to consumer organizations to high technology associations, they have all weighed in and said don't do this. It is fascinating to me that they say they are for an open Internet after reviewing the record of where there have been abuses. We want to see consumers making the choice, not corporations. We want companies to grow to be successful, and there is a long, long, long list of them, so many of them constituent companies from my congressional district.

I think that everyone here really needs to think very carefully about the direct and indirect consequences of passing this resolution. Disapproving the FCC's rule is a serious threat to our economy, and I think it is a direct attack on transparency. It could also lead to further uncertainty in areas beyond the December order, such as the FCC's ability to promote public safety and ensure online safeguards that prevent piracy and protect children from accessing harmful Internet content.

As I said or alluded to a moment ago, the history of an open Internet speaks for itself. Businesses that rely on an open Internet continue to grow—an open Internet continue to grow. A stunning example is eBay. In just over 15 years, it has gone from a living room startup to a company that enables hundreds of thousands of American small businesses and entrepreneurs to sell their goods to consumers across the country and around the world. The significance to our economy is enormous. It is actually stunning. Sixty billion dollars in goods sold on eBay marketplaces globally in 2009.

A similar story of success is Netflix, which in just the last year has added eight million new subscribers. With over 2,000 employees and a physical presence in every state, Netflix is continuing to

grow, and there is a reason for it. Open, accessible, consumers making the choice. That is what we seek to protect.

So why are the basic rules of the road essential to the continued growth of these companies? By preventing blocking and unreasonable discrimination, the Internet can remain a source of innovation and new ideas, not a platform where consumers and businesses are told which sources of news, information, and entertainment they can access.

The witnesses that are here today, we are all grateful to. I want to express a very special thanks to Robin Chase, who flew from Paris, France, to be here today, only to fly back to Berlin, Germany, this afternoon. That is one hell of a commitment, to come here and to speak on this really extraordinarily important issue, and we are very grateful to her. I think this is just one example among thousands of Internet innovators who understand how the CRA will hinder job creation and consumer choice. I am also pleased that members will be presented with the economic theory supporting the FCC's rules.

So Mr. Chairman, thank you for making sure that we have this legislative hearing. I thank the witnesses, and I don't have any time to yield back. Thank you.

Mr. WALDEN. That is all right. I thank you for your comments, and we look forward to hearing from the witnesses. Obviously, as you all have been briefed, the Prime Minister of Australia is going to be speaking to a joint session of Congress, so at some point here we will recess because we are not allowed under our rules to meet during a joint session.

I would like to point out how much we appreciate your being here. Ms. Chase, I know as a witness you had to fly from France and back to Germany today. We could have used high technology maybe to get your testimony and take your questions. We could have worked on that.

I would also like to point out for the record, this is our second hearing on this topic. We had all five FCC commissioners before, and now we have six witnesses here, equally divided, I would point out, between the Republicans and the Democrats, the Majority and Minority. At the conclusion of this hearing, there will have been two hearings, and probably one of the first times in the history of the committee that the Minority has actually had more witnesses on a topic than the Majority.

So we are trying to hear from people. We are trying to be open and fair and balanced about this, and we look forward to your testimony when we resume. So at this point, I will recess the committee until after the Prime Minister. It will be probably about an hour, we are guessing, by the time members go and get back, maybe a little bit more. So if you can kind of hang out not too far away, that would be helpful.

With that, the committee is—stands in recess.

[Recess.]

Mr. WALDEN. I am going to call back to order the Subcommittee on Communications and Technology, and welcome our witnesses this morning—or now this afternoon. Thank you for being here. Thank you for making the extra effort to be here from Europe and back, and so we will start. Let us start with—I believe we will just

go left to right with Mr. Turner. We appreciate your willingness to come and testify.

Mr. Turner, if you want to go ahead and start, research director for Free Press. We welcome you here, and we look forward to your testimony, sir.

STATEMENTS OF S. DEREK TURNER, RESEARCH DIRECTOR, FREE PRESS; ROBIN CHASE, CEO, BUZZCAR; JAMES CICCONE, SENIOR EXECUTIVE VICE PRESIDENT, EXTERNAL AND LEGISLATIVE AFFAIRS, AT&T; ANNA-MARIA KOVACS, PH.D., STRATEGIC CHOICES; SHANE MITCHELL GREENSTEIN, PH.D., THE ELINOR AND WENDELL HOBBS PROFESSOR, KELLOGG SCHOOL OF MANAGEMENT, NORTHWESTERN UNIVERSITY; AND TOM DEREGGI, PRESIDENT, RAPIDDSL & WIRELESS

STATEMENT OF S. DEREK TURNER

Mr. TURNER. Thank you. Good afternoon, Chairman Walden and Ranking Member Eshoo, members of the committee. On behalf of Free Press and the Free Press Action Fund, as the coordinator of the Save the Internet Coalition, representing more than 800 groups and their 10 million members, I appreciate the opportunity to offer the perspective of Internet users in today's hearing on House Joint Resolution 37.

Let me begin by acknowledging an often-forgotten truth. The principle of non-discrimination, which is the bedrock of net neutrality policy, was not always the political football it is today. Unfortunately, the debate around non-discrimination has become immune to the calming powers of historical fact and susceptible to the ills of special interest politics and false partisan frames.

This recent rhetorical drift is very much at odds with the long bipartisan effort to prevent market power abuses by owners of our Nation's critical communications infrastructure. It was the Nixon administration that put in place strong rules of non-discrimination in order to ensure abuses of market power would not stifle the growth of an infant network computing industry. This successful framework was later improved upon by both the Carter and Reagan administrations.

In the Telecom Act of 1996, a bipartisan Congress recognized that in order to foster new industries, we needed the FCC to act to ensure that everyone had open access to the information superhighway. Look no further than Section 10 to see that Congress intended non-discrimination survive any deregulation.

In the early 2000s, the FCC began to abandon the Telecom Act's blueprint for reasoned deregulation through forbearance; however, the Commission still recognized that the underlying nondiscriminatory outcomes were worth preserving. FCC Chairman Michael Powell first articulated the four Internet freedoms that subsequently served as the basis for the Open Internet provisions in the COPE Act adopted by the House in 2006. Chairman Kevin Martin took action in 2008 to stop Comcast's secret discrimination against certain Internet content.

But recently, we have seen this debate move away from the shared goal of preserving the open Internet. The problem of market

power in communications networks is very real and increasingly politically inconvenient. As a result, we have seen those who used to recognize this problem abandon those views. Some policy makers now seem resigned to the misguided notion that the duopoly Internet access market is perfectly competitive. This is unfortunate because I believe we all agree that the Internet should be preserved as an open platform. Allowing gatekeepers to erect barriers to speech and commerce is an unacceptable outcome, and public policy should be used to prevent it.

If we can agree that ensuring access to an open platform is a worthy policy goal, then we have a duty to confront the reality that network owners have strong incentives to close the platform and favor their own content at the expense of everyone else's. Now, I recognize that some of you are uncomfortable with the FCC's Open Internet order. My organization, too, ultimately opposed it. We felt that it failed to adequately preserve and protect the open Internet; however, we oppose the resolution of disapproval. It will leave consumers completely unprotected. It will remove the limited certainty that the FCC's rules provide. Most importantly, it will prevent the FCC from addressing blatant censorship and anti-competitive activities in the future. This resolution is an unnecessary and dangerous overreaction to a policy framework that is, at its core, very similar to the bipartisan COPE Act of 2006. Make no mistake, adoption of this resolution will increase market uncertainty and harm economic growth.

Most ISPs have told Wall Street the truth, that these rules are no burden, so to borrow a very tired old phrase, the resolution of this approval is a solution in search of a problem.

Innovators in the applications and content sector believe they now have a certain, albeit imperfect, framework to live under. This resolution, if enacted, will remove that certainty and subject them to the discriminatory whims of the ISPs. There may be much to dislike about what this FCC did and how it did it, but the fundamental point here is that we cannot simply set up a false choice between what the FCC did and no policy at all. We can't wish away the concentrated market structure. We can't simply hope that the duopoly ISPs will make decisions in the best interest of all Americans.

I am a strong believer in free markets, but I understand the immovable barriers to effective competition in markets like this that have natural monopoly characteristics. Internet users cannot afford for Congress to remove what little oversight is left.

So instead of pursuing this perilous path, we urge this body to remember its commitment to protecting non-discrimination, and work on constructive solutions that will benefit all Americans.

Thank you for your attention, and I look forward to your questions.

[The prepared statement of Mr. Turner follows:]

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Testimony of

S. Derek Turner
Research Director
Free Press

before the

United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications, Technology and the Internet

Regarding

H.J. Res 37
Disapproving the Rule Submitted by the Federal Communications Commission
With Respect to Regulating the Internet and Broadband Industry Practices
March 9, 2011

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SUMMARY OF TESTIMONY OF S. DEREK TURNER, RESEARCH DIRECTOR, FREE PRESS

Last December, after much discussion and public comment, the FCC passed the open Internet rules that are the subject of House Joint Resolution 37. The FCC's rule builds on a long bipartisan history of requiring infrastructure owners to abide by nondiscrimination principles and attempts to achieve a goal supported by nearly everyone who participates in the Internet economy — preserving the Internet as an open platform for speech, commerce, and innovation. While aspects of the rule may be flawed, any attempt to repeal it leaves Internet users fundamentally unprotected.

The principle of nondiscrimination at the heart of the FCC's rule has a long history of bipartisan support. It was the Nixon administration who first put in place strong rules of non-discrimination governing our nation's communications infrastructure in order to ensure abuses of market power would not stifle the growth of an infant network computing industry. This successful framework, later modified by the Carter and Reagan Administrations, fostered America's early leadership in the Internet space.

Nowhere is the bipartisan effort to preserve non-discriminatory networks displayed more prominently than the Telecommunications Act of 1996. Congress was nearly unanimous in recognizing that in order to foster new industries that used the information superhighway, everyone should have open access to that highway, and there must be a cop on the beat to guard against the predictable abuses of market power that the owners the access networks would likely leverage. This rational bipartisan approach also animated the Act's implementation. FCC Chairman Michael Powell first articulated the "four Internet freedoms," which were later embodied in the FCC's Internet Policy Statement and subsequently served as the basis for the open Internet provisions in the COPE Act, adopted by the House in 2006. This framework was then used in 2007 by Chairman Martin to stop Comcast's secret, discriminatory behavior against the Bit Torrent application.

Even in 2011, there is universal agreement that the Internet should be preserved as an open platform. Nearly everyone agrees that public policy ought to prevent gatekeepers from using market power to erect artificial barriers to speech and commerce. If we can agree that ensuring consumers and innovators maintain access to an open platform is a worthy policy goal, then we have a duty to confront the reality that network owners have strong incentives to close the platform and erect barriers to speech and commerce in order to increase short-term gains. The FCC's order attempts to do just that.

Members of this body may be uncomfortable with the precise contours of the FCC's rules. Free Press, too, ultimately opposed the FCC's final order because we felt that it failed to adequately preserve and protect the open Internet. But the passage of this Resolution of Disapproval will leave consumers completely unprotected. It will remove the FCC's current weak and industry-blessed rules and prevent the FCC from addressing the most blatant forms of discrimination and anti-competitive activities at any point in the future. This resolution is an unnecessary and dangerous over-reaction to a policy framework that is at its core almost identical to the one in the COPE Act, approved in a bipartisan fashion by Congress just a few years ago.

Adoption of this resolution will actually increase market uncertainty and harm economic growth. Most ISPs have told Wall Street the truth — that these rules are no burden. Upending the structure created by the rules will create uncertainty for that sector and the Internet content and applications sector, where jobs are actually being created. These innovators believe now they have a certain, albeit imperfect framework to live under, and this resolution, if enacted, will remove that certainty and subject them to the discriminatory whims of the ISPs for a period of years.

In the end, we cannot simply set up a false choice between what the FCC did and no policy at all. We can't wish away the concentrated market structure and assume that broadband providers will always act in the best interests of consumers and innovators. Internet users cannot afford to have Congress to eliminate the FCC's oversight over our nation's critical communications infrastructure.

To borrow a very tired old phrase, the Resolution of Disapproval is a solution in search of a problem. Instead of pursuing this perilous path, we strongly urge this body to remember its long commitment to preserving the principle of non-discrimination and work on constructive solutions that will benefit all Americans.

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Introduction

Though the debate around network neutrality is heated and contentious, all sides agree that the abstract quality of “openness” is the defining characteristic of the Internet, and is why the Internet has risen from its original status as an obscure technology to become an essential infrastructure in a matter of years, not decades. Where the sides diverge is how to preserve this abstract quality of openness. Here, we believe the path is clear, and traces its way through decades of regulatory history -- history that teaches us a very important lesson: two-way communications networks are so critical to the basic functioning of our society that they must be operated in a non-discriminatory fashion, one that preserves open and efficient interconnection. Indeed, this lesson is at the heart of the Communications Act, and to deviate from it is to invite a peril that is so great and so costly, that it is nearly unfathomable. To abandon this principle now through the use of the Congressional Review Act is to invite market uncertainty and abuses of market power that will harm American innovation and jeopardize the vibrant “edge” Internet economy, *the* sector of our economy that can ensure this nation retains its position as a global economic powerhouse.

Network Neutrality embodies the basic principle of open nondiscriminatory interconnection that the Communications Act seeks to promote. Thus, Network Neutrality unquestionably should be the cornerstone of America’s broadband policy. Network Neutrality makes it possible to have an open market for speech and commerce on the Internet, and it is Congress’ and the FCC’s fundamental duty to protect this openness for consumers, citizens and businesses alike. Ultimately, the FCC has the responsibility to ensure that the content market that sits adjacent to the access market retains maximum competitiveness, as it always has, by precluding market power in network ownership from distorting the market for Internet content. This is the successful legacy of the *Computer Inquiries* that the FCC must uphold.

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This economic space at the “edge” of the network architecture has been a remarkable engine of economic growth in the last decade. In addition, this is the space where network technologies meet democratic discourse and open cultural expression. Because of the open marketplace at the edge of the network, an open sphere for public speech has developed that rivals the printing press as the most important development in modern political communication. Policies aimed at the application layer should recognize its centrality to the economic and democratic health of the nation.

Simply stated, there is a reason millions of citizens have told Congress to preserve Net Neutrality.

The importance of the Internet ecosystem exceeds the sum of its parts; its basic DNA of openness must not be destroyed in the shortsighted pursuit of monopoly profits on the part of the private companies who have made billions by selling access to this common good resource.

In this testimony I offer evidence that these rules will promote efficient investment, promote innovation, create jobs, and promote competition. I also offer evidence rebutting the major claims of hypothetical harms that openness policy might cause. I demonstrate how Network Neutrality will not deter ISP investment, and will promote edge economy investment. This in turn will feed the virtuous cycle where ISPs will continue to invest in network infrastructure as the Internet economy grows.

ISPs major stated opposition to Network Neutrality is that without the right to earn new discriminatory-based revenues they will not invest in their networks. However, I explore the likely shape of these hypothetical business models, and find that the true motive beneath ISPs desire to discriminate is not primarily the possibility of earning new third-party revenues, but the protection of legacy voice and video services from the disruptive competition enabled by the open Internet.

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Specifically, I discuss the so-called “paid-prioritization” business model, one frowned-upon (but not banned) by the FCC’s December 2010 Order. In this model, third-party content and applications providers would compensate ISPs for prioritizing their traffic over all other traffic flowing across the ISP’s network. But this model is faced with an immovable barrier: the routing of Internet packets is a zero-sum-game; during times of congestion, prioritizing one packet deprioritizes all others. This practical reality firmly bounds the possibilities of the pay-for-priority business model. In practice, this means that in order for this model to work, congestion will have to be widespread. It also means that ISPs will only be able to form a small number of paid-priority business relationships, causing great harm to the normal operation of free market choice online. Further, this market creates the perverse incentive for ISPs to make congestion the normal state of affairs, suggesting that the notion that paid-priority business models will prove superior to the status quo at stimulating ISP investment is highly dubious.

I then discuss “vertical prioritization,” a business model is one where an ISP simply prioritizes its own vertical content and services over all other content. This prioritization can be achieved either by flagging their traffic for priority, or by more subtle ways, such as de-prioritizing applications that are used to deliver classes of content that compete with the ISPs vertical content; or by the outright blocking of an IP application that competes with the ISPs own adjacent market services. Unlike the pay-for-play or pay-for-priority models, this business model involves no new income streams, only the insulation of old streams from network-facilitated competition. But allowing ISPs to insulate their legacy vertical voice and video industries from the natural forces of competition is no recipe for investment -- with reduced competition comes reduced investment incentives.

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Therefore, abandoning network neutrality would enable ISPs to reduce investment in the core market, and leverage power into the edge markets, further reducing investment there as well. Abandoning Network Neutrality is certain to stifle growth in the U.S. information economy at a time when this sector serves as our best hope for a productive future.

I then discuss historical financial data that strongly suggests that network neutrality rules will not deter ISP investment. At the end of 2006, AT&T, as a condition of its acquisition of BellSouth, was required by the FCC to operate a neutral network for two years. During this period, while operating under network neutrality rules, AT&T's overall gross investment increased by \$1.8 billion -- more than any other ISP's in America. Without Network Neutrality, ISPs will have a strong incentive to reduce investment and make congestion commonplace in order to extract revenues from content providers willing to pay to avoid traffic delays.

I also demonstrate how Network Neutrality will not harm ISP employment. ISPs have for years been earning higher revenues and simultaneously slashing jobs. Since 1996, AT&T, Qwest and Verizon have collectively seen a 32 percent increase in revenues while jobs have dropped 25 percent. In short, the ISPs pro-consolidation era pattern of destroying good jobs while reaping higher profits will likely continue with or without the existence of Network Neutrality rules.

I also discuss that without open Internet rules, ISPs will be granted license to abuse their positions as terminating access monopolies, which is in direct conflict with the Act's goals for nondiscriminatory interconnection. This abuse will lead to even more complicated regulatory issues than are currently faced by the FCC in the Intercarrier Compensation (ICC) debate.

I then address the long Congressional and FCC history of promoting the principle of non-discrimination in our nation's communications networks. I discuss how economic theory and market experience indicate that nondiscriminatory rules are necessary even in access markets with robust

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competition, and how in recognition of this basic fact, Congress structured the Communications Act such that the FCC was granted the authority to forbear from applying much of the regulations in Title-II to wired and wireless telecommunications providers, but was expressly forbidden from removing nondiscriminatory interconnection obligations.

I devote the last portion of my testimony to discussing the unfortunate and unnecessary shortcomings in the FCC's open Internet policy framework, adopted last December. I note how the FCC's framework for wired networks is riddled with loopholes that could advantage established ISPs over consumers and innovators in any enforcement proceedings. I also discuss the harms to competition and innovation that will result from the FCC's tacit approval of economic-motivated blocking and discrimination on mobile networks. And I discuss the unnecessary risk associated with the FCC's decision to rely on Title I ancillary authority, instead of restoring its undisputed authority under Title II of the Communications Act.

I conclude with a reminder of a basic truth: that nondiscriminatory protections are essential to promoting innovation and investment, as well as facilitating more informed citizenry and greater democratic participation. The Commission's rules may have failed to adequately preserve and protect these principles, but there should be no doubt that removing the FCC's ability to improve upon this framework through the adoption of H.J. Res 37 will bring tremendous uncertainty to the marketplace, harm consumers, cost jobs and jeopardize future growth of the Internet economy.

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**The Historical, Bipartisan Commitment to the Principle of Non-Discrimination,
And The True Relationship Between Network Neutrality and Investment**

At the turn of the century, high-speed Internet access service was present in about 2 percent of American homes. Today, that figure stands at nearly 60 percent. No other technology even comes close to competing with this pace of adoption -- not the telephone, television, the automobile, cable TV, cellphone, or even the computer itself.

This technology's meteoric rise illustrates the immense value that it brings to users. This value is made possible, in large part, because the Internet is an open platform for innovation, speech and commerce. The Internet's openness brings with it the potential to eradicate the barriers to entry present in traditional communications markets. Content producers no longer need to negotiate with powerful cable providers, newspaper publishers or broadcasters to get their work out to the masses; the Internet has an unlimited number of "channels." A citizen wishing to express an opinion about a pressing issue no longer needs to write a letter to the editor; they can reach far more readers online. And politicians no longer need to rely on the short-attention-span mainstream media to get out their message; they can use the Internet to speak directly to voters. We are only beginning to see the vast potential of the Internet as a medium for civic engagement.

The Internet's openness is also responsible for fostering unprecedented economic growth. It is conduit for near "perfect competition" -- the Holy Grail model for free-market economics. Barriers to entry are reduced. Buyers are empowered by almost unlimited information and unlimited choice. Sellers are empowered by the ability to cut out middlemen and interact directly with the customer. And innovators and entrepreneurs have a platform for launching new ideas globally. What makes all this so remarkable is that the explosion in communications and economic activity took

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root and grew out of an infrastructure controlled in important ways by monopolists which had every incentive to use their market power to control and monetize these innovations.

The Internet is a common good that will continue to play a critical role in America's economic and social prosperity. But no one single person, government or corporation owns the Internet. Much of the Internet's early development was carried out using public funds, and much of its private development was and continues to be funded by consumers who participate in markets with little meaningful competition. Private companies like AT&T and Comcast build and deploy infrastructure that provide end-users with access to this common good, and they make substantial profits doing so. But consumers don't hand over money to companies like Comcast because they value the connection itself; they are willing to pay \$50 per month for the things that connection enables them to do. It's the applications, services and content that give the connection value. ISPs provide access to the Internet, and when they engage in behavior such as blocking, they alter the fundamental nature of how the Internet is expected to work. This threat is why all four of the FCC's original *Internet Policy Statement* principles contain the phrase "promote the open and interconnected nature of the public Internet."

But those protections were at best tenuous. The lack of policy clarity following the Powell and Martin Commission's abandonment of the pro-competition framework in the 1996 Telecom Act had the ultimate impact of inviting carriers looking to implement discriminatory practices to push the envelope. The lack of firm nondiscrimination rules created market uncertainty and sent a signal to carriers that it might one day be permissible to profit from artificial scarcity.

The Internet was born in an environment where innovation and ingenuity were set free. This environment was made possible because prior FCCs, starting with the Nixon administration, were proactive in ensuring that owners of critical communications facilities behaved properly and stayed

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out of the way of innovators making use of this general-purpose infrastructure. Discrimination was not an option, and that was never a point of controversy. It is frustrating that there is today even a debate over Network Neutrality, because neutrality is the very lifeblood of the network; it is what made the Internet into a service that companies like AT&T and Comcast could get rich selling. The only reason the fight over Network Neutrality exists is because the FCC, in a series of decisions beginning in 2002, left consumers without the basic protections guaranteed in the Communications Act that have been part of the Internet since its inception.

Below we offer evidence that strong, enforceable Net Neutrality rules will promote efficient investment, promote innovation, create jobs, and promote competition. We also offer evidence rebutting the major claims of hypothetical harms that openness policy might cause. We then provide extensive discussion on exactly how the Commission should structure these rules in order to effectively preserve and promote the open Internet.

Factors That Influence Investment

The high-speed Internet Service Provider (ISP) sector is one of the most capital-intensive sectors in our economy. Building networks requires substantial upfront investments, and decisions regarding these investments are driven primarily by factors that influence the value of the return on investment (ROI). These factors are themselves in turn driven by other considerations -- some interrelated -- making overall investment decision-making a complex process that depends on the specifics of a given market. Unfortunately, in the network neutrality debate, investment decisions have been painted as binary -- some ISPs claim that non-discrimination rules will automatically deter, even decimate investment. But this simplistic view ignores other business realities and flies in the face of historical evidence and common sense.

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When weighing the potential impact of open Internet rules on investment (both in the ISP sector and within the “edge” sectors that use the Internet as a production input) policymakers must consider all factors that influence investment decisions. In general, these factors are: expectations about demand, supply costs, competition, interest rates, corporate taxes, and general economic confidence.

If a market is expected to grow, businesses have a strong incentive to invest in capacity to meet increased demand, in order to increase revenues. The overall high-speed Internet market is growing, with the wireless data sector poised for substantial future growth. However, even within the wireline sector, there is considerable potential for growth in “next-generation” high-speed Internet services -- those that can deliver speeds well above 10 megabits per second (Mbps). Companies deploying higher-end service tiers are seeing substantial growth in these faster (and more expensive) offerings.¹

If the cost to serve a customer declines, the potential return on investment increases, giving a firm the incentive to increase investment. In the ISP sector, overall capital equipment costs and operating costs continue to decline. In particular, for cable operators, the relatively inexpensive cost of DOCSIS 3.0 upgrades, coupled with the strong potential growth for faster services, creates an incentive to invest. For Incumbent Local Exchange Carriers (ILECs), deploying faster fiber-to-the-home (ftth) or short-loop DSL services does require a relatively higher level of upfront investment (compared to cable’s upgrade path), but the potential cost savings from copper retirement, coupled with new revenue streams from Internet-delivered TV, also creates a strong incentive to invest.

¹ See e.g., Comments of Free Press, *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, A National Broadband Plan for Our Future*, WC Docket Nos. 09-137, 09-51, pp. 48-51; See also John Horrigan, “Home Broadband Adoption 2009,” Pew Internet & American Life Project, June 2009, p. 23.

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In markets where technological change is relatively swift and competition is healthy, firms have a strong incentive to invest in order to keep up with or get ahead of their competitors. The current high-speed ISP market is characterized by swift technological change, but the overall level of competition is sub-optimal. The latter factor means that regulators must be vigilant to ensure that the lack of competition and presence of market power do not spill over from the ISP market into the adjacent content and applications markets. If ISPs are allowed to discriminate against content and applications, it will create incentives for them to profit from artificial scarcity by delaying or avoiding network investments -- and it will reduce investment in the content and applications sector.

Interest rates directly impact the cost of borrowing money, and they also impact the opportunity cost of using profits to finance investment. As interest rates decline, firms view capital investment more favorably.

Firms pay taxes based on their profits. If the corporate tax rate is reduced, or if investment tax-allowances are increased, then firms have a greater incentive to invest. In recent years, the federal government has made changes to tax law, such as accelerated depreciation, which reduce ISPs' overall tax burden.

Business confidence in the overall economy directly impacts investment. Strong GDP growth and constrained inflation usually result in strong overall capital investment. Conversely, an economic downturn, even if it disproportionately impacts certain sectors, can lead to uncertainty about growth and demand and thus deter investment. In the overall communications sector, where services are increasingly viewed as necessities, firms may indeed be "recession-proof," but still limit investment during periods of overall economic turmoil. Investment in the communications sector declined sharply following the 2001 recession, and has marginally declined during the current recession (see below). Some scholars actually believe that one of the consequences of the bursting of

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the housing bubble will be increased institutional investment in the telecom sector, as investors look for proven smart long-term investments, like fiber optic residential products.²

ISPs Motivation to Discriminate Are Driven Primarily By Their Desire to Insulate Legacy Voice and Video Business Segments from Disruptive Competition.

Some incumbent ISPs claim network neutrality rules will deter investment. But in order for this to be true, the rules will have to substantially impact an ISP's potential return on investment. Yet no ISP has provided a concrete example of how network neutrality will lower ROI. Further analysis seems to indicate that large ISP opposition to preservation of the *de facto* status quo net neutrality regime is caused by concerns about insulating their legacy voice, SMS and video revenues from the forces of competition enabled by the Internet. Such concerns were at the root of the Commission's *Computer Inquiry* regulatory framework, and thus it should come as no surprise that the same anticompetitive behavior underpins the current debate. As the Congress knows well from its work leading up to the enactment of the 1996 Act, carriers protecting supra-competitive profits in legacy business segments from the forces of competition is the exact type of classic abuse of market power that on the whole reduces total investment and consumer surplus.

For the purpose of analyzing possible market reactions in a world where ISPs are free to violate the long-standing principle of non-discrimination, I examine two basic types of potential discriminatory business models that ISPs could theoretically explore. The first is a "pay-for-priority" model, where the ISP will offer traffic prioritization for a fee to any content provider who wishes to contract for such treatment -- or to an exclusive subset of content providers who are given the

² See Andrew Odlyzko, "Network Neutrality, Search Neutrality, and the Never-Ending Conflict Between Efficiency and Fairness in Markets," January 19, 2009. "One possible outcome of the financial crash might paradoxically be that it will encourage greater investment in telecommunications infrastructure. Even aside from government funding for economic stimulus, the crash might, after main turbulence subsides, lead to more realistic expectations of investment returns, which will make long-term investments in projects such as fiber to the home more attractive."

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opportunity to pay for such preferential treatment. The second model is the “vertical” model, where the ISP prioritizes all of its own affiliated content over content.

Pay-for-priority is the hypothetical business model that has occupied much of the network neutrality debate, and is frowned-upon, but not prohibited in the FCC’s December 2010 Open Internet Order. Under this scheme, third-party content and applications providers would compensate ISPs for prioritizing their traffic over all other traffic flowing across the ISP’s network. But unlike paid-prioritization in other markets like parcels,³ the routing of IP data is a zero-sum game: If a router speeds up one set of bits, by definition, all other bits are slowed down.⁴ This practical reality firmly bounds the possibilities of the pay-for-priority business model.

Because packet-switching is a zero sum game, there is a theoretical upper limit to how many prioritized relationships an ISP can establish. This is because as the number of prioritized relationships grows, the degradation to all non-prioritized content becomes unacceptably high; and because the total pool of time is finite, the time advantage given to each priority customer declines as more prioritized relationships are created. This places an upper bound of the number of paid-priority relationships a given ISP can enter. Thus, if ISPs are allowed to establish fee-for-priority relationships with individual firms, they will strike deals with a handful of firms who have the highest willingness to pay for prioritized treatment. In practice, this means both exclusive deals and preferential treatment for vertically integrated content. This will thus deliver the undesirable

³ The fact that parcel delivery is not a zero-sum game but packet delivery is has not stopped anti-openness proponents from pushing this incorrect analogy. *See* Comments of the United States Internet Industry Association (USIIA), *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52, p. 6 (June 15, 2007). “Tiered services are a part of nearly every industry, where they serve an important role in both speeding some customers through their desired tasks and permitting the normal flow of commerce in the basic or non-tiered services. The existence of business class does not slow the flight for those who buy airline or train seats in coach. Overnight delivery of letters by UPS or FedEx does not slow the deliveries by the US Postal Service.”

⁴ *See* M. Chris Riley and Robb Topolski, “The Hidden Harms of Application Bias” (Nov. 2009), available at http://www.freepress.net/files/The_Hidden_Harms_of_Application_Bias.pdf (“*Hidden Harms of Application Bias*”) at 2, “[W]ith congestion, prioritization forwards higher priority packets ahead of other traffic, and lower priority packets are negatively affected until there are no higher priority packets to send. Prioritization operates by degrading and harming lower priority traffic, because (by definition) more low priority packets are delayed or dropped.”

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consequence of Internet balkanization, where ISPs (who already eschew price competition in favor of product differentiation) will establish exclusive content arrangements as a method of product differentiation -- Comcast's exclusive video partner might be Hulu, while AT&T's might be YouTube. Users trying to use the non-affiliated (and non-prioritized) services will likely find them unacceptable slow, and the market will fragment.

The implications of this engineering reality blow a huge hole in the ISP argument that network investments will only take place if they are freed to price discriminate via pay-for-priority. Content providers only have an incentive to pay for ISP-prioritization if it makes a substantial difference in the quality of their product as delivered to the end-user. This incentive only becomes *real when network congestion is the norm*. Under this economic model, a network owner actually has every incentive not to upgrade their network -- for if they did, they would undermine the entire rationale for prioritization. In other words, once an ISP establishes a system of prioritizing certain content in exchange for payment (and thereby degrading for non-payment all other content), the ISP would have every incentive *not* to invest in increased capacity, for fear of reducing congestion and eliminating the very feature that made content providers willing to pony up for prioritized delivery. Thus Net Neutrality actually encourages deployment, because without it, network operators would have substantial incentive to delay upgrades in order to profit from artificial scarcity.

The second, related prioritization model is one where an ISP simply prioritizes its own vertical content and services over all other content. This prioritization can be achieved either by flagging their traffic for priority, or by more subtle ways, such as de-prioritizing applications that are used to deliver classes of content that compete with the ISPs vertical content⁵; or by the outright

⁵ For example, an ISP could designate BitTorrent as a low-priority application, and delaying it, or disrupting how the application works by blocking users ability to originate such content.

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blocking of an IP application that competes with the ISPs own adjacent market services.⁶ Unlike the pay-for-priority models, this business model involves no new income streams, only the insulation of old streams from network-facilitated competition. Any business should of course be concerned about competition eroding margins; but policymakers must recognize that these concerns have more to do with reducing competition than they do with investment. Congress gave the FCC a statutory duty to promote competition; it also has gave it a statutory duty to ensure interconnection. Allowing ISPs to break the open interconnected nature of the Internet in the name of protecting current ISPs adjacent businesses from competition cannot be a path our nation follows. If investment is a core national goal, then we must recognize the basic fact that with reduced competition comes reduced investment incentives. This is certainly true in the core network market and in the broader edge markets -- abandoning network neutrality would enable ISPs to reduce investment in the core market, and leverage power into the edge markets, further reducing investment there as well.

Fortunately, policymakers do not need to rely solely on theoretical arguments about how network neutrality will impact investment, as we have the results from a natural experiment implementing these rules on the largest ISP in America.

Historical Data Suggests that ISPs' Investment Decisions are Not Negatively Impacted by Network Neutrality

In the final days of 2006, the FCC approved the merger of AT&T and BellSouth only after the company agreed to operate a neutral network (by adhering to the four principles of the FCC's *Internet Policy Statement* as well as an explicit fifth principle of nondiscrimination) for two

⁶ For example, a mobile wireless ISP could bar the use of VoIP applications on its 3G data network in order to guard against cannibalization of mobile voice revenues.

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years following the transaction.⁷ A review of AT&T's investments over those two years shows quite clearly that a strict network neutrality rule did not result in the company reducing capital investment.

In 2006 -- prior to agreeing to the five network neutrality principles -- AT&T and all its then-current and future subsidiaries (i.e., the full post-2006 company, which includes SBC, BellSouth, Cingular -- or AT&T Mobility -- and ATTIC) made \$18.2 billion in gross capital expenditure investments. After two years of operating under a strict network neutrality regime, the company's gross capital expenditures rose to \$20.34 billion. In terms of capital expenditures as a percentage of revenues, AT&T's investment increased from 14.9 percent in 2006 to 16.4 percent in 2008.

These data represent all of AT&T's business segments; however, the fifth principle of nondiscrimination applied specifically to AT&T's wireline network. But in this segment, the company's investment growth under the network neutrality framework was even stronger than the overall company's growth before the framework was implemented. In 2006, the combined company's wireline capital expenditure was 13.5 percent of wireline revenues. By the end of 2008, this had increased to 20.2 percent.

Not only did AT&T's investment increase under network neutrality rules, but the company's gross investment also increased more than any other ISP's in America during this period. In the two years following the imposition of network neutrality rules, AT&T's gross capital expenditures

⁷ In addition to agreeing to conduct business in a manner that comports with the *Policy Statement*, AT&T/BellSouth agreed "not to provide or to sell to Internet content, application, or service providers, including those affiliated with AT&T/BellSouth, any service that privileges, degrades or prioritizes any packet transmitted over AT&T/BellSouth's wireline broadband Internet access service based on its source, ownership or destination." This commitment ended on December 29, 2008, two years from the merger consummation date (the commitment to the *Policy Statement* continues until May 29, 2008). See Letter from Robert W. Quinn, Senior Vice President, Federal Regulatory, AT&T, In the Matter of *AT&T Inc. and BellSouth Corporation Application for Transfer of Control*, WC Docket No. 06-74 (filed Dec. 28, 2006) (*AT&T Dec. 28 Ex Parte Letter*).

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increased by \$1.8 billion, or 10.2 percent. In contrast, the other two Regional Bell Operating Companies (RBOCs) had a lower percentage increase in gross capex spending, with Verizon showing a 0.8 percent increase from 2006 to 2008 and Qwest increasing its gross capex by 8.9 percent during this period.

While gross capital expenditures are an obvious investment metric, these absolute figures can be somewhat misleading depending on the overall size of a business. Hearing that a company spent \$100 million on capex certainly sounds impressive, unless you then consider that the company also took in \$100 billion in revenue. This is why it is also useful to measure capital investment as a percentage of revenues. Looking at all the major U.S. ISPs' investments during the 2006-2008 period, we see that AT&T under network neutrality rules had higher levels of relative investment growth than many other companies, with relative investment levels by Verizon, Comcast and Time Warner Cable actually declining during this period.

Now, let me be clear -- I am not making a claim of causality about this one single case of the imposition of a strict principle of non-discrimination and its impact on investment. There's simply not enough data and too many other intervening factors particular to this transaction. It is merely suggestive of what might take place. What I am suggesting is the "net neutrality will destroy investment" rhetoric coming from the ISPs is on its face dubious. Having the AT&T experience as a data point is indeed interesting; but it alone is not as convincing as the common sense reasoning as to what the discriminatory business models will likely be. As I showed above, the ISPs are bound by factors beyond their control, and there is plenty of reason to believe that once free to discriminate, ISPs will focus on vertical prioritization and using discrimination to reduce the need for investment.

The rhetoric about network neutrality discouraging investment is just a general reflection of the common but misguided belief that any and all regulation discourages investment. According to

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this theory, regulation will perpetuate uncertainty and will reduce potential return on investment, thereby reducing the incentive to invest. But all regulation is not created equal. Some regulation is heavy-handed, designed to control retail prices in a monopoly market, while other regulation can be much lighter, providing basic rules of the road that ensure healthier competition in an otherwise concentrated market.

So what should we make of the theory that regulation reduces investment? Evidence from the past 13 years from the Incumbent Local Exchange Carrier sector suggests little support for this theory. In fact, during this period, which saw the imposition of substantial regulation followed by equally substantial deregulation, we see that regulation may have actually encouraged investment -- and that deregulation and consolidation may have decreased investment.

In 1994, two years before the 1996 Telecom Act was passed, the combined gross capital investment of the RBOCs was 20 percent of revenues. Immediately following the passage of the 1996 Act, RBOC investment as a percentage of revenues grew, despite substantial regulations at the wholesale and retail levels. By 2001, RBOC investment as a percentage of revenues reached 28 percent. Investment continued to rise throughout the year 2000, despite the bursting of the dot-com bubble in March of that year. In 2001, despite a six-month recession, RBOC investment held steady. It wasn't until 2002, when the FCC began dismantling the 1996 Act's regulations that relative investment declined sharply, to a low of 15.7 percent in 2003. Investment rose slightly in 2004 and 2005, but then declined and held flat following the FCC's subsequent complete deregulation of broadband and approval of a series of massive mergers.

In short, these data suggest that ISP investment decisions are not driven simply by regulation or the lack thereof. In fact, it appears that regulation, especially if designed to promote competition, can stimulate investment.

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While no one can say for certain what precise outcome network neutrality, or this FCC's open Internet framework will have on ISP sector investment, we should take stock in what is going on behind the scenes in the networking equipment market. The so-called deep-packet inspection (DPI) technology that enabled Comcast to secretly block the BitTorrent application is now being marketed to ISPs as a technology that can be used to avoid investing in new capacity. For example, one DPI vendor states that "by shaping traffic at the subscriber-level [using DPI], bandwidth is made available for new revenue generating services. Rate limiting traffic allows network infrastructure build-out to be deferred, *thereby reducing capital expenditures*."⁸

Without Open Internet Rules, ISPs Will Be Granted License to Abuse Their Positions as Terminating Access Monopolies, Which is In Direct Conflict with the Act's Goals for Nondiscriminatory Interconnection

Congress has long been concerned with the potential abuses of terminating access monopoly power. Therefore, policymakers should now be very concerned with some ISP's stated desires to abuse their position as a terminating access monopoly by price discriminating against certain streams of traffic based on their source, or by degrading otherwise seamless and efficient interconnection.

It is the stated purpose of the Communications Act "to promote nondiscriminatory accessibility by the broadest number of users and vendors of communications products and services to public telecommunications networks,"⁹ and to "to ensure the ability of users and information providers to seamlessly and transparently transmit and receive information between and across telecommunications networks."¹⁰ What ISPs want free reign to do -- be it pay-for-priority, or vertical-prioritization -- is violate the Act's stated purposes regarding interconnection. Ending the

⁸ See M. Chris Riley and Ben Scott, "Deep Packet Inspection: The End of the Internet as We Know It?" March 2009, at n. 51 (*emphasis added*).

⁹ 47 U.S.C. 256(a)(1).

¹⁰ 47 U.S.C. 256(a)(2).

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current system of default network neutrality enables the abuse of terminating access monopoly power in a manner that is far worse than any the FCC has ever faced. One of the thorniest issues the FCC is currently wrestling with is how to set the “right” price for intercarrier compensation (ICC). In this area, the Commission need not even worry about price discrimination -- it has the task of regulating rates for efficiency non-discriminatory interconnection. Yet it still struggles. This struggle exists because of the presence of terminating access monopolies, and is one that is not in any way solved by the presence of multiple competitive service providers -- even carriers without market power are prone to abusing their position as terminating access monopolies.¹¹

In the ICC arena, the policy solution most often highlighted as being the most efficient and least regulatory is “Bill-and-Keep.”¹² Bill-and-Keep gets around the classic ICC problems by moving the regulatory paradigm away from the “calling party pays” economic principle, to one that recognizes the benefits to both the called and calling parties. And while the telephony industry matured under the calling party pays economic principle, the IP telecommunications market has essentially existed under a *de facto* efficient Bill-and-Keep regime.

Examining last mile IP communications through the lens of Bill-and-Keep is instructive, as it highlights problems ahead if Congress, through the Resolution of Disapproval, takes away the FCC’s ability to preserve open and nondiscriminatory interconnection. The Bill-and-Keep model has two basic components: 1) the calling party pays transit costs to termination point at last handoff and 2) the called party cannot charge a termination fee. In IP communications, the end-user “calls” a

¹¹ See, e.g., *In the Matter of Access Charge Reform*, CC Docket No. 96-262, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221, 14328-30, paras. 211-16 (1999) (*Pricing Flexibility Order and NPRM*).

¹² See “Bill and Keep at the Central Office As the Efficient Interconnection Regime,” Federal Communications Commission Office of Plans and Policy, OPP Working Paper Series #33, December 2000.

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server, server answers.¹³ Bill and Keep theory suggests that the most efficient way to allocate network costs is for the calling party (and the called party) to recover costs from end-users. This means essentially the status quo in the ISP industry, where ISPs charge end-users a monthly fee, and they have transit arrangements that range from transport to peering. However, ISPs want to charge the "called party" a discriminatory termination fee, based on the type of traffic. That fee will likely be zero for some traffic, but those with a willingness to pay for prioritization (assuming blocking is prohibited or kept to a minimum) the fee would be non-zero. Therefore, a move away from the status quo replaces the efficient Bill-and-Keep system with one that reinstates the inefficiencies associated with terminating access monopolies. With a prohibition on outright blocking, this takes the form of the access monopoly degrading the quality of the "call." The current system is more efficient because the prioritization charge will most certainly not be based on cost, but on the highest willingness to pay for prioritization, which in turn is reflective of the practical quality of the prioritization (which itself is directly related to the amount of congestion, demonstrating again that in order for the pay-for-priority model to work at all, congestion has to be the normal state of affairs).

Under no circumstances is a carrier abusing its terminating access monopoly efficient, and using that monopoly to price discriminate against specific sources of content compounds the problem, especially if the provider faces little effective competition. If the ICC debate has taught us anything, it is that reigning in terminating access monopoly power once it has been exercised is a very difficult task.

¹³ This complicates the analogy, because the traditional called party is now being treated like the traditional calling party. For the sake of cohesion with the old model, consider that the server is the calling party.

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Preserving the Open Internet is Essential to Continue the Unprecedented Level of Investment and Innovation in Content and Applications Markets, as Well as Other Markets that Use the Internet as a Basic Underlying Infrastructure

Much of the rhetoric directed against network neutrality policy centers on the claim that this basic rule of the road will somehow deter network operators from making future investments in their core business. As the above discussion shows, these claims are completely unsupported by all available data. Likewise, common sense judgment about the likely nature of the discrimination business indicates that the hysterical rhetoric about net neutrality is nothing but a smokescreen designed to scare policymakers from continuing the 75-plus year history of protecting the open and non-discriminatory facets of our nation's two-way communications networks. The simple fact is even the *real* version of Network Neutrality policy pushed by my organization (as opposed to the pale comparison embodied in the FCC's December Order) would merely act as a very light regulatory firewall ensuring that ISPs do not abuse their market power. Network neutrality will also ensure that the right market signals are present, encouraging ISPs to make efficient and profitable network investments and discouraging them from profiting from artificial scarcity.

So while the impact of Network Neutrality obligations on last-mile network investment is likely negligible -- or positive -- the absence of nondiscrimination protections will have a large impact on investments made in the application and content markets. Currently, the Internet is an open platform, governed by a universally accepted and agreed upon set of technical standards. This open platform provides online innovators with a high degree of predictability about a major segment of their business. An innovator knows that she can develop a new idea or application, and that it will

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work on any end user's Internet-connected device. The innovator does not need to go to every ISP and ask for "permission to innovate."¹⁴

But without Network Neutrality, this certainty is destroyed. A particular network provider might already have an exclusive deal with the innovator's competitor -- a deal stipulating that the ISP block or degrade all competitive traffic. Or the ISP may treat the innovator's underlying network protocol differently than other ISPs, making it almost impossible to design an application that is guaranteed to work properly. This potential for discriminatory treatment and nonstandard network management could destroy investor confidence in the applications market, stifling growth in the one segment that drives the information economy. The Internet would become balkanized, whereby applications that work on one network would not work on another. The entire premise of a globally interconnected system of communications that is fully interoperable with all content and applications would be undermined.

Network Neutrality Will Impart No Harm on ISP Employment And Will Ensure Edge Innovators Have the Certainty to Invest and Continue Creating Jobs

Some opponents of Network Neutrality charge that this light-touch regulatory regime will somehow result in ISPs reducing their work force.¹⁵ The reasoning behind this argument, say these

¹⁴ See Prepared Statement of Vinton G. Cerf, Vice President and Chief Internet Evangelist Google Inc., before the U.S. Senate Committee on Commerce, Science, and Transportation, on the matter of Network Neutrality, Feb. 7, 2006. "In the zone of governmental noninterference surrounding the Internet, one crucial exception had been the nondiscrimination requirements for the so-called last mile. Developed by the FCC over a decade before the commercial advent of the Internet, these 'Computer Inquiry' safeguards required that the underlying providers of last-mile network facilities -- the incumbent local telephone companies -- allow end-users to choose any ISP, and utilize any device, they desired. In turn, ISPs were allowed to purchase retail telecommunications services from the local carriers on nondiscriminatory rates, terms, and conditions. The end result was, paradoxically, a regulatory safeguard applied to last-mile facilities that allowed the Internet itself to remain open and 'unregulated' as originally designed. Indeed, it is hard to imagine the innovation and creativity of the commercial Internet in the 1990s ever occurring without those minimal but necessary safeguards already in place. By removing any possibility of ILEC barriers to entry, the FCC paved the way for an explosion in what some have called 'innovation without permission.' A generation of innovators ... [was] able to offer new applications and services to the world, without needing permission from network operators or paying exorbitant carrier rents to ensure that their services were seen online. And we all have benefited enormously from their inventions."

¹⁵ See Alex Chasick, "AT&T Asks Employees To Oppose Net Neutrality," *The Consumerist*, Oct. 20, 2009. (Quoting AT&T Chief Lobbyist Jim Cicconi as stating, "Let your voice be heard: Internet regulation is bad for consumers, jobs, investment and universal broadband").

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opponents, is that Net Neutrality will reduce ISP investments, causing them to hire less and fire more. This assertion is plainly unsupported by the facts, and actually contradicts what unfortunately has become the ISP industry's default behavior -- as revenues rise, jobs are cut.

As I illustrated above, the ISP arguments about network investment are without merit. But we need not rely on theory to see what the likely outcome of higher revenues. As I discussed above, ISP industry revenues have been consistently increasing, yet investment is flat or declining. The same is true for employment, in an even more dramatic fashion.

During the era of competition (1996-2002), the revenues of the BOCs (and their then CLEC units) rose along with employment levels. As the tech bubble burst and 2001 economic recession set in (along side the new era of deregulation and consolidation), revenues decline from a high of near \$260 billion in 2001, to a low of \$223 billion in 2004. Beyond this point, telco revenues rebounded sharply, rising to an estimated \$243 billion for 2009, or where they were prior to the bubble-years of 2000-2001. But while telco revenues are on the rise, employment levels in the pro-consolidation era have continued to fall precipitously. BOC Revenues are up about 10 percent from the bottom, while jobs are down 14 percent since the revenues began to recover. From 1996 through 2009 revenues for the industry are up 32 percent while jobs have dropped 25 percent. In short, the pro-competition era created jobs, and the pro-consolidation era destroyed them.

In summary, there is no reason, either theoretical or practical, to assume any connection between ISP hiring practices and the phantom revenues they might earn in a world without network neutrality. ISPs have shown that their top priorities are reducing capex, increasing revenues, and getting rid of jobs at every turn. Some of the leading opponents of network neutrality have in the past made promises about creating jobs if allowed to merge; these promises were not surprisingly broken. There is simply no plausible reason why network neutrality policy will reduce ISP

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employment. In fact, with network neutrality, content innovation will prosper, furthering demand for high-capacity, ubiquitous Internet access, which in turn will stimulate ISP investment. Without network neutrality, ISPs will be incentivized to reduce network investments, in order to make congestion the norm. This is not a recipe for job creation.

Network Neutrality is A Light-Touch Embodiment of the Principle of Non-Discrimination That Has Successfully Governed Our Nation's Communications Infrastructure for Decades

As discussed above two-way communications networks are so essential to the basic functioning of society that efficient nondiscriminatory interconnection must be preserved, and the fundamental nature of end-user communications providers as terminating access monopolies means the threat to interconnections will remain regardless of the level of last-mile competition, which due to the fundamentals of network industries, will always be sub-optimal. Indeed, the principle of nondiscrimination is so important that Congress intended for it to apply even in markets where effective competition exists. This is because the outcome that nondiscrimination produces -- openness -- is so essential to maintain.

Congress recognized that once competition developed in the advanced communications markets, certain regulations (such as Section 251 unbundling) would no longer be necessary or productive. So it gave the FCC explicit power to decide when to lift certain regulations. But because Congress was not convinced that competition alone would be enough to preserve the open nature of communications platforms, it put a structure in place that would always require carriers to abide by the principle of nondiscrimination. In Section 10 of Title I (47 U.S.C. 160) of the 1996 Act, Congress gave the Commission the authority to forbear from applying regulations on telecom carriers if a determination is made that "enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection

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with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory, [or] enforcement of such regulation or provision is not necessary for the protection of consumers.”

Thus, Congress allowed the discontinuance of regulations so long as they were not needed to ensure a specific desired outcome -- *just, reasonable and non-discriminatory treatment*. But the outcome itself remained paramount. Indeed, this is made quite clear in Section 332(c)(1)(A) of the Act (and in Section 10 itself, which refers to this specific passage), which gives the FCC the authority to selectively apply Title II regulations to commercial mobile service (CMRS) carriers, but specifically forbids the FCC from removing CMRS providers from an obligation to adhere to Sections 201, 202 and 208 of the Act.

The FCC’s entire history of intervention in communications and information services markets up until 2002 was based upon a deep understanding of network operators’ natural incentive to control content. Keeping this incentive in check is what motivated the *Computer II* structural separation rules¹⁶, and it is why to this day the Commission has yet to grant any telecom carrier forbearance from Section 201 (a requirement to provide reasonable access) and Section 202 (a requirement to not unreasonably discriminate in offering that access).¹⁷ Sections 201 and 202 are built around the principle of nondiscrimination and are intended to protect the public interest

¹⁶ In general, structural separation in the Internet context is a regulatory regime in which the owner of the network infrastructure is required to form a structurally separate corporate entity for selling Internet access. This separate entity must purchase the network access from the parent company at the same rates and terms that are made available to other ISPs

¹⁷ While it is true that no carrier has received forbearance from Sections 201 and 202, the Commission’s complete removal of broadband Internet access service from Title II accomplished the same outcome. See *Petition of SBC Communications Inc. for Forbearance from the Application of Title II Common Carrier Regulation to IP Platform Services*, WC Docket No. 04-29, Memorandum Opinion and Order, 20 FCC Red 9361 (2005), at para. 17, stating, “The Commission has never forbore from applying sections 201 and 202 of the Act. In a 1998 order denying a petition for forbearance from sections 201 and 202 of the Act (among other sections), the Commission described those sections as the cornerstone of the Act. The Commission explained *that even in substantially competitive markets, there remains a risk of unjust or discriminatory treatment of consumers*, and sections 201 and 202 therefore continue to afford important consumer protections. Because the language of section 10(a) essentially mirrors the language of sections 201 and 202, the Commission expressed skepticism that it would ever be appropriate to forbear from applying those sections. Since then, the Commission has never granted a petition for forbearance from sections 201 and 202. If we were to grant such a petition now, we would have to provide a rationale for abandoning our own precedent” (emphasis added, internal footnotes omitted).

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regardless of technology or the level of market competition. Indeed, in a 1998 denial of a forbearance petition, the Commission stated:

“Assuming all relevant product and geographic markets become substantially competitive, moreover, carriers may still be able to treat some customers in an unjust, unreasonable, or discriminatory manner. Competitive markets increase the number of service options available to consumers, but they do not necessarily protect all consumers from all unfair practices. The market may fail to deter providers from unreasonably denying service to, or discriminating against, customers whom they may view as less desirable... providers may, in the absence of sections 201 and 202, have the opportunity and incentive to treat some of their existing customers in an unjust, unreasonable, and discriminatory manner, as compared with similarly situated potential new customers.”¹⁸

The Commission’s recognition of the importance of nondiscrimination rules in preventing carriers from exercising control over content extends into other areas of law such as pole-attachment rights.¹⁹ And concern about control over content is even present in Commission rules that govern cable leased-access regulations and program-access rules.²⁰

So even if the implementation of the 1996 Act was not flawed, and today’s communications marketplace were sufficiently competitive to no longer require unbundling regulations, tariffs, or structural separation -- nondiscrimination protections would still be needed to ensure consumer access to open platforms. This is necessary because network operators have strong incentives to

¹⁸ See *Personal Communications Industry Association’s Broadband Personal Communications Services Alliance’s Petition for Forbearance for Broadband Personal Communications Services*, WT Docket No. 98-100, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Red 16857 (1998) at 16868-69, para. 23. This view of the central importance of Sections 201 and 202 was affirmed by the Commission in 2005. See *Petition of SBC Communications Inc. for Forbearance from the Application of Title II Common Carrier Regulation to IP Platform Services*, WC Docket No. 04-29, Memorandum Opinion and Order, 20 FCC Red 9361 (2005) at 9368, para. 17.

¹⁹ See e.g., *AT&T Enterprise Forbearance Order* (*supra* note 158 at paras. 67-68) where the commission stated, “For example, the protections provided by sections 201 and 202(a), coupled with our ability to enforce those provisions in a complaint proceeding pursuant to section 208, provide essential safeguards that ensure that relieving AT&T of tariffing obligations in relation to its specified broadband services will not result in unjust, unreasonable, or unreasonably discriminatory rates, terms, and conditions in connection with those services. ... In particular, many of the obligations that Title II imposes on carriers or LECs generally, including interconnection obligations under section 251(a)(1) and pole attachment obligations under sections 224 and 251(b)(4), *foster the open and interconnected nature of our communications system*, and thus promote competitive market conditions within the meaning of section 10(b)” (emphasis added).

²⁰ See e.g., 47 U.S.C. 536, “Regulation of Carriage Agreements” (establishing rules preventing cable operators from unfair treatment of programming vendors); 47 U.S.C. 548, “Development of Competition and Diversity in Video Programming Distribution” (establishing general non-discriminatory program access provision); and 47 U.S.C. 532, “Cable Channels for Commercial Use” (providing conditions for leased access).

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exert power and control in adjacent markets. In the case of the Internet, this obviously includes the ISP access and device markets, but it also includes the applications and content markets -- all of which were the “enhanced services” at the core of the *Computer Inquiries*.

Thus, as a result a of its very nature, two-way communications networks must always be protected by the principle of nondiscrimination, regardless of the level of marketplace competition. Nonetheless, the need for such a rule becomes even starker when one considers the lack of broadband competition that *currently* exists in the United States. We have offered evidence of broadband duopoly in numerous comments before the Commission, while extensively and repeatedly rebutting the competition claims made by incumbents.²¹ The National Telecommunications and Information Administration,²² Department of Justice,²³ Federal Trade Commission,²⁴ Chairman Genachowski,²⁵ and the National Broadband Plan team have all

²¹ See e.g. Reply Comments of Free Press, In the Matter of *A National Broadband Plan for Our Future*, GN Docket No. 09-51, pp. 37, n. 89, 35-53 (July 21, 2009) (“NBP Reply Comments”); Comments of Free Press, In the Matter of *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, pp. 17-54 (Sept. 4, 2009) (“706 Comments”); Reply Comments of Free Press, In the Matter of *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, pp. 9-11 (Oct. 2, 2009); Comments of Free Press, In the Matter of *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, A National Broadband Plan for Our Future, International Comparison and Survey Requirements in the Broadband Data Improvement Act*, GN Docket Nos. 09-137, 09-51, 09-47, pp. 4-6 (Dec. 4, 2009).

²² Comments of the National Telecommunications and Information Administration, In the Matter of *A National Broadband Plan for Our Future*, GN Docket No. 09-51, p. 6 (Jan. 4, 2010). (“We urge the Commission to examine what in many areas of the country is at best a duopoly market and to consider what, if any, level of regulation may be appropriate to govern the behavior of duopolists.”)

²³ Ex Parte of the United States Department of Justice, In the Matter *A National Broadband Plan for Our Future*, GN Docket No. 09-51, p. 14 (Jan. 4, 2010). (“Unfortunately, even in areas where two wireline networks are deployed, consumers seeking to use the most bandwidth-intensive applications may not have more than a single viable choice.”)

²⁴ Comments of the Federal Trade Commission, In the Matter of *A National Broadband Plan for Our Future*, GN Docket No. 09-51, p. 4 (Sept. 4, 2009). (“Currently, relatively large market shares for fixed, wireline broadband services are typically held by a single incumbent cable operator and a single incumbent telephone company in each geographic area.”)

²⁵ Prepared Remarks of Chairman Julius Genachowski, The Brookings Institution, Sept. 21, 2009. (“One reason has to do with limited competition among service providers. As American consumers make the shift from dial-up to broadband, their choice of providers has narrowed substantially.”)

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recognized this lack of broadband competition.²⁶ The indisputable fact is that the substantial majority of consumers currently have at best two choices for broadband Internet access service.

The FCC's December 2010 Order Fails to Adequately Preserve the Open Internet, but the Right Response is to Strengthen the Framework, Not Remove the Agency's Ability to Protect Consumers

The entire Net Neutrality debate grew out of concerns about gatekeeper behavior following the FCC's radical removal of mass-market broadband networks from Title II. Net Neutrality was default behavior, not because it was found anywhere in the law before that point, but because Title II along with the Computer Inquiries rules meant that gatekeeper control was kept in check, without any explicit obligations that ISPs not block, degrade, interfere or favor content based on source, ownership or destination. The public, and supporters of a more competitive broadband market were asked to give up quite a bit in the FCC's 2005 Wireline Order. Net Neutrality was simply a response to one concern among many arising from this radical deregulation.

And from the start, Net Neutrality was very simple: A bright line rule of non-discrimination that governs all broadband providers. The December 2010 FCC Open Internet order is a long way from that original concept.

Will the FCC's order provide some baseline protections? Perhaps so, perhaps not. No one knows, because the order is by design ambiguous. And history teaches us that such ambiguity favors powerful industry incumbents over the public and new innovators.

But one thing is certain: with this order, for the first time in the history of the Internet we have the federal government blessing discrimination online. The FCC in effect just told powerful wireless carriers like AT&T and Verizon that they are not "carriers" at all, that they are free to block

²⁶ See e.g. Commission Open Meeting, Presentation on the Status of the Commission's Processes for Development of a National Broadband Plan, p. 135 (Sept. 29, 2009). ("At most 2 providers of fixed broadband services will pass most homes")

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communications between end users, and that blocking need not be motivated even by faux-engineering concerns. In short the FCC refused to adopt rules that would prevent the blocking of free speech and innovative economic activity on the mobile Internet.

Free Press opposed the final FCC Order for five basic reasons.

First, we are deeply concerned that the proposal's treatment of mobile networks will split the Internet into two, harming both the future development of the open Internet and the prospects for wireline-wireless competition. We strongly feel that there is no legitimate economic reason for mobile carriers to block, degrade, prioritize or otherwise discriminate against online content and applications, and that any engineering concerns could be dealt with through the reasonable network management exception.

Second, we are deeply concerned that the proposal's use of the "unjust and unreasonable discrimination" standard represents an ambiguity that carriers have decades of experience in exploiting, and is unnecessarily redundant in light of the broad reasonable network management exception.

Third, we are concerned that the Order's definition of Broadband Internet Access Service will invite ISPs to evade the rule by "defining" their services as lying outside the rule.

Fourth, we are very concerned about the Order's specialized services loophole. While we were pleased the final order didn't explicitly authorize this yet-undefined and unnecessary category of services, we remain concerned that without some bounding of these non-Internet access services, that the Order invites ISPs to harm the market by exploiting this loophole. We would have preferred the Commission to state clearly in the Order that any such services should be offered separately from Internet services; that they should not replicate the functionality of services already available on the open Internet; that they should not interfere with the bandwidth allocated for Internet access

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or degrade other applications or services; and that they should not retard the growth of broadband Internet access service capacity.

Fifth, we feel that the FCC's failure to restore its authority over two-way Internet connectivity networks under Title II of the represents an unnecessary risk to the Open Internet framework as well as the Commission's entire broadband policy platform.

However, despite these very serious concerns about the shortcomings of the FCC's Order, we strongly believe the agency should not be stripped of *any* and all ability to fix these rules, or act in any way to protect consumers from the most egregious blocking and discriminatory practices, and that is the ultimate consequence of invoking the Congressional Review Act. We recognize that some members may have problems with the FCC's framework, but the consequences associated with adopting H.J. Res 37 are so severe, that we would urge those members to work on constructive alternatives to this nuclear option.

Conclusion:

We too do not like what the FCC adopted. In terms of both policy and authority, it is as if America's broadband policy car got a flat tire, and the FCC has decided to keep the temporary spare on instead of fixing the tire. But we should all want them to fix the tire; to pursue the Resolution of Disapproval is to take all the tires off our broadband policy vehicle, and put it up on blocks. That frankly is no recipe for investment, innovation, or job growth, and is completely inconsistent with the long-standing bipartisan commitment to competition and non-discrimination in our nation's two-way communications markets.

Mr. WALDEN. Mr. Turner, thank you for being here today. We appreciate your testimony.

Ms. Chase, we welcome you to the subcommittee. We appreciate your testimony as well, and your extra effort to be here today. Please go ahead.

STATEMENT OF ROBIN CHASE

Ms. CHASE. Chairman Walden, Ranking Member Eshoo, and members of the subcommittee, thank you for this opportunity to discuss the importance of network neutrality rules to job creation, economic development, and innovation.

I am the founder of GoLoco, an online ridesharing community; the founder of Meadow Networks, a consulting firm that advises governments about wireless applications in the transportation sector; and the founder and former CEO of Zipcar, the world's largest carsharing company. When I received the invitation late last week to testify before this committee, I was working across the Atlantic, and later this afternoon I will fly back. Despite the significant resources and travel time to come here, I accepted the invitation because the course of action Congress is considering, namely repealing and eliminating the authority of the FCC to enact policies that preserve an open Internet, will greatly harm our country's ability to innovate, produce jobs, and remain globally competitive. As a successful American entrepreneur, I care deeply about maintaining our leadership within the world marketplace.

Eleven years ago, I co-founded Zipcar. Our innovation was to make renting a car as simple as getting cash from an ATM, and open access to the Internet was central to Zipcar's success. It is only because of the ease, speed, and zero marginal cost of finding, reserving, and unlocking a car that anyone would be willing to rent a car for an hour or to sell only an hour of a car's time. Without an open Internet facilitating these transactions, Zipcar would simply not exist.

Eliminating the FCC's network neutrality rules would put future entrepreneurs and small businesses at a significant disadvantage. Network neutrality prevents the telecommunications industry from discriminating against new applications and supports innovative new services like Zipcar.

I want to draw an important parallel. Imagine, for example, if Zipcar had been forced to rely on the auto industry's definitions of car ownership, or worse yet, had to ask their permission to exist. Our vision of a fleet of cars being shared among a community of individuals would have been seen as implausible and threatening. Likewise, we cannot rely on the telecommunications industry to define the Internet or what people may use it for. Without consumer protections like network neutrality, these companies will define the Internet to mirror their preferred "triple play", their telephone services, their video channels, and their notion of the ideal Internet experience, and they will seek to squash any service that threatens their revenue stream, a perfect recipe for stifling innovation.

This is not just mere speculation about the potential for shortsightedness, but rather personal firsthand experience. During the initial years of Zipcar, the wireless industry was simply unable to think outside the box. When we first approached cell phone compa-

nies to buy a data plan access in 2000, we were met with blank non-responsive stares. The industry had only one vision of wireless at that time, and therefore only one product to sell. I recall many representatives not actually understanding the difference between purchasing kilobytes versus purchasing minutes. In their minds, their customers all used cell phones. Others simply did not exist.

Today, innovation is the lifeblood of a competitive economy, and the Internet is its circulatory system. An open Internet gives everyone both access and the ability to apply new ways of thinking to problems. An open Internet breaks through silos that often do not get new thinking applied to them. For entrepreneurs, the open Internet allows for extraordinarily low input costs, which allows them to efficiently tap into unused excess capacity and leverage ideas at virtually no cost.

Ensuring that the Internet will continue to promote innovation is the reason we are having this debate, and I absolutely agree that excessive regulation stifles innovation and prevents free markets from innovating. But the most important thing I have to say to this committee, and the reason I am here and flew all this way, the protections enacted by the FCC will help ensure an open Internet. Network neutrality is not excessive regulation that will stifle innovation. Network neutrality promotes innovation and protects consumers by preventing telecommunications companies from stifling new thinking, new services, and new applications.

Indeed, I think the FCC's rules actually do not go far enough, especially with respect to wireless. The idea that different rules should apply, and that my experience of the Internet would be different depending on whether I am sitting at home on my desk connected or a park bench accessing those same pages wirelessly is nonsense. These arbitrary distinctions dramatically complicate life for innovators and entrepreneurs who will now have to contend with two different Internets, one wireless and one wireline, in everything they do. If Congress wants to truly unlock the economic and job creating potential of the Internet, and fully tap into the innovation potential of our country, it should do so by improving the FCC's rule in this regard, not repealing it.

Twenty years ago, no one was thinking that the Internet would be used to share small numbers of cars among large numbers of people, and I don't know what brilliant and unexpected use the Internet will enable tomorrow. No one here does. That is why it is critical that fundamental characteristic of the Internet, its ability to accommodate, adapt, and evolve, is protected from companies that want to control how entrepreneurs and the general public use our networks. Public policies to ensure this outcome are vital if America wants to remain competitive in the 21st century economy. Protecting the open Internet and preventing an oligopoly from controlling how entrepreneurs like me use the Internet is in America's best interests.

Thank you for letting me testify, and I look forward to your questions.

[The prepared statement of Ms. Chase follows:]

Testimony of Robin Chase, CEO
GoLoco

Before the
U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications and Technology

Hearing On:
“H.J. Resolution 37, Disapproving the rule submitted by the Federal Communications
Commission with respect to regulating the Internet and broadband industry practices”

Washington, DC
March 9, 2011

Testimony of Robin Chase, CEO
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Before the
U.S. House of Representatives
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March 9, 2011

Chairman Walden, Ranking Member Eshoo, and members of the Subcommittee, thank you for this opportunity to discuss the importance of network neutrality rules to job creation, economic development, and innovation. My name is Robin Chase, and I am the founder and CEO of GoLoco, an online ridesharing community; the founder of Meadow Networks, a consulting firm that advises city, state, and government agencies about wireless applications in the transportation sector; and the founder and former CEO of Zipcar, the largest carsharing company in the world. I also serve on the board of the World Resources Institute, the US Secretary of Commerce's National Advisory Committee for Innovation and Entrepreneurship, and the US Department of Transportation's Intelligent Transportation Systems Program Advisory Committee.

Introduction

When I received the invitation late last week to testify before this Committee, I was working across the Atlantic and later this afternoon I will need to fly back. Despite the significant

resources and travel time it took to come here, I accepted the invitation because I am very concerned with the course of action Congress is considering, namely repealing and eliminating the authority of the Federal Communications Commission (FCC) to enact policies that preserve an open Internet. I want members of this Committee to know that as an American entrepreneur and businesswoman who has successfully launched companies dependent on the Internet, I believe such repeal would harm our country's ability to innovate, produce jobs, and remain competitive in the world marketplace.

An Open Internet was central to Zipcar's existence and success

Eleven years ago, I co-founded Zipcar. The idea behind the company was to make renting a car as simple as getting cash from an ATM, and free and open access to the Internet was central to the company's existence. It is thanks to the Internet that Zipcar members can effortlessly locate a car near them, make a reservation based on real-time availability for a specific car in a specific location, and then unlock the right car at the right time at the right location. It is only because of the ease, speed, and zero marginal cost of this transaction that anyone would be willing to rent a car for an hour, or to sell only an hour of a car's time. Without an open Internet, a company like Zipcar simply would not exist.

Currently Zipcar Inc. employs 468 people full time and 225 people part-time, provides services in the United States, Canada, and the United Kingdom to more than 530,000 members with a fleet that exceeds 8,000 vehicles. The company's 2010 revenue projection will exceed \$134

million. It is the largest car sharing company in the world. It's success has established carsharing as a credible, interesting, and mainstream service. Major auto manufacturers (Ford, GM, Toyota, Nissan, Honda, and Renault for example) and major car rental companies (Enterprise, Hertz and Avis) have followed our lead and have carsharing projects in progress. That has been quite the progression from our initial launch in the streets of metro-Boston, Massachusetts.

So as an American businesswoman and entrepreneur who started a small business and worked to make it grow into the multinational corporation that it is today, I can confidently say that eliminating the FCC's Network Neutrality rules will put future entrepreneurs and small businesses at a significant disadvantage. They will not be able to replicate the success that I enjoyed when Zipcar was just a startup, will not be able to test out novel and unproven ideas at low cost, and will not be able to compete with established incumbents. The result will be that the innovation potential from future businesses --the core of any thriving economy -- will be lost.

We cannot rely on the Telecommunications Industry to Define the Internet experience

The hallmark of an open Internet is the ability to create your own experience on the Web, without needing the permission of your Internet access provider. For example, if Zipcar had been forced to rely on the auto industry's definitions of car ownership -- or worse yet, had to ask their permission -- our vision of a fleet of personal cars being shared among unconnected individuals would have never made the cut. Our vision did not match their understanding of consumer demand, and our business model reduces the number of cars sold. Likewise, we cannot

rely on the telecommunications industry to define the Internet. The industry would almost certainly believe that they know definitely what consumers want, and they would define the Internet as their new preferred “triple play” – their telephone service, their video service, and their idea of your ideal Internet experience. Such an approach is a perfect receipt for stifling innovation in this country.

We need public policy to ensure that the Internet remains evolving, flexible and accessible. Without it, startups with crazy and novel ideas might not be able to reach consumers to try their wares. If Congress decides to disable the FCC's ability to enact policies that protect an open Internet, the Internet *will* become captured by the broadband Internet companies that provide access. These gatekeepers have strong incentives to establish the status quo of their choosing, to increase cost and access to the resource, and when profitable, to introduce friction into the way people and companies access the network. Such a situation would dramatically harm our nation's ability to innovate and remain competitive in a world marketplace, which ultimately will harm job creation.

This is not just mere speculation but rather firsthand experience. During the initial years of Zipcar, the wireless industry simply could not and would not think outside of the box. When we first approached them for a data plan in 2000, we were met with blank, non-responsive stares. Back then there was a lot of hype around wireless data with wireless operators offering relatively expensive plans for what they called “road warriors.” Their pricing models seemed to presume one user per device with an exclusive focus on average revenue per user. What Zipcar needed

was an enterprise model where we were one technically sophisticated customer with many devices (our cars) that would only be incurring customer support costs on rare occasions.

Despite the paltry amounts of data that were being sent to and from our cars, our initial conversations on acquiring data access with industry representatives revolved around purchasing “minutes” instead of “kilobytes.” I recall many representatives not actually understanding the difference between purchasing “kilobytes” versus purchasing “minutes.” The industry had only one vision of wireless use and therefore only one product to sell. We were either a cell phone or we did not exist.

The experience Zipcar had with the Internet was practically the opposite. We were able to invent and use our own new protocol by building on top of the existing transport protocol User Datagram Protocol (UDP). On the Internet, our UDP packets were treated like anyone else’s and we did not need to gain approval from our provider or anyone in order to do this. I can only imagine the possible bureaucratic delays or rejection we might have encountered without the Internet. One only needs to look at the relatively onerous and expensive testing procedures that wireless carriers require of equipment vendors to follow for new wireless equipment to see that arbitrary barriers to innovation are easily introduced within the private sector when left to its own devices.

Unlocking Innovation will Lead to Greater Economic Prosperity

Innovation is the life blood of a competitive economy and the Internet is the circulatory system that will carry that vital source to the whole economy. The Internet's capacity to allow individuals to share ideas effortlessly directly increases innovation. This is due to the fact that innovation is built on the following four factors:

- 1) The existence of problems and the desire to solve them
- 2) The ability to apply new ways of thinking to these problems
- 3) The cost of inputs needed to solve the problem (skills, data, resources, devices, networks)
- 4) The ability to iterate, adapt, evolve, and scale

There is no dearth of problems in our society and some individuals spend a great deal of time thinking about how to solve them. An open Internet gives everyone the ability to apply new ways of thinking to problems, especially problems that are kept hidden in discipline silos that often do not get any new thinking applied to them. In addition, the open Internet enables problem solvers to efficiently tap into their unused excess capacity (the time they have to solve problems) and multiply that effect across the network with other problem solvers at virtually no cost to themselves. Even with the first three factors fulfilled, the fourth step – the ability for innovators to iterate, adapt, evolve, and scale, is integral and an open platform like the Internet is the perfect tool that allows for truly global experimentation and evolution.

As Tom Watson, the founder of IBM once said “if you want to improve your success rate, double your failure rate.” And a far less elegant way I would say this would be if you want to improve your innovation rate, open up more data, devices, networks, platforms, and sources.

Ensuring that the Internet can continue to perform this function of promoting innovation is the reason we are having this debate about the FCC's network neutrality rules. As someone who has been deeply involved in running companies in the private sector, I absolutely agree that excessive regulation stifles innovation and prevents free markets from innovating. However, it is important that members of this Committee recognize that the public policy enacted by the FCC that ensures an open Internet is *not* excessive regulation that will stifle innovation but rather a policy that *prevents* excessive regulation by powerful telecommunications companies who do not have an interest in enabling and promoting innovation.

In fact, I think the FCC's rules actually did not go far enough in terms of unlocking the innovative spirit of the American entrepreneur. It did not go far enough when it failed to apply non-discrimination and “no blocking” rules to mobile wireless Internet access as it did to wired Internet access. Consumers expect everything to be the same in terms of their Internet experience regardless of the medium they choose to access it. To say that my laptop will have a different Internet experience whether it is plugged in or receiving its access through a wireless network makes no sense. If Congress wants to truly unlock the economic and job creating potential of the Internet by fully tapping into the innovation potential of our country, it should do so by fixing the FCC's rules in this regard, rather than repealing them.

Conclusion

Twenty years ago, no one was thinking that the Internet would be used to share small numbers of cars among large numbers of people. I do not know what brilliant and unexpected uses the Internet will enable tomorrow. No one does. That is why it is critical to make sure that the fundamental characteristic of the Internet—its ability to accommodate, adapt, and evolve—remains as open as possible. It is crucial that there is a public policy by the FCC and Congress that ensures this outcome.

Most innovation and economic growth over the past 15 years has come from companies wholly reliant on the Internet or wireless data transmission. It's worth noting that the root cause of Wi-Fi's success was the basic FCC ruling that enabled unlicensed (i.e. free) use of certain bands that allowed market forces to decide which technologies would be the winners. The number of Wi-Fi chipsets will pass 1 billion units shipped annually by 2012. In three short years since Apple Inc.'s iPhone and then Google Inc.'s Android smart phones have come online, more than 500,000 applications have been built on these newly opened devices, resulting in a \$5 billion marketplace.

Our country thrives on its ability to innovate and unfettered access to a free and open Internet is a critical part of our toolkit. Protecting the Internet by defining it as broadly as possible, and letting the FCC protect it from oligopoly interests, is in America's best interest.

For these reasons, I urge the Subcommittee to not move forward in its efforts to repeal the FCC's network neutrality rules and to not prohibit the agency from protecting innovators, entrepreneurs, and small businesses in the Internet marketplace. Thank you again for inviting me to testify. I look forward to your questions.

Mr. WALDEN. Thank you, Ms. Chase, again for your testimony. Now let us go to Mr. Cicconi. Thank you for being here from AT&T, senior executive vice president, external and legislative affairs. We welcome your testimony, sir.

STATEMENT OF JAMES CICONI

Mr. CICONI. Thank you, Chairman Walden, Ranking Member Eshoo, members of the committee. Thank you for inviting me to testify today on behalf of my company, AT&T. I recognize it is unusual to be asked to testify on a resolution on which we have not taken a position; however, as I am sure all of you know, we have been involved for years in the issue that underlies H.J. Res. 37, and that is the protracted dispute over net neutrality regulation by the FCC.

Let me first stress that AT&T has long supported the broadband principles laid out by the FCC over 6 years ago. We support an open Internet, we promise to abide by that concept voluntarily. But like many issues that start from a shared belief, this debate long ago devolved into a long discussion over specifics, whether the FCC should be able to enforce the broadband principles, whether a broad set of rules was needed, what legal authority the FCC has to put such rules in place. And all of this, despite any real evidence of a problem.

As in most regulatory debates, this one does not lack for radical voices. Many sought heavy-handed government regulation and control of free markets, some for commercial advantages, others to advance their own ideology. Since this debate began back in 2005, AT&T has consistently opposed any FCC regulation of Internet services or facilities. This is still our strong preference today. We feel the anti-trust laws, the Federal Trade Act, and the discipline of highly competitive markets are more than adequate to police any potential abuses.

Nonetheless, the pressure for Internet regulation continued over the years. You have all heard the saying that there is nothing so powerful as an idea whose time has come. Unfortunately, this is sometimes also true of a bad idea. The versions of net neutrality put forth by our opponents were, in many cases, truly bad and truly radical ideas.

In October of 2009, some of these bad ideas found their way into a proposed net neutrality rule at the FCC. AT&T and the entire industry strongly opposed this proposal. It created a high degree of market concern, and needless to say, a very bad climate for investment. Unfortunately in the spring of 2010, the situation went from bad to worse. Following a decision by the D.C. Circuit Court of Appeals that questioned the FCC's legal authority to enforce its broadband principles, the Commission reacted by proposing to subject all broadband facilities to common carriage regulation under Title II of the Communications Act. This proposal was both extreme and without foundation in law, we feel strongly, and we fought it vigorously. Again, this even more radical proposal upset the financial markets in a very delicate economic situation.

By the summer of last year, and after hearing from a bipartisan majority of House and Senate members, Chairman Genachowski, to his credit, began seeking a different approach. Discussions began

between the opposing sides. AT&T participated, because quite frankly, we felt the issue was on a dangerous path that could end very badly for our company and for the industry. This process was long, hard, contentious. It led ultimately to discussions last fall under the auspices of Chairman Waxman, and a compromise with which, like most compromises, no one was entirely happy, but most participants felt to be fair. However, legislation proved impossible in that short timeframe, and the FCC made clear its intentions to move forward with a vote on net neutrality regulations by year end.

In this situation, my company faced a difficult decision, given that the only proposals currently before the FCC were either bad or worse, in our view. With others in the industry, we decided we would be willing to accept a rule modeled on the compromise we reached in the Waxman process, but we were unwilling to support anything that went beyond that. Chairman Genachowski, I might add, was under tremendous pressure from others, including voices on the Commission, to impose Title II regulations. Instead, he and his staff worked with the industry in good faith, and with the various stakeholders to craft a compromise rule to try to balance major differences, while avoiding more extreme proposals.

I would be the first to stress this is not a perfect solution. Our preference has always been that the FCC should not regulate any Internet space. But it was also clear to us that a majority of the FCC was determined to move forward in December, and that we would not be representing our shareholders well if we let the perfect be the enemy of the good. We faced opponents pressing for more extreme regulations, and knew that absent a fair middle ground, a good bit of harm might be done to our industry and to needed investment. Chairman Genachowski resisted those pressures and acted in good faith to find that fair middle ground. The rule is consistent with AT&T's current open Internet policies. It would not require us to change any of our business practices or plans, assuming it is applied in a reasonable narrowly tailored way.

As the chairman of AT&T has said, it provides a path for continued investment by removing much of the uncertainty this issue has caused. It was a factor, along with recent tax law changes, and AT&T's decision to accelerate the investment in the build-out of our LTE wireless network.

In short, we believe the result, given the alternatives before the Commission, is both fair and will help maintain our company's ability to invest.

Thank you.

[The prepared statement of Mr. Cicconi follows:]

STATEMENT OF JAMES W. CICONI
SENIOR EXECUTIVE VICE PRESIDENT EXTERNAL AND LEGISLATIVE AFFAIRS
AT&T, INC.
BEFORE:
UNITED STATES HOUSE OF REPRESENTATIVES
ENERGY AND COMMERCE COMMITTEE
SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY
H.J. RES 37, DISAPPROVING THE RULE SUBMITTED BY THE FEDERAL
COMMUNICATIONS COMMISSION WITH RESPECT TO REGULATING THE
INTERNET AND BROADBAND INDUSTRY PRACTICES.
HEARING MARCH 9, 2011

Chairman Walden, Ranking Member Eshoo, other distinguished Members of the Subcommittee, thank you for the opportunity to testify today. The government's role in broadband network management is an issue of significant importance to AT&T, and I hope that my testimony will inform the Subcommittee's consideration of H.J. Res 37.

AT&T's top priority is ensuring that our nation adopts policies for the Internet that will continue to favor investment in the capital-intensive broadband networks that make the Internet possible. Investment in these networks fosters innovation, creates jobs and produces cutting-edge products and services for consumers.

There are two key ingredients that our industry needs from policymakers so that we can continue investing in the broadband networks that support the Internet: pro-investment tax policies and regulatory certainty.

Congress addressed the first part – tax policies – by extending the tax rules on dividends, capital gains and accelerated depreciation. The extensions of these important tax policies added needed certainty and stability to the industry and allowed AT&T to continue investing. I commend Congress for extending these provisions and bringing this stability to the industry.

The other significant driver (or inhibitor) of investment is regulation. And, at the outset, I want to personally thank each and every Member of the Committee for your focus on this important issue and expressing your views in this critical national debate.

For far too long, the question of net neutrality has hamstrung the Federal Communications Commission and our industry and prevented needed action on far more urgent, and real, problems, like making more spectrum available for broadband services and reforming the universal service program so that it can fund broadband deployment to hard to serve areas. But more important than the distraction has been the investment uncertainty created by the extended and public debate over whether the FCC should adopt net neutrality rules, and if so, how far they should go.

Indeed, the investments in broadband AT&T has already made, and will need to continue making, are multi-billion dollar and multi-year bets on the future of the company and the industry. When you are making such substantial capital outlays, the ability to earn a predictable return on that investment is vital. And if you don't know how these services are going to be regulated – in particular, whether the government is going to prescribe the manner in which the services are to be delivered and priced – that creates a big impediment to investment.

That is why AT&T vigorously opposed the FCC's efforts to impose 19th Century common carrier-style regulation on broadband services — either by adopting the extreme net neutrality rules it originally proposed in October 2009 or by reclassifying broadband Internet access as a Title II telecommunications service. And that is why AT&T participated in discussions with Congressman Waxman and many other stakeholders to try to reach a compromise that would bring urgently needed certainty to the industry and allow us, and other companies, to get back to the business of deploying broadband networks and services.

Late last year, it became clear that legislative efforts to reach a compromise would not be resolved in a timely manner, and the FCC indicated its intent to move forward with new rules in the absence of clear legislative authority. We participated in the FCC's rulemaking process with the overarching objective of obtaining a result that would protect our company's existing and future business and investments. In short, we hoped to bring certainty to the broadband market so that investment and job creation could go forward, while ensuring that we could still meet the expectations of our customers. Is the result ideal? No, and I believe our Chairman, Randall Stephenson, summed up our reaction to the FCC's decision best in comments before the Brookings Institution this past January:

“[We] would be lying if [we] said [we were] totally pleased with it. But, . . . it's a place where we know what we have. . . . [W]e didn't get everything we'd like to have had. I'd like to have had no regulation, to be candid, but that wasn't going to happen, obviously. But we've landed at a place where we have line of sight. We know what we have. We can commit to these 10-year and 15-year horizon investments.”

I would be remiss if I did not mention my support for FCC reform. Many Members of this Subcommittee, on both sides of the aisle, have expressed concerns that, in the modern broadband Internet era, the FCC still operates under a statute designed for the communications services and markets of the last century. This problem impacts our discussion today, but it also impacts urgent issues like spectrum exhaust and universal service. We look forward to working with the Subcommittee to meaningfully review and reform the way the FCC analyzes markets, determines whether rules are necessary and appropriate, evaluates license transfers, and seeks public input before taking actions.

To conclude, I would like to thank the Subcommittee for allowing me to be here today and for your tireless efforts to promote innovation, job-creation and investment through pro-growth communications policies for the 21st Century.

Mr. WALDEN. Thank you, Mr. Cicconi. We appreciate your testimony.

Now we are going to go to Dr. Anna-Maria Kovacs with Strategic Choices. We appreciate your willingness to come and testify on the financial implications of this rule in the markets. Thank you. Go ahead.

STATEMENT OF ANNA-MARIA KOVACS

Ms. KOVACS. Thank you. Good afternoon—

Mr. WALDEN. Please pull that microphone close and make sure it is turned on.

Ms. KOVACS. Good afternoon, Chairman Walden, Ranking Member Eshoo, and distinguished members of this subcommittee. Thank you for the opportunity to appear before you today.

I spent roughly 25 years working as an investment analyst covering the communications industry before retiring as an analyst at the end of 2010. While I intend in the future to work as a consultant, at the present time I have no clients and I represent myself.

The Internet has become central to the lives of most Americans, and it is certainly something I rely on almost every day for news, information and communication. I agree with the stated goals of the FCC's order. The desire for an open Internet, for transparency, for an environment in which innovation and investment flourish to the benefit of both consumers and providers at all levels of the Internet ecosystem.

I am concerned, however, that some aspects of the order will ultimately result in unintended, but nevertheless detrimental, consequences to investment and innovation, both at the edge and the core. And I think it is important to emphasize that the debate is not about whether blocking or degradation of service are good or bad. It is about whether they are more likely to occur through the intentional actions of broadband Internet access providers or through lack of investment. That really is what the debate boils down to.

The order appears to be premised on the view of the Internet ecosystem that assumes that the edge is embryonic and innovative, and the core is mature and static.

Application providers, including content and service providers, are left free to transform their business plans at will. One of their key inputs, transport, is provided to them free over the networks of broadband Internet access providers, carriers with whom they may compete at the application level. Conversely, the order restricts the carrier's flexibility in designing their business plans, limits their sources of revenue, dictates that they spend capital to expand the networks at the edge provider's will, and forces them to subsidize competitors who cannibalize their customer base.

To characterize this as a transfer of wealth from broadband Internet access providers to application providers is accurate, but does not begin to grasp the problem for both parties. A transfer of wealth between two independent parties can be beneficial to one at the expense of the other. A transfer of wealth that will ultimately cripple the party on which the other relies for its very existence is profoundly harmful to both. Thus, it is the order's implicit assumption that it is possible to protect the edge at the expense of the core

that concerns me most. The two are inextricably entwined. To protect the edge, it is vital to protect the core.

Far more devastating to Google, Skype and Netflix than being charged for transport is an Internet whose evolution and capacity are flash frozen for lack of investment. That is because their innovative applications can only follow a step behind the network's capacity and quality.

Networks have a voracious and unending need for capital, just as new applications cannot safely rest on its laurels, neither can networks. They must constantly be upgraded to satisfy the need for ever-increasing speed, quality, and security. But carriers can only raise capital to invest if they have enough to cover their costs. To raise the necessary revenues, companies need flexibility. They need to be able to address their business plans to changing market conditions. Above all, they need to be able to charge for their services and to have flexibility in doing so. Just as professional application providers cannot afford to give away their content and services for free, neither can the carriers.

As an example, the FCC's model forbids Frontier to charge Skype at the wholesale level, even while Skype takes away because the voice customers at the retail level from Frontier. If carriers are forced to charge only for broadband access because they can no longer charge for video and voice, the price of that broadband access will increase and investment will fall. That is damaging not only to the carriers, it is also damaging to the application providers that ride on the carrier's networks and are constrained by the capacity and quality limitations of those networks.

My concerns is there is a false dichotomy that drives the net neutrality debate, that views the edge as separate from the core as needing to be protected from the core, as able to prosper only at the expense of the core. In fact, because innovation at the application level is so completely tied to investment and innovation at the transport level, the edge can only exist if the core prospers. The best way to encourage innovation, investment, and jobs at the edge is to also promote innovation, investment, and jobs at the core.

[The prepared statement of Ms. Kovacs follows:]

Testimony of Anna-Maria Kovacs
Before the Committee on Energy and Commerce
Subcommittee on Communications and Technology
United States House of Representatives
March 9, 2011

- The stated goals of the FCC's Open Internet Order—openness, transparency, investment and innovation—are laudable.
- However, aspects of the Order raise concerns about unintended consequences that could be damaging to both edge and core.
- Consumers are attracted to the Internet for its applications, but those applications can only reach consumers over the network. Innovative applications require carrier upgrades in capacity and quality. The edge depends on the core, and innovation at the edge relies on investment in the core as well as the edge.
- Networks have a voracious and unending appetite for capital. They must constantly be upgraded, to satisfy the need for ever increasing speed, quality, and security.
- To raise capital for investment and innovation, both application providers and carriers must be able to raise revenues, control their own costs, have the flexibility to respond nimbly to changing market conditions.
- The Order leaves application providers free to make their own decisions and attempts to nurture them by shifting some of their transport cost onto broadband Internet access providers. However, it restricts the carriers' flexibility in determining their own business plans, restrains their pricing flexibility and ability to raise revenues, implicitly imposes capital investment requirements, and forces them to subsidize application providers who cannibalize their customer base.
- The Order's restrictions on and requirements of the broadband Internet access providers are likely raise and distort their costs, distort their pricing and reduce their revenues, increase their level of risk, and make it more difficult for them to raise capital and invest in the long term. If carriers can't invest, edge providers will ultimately also suffer. That could place jobs at risk at both levels.
- Because the Internet's edge and core are inextricably intertwined, the Order's attempt to protect the edge at the expense of the core could instead be destructive to both. The core and the edge will flourish together, or not at all.
- The core as well as the edge, carriers as well as application providers, need the freedom to innovate, to evolve their business strategies as well as their technologies.

Testimony of Anna-Maria Kovacs
Before the Committee on Energy and Commerce
Subcommittee on Communications and Technology
United States House of Representatives
March 9, 2011

Good Morning Chairman Walden, Ranking Member Eshoo and distinguished members of the Subcommittee. Thank you for the opportunity to appear before you today.

I spent roughly twenty five years working as an investment analyst, covering the communications industry, before retiring as an analyst at the end of 2010. I have no clients at this time and represent only myself at this hearing. I ask that my full written statement, including attachments, be included in the record.

The Internet has become central to the lives of most Americans—it is certainly something I rely on almost every day for news, information and communications. I agree with the stated goals of the FCC's Order: the desire for an Open Internet, for transparency, for an environment in which innovation and investment flourish to the benefit of both consumers and providers at all levels of the Internet ecosystem. I am concerned, however, that some aspects of the Order will ultimately result in unintended but nevertheless detrimental consequences to investment and innovation, both at the edge and the core.

The Order appears to be premised on a view of the Internet ecosystem that assumes that the edge is embryonic and innovative and the core is mature and static. Application providers, including content and service providers, are free to transform their business plans at will. One of their key inputs—transport—is provided to them gratis over the networks of broadband Internet access

providers, carriers with whom they may compete at the application level. Conversely, the Order restricts the carriers' flexibility in designing their business plans, limits their sources of revenue, dictates that they spend capital to expand their networks at the edge-providers' will, and forces them to subsidize competitors who cannibalize their customer base.

To characterize this as a transfer of wealth from broadband Internet access providers to application providers is accurate, but it does not begin to grasp the problem for both parties. A transfer of wealth between two independent parties can be beneficial to one at the expense of the other. A transfer of wealth that will ultimately cripple the party on which the other relies for its very existence is profoundly harmful to both.

Thus, it is the Order's implicit assumption that it is possible to protect the edge at the expense of the core that concerns me most. The two are inextricably entwined: To protect the edge, it is vital to protect the core. Far more devastating to Google, Skype, or Netflix than being charged for transport on the Internet is an Internet whose evolution and capacity are flash-frozen for lack of investment.

Consumers are attracted to the Internet for its applications, but those applications can only reach consumers over the network. Internet applications may as well not exist at all without the networks that are the core of the Internet, and innovative applications can only follow a step behind the networks' upgrades in capacity and quality. The fastest, highest quality, most creative edge content is at the mercy of the slowest link in its path from provider to consumer. The Order recognizes that, of course--that's why it seeks to prevent blocking. But, in my view, the Order goes too far beyond that in its attempt to nurture applications at the expense of the network.

Networks have a voracious and unending need for capital—for fiber, copper, coax, electronics, radios and all the labor that digs trenches, strings wire, builds cell sites, and places equipment. Just as no application can safely rest on its laurels, neither can networks. They must constantly be upgraded, to satisfy the need for ever increasing speed, quality, and security.

But carriers can only raise capital to invest if they have enough revenues to cover their costs. To raise the necessary revenues, companies need flexibility. They need to be able to adjust their business plans to changing market conditions. Above all, they need to be able to charge for their services and to have flexibility in doing so. Just as professional application providers cannot afford to give away their content and services for free, neither can the carriers.

To its credit, the FCC recognizes the need for revenue, at least to some extent. It permits broadband Internet access providers to charge end users, and indicates that it would even consider permitting tiered end-user pricing plans. Why is that not enough? For one thing, the FCC places so many restrictions on the way those plans can be designed that the carriers' marketing will be restricted to one dimension—price for quantity carried--while consumers may well want very different things. Far more significant, however, is that the Order assumes that the revenues carriers depend on today can continue to support the network, even as the Order radically undercuts the sources of those revenues.

Broadband Internet access was added as an incremental service on networks that were originally designed for other services, voice in the case of wireline and wireless networks and video in the case of cable. To build a subscriber base, broadband was priced as incremental to the revenues generated by the original services, and it comes nowhere near paying for any of those networks' full costs. As long the original revenues are there to fund the network, there is no problem. But

when the original voice and video sources dry up, broadband will have to carry the full cost of its network.

As I explained in my December 31st report which is attached to my written statement, that will raise the cost per broadband subscriber substantially, forcing carriers to raise broadband access prices, cut capital investment, or both. That impact is bad enough when the original revenues evaporate because of competition from facilities-based competitors who employ genuinely lower-cost technologies. If a wireline carrier loses voice customers to a wireless carrier because wireless is an inherently lower-cost technology or because customers want mobility, that may be unfortunate for the wireline carrier and its remaining subscribers but it's unavoidable. Better technologies ultimately win. More importantly, there will be some natural limits to the loss, because the wireless carrier also has substantial costs, must cover them, and is therefore forced to price rationally.

But if the wireline carrier is losing customers to Skype, Vonage or Google Voice because the FCC permits over-the-top VOIP providers to use the carrier's enormously expensive network resources for free, that's regulatory arbitrage of the most destructive sort. The wireline carrier is forced to either lose its voice customers altogether or give away its voice service free to its retail customers as well as to the wholesale VOIP providers. Either way, the carrier will have to make its broadband service cross-subsidize its own voice service, just as it subsidizes Skype's. The most likely and undesirable results will be much higher broadband end-user pricing, consequent loss of broadband subscribers, and a throttling back of investment in the network.

Over time, the same scenario is likely to play out on the video side, as cable revenues are cannibalized by over-the-top video. That result is not only damaging to the wireline and cable

carriers, it is also damaging to the application providers that ride the carriers' networks and are constrained by the capacity and quality limitations of those networks.

My concern is that there is a false dichotomy that drives the net neutrality debate, that views the edge as separate from the core, as needing to be protected from the core, as able to prosper only at the expense of the core. But because the two are inextricably linked, because innovation at the application level is so completely tied to investment and innovation at the transport level, the edge can only exist if the core prospers. The best way to encourage innovation, investment and jobs at the edge is to also promote innovation, investment, and jobs at the core. The FCC's goal of Internet openness is laudable, but I believe that the combination of restrictions and demands it places on broadband Internet access providers threatens the long-term viability of the core, and thus also threatens the edge.

Regulatory Source Associates, LLC

Anna-Mana Kovacs, Ph.D., CFA
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December 31, 2010

Financial characteristics of broadband Internet access providers and contents/service providers

	GOOG	FTR	S	VZ	T	TWC	AMZN	YHOO
Operating statistics:								
Revenues	23,650,563	2,117,894	32,260,000	107,808,000	123,018,000	17,866,000	24,509,000	6,460,315
Net income or (loss) (NI)	6,520,448	123,181	(2,436,000)	10,358,000	12,843,000	1,092,000	902,000	805,289
EBITDA	9,836,494	1,082,556	6,018,000	30,559,000	41,206,000	6,402,000	1,507,000	1,125,547
Capex	809,888	255,965	3,312,000	23,005,000	17,335,000	3,231,000	373,000	433,795
Depreciation	1,240,030	476,391	5,827,000	16,532,000	19,714,000	2,836,000	378,000	554,546
Capex-depreciation	(430,142)	(220,426)	(2,515,000)	6,473,000	(2,379,000)	395,000	(5,000)	(120,751)
Total assets (TA)	40,496,778	6,878,255	55,424,000	227,251,000	268,752,000	43,694,000	13,813,000	14,936,030
Working capital	26,419,491	287,403	1,808,000	(6,528,000)	(12,371,000)	(856,000)	2,433,000	2,877,044
Non-current assets (LTA)	14,077,287	6,590,852	53,616,000	233,779,000	281,123,000	44,550,000	11,380,000	12,058,986
Fixed assets (FA)	4,644,610	3,133,521	38,191,000	163,533,000	148,852,000	13,919,000	1,290,000	1,426,862
Equity	36,004,224	339,070	18,095,000	84,367,000	102,325,000	8,689,000	5,257,000	12,493,320
Debt	4,492,554	6,539,185	37,329,000	142,884,000	166,427,000	35,005,000	8,556,000	2,442,710
Margin = NI/Revenues	28%	6%	-8%	10%	10%	6%	4%	9%
Asset turnover ratios:								
Rev/TA	58%	31%	58%	47%	46%	41%	177%	43%
Rev/LTA	168%	32%	60%	46%	44%	40%	215%	54%
Rev/FA	488%	68%	64%	66%	63%	128%	1900%	453%
Return on capital ratios:								
On total assets = NI/TA	16%	2%	-4%	5%	5%	2%	7%	4%
On invested long term assets = NI/LTA	46%	2%	-5%	4%	5%	2%	8%	5%
On fixed assets = NI/FA	135%	4%	-6%	6%	9%	8%	70%	42%
Leverage = TA/Equity	1.12	20.29	3.06	2.69	2.63	5.03	2.63	1.20
ROE = NI/equity	18%	36%	-13%	12%	13%	13%	17%	5%
Working capital/TA	65%	4%	3%	-3%	-5%	-2%	18%	19%
Valuation as of 12/31/09:								
Enterprise value/ revenues 2009	9	4	1	2	3	3	3	4
Enterprise value/NI 2009	31	75	(20)	23	26	45	75	43
Enterprise value/EBITDA 2009	20	9	8	8	8	8	45	23
Enterprise value/TA 2009	14	1	1	1	1	1	5	2
Enterprise value/FA 2009	42	3	1	1	2	4	53	18
Enterprise value 12/31/09	201,504,839	9,268,436	47,891,760	236,840,680	332,476,720	49,528,751	68,013,840	26,197,451
Shares 12/31/09	317,772	349,456	2,886,000	2,836,000	5,924,000	350,900	442,000	1,415,858
Stock price 12/31/09	\$ 619.98	\$ 7.81	\$ 3.66	\$ 33.13	\$ 28.03	\$ 41.39	\$ 134.52	\$ 16.78
Market cap 12/31/09	197,012,285	2,729,251	10,562,760	93,956,680	166,049,720	14,523,751	59,457,840	23,754,741
EPS diluted 2009	\$ 20.41	\$ 0.38	(0.84)	\$ 1.29	\$ 2.12	\$ 3.05	\$ 2.04	\$ 0.42
P/E 2009	30.4	20.6	(4.3)	25.7	13.2	13.6	65.9	40.0
Stock price 12/31/08	\$ 307.85	\$ 8.74	\$ 1.83	\$ 33.90	\$ 26.50	\$ 64.35	\$ 51.28	\$ 12.20
Stock price 12/31/10	\$ 593.97	\$ 9.73	\$ 4.23	\$ 35.78	\$ 29.38	\$ 66.03	\$ 180.00	\$ 16.63
Dividend for 2009	N/A	\$ 1.00	N/A	\$ 1.87	\$ 1.85	\$ 30.81	N/A	N/A
Dividend now	N/A	\$ 0.75	N/A	\$ 1.95	\$ 1.72	\$ 1.60	N/A	N/A
Yield end 2009	N/A	12.8%	N/A	5.6%	5.9%	N/A	N/A	N/A
Yield now	N/A	7.7%	N/A	5.4%	5.9%	2.4%	N/A	N/A

Notes:

All operating statistics from company 2009 10Ks

Definitions:

DuPont formula: ROE = NI/rev*rev/TA*TA/equity = NI/equity

Working capital = net current assets - net current liabilities

Non-current assets = total assets - working capital = fixed assets + goodwill + other

Fixed assets include net plant + wireless licenses

Debt = total assets - equity

Depreciation includes payments for licenses where applicable

Enterprise value = Market cap + debt = (EPS*outstanding shares)*debt

(000) except for \$ amounts and % amounts

Company-specific notes:

\$ capex includes capex + FCC license expense + investment in Clearwire

VZ NI attributable to VZ \$ 3,651,000.00

VZ Total NI including minority interest \$ 10,358,000.00

VZ EPS excludes minority interest

TWC dividend in 2009 is one-time for split from TWX

TWC 12/31/08 stock price not meaningful because anticipates the special dividend distribution

Regulatory Source Associates, LLC

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Please see our required disclosures beginning on page 17.

December 31, 2010

TELECOM REGULATORY NOTE

FCC's open Internet order—a financial translation

- The Federal Communications Commission (FCC) has issued an order on preserving the open Internet. The order has four components: transparency, blocking, unreasonable discrimination, and reasonable network management. It applies somewhat differently to fixed broadband access providers than to mobile.
- The order represents a compromise between those who believe there is no need at all for rules and, indeed, see them as harmful vs. those who would like them to go further. Transparency is the least controversial rule. The principle that there should not be blocking of lawful traffic also has general support, but codifying that principle in a rule as well as the specifics of the rule are controversial. Nondiscrimination as well as the definition of “reasonable” in the context of either discrimination or network management raises many questions and concerns, on all sides of the controversy around this order.
- The first practical question is whether the rules will be allowed to go into effect and remain in effect. The order is likely to be litigated. The order itself describes its legal basis and Chairman Genachowski and Commissioners Clyburn and Copps support it in their statements. Commissioner McDowell’s and Commissioner Baker’s statements, on the other hand, outline in detail the case against the order’s legal position as well as arguing strongly that the action is unnecessary and likely to be harmful. We do not attempt to predict the likelihood that the order will prevail. That will depend at least in part on how energetically various opponents pursue the litigation and will also depend to some extent on which court judges it.
- Another factor is that several Republican members of Congress, including Senator Hutchison and Congressman Upton as well as many other members of

the House Commerce Committee, have indicated that they will try to stop its implementation. As we have described previously, there are several means to attempt it, but ultimately any move would face a Presidential veto and gathering enough votes to override the veto would be challenging, especially in the Senate which will be under Democratic control. We discuss the order assuming it will be implemented, but recognize that there is some chance that it could be stopped on the Hill, or overturned in whole or part in court.

- We focus, as usual, on the implications for investors.

What this means to investors:

- The first question for investors, as discussed above, is whether the order is implemented. Congressional action to stop it is possible, if not easy to accomplish. If Congress does not stop the order, courts become the next key venue. Litigation appears inevitable, and its outcome is unpredictable. The key question is whether a court will issue a stay to stop implementation. Assuming there is no stay, the order is likely to be implemented, but could be modified later via court order.
- The second key question is how the FCC itself implements the order, assuming it gets to do so. It has set out rules and relevant definitions, but those will take on meaning as the agency responds to complaints, and essentially builds a body of interpretation of the key terms. That initial flexibility in interpretation is useful because the FCC and industry are dealing with evolving technologies and business plans. But it will make it difficult for broadband Internet access providers (BIAs) to know how to design, equip, and operate networks that involve enormous investments and long planning cycles. It will also present something of a challenge to those who design applications for the networks, if the BIAs have to keep changing their mode of operation.
- There is a general consensus that transparency is helpful and that blocking of lawful content is not. There is an enormous debate about whether new rules are required to promote those goals, but there is little disagreement with the goals themselves. We have little concern about the transparency requirement, assuming it is applied reasonably by all parties. The no-blocking goal in itself raises some concerns about what it means and how operators are supposed to identify traffic, but in itself it is not the greatest concern from an investor perspective. It does, along with non-discrimination, become a serious investment concern when it is combined with an interpretation that says that only end-users may pay for the BIA's service.

Based on the examination of the financials of some BIAs and some service providers in the discussion below, we reach the following conclusions:

- First, BIAs are required to meet demand, over time if not immediately, and they are not allowed to charge the content, application and service providers (content) who generate much of the traffic. That forces BIAs to increase their fixed assets, without creating a corresponding source of increased revenues and income. The likely result is a decline in the return-on-invested-capital (ROIC) of BIAs, including mobile and rural BIAs whose financials are in some cases already quite fragile.
 - In essence, the rules and interpretation lead to a transfer of wealth from BIAs to those who ride over their networks. That is good for one set of investors and bad for another. More universally damaging perhaps is the rules' potential to destroy the ability of infrastructure providers to raise capital. That would threaten the infrastructure on which both consumers and content providers rely.
 - We recognize the order's argument that BIAs generally do not charge content providers today and that the network rarely blocks today, so that the order may not result in any immediate change in behavior. But that argument ignores the realities of long network planning cycles—BIAs will have to invest more extensively ahead of demand and they will not be in a position to manage demand for their network by charging the key cost-causers.
 - By requiring that BIAs not block, there is an implied requirement that networks be expanded over time to meet unlimited demand that is not controllable by the BIA. Requiring reasonable network management rather than instant response to traffic helps avoid requirements that are physically impossible to satisfy, but there is no indication that the FCC will have patience with large amounts of blocking that result if there is no capital investment. Indeed, paragraph 114 indicates that the FCC "would be concerned if capacity for broadband Internet service did not keep pace" with capacity for BIAs' special services.
 - The ROIC problem is exacerbated in two ways by the requirement that there be no payment by content providers. One, it takes away any incentive the content providers might have to operate efficiently. Indeed, they are incented to use networks as substitutes for other modes of delivery for which they do have to pay (trucks, planes, mail), without regard for the relative economic efficiency of the various modes. Second, of course, it eliminates a key potential source of BIA

revenue. Assuming BIAs are not allowed to charge end-users unlimited prices even if there is permission for some tiered pricing, BIAs' ROIC is likely to decline.

- Second, if ROIC declines, BIAs will find it difficult to invest in infrastructure to the levels that non-blocking and non-discrimination require long term.
- Third, the FCC has handed a strategic weapon to the content providers that they can use against the BIAs with whom they compete at numerous levels. A VOIP provider, for example, can increase the costs of the BIA with whom it competes, without increasing the BIA's revenues by paying the cost of carriage, and all while it is reducing the BIA's revenues by competing away its voice customers. While the order contemplates at great length the incentive of BIAs to increase costs for content providers, it did not contemplate the converse at all.
- Fourth, the no pay-for-priority rule combined with permitting content-delivery-networks (CDN) helps strengthen entrenched large content players. While this rule may ensure a level playing field among small players, it offers them no defense against the large players who can buy/lease their own priority via CDNs. Instead, it removes a key party who could help small players who can afford to pay something for priority but can't afford to pay enough buy or lease CDNs. While the order may remove the barrier to entry posed by one small player to another, it may magnify the entry-barrier posed by the entrenched large players. Permission for content providers to encourage end-users to request priority for specific services has the same effect—large players can reach massive numbers of consumers very easily, for example, when those consumers visit their sites. Small players' sites have few visitors. Even if one stipulates that small players lack bargaining power against BIAs, forcing them to get priority by addressing the entire Internet universe consumer-by-consumer only substitutes one difficult task with an even more difficult one.

Summary of the order's key points:

- What the order says in the rules:
 - **Transparency:** Providers of fixed and mobile broadband Internet access (BIA) must provide transparency about their practices. They must disclose accurate and adequate information to enable consumers to make informed choices, and to enable providers of content, services, applications and devices to create and maintain their Internet offerings, and the FCC and others to monitor compliance.

- **Blocking:** Providers of fixed BIA, insofar as they are engaged in that service, may not block any lawful content, applications, or services, or non-harmful devices. Providers of mobile BIA may not block websites nor the video and voice applications of competing providers. All of this is subject to reasonable network management.
 - **Nondiscrimination:** Providers of fixed BIA may not engage in unreasonable discrimination in transmitting lawful traffic over a consumer's BIA service. Reasonable network management does not constitute unreasonable discrimination.
 - **Law enforcement, lawful activity over the Internet:** The order does not supersede obligations to address the needs of law enforcement, public safety, national security, etc. The order does not prohibit reasonable efforts by BIA providers to address copyright infringement or other unlawful activity.
 - **Mass market:** The focus of the order is on the mass market. It does not deal with enterprise networks.
- Some key points added in the order's interpretive text:
 - **Purpose:** The point of the order is to ensure that the openness of the Internet continues. The order appears to recognize that it is essentially prophylactic, although it does point to a handful of past and current complaints. It claims that it will cause BIAs little additional cost precisely because it changes very little about the way they already operate. A major objective of the order is to ensure that the Internet be a level playing field and to protect competition.
 - **Investment and innovation:** The order seeks to promote investment and innovation. A key legal defense of the order is that it promotes investment in broadband Internet access infrastructure, which provides one of the bases for the order to rely on section 706 of the Telecommunications Act of 1996.
 - **Payment for priority and payment for carriage:** It is not likely to be considered reasonable for BIA providers to charge content providers pay for priority. It is not likely to be considered reasonable for BIA providers to charge providers of content for any transport, even if it is not prioritized. Payment must come from end-users.

It is, however, likely to be considered reasonable for consumers to request priority for particular content. It is also likely to be

reasonable for a provider of content to reach out to consumers and encourage them to demand that the provider's service get priority.

Paragraph 67 of the order reads: "Some concerns have been expressed that broadband providers may seek to charge edge providers simply for delivering traffic to or carrying traffic from the broadband provider's end-user customers. To the extent that a content, application, or service provider could avoid being blocked only by paying a fee, charging such a fee would not be permissible under these rules." As we understand it, this indicates that the FCC would not consider it reasonable for a BIA to charge a content provider for transport to or from end-users even if it did not charge that content provider for priority.

Footnote 209 indicates that this does not apply to existing network interconnection or existing paid peering arrangements. It's not clear to us whether it might affect new peering arrangement.

Paragraph 76 states: "As a general matter, it is unlikely that pay for priority would satisfy the 'no unreasonable discrimination' standard."

- **Tiered end-user pricing:** It is likely to be considered reasonable for BIA providers to charge tiered prices to end-users, for higher volumes or for the higher quality that the end-user (rather than the content provider) demands.

Content providers are encouraged to appeal to end-users to demand higher quality, for which the end-user rather than the content provider could be charged. In other words, pay for priority is permitted if the content provider encourages the consumer to ask for it and pay for it, but not if the content provider pays for it.

- **Specialized services:** These are other services offered over the same last mile connection. The FCC will monitor their impact on broadband service to ensure that they supplement but do not supplant the open Internet.
- **Mobile broadband:** As described in the rules above, it is subject to the same transparency requirement, a somewhat more limited non-blocking requirement, and is not subject to non-discrimination. It is subject to reasonable network management, which may be interpreted differently given the particular issues raised by mobile technologies, etc.

- Reasonable network management: Appropriate and tailored to achieving a legitimate network management purpose. “Transparency and end-user control are touchstones of reasonableness.”
- Applicability to all levels of the stack: The order applies only to BIAs, but is not limited to the transport layer (footnote 235). It applies to all layers of the stack. In other words, a BIA can’t block at an upper layer any more than at the transport layer, when it is acting in its capacity as a BIA.
- Lawful content, privacy, cybersecurity etc: The order obliges broadband Internet access providers to carry lawful content. The order does not provide any indication of how they should go about determining what is and is not lawful. It does not obligate them to determine and block non-legal content, etc. But it does indicate that consumers can ask for blocking of unlawful and even just undesirable content. However, the order does indicate that the FCC does not believe it is desirable for carriers to examine the traffic they carry. Thus, it is not clear how the BIA provider is supposed to determine what it is carrying so that it can determine what it can legally block.
- Enforcement: The order sets up several processes for determining violations: an informal complaint process over its website, a formal complaint process, and action on the FCC’s own motion. The informal process will result in monitoring for trends etc. by the FCC’s Enforcement Bureau. Formal complaints will be considered on an expedited basis. The order essentially encourages the public to become a watchdog over the BIA providers. Commissioners McDowell and Baker have indicated concern that this could be turned into a means of harassing providers, one that would be particularly costly for smaller BIAs.

Discussion:

- Over time, the order represents a direct transfer of wealth from broadband access providers to those whose content rides over the network. That means that it provides those who ride the network with a strategically vital financial weapon to use against BIAs who in many cases are their competitors. To put it another way, it takes all bargaining power away from the BIA—who is making a very large investment for low returns—and giving it to the content provider who is making relatively little or no investment to enable it to access end-users and in some cases is already getting very high returns. That enables the content providers to raise BIAs’ costs, both operating and capital, lower their ROIC,

and force them into taking on more debt and therefore higher risk to keep their ROEs at desirable levels. That, in turn, would make it more difficult for the BIAs to compete in the content layers of the broadband ecosystem.

- Rather than relying on general economic arguments, we look at the way this process works its way through BIAs' and content providers' financials.
- The starting point is to look at key financial characteristics of companies that are representative of these categories. We attach a table that shows the financial characteristics of five broadband infrastructure providers that represent a variety of technologies and sizes: AT&T, Frontier Communications, Sprint, Time Warner Cable, and Verizon. The table also includes Amazon, Google, and Yahoo as representatives of companies whose content/services ride over the networks. We use the most recent full-year SEC filings, i.e. the 2009 10Ks for all the companies, and use the financials as reported.
- In the interest of brevity and simplicity, we focus on two companies--Google and Frontier—as the primary examples in this text, but encourage readers to look at the entire table. While companies' characteristics vary to some extent even within their own category, the key general characteristics are typical. Low margin and high fixed cost leading to low ROIC characterize all the BIAs and force them to use leverage (debt) to attain acceptable ROEs. In contrast, very high asset turnover as a function of very low fixed investment characterizes all content providers and leads to very high ROIC for all of them, regardless of their margins or leverage. That enables them to attain desirable ROEs with a more conservative debt position. In other words, the content companies are able to enjoy low financial risk as well as relatively low operating risk. The BIAs have greater balance-sheet risk in addition to the tremendous operating risks that result from running operations whose costs, both operating and capital, are fixed and therefore very sensitive to revenue loss.

Key financial terms:

Key measures for investors, as well as traditionally for regulators, are return-on-equity (ROE) and return on capital (ROC). Return-on-invested-capital (ROIC) and fixed-ROIC drill down to better understand ROC. One way to understand ROE and ROC is to look at the DuPont formula:

$$ROE = \frac{NI}{Equity} = \frac{NI}{Revenue} * \frac{Revenue}{Assets} * \frac{Assets}{Equity} = \text{margin} * \text{asset turnover} * \text{leverage}$$

- Margin: how much net income (NI) a firm earns for each dollar of revenue.

- **Asset turnover:** how much revenue the firm can get for each dollar of asset on its books; assets can include current assets such as cash, securities, inventory etc., or long-term assets such as fixed plant (buildings, networks, computers), spectrum licenses, and goodwill.
- **Leverage:** how many dollars of assets a firm can support with each dollar of equity, in other words how much debt vs. equity it has on its balance sheets and, because debt carries more risk than equity, how much financial risk the firm is carrying.

$$\text{ROIC} = \frac{\text{NI}}{\text{IA}} = \frac{\text{NI}}{\text{Revenue}} * \frac{\text{Revenue}}{\text{Invested Assets}} = \text{margin} * \text{invested-asset turnover}$$

$$\text{Fixed ROIC} = \frac{\text{NI}}{\text{FA}} = \frac{\text{NI}}{\text{Revenue}} * \frac{\text{Revenue}}{\text{Fixed Assets}} = \text{margin} * \text{fixed-asset turnover}$$

(* means times)

One can look at return on investment, which is a function of both margin and asset turnover, at various levels: use of all assets on the books, use of those actually invested in the operation, use of only the fixed assets (FA). We use ROIC to look at assets that are actually invested by the firm and drill down to fixed-ROIC because it is the single most significant financial differentiator between the infrastructure providers and those who ride over their networks.

Summary of lessons from Google and Frontier's 2009 financial characteristics:

- As our attached table shows, Frontier's ROE in 2009 was 36%, while Google's was only 18%. At first glance, Frontier's 36% appears more appealing than Google's 18%. However, the companies get to those returns in radically different ways. Google got to 18% through very high margins, very high asset turn, almost no debt, and cash amounting to more than half its assets: 28% margin * 58% asset turnover * 1.12 leverage results in 18% ROE. Frontier had 6% margin * 31% asset turnover * 20.29 leverage. The difference becomes particularly striking if one looks at their fixed-asset turnover: Google's is 488% while Frontier's is only 68%. In other words, Frontier's ROE reflects very low margin and asset turnover and very high debt-to-equity.
- Google in 2009:
 - Google had \$6.5 billion in net income on \$23 billion in revenues, for a margin of 28%.
 - Its asset turnover on its total assets is 58%, since it has \$40.5 billion in total assets.

- However, \$26.5 billion of those \$40 billion in assets are net current assets, primarily cash and marketable securities.
- In effect, Google consisted of two entities—a \$26.5 billion bank account, and an operating company with \$14 billion in non-current assets that generates essentially all the revenue and income.
- It makes sense to focus on the operating company rather than the bank account. Asset turnover on the \$14 billion is 168%. Of the \$14 billion, only roughly \$5 billion is fixed assets (buildings, networks, computers, etc.). The rest is a combination of goodwill and other assets.
- If one focuses on the operating entity rather than the bank account, one can look at ROIC in two ways. One is to look at the return on all the non-cash assets, i.e. \$6.5 billion of net income derived from \$14 billion of assets, for a ROIC of 46%. If one focuses on the company's fixed assets, however, the return is \$6.5 billion net income derived from \$5 billion of fixed assets, or fixed-ROIC of 135%.
- Asset turnover on the fixed assets is 488%, i.e., \$23 billion in revenue produced by \$5 billion of fixed assets. In 2009, Google reduced rather than added to its fixed assets, with depreciation exceeding capital investment.
- Google had, not surprisingly given its abundant cash, no debt to speak of. Its equity is \$36 billion out of the \$40 billion in total assets, so that its leverage ratio is a very conservative 1.12X.
- Thus, the ROE of Google as a whole was 18% despite its enviable margin of 28% because its asset turnover was dragged down by \$26.5 billion in cash on which it had almost no return. It was a high margin, no financial-risk company.
- To a financial analyst, Google's operating entity is a thing of rare beauty. Under normal economic conditions, the \$26.5 billion bank account would be hard to justify, but under the conditions of 2009, even that much cash under the mattress may not have been unreasonable. But it is important to look past the cash to recognize that Google's real operating business carries extraordinarily high margins, requires minimal fixed assets, and carries a stunning ROIC of 135% on those fixed assets.

- Not surprisingly, Google's stock carried a very high valuation at the end of 2009. The stock traded at 20*EBITDA (cash flow), 9* revenues, 14*invested-assets, and 42*fixed assets.
- Frontier in 2009:
 - Frontier's 36% ROE in 2009 was, ironically, much less appealing.
 - Frontier's margin was 6%, \$123 million of net income over \$2.1 billion of revenue.
 - Frontier's asset turnover on total assets of \$6.9 billion was 31%, on invested assets of \$6.6 billion it was 32%, and even on fixed assets of \$3.1 billion it was only 68%. In other words, Frontier got only 32 cents of revenue for each dollar of non-current invested assets and only 68 cents for each dollar of fixed assets, in contrast with Google, which got \$4.88 of revenue for each dollar of fixed assets.
 - Frontier got its high ROE through leverage. Against total assets of \$6.9 billion, it had only \$340 million in equity, for a leverage ratio of 20 times (the rest of the companies range between 1 and 5 times).
 - Unlike Google, Frontier was stunningly highly leveraged, had a low margin but one that is not unusual for its industry, and generated only 68 cents of revenue for each dollar of fixed investment, again quite typical of its industry.
 - Its valuation was, naturally, lower than Google's but higher than it might have been had investors not been anticipating the closing of the Verizon deal. Frontier traded at 4*revenues, 9*EBITDA, 1*invested assets, and 3*fixed assets.
- To sum up the comparison:
 - Google's margin was 28% and asset turnover on fixed plant was 488%, giving Google ROIC on fixed plant of 135%. Frontier's margin was 6%, its asset turnover on fixed plant was 68%, resulting in ROIC on fixed plant of 4%. We highlight those numbers: 135% for Google vs. 4% for Frontier.
- The table shows that these companies' ROIC on fixed assets is not unusual for their sectors of the broadband ecosystem. In 2009, Amazon's ROIC on fixed assets was 70% despite a margin of just 4%, because its asset turnover was

1900% --yes that is 1900%. Yahoo's fixed-ROIC was 42%, despite a margin of 9% because its fixed-asset turnover was 453%. By contrast, Time Warner Cable's fixed-ROIC was 8%, Verizon's was 6%, AT&T's was 9%, and Sprint's was (6%) since it is losing money in 2009, the year all of these numbers reflect. We highlight that this fixed-ROIC is on the BIA's entire business, with other segments presumably helping to make up for the even lower fixed-ROIC of the wireline consumer business.

- How is this relevant to the open Internet order? What the order says to Frontier (and its peers) is that it must carry any lawful traffic Google wants to send to it and may not charge for that carriage. It can charge end-users, but not Google, not even if Google persuades massive numbers of end-users to demand priority for Google's traffic over other content providers' traffic, including Frontier's own traffic. Nor can it charge Google when Google cannibalizes Frontier's revenues by taking its customers.
- In other words, Frontier has to add to its fixed assets as needed to accommodate Google's traffic, but cannot charge Google for that. Reasonable network management may recognize that it can't add capacity instantly, but the FCC appears unlikely to tolerate large amounts or long periods of blocking. That's why it is inviting watchdogs and promising swift enforcement.
- That means that Google can add to its revenues without adding to its assets, thereby improving its already phenomenal return on fixed assets. Frontier, conversely, has to add fixed assets to accommodate Google, cannot charge Google for it, and may in fact wind up losing some of its existing revenues to Google, e.g. if its existing voice customers opt for Google-Voice. Thus, Frontier's already poor ROIC on fixed assets can only become worse.
- The best way to illustrate this is to look at an individual example. Assume that Frontier has a voice customer to whom it has dedicated \$1000 in plant. That customer, if average, is currently providing \$680 in annual revenue, and at 6% margin, \$40 in net income. I.e. this is a typical customer providing 4% return on fixed assets. Frontier wants to upgrade that customer to broadband in the hope of getting additional revenues for broadband and video. Let us make the optimistic assumption (very optimistic given Frontier's rural territories) that this customer can be upgraded with an incremental \$2000 in plant. For Frontier's fixed-ROIC to remain 4%, the customer would have to generate an additional \$80 in net income. Assuming margins on the broadband and video business are similar to voice, i.e., 6%, the customer would have to generate an additional \$1360 in revenue. In other words, for Frontier's ROIC on fixed assets to remain the same on the additional \$2000 in capital that it is investing as well as the original \$1000, the customer who generated revenues of \$57 per month for

voice service has to generate revenues of about \$170. That's more than many triple-play bundles cost, but let's for the moment assume it is attainable and that the regulators will permit it.

- Upgrading to broadband opens the door to over-the-top voice and video competitors, such as Google. They do not have to invest \$3000 total in plant for this customer, nor do they have to pay network operating costs. Thus, they have more funds to devote to sales, marketing, product acquisition and development, etc. If Google (or Skype or Vonage) takes even just this customer's voice service away from Frontier, so that the customer now pays only \$114 per month to Frontier instead of \$170, Frontier's ROIC on that customer goes from a poor 4% to a pathetic 2.7%, even in the unlikely event that it can keep its margin at 6%. In other words, by investing an additional \$2000 to bring broadband to this rural customer, Frontier has only succeeded in lowering its return on capital from 4% to 2.7%. The only way to avoid that would be to say to the customer, you have to pay \$170 per month even if you move to another provider's services over the top. That raises both competitive and consumer issues and is unlikely to be feasible. So that the most likely outcome is that Frontier's ROIC would fall as a result of its incremental investment even if it retained the customer for some services and were able to shed enough operating cost to maintain its original margin.
- Google's ROIC on that customer is, of course, infinite, because it has not had to invest any fixed capital. Thus, Google's already astronomical ROIC on fixed assets is raised still further from its current 135%.
- Frontier, of course, will not lose every broadband customer to an over-the-top VOIP or video provider. But it will lose some, and when it does, it is likely to lose all the revenue except for the price of the actual broadband-access. To illustrate, let's assume it upgraded a neighborhood of 100 homes at \$2000 incremental cost each and loses voice service from a third of those homes to a VOIP provider, while retaining broadband and video from all. Let's also assume more realistically that its operating costs for voice service are fixed.
 - Frontier's original financials for the neighborhood are \$100,000 in fixed investment, \$68,000 in annual revenues, and \$4,000 in net income. Its cost for this neighborhood, in other words, is \$64,000 (including tax).
 - Let's be wildly optimistic and assume all of the homes subscribe to the new broadband. Unless they all pay \$170 per month, Frontier's fixed-ROIC will fall. Frontier's investment in these 100 homes is now \$300,000. Total annual operating cost for this neighborhood

including tax is \$188,000, of which we estimate that \$6,000 is tax. In other words, the cost of serving the area is \$182,000 ex tax. A 4% return on that requires \$12,000 annual net income from that group of customers. At a 6% margin, that in turn requires annual revenues of \$200,000, or roughly \$170 from each customer, \$57 each for voice, video, and broadband.

- Now let's be realistic about the nature of fixed operating costs and margin. If a third of those customers move to Google-Voice or Skype for VOIP, taking along \$57 per month, Frontier will lose roughly \$22,500 in revenue per year from that neighborhood. Its asset turnover will become $\$177,500/\$300,000$ or 59% instead of its original 68%. Its margin, of course, will also fall. Google has taken all those customers' voice revenues but none of the capital or operating cost. Frontier's cost is still \$182,000. Its net income is now $\$177,500 - \$182,000 = \$-4,500$. In other words, Frontier will go from 6% margin to net loss $\$-4,500/\$177,500$, i.e. its margin is now roughly (2.5%). Its fixed-ROIC will now be (2%).
- To sum up this example, Frontier invests an incremental \$200,000 to upgrade 100 customers to broadband, gets all of them to sign up for voice, video and broadband, and then loses only the voice service of a third of those homes to Google-Voice. Although it still has 100 customers paying for broadband and video and 67 paying for voice, it now has a negative 2% return on its fixed assets.
- Of course, several of those assumptions are too optimistic: Whether \$2,000 per home passed is enough will depend on density and technology and density can be very low in a rural area. It is very unlikely that all 100 homes will subscribe, and even less likely that all would take all three services from Frontier when they do subscribe. After all, they were getting video from some other source previously.
- BIA provisioning is a capital intensive industry. Everyone knows that. So what? Well, it means that a BIA's financials are extremely fragile. Upgrading customers, even under highly optimistic assumptions such as those we made in the Frontier example, carries enormous risk and is likely to carry little reward.
- What that means is that regulators can't subject a BIA in a competitive market to the sort of punitive treatment that a monopoly might be able to survive. Much less can regulators afford to force the BIA to subsidize those competitors. Most unrealistic is forcing the BIA to subsidize competitors whose financial characteristics are much, much better than those of the BIA itself.

- Is it impossible that the open Internet order will create additional infrastructure investment? That depends on how much of a burden regulators are willing to place on consumers. In the Frontier case above, if Frontier can maintain its triple-play price even when customers shift one or more services to competitors, then its return would be stable. But that is a highly unlikely scenario. In the likely scenario that revenues walk out the door, Frontier would rapidly become unable to invest in new neighborhoods or even maintain service in existing ones. That's simple math.

Bottom line:

- The net neutrality order's argument is that broadband access providers will be incented by the vibrancy of the content, services, etc that ride over them to invest in their own infrastructure. The problem with that argument is that the order does not allow those providers to benefit from the vibrancy of the services riding over them. Even if it can charge a somewhat higher-tiered price for broadband to the end-user in exchange for much higher volume or quality provided to that user, the broadband provider also bears the risk that it will lose existing voice or video revenues. Indeed, bringing broadband to new customers is likely to result in lower ROIC, because those customers not only require additional capital investment but suddenly become ripe for cannibalization by competitors.
- The order's requirements are in some respects less stringent for mobile than fixed broadband access providers. Given both the capacity limitations of wireless networks and the financial fragility of some wireless carriers, that makes sense. But even with limited non-blocking requirements, wireless networks will be financially vulnerable if they have to subsidize the competitors they carry on their networks. Furthermore, wireless networks depend on wireline networks for backhaul. Indeed, wireless networks in most places need wireline providers to upgrade that backhaul to fiber to increase throughput from cell-sites. Thus, wireless networks are vulnerable not only because of their own financials, but because their networks depend on fixed networks whose financials are at risk.
- That the order presents a financial problem for the infrastructure provider is fairly evident. It is also evident that it presents a windfall for those riding over that infrastructure, at least in the short term. But the key strategic question is whether longer term even the over-the-top players will suffer, because they cannot survive without the infrastructure providers. Once the BIAs reach the point that they cannot invest any more, those riding over them will face serious problems .

- The order is driven by a concern that the infrastructure providers are monopolies that have incentives to discriminate against their customers who may also become their competitors. The kind of returns that the infrastructure providers earned in 2009 do not look like monopoly profits. ROIC on fixed assets of (6%) to 9%, and margins over the entire business—including its most profitable parts—of (8%) to 10% do not scream monopoly. Instead, they reflect at least some level of competition between wireline, wireless, and cable providers. But even if one were to stipulate industry structure, the question becomes whether the key issue is competition or deployment of infrastructure. We have provided only a fairly superficial look at the BIAs' total financials here, but a more intense look that digs into the financials of the broadband access business itself is only likely to make the picture look worse.
- Another competitive issue is the question of pay for priority. The order argues that forbidding pay for priority benefits small businesses who cannot afford to pay for it, while Google et al can. That argument holds as far as creating a level playing field among all the businesses too small to buy or lease their own content-delivery networks (CDNs). It does not hold when the field is expanded to include the larger players who can self-provide CDNs. In fact, by forbidding small businesses from bargaining for priority with infrastructure providers, the order removes their most likely recourse against the big players who can afford their own CDNs. The order envisions that the small players, whom it sees as lacking in bargaining power against infrastructure providers, will appeal to end users on the Internet and persuade them to demand priority for their service. It seems more realistic, though, that the large players will be able to reach end-users than that small players will. Joe's Books' chances of reaching many consumers and holding their attention long enough to persuade them to demand priority for Joe's Books is much lower than Amazon's or Barnes and Noble's chances. Amazon can appeal to millions of consumers who come to its site. Joe would have to find those consumers in the first place. Thus, while the order may help ensure a level playing field among small entrants, it also provides ways for large over-the-top players to entrench themselves even more against the new entrants. (See footnote 215 for the discussion on CDNs.)
- Another issue worth considering is the extent to which charging only end-users distorts the behavior of the content providers, both in terms of the volume they are willing to put over the network and the extent to which they may abandon other distribution modes simply because this one looks free to them. One problem is that if something is free, there is no reason to use it efficiently. And if using it inefficiently makes life harder for your competitor who also happens to be your infrastructure provider, then there is lots of incentive for inefficient use. That could become a real problem for the networks and the network providers.

- But the price distortion could also become a problem for other media. If it really costs \$1 to send a film via snail-mail and nothing to send it via broadband, then it makes sense to migrate away from snail-mail and eventually kill that distribution channel. But if the cost over broadband is actually also \$1, then it doesn't make sense. For Amazon, for example, which spent \$849 million on shipping in 2009 (after charging its customers for some of the freight), free shipping over the Internet is a huge potential boon. But before destroying thousands of jobs in physical distribution channels, it might make sense to make sure the price signals are accurate.
- As we indicated in our summary of the rules and the order's interpretation of them, the order recognizes the need for cybersecurity. It does not prohibit blocking of material that is unlawful. Nor does it appear to prohibit blocking of material that consumers say they don't want. In fact, as we understand the order, that is considered reasonable as long as the decision to block is made by the consumer, not the BIA. Footnote 251 states that "Our rules permit broadband carriers to engage in reasonable network management and, under certain circumstances, block traffic and devices, engage in reasonable discrimination, and prioritize traffic at subscribers' request." But the order does say (paragraph 48) that "It is generally preferable to neither require nor encourage broadband providers to examine Internet traffic in order to discern which traffic is subject to the rules." We will not delve in to this issue at length, but do point out that it presents a practical problem for BIAs to figure out how they can identify specific traffic without examining it. The order does not provide specific direction, which is useful given the evolving nature of the Internet and the technologies dealing with all its layers. But it is not clear how network engineers are supposed to operate without rules, and with what is likely to be a series of midcourse corrections as complaints are brought and adjudicated.

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Mr. WALDEN. Dr. Kovacs, thank you for your testimony. We appreciate it.

Next is Dr. Shane Mitchell Greenstein, Ph.D., the Elinor and Wendell Hobbs professor at the Kellogg School of Management, Northwestern University. Dr. Greenstein, we welcome you, and look forward to your comments.

STATEMENT OF SHANE MITCHELL GREENSTEIN

Mr. GREENSTEIN. Thank you for giving me an opportunity to speak. I am happy to share my views with you. Please understand I do not work for anyone, neither firm nor advocate. I come as a professional economist who has had the privilege to study and write about the commercial Internet access market almost since its inception.

From the standpoint of the economics of the Internet access market, there are great potential risks from disposing of the Open Internet order, and the gains from continuity are high. The order looks like good innovation policy and good economic policy. If we want to create a prosperous commercial Internet in the next 15 years, think about how well the Internet works today. Now think about all the ways it could have gone wrong, and my advice boils down to avoid the same problems we avoided in the past.

How do you do that? You keep transactions, costs low for entrepreneurs. The United States commercial Internet functions well today because it avoids a number of industry practices that would have raised transaction costs of innovation that would have introduced hassles, delays, and haggling. Instead, today any entrepreneur can enter without worrying about the gains—gaining the permission of a gateway firm.

If the U.S. government commits to no regulatory intervention in Internet access markets, would that invite problems? Experience of the last 50 years suggests that there is a risk it will and a chance it will not. It is hard to tell. Until recently, regulatory restraints prevented all carriers from taking certain actions so there is little experience from which to forecast how carriers would behave in the absence of restraint.

One central concern arises due to commercial activities in one line of business, for example, broadband service, affecting the prospects in another, for example, video entertainment. If carriers act on their economic incentives, we would expect carriers to help all of their businesses, deliberately becoming less transparent to rivals, blocking some content of rivals, or giving lower priority to traffic from erstwhile competitors. Concentrated supply of access in some locations in the United States also heightens the incentives to act this way.

A balanced view would also note that there are other factors pushing in the other direction. National standardization processes generate transparency. User tendencies to substitute to alternative carriers in some markets also reduce incentives to block traffic. Reasonable people can differ on the relative importance of these forces and that is an additional reason why forecasting is hard to make.

The dangers would be costly. Any movement towards less transparency and more blocking and more discrimination of traffic intro-

duces hassles and delays for entrepreneurs, software innovators, server companies around the globe, even juniors at Harvard with ambitions to unseat Mark Zuckerberg.

Overall, taking away regulatory oversight risks the emergence of a very desirable consequence, less commercial innovation, and its child, less economic growth. Policies that tend towards continuity are the most desirable. Continuity here is the regime of continued regulatory presence with occasional inconsistent action.

It is my view, as it is among many others, that the FCC's policy represents continuity. Frankly, I think broadband firms can live with this rule because it really does not change much of what they do. Entrepreneurs can live with this rule because it lets them innovate and start businesses as easily tomorrow as they did in the past, and raises the certainty that no additional hassles will emerge in the near term. Moreover, the rule includes important and appropriate exceptions for reasonable network management, and for the complications of wireless applications.

In sum, the potential risks of disproving the rule are great, and the gains from continuity are high, and the order looks like good innovation policy, and good economic policy.

Thank you for your attention, and thank you for allowing me to testify.

[The prepared statement of Mr. Greenstein follows:]

Testimony of

Shane Greenstein
Elinor and Wendell Hobbs Professor
Kellogg School of Management
Northwestern University

before the

United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications, Technology and the Internet

regarding

H.J. Res 37
Disapproving the Rule Submitted by the Federal Communications Commission
With Respect to Regulating the Internet and Broadband Industry Practices
March 9, 2011

Executive Summary

What innovative activity is likely if the US government commits to no regulatory intervention in Internet access markets? What actions would one expect from unfettered carriers?

These questions are inherently challenging to answer. Careful historical research cannot uncover a single factor that alone explains why firms behave the way they do. In addition, until recently regulatory restraints prevented all carriers from taking certain actions, so there is little experience from which to forecast how they would behave in the absence of such restraint.

Unfettered carriers have incentives to become less transparent. Acting on mixed incentives, carriers also have incentives to blocking some content of rivals or give low priority to the traffic from erstwhile competitors. A mixed incentive arises when the commercial activities in one line of business – for example, broadband service – affects the prospects in another – for example, IP telephony, video entertainment. Many factors also push carriers towards more transparency, such as standardization processes. Other factors reduce a carrier's incentives to block traffic, such as user tendencies to substitute to alternative carriers. The testimony identifies these opposing forces, identifies several open questions for the future, and shows why these questions remain open at this time.

The commercial Internet has been quite innovative for fifteen years. The rate of innovation may decline if there is any movement towards less transparency and more blocking and more discrimination of traffic. Such behavior could raise transaction costs, which have been low historically, and have played an important role in making the commercial Internet so innovative. Transactions costs were low, in part, because of conditions in the Internet access market. Any firm could enter without worrying about problems interconnecting with any other firm, and, largely, without worrying about gaining the permission of any gateway firms. Entry and experimentation were easier because firms could not holdup one another, even when they had opposing commercial interests.

The economic stakes behind these issues are high. Much economic growth and productivity advance arises from the set of innovative actions linked to the deployment and adoption of broadband and the building of applications that interact with it. Policy should favor faster deployment and use, and avoid risks that potential slow it down.

**1. The Internet access market has been very innovative for fifteen years.
How would behavior change if regulatory oversight were removed?**

What innovative activity is likely in the absence of regulatory intervention in Internet access markets? Will the industry remain as innovative? These questions are inherently challenging to answer. Slogans will not capture the nuances behind innovative conduct, and careful historical research cannot uncover a single factor that alone explains how the commercial Internet became so innovative in the last fifteen years. Some part of the innovation in the Internet would have arisen under any circumstances and with any degree of governance, while some would not have.

This testimony argues that low transaction costs played an important role in making the Internet so innovative. That is, the transaction costs behind innovation were low. That does not necessarily mean the monetary costs of innovation were low. Taking an innovative service to mass markets can be expensive, and it usually is. Rather, low transactions costs means the hassles behind exploring and developing innovative activities were low. In the Internet entrepreneurs and intrepid incumbents faced minimal delays from negotiating with other firms, and did not have to clear many hurdles before undertaking their economic experiments in the market place. The technical details were available to anyone and without restrictions on their use, whether an established firm liked it or not.

Transactions costs were low, in part, because of conditions in the Internet access market. Any firm could enter without worrying about interconnecting with any other firm, without worrying about gaining the permission of the carriers of data. Entry and experimentation were easier because firms could not holdup one another, even when they had opposing commercial interests.

The connection between low transaction costs, innovation, and the conditions in the Internet access market will frame a set of questions. What type of innovative conduct would one expect in the absence of regulatory restraints on the behavior of Internet access providers? The testimony will argue that more blocking and less transparency will likely arise in some settings, and this could slow down the rate of innovation from entrepreneurs.

This focus arises from many changes in the last decade. The Internet today obviously differs from the setting that gave birth to it almost two decades ago. Certainly it is bigger and more varied in

use, involves many more commercial participants, and generate a much larger fraction of GDP. This testimony focuses principally on only one aspect that has changed, the concentration of firms providing access services. Concentration raises concerns about the presence of market power in retail markets. It also raises concerns about carriers who possess negotiating leverage with either affiliated or unaffiliated business partners, and who shape innovative behavior by acting as gatekeepers.

Advocating a particular regulatory approach *is not* the primary purpose of this testimony. Rather, it concentrates on what innovative activity one would expect in the absence of government intervention, namely, in the face no negotiating restraint on less transparency, more blocking and more discrimination of traffic from rivals. Recent proposals to end all FCC intervention motivate this question. This would be a change in the regulatory regime governing Internet access, motivating an examination about what one might expect, and why.

Government policy has played a role in access markets ever since the inception of the commercial Internet. Congress played a key role, for example, when it passed the amendment to the National Science Foundation's charter, ending any disputes about who could send traffic over the newly privatized backbone – namely, any commercial firm, not only IBM's and subsidiaries, who operated the NSFNET. The NSF also played a key role with its comparatively smart design for the nation's Internet backbone and interconnection points, a platform that enabled new entry of access and backbone firms, upon which industry subsequently experimented, producing even greater efficiencies. The Department of Justice also played a key role, preventing World Com from owning too much Internet backbone – which would have resulted from its merger with MCI and then Sprint. Lack of concentration prevented monopolization of a key asset, and, unlike many other countries in the world, the US today continues to enjoy competitive supply of backbone services.

The FCC has played a key role in access policy, albeit that role has evolved over time. Nonetheless, one could characterize this history under a unifying theme: the presence of oversight, coupled with only occasional action. At the beginning of the commercial Internet the FCC maintained the comparatively developed regulatory framework, a regime known as Computer II, and applied it to the commercial Internet. This regime reduced transactions costs for dial-up access entrepreneurs, and partly explains why the United States had such a competitive access industry during the first wave of investment in the Internet. Later the FCC has also negotiated a series of conditions for mergers (e.g., the

AT&T/Bell South merger) that shaped Internet access market. In more recent times the FCC has maintained a set of guidelines oriented towards keeping the Internet open – i.e., the four freedoms. In the few instances when ISPs greatly varied from those guidelines the FCC took swift and decisive action (e.g., Madison River Communications).

The testimony follows this outline: The next section discusses how the actions of many firms support innovation in the commercial Internet. The third section discusses the role of transparency in reducing transactions costs for innovation. The fourth section discusses the role of platforms for the Internet innovation. The fifth section examines the origins of broadband concentration. The sixth and seventh sections consider what transparency and blocking behavior and discriminatory routing might emerge in the absence of regulatory restraint. The last section considers the relationship between economic growth and the type of innovative actions linked to the diffusion of broadband.

A little truth in advertising: The testimony draws heavily from prior writing, particularly those devoted to understanding factors that contribute to developing a healthy market structure for innovation. These are listed at the end of testimony. In addition, this testimony focuses on trying to understand what will occur in absence of any government intervention to encourage transparency or prevent blocking of legitimate content. While this analysis also has implications for discriminatory routing, that last topic also involves many additional aspects which this testimony does not address.

2. Innovation did not arise from one source alone. It arose from the accumulated and collective actions of the industry's many participants.

The commercial Internet differs from any network that came before it. It has a unique market structure and the structure of fostered an innovative ecosystem. Broadband carrier play an essential role, but it is important to recognize that they are but one of many participants in the network. Backbone firms, software vendors, and Internet hosting companies are equally important, as are many application developers, as are sites developing electronic commerce and advertising-supported media. Collectively all these participants have developed a range of innovative services.

The system has been self-reinforcing in the last decade and a half. Participants developed their services in anticipation of better infrastructure on which to run it, sending their applications across broadband lines that behave the same way everywhere. Carriers built that capacity in anticipation of applications that generated increasing user demand for the Internet. Many participants, both firms and users were satisfied with outcomes.

Many participants made these investments with business partners, and many did not coordinate those investments by contract. That is because, in comparison to other major networks, the structure of the commercial Internet has a unique feature, the substitution of open institutions for commercial contracts at several crucial points (more below).

While commercial contracts govern many facets of behavior between direct partners – for example, between an ISP and a backbone firm, or between a web site and a caching firm – no direct contract governs the relationship between millions of global web sites and hundreds of worldwide ISPs. In general, all have agreed to be compatible with the same computing software protocols, allowing for seamless movement of data. Altogether this allows tens of millions of users to draw data from millions of sources, achieving a scale of traffic that makes everyone better off.

Almost by definition, if a large firm has unfettered discretion, it is a natural ask about how they will use it, and whether they will make contracts with content providers with whom they affiliate, and, specifically, how they will treat the millions of unaffiliated suppliers in the Internet.

Said concretely, a broadband carrier with market power potentially faces what is often called “mixed incentives.” A mixed incentive arises when the commercial incentive to invest in activities in one line of business – broadband services, say – affects the prospects in another – IP telephony, video entertainment, say. That is, improvement in the carrying data has consequences for another line of business owned and managed by the same firm. Until recently all carriers were forbidden from acting on mixed incentives, asking what should be expected in the absence of restraints is necessarily a speculative question.

The question touches topics that tend to generate very heated debate, and the heat can be easily illustrated with a series of colloquial questions. Just ask your sister what they would think if her broadband carrier slowed Skype and told all users they had to go through an approved vendor of IP

telephony? Would your neighbor be frustrated if they could not go to Hulu, but instead had to go to the approved TV distributor who worked with the access provider for the neighborhood?

None of that has happened. There are several explanations for why. In many cases it was not in the competitive interest of a carrier to consider such an action. In other cases it was not even an option. Until the spring of 2010, until a court ruled, every actor in the market presumed it was forbidden by broad regulatory action. In addition, at various times in the last decade many major carriers agreed not to act on their mixed incentives in order to gain regulatory approval.

This discussion has two implications. First, questions about innovation cannot be understood solely as a technical or engineering-oriented phenomenon. In other words, the behavior of commercial firms should be understood in economic terms, namely, in terms of a firm's line of business – a firm's contracts, its business conduct, and the incentives it faces in light of the market conditions in which it resides.

Second, this is what economics calls a situation with many complements in supply. That is, innovation does not result solely from one component or one vendor. Innovation results from the interaction and interoperable functioning of many, in this case, software firms, server-side electronic commerce firms, broadband firms, hosting firms, or any number of other participants in the commercial Internet. Hence, the behavior of one shapes the behavior of many.

3. The transparency of carriers is one important element in reducing the transaction costs of innovating, especially by entrepreneurs.

In the commercial Internet efficient delivery of services depends on advanced agreement about how their business activities interrelate. Transactions cost play an important role in such activity because it shapes the design and operation of the value chain. Transaction cost refers to two distinct areas of cost affiliated with two related activities. First, it refers to the cost of designing and setting up procedures to deliver a new service. Second, it refers to the cost of executing a set of proscribed processes and procedures of delivering a service to a user.

Almost by definition, transaction cost (in both senses) plays an important role in innovation because virtually every valuable activity on the Internet involves multiple participants – hardware vendors, software vendors, non-commercial participants, and users. Transactions cost arise whenever a participant tries to alter processes that multiple parties perform.

Transparent processes are those in which participants know what change is imminent. Participants in transparent processes inform others openly and vocally. In other words, participants' actions make it known—sometimes well in advance—when their changes will diminish or enhance the returns on others' innovative investments. In addition, in transparent processes participants can acquire information, and use that without restriction or limitation (e.g., they do not have to keep it secret).

In the pre-commercial era virtually all activity was transparent in principle (albeit, not necessarily always in practice). That is, since most infrastructure design and application development took place under the broad sponsorship of either DARPA or NSF, there was an understanding of shared purpose, and expectation that researchers would let others know about their experiments. In addition, and perhaps more mundane in detail, there was a process for sharing information using the system based on Request For Comment (RFC), as sponsored by the Internet Engineering Task Force (IETF) from the late 1980s onward, and, more informally, by its predecessors in the academic community.

The IETF's processes still operate today, though today it operates on a vastly larger scale. In addition, today's Internet involves much more than just the IETF's activities. The commercial Internet inherited the norms and practices of the commercial computing and telecommunications markets, to be sure, but many more institutions presently have a role. For example, the IEEE committee 802 plays an important role in designing Ethernet and many extensions, such as WiFi. So does the World Wide Web Consortium, and so does the consortia that support Linux and Apache. So too does Microsoft's support staff for Internet Explorer or Windows 7, as does the support staff for developers making apps for Apple's iPhone and iPad, as well as the support staff for many Cisco switches and routers.

In other words, in no way should any observer take transparency for granted. In many setting suppliers share a norm of transparency as a matter of principle and practice, and sometimes not. It is a choice, often a strategic choice.

Transparency arises in the Internet partly because it plays an important role in standards processes. Standards processes play an important role in shaping the transaction cost of setting up new processes and protocols, supporting development of new services. Many participants in standards processes participate because they believe transparency has great importance in interdependent value chains. Other firms will not make long-term investments if they cannot understand at a fine level of detail how their software must interact with another firm's software or hardware.

As a result of transparent standards processes, here is one economic archetype for what happens after the issuance of a standard: Interested parties monitor the designs (because they can), and know that their near rivals do the same (because the data are available to anyone). Then all those parties plan to match each other along the dimension of the standard and differentiate along the dimensions in which each has competitive advantage (such as cost, features, brand, installed base, or distribution channel). Competition ensues once the standard is upgraded from its Beta to an endorsed and official standard.

4. Platform leaders adopt a variety of approaches to transparency. The non-transparency practices of some platform leaders do not provide a model for carrier conduct.

Several other factors play a role in shaping transaction cost. Next consider the role of platforms.

A computing platform is a reconfigurable base of compatible components on which developers build applications. Platforms are most readily identified with their technical standards, i.e., engineering specifications for compatible hardware and software. In other words, there is a Windows platform, a Linux platform, an iPhone platform, and so on.

Platforms have become a central feature of the commercial Internet because use of Internet-related services requires successful execution of a set of technically interrelated activities coming from many independent firms. The failure or reduction in performance of any of these activities can lead to inferior outcomes. Hence, well-designed platforms hold one of the keys to successful innovation.

Strategies and tactics for designing and deploying platforms played an important role in computing before the commercialization of the Internet. For a variety of reasons many firms organized their strategic approach for commercial opportunities on the Internet with similar outlook. There is, nonetheless, considerable variance in the opinion among leading executives about the best practices for managing platforms. This variance has been present ever since the Internet commercialized. Competition between firms with distinct views about platforms has been one of the hallmarks of Internet innovativeness.

The symptoms of this variance are still apparent today. There are proprietary and non-proprietary platforms, all of which interoperate to provide services and some of which compete at the same time. The list of platforms today is long. Many prominent platforms are involved in providing service on to Internet users. These include Microsoft (Internet Explorer, Xbox live, Bing), Apple (iPad, iPhone, app store), Intel (Centrino), Google (Search, Adsense, Adwords), Cisco (switching, routers), Research in Motion (Blackberry), Yahoo! (list-based search, news, mail), Oracle (enterprise databases), E-Bay (auctions), Amazon (electronic retailing, CDNs), as well as many others.

If we allow for a broad definition of platforms, then non-proprietary activities also fall within this umbrella. In that case, platforms include important examples such as Linux (operating systems), Apache (web server), the World Wide Web (HTML, URL, HTTP), Firefox (browsers), Wikipedia (open encyclopedia), Webkit (browser rendering engines), as well as many others.

The rise of platforms on the Internet is a source of both celebration and consternation. Platforms perform functions that firms and/or users value. Their presence usually suggests that some firms/users are better off with them than without. At the same time, successful and dominant platform leaders possess market power with consumers, negotiating leverage with business partners, and some possess non-transparent processes. That will raise questions about whether those firms use their discretion in ways that lead to more innovation, or whether mixed incentives get in the way of pursuing all innovations.

More aphoristically, the Internet has been called a “network of networks” since it first began to diffuse out of its non-commercial origins. Yet, distilling the Internet to that aphorism is misleading about its structure today; it does not reflect how commercial behavior shaped the evolution of how the

Internet gets used in the last decade and a half, and it does not reflect the factors that shape the evolution of transactions cost on the Internet. Leading firms and their business partners view the commercial Internet through the same lens they view activities in the rest of computing. For them, the commercial Internet is a “network of platforms.”

Here is one economic archetype for how the presence of platforms shapes transparency: A platform leader, such as Apple, will announce a coming change to a product, but leave out the details, making it clear that these will come later. Interested parties, such as a developer, monitor the announcements, but cannot make their designs until all details are revealed. Knowing this, the platform leader withholds information until it is ready to support those who have shown interest, and it has achieved its own strategic goals. Then the details are released, and peripheral makers and application makers differentiate along the dimensions in which each has competitive advantage (such as cost, features, brand, installed base, or distribution channel). Competition ensues and, in successful cases, the platform leaders sell a lot of product.

Platform leaders also often designate some firms as special partners. In that instance, there are strong economic incentives to support direct partners with more transparency than others – that is, to provide partners with more information about the operation of the platform, the recent directions of change, the long term plans for change, and so on. The incentives are strong because the platform provider directly sees the benefit in their own economic prosperity if they support their business partners so directly.

This emergence of platforms has three implications for understanding the role of transparency.

First, almost by definition, managing the release of information is central to the behavior of the platform leadership. Lack of transparency characterizes this approach. Indeed, for this reason, there is ongoing tension within industry over how transparent one business partner is with another.

Second, if carriers adopted similar practices, then in the absence of compelling competitive reasons, carriers would have incentives to be transparent with some suppliers and affiliated business partners, but not all participants. Related, in the absence of compelling motive, one would expect the unaffiliated business partners, small business with limited niche marketing ambition, entrepreneurs without status, and many other participants, to not be granted access to the same level of information.

Third, this is a world where many platform firms face mixed incentives, that is, incentives to manage their financial interest in multiple lines of business. If a carrier adopted platform leadership practices, any carrier aligned with a platform firm would also, therefore, face similar mixed incentives in a negotiation over the conduct of partnership.

It is possible to characterize transparency at a platform in more detail, and at the cost of belabouring the point, a bit of detail illustrates the variety. There are a variety of forms for governing platforms, but most share these four functions:

- Designing a standard bundle of technical implementations that others used in their applications;
- Operating processes to alter those standards and inform others about those alterations;
- Establishing targets and roadmaps to coordinate developer and user investments;
- Providing tools and alternative forms of assistance to others who wanted to build applications using their technical standards.

It is possible to do all four with transparent process, and it is possible to do all four with processes that are not transparent. Perhaps one historical example can illustrate their importance.

There was no profit-oriented organization providing platform leadership for the commercial Internet in mid 1995, while there was a profit-oriented set of leaders for the PC. Two commercial firms in the PC market, Microsoft and Intel, retained and guarded their right to make unilateral decisions about the pervasive standards embedded within the platform. Microsoft's processes were proprietary. In contrast, the Internet at the time employed a consensus process for determining the design of pervasive standards and protocols, as embedded in the processes at the IETF. The predominant processes employed documented standards and did not restrict access to these documents or their use by any participant in the Internet.

This difference shaped the diffusion of new technology in the Internet in the mid 1990s. Tim Berners-Lee was able to invent the World Wide Web, and despite actively competing with the IETF for authority to guide and govern standards development for many important applications, he was able to access information from the IETF without any restriction. In contrast, during the earliest moments of the web, the World Wide Web Consortium found itself in conflict with Microsoft and Netscape and their

coalition of business partners for control over the direction of change in html and related tools for the web, as the commercial firms tried to “fork” development of the code to support their own interests. Fortunately for the history of the World Wide Web, and for global innovation more generally, Berners-Lee prevailed in establishing his transparent organization, supporting an explosive growth of a body of *compatible and interoperable* applications for the Web.

This historical example illustrates a broad point. Transparency by key actors has played an important role in the commercial Internet, allowing participants to engage in interoperable activities, and potentially with low transactions costs. A regulatory regime consistent with such transparency is, therefore, reducing transactions costs for entrepreneurs and encouraging innovation more broadly.

5. Concentration in the supply of broadband raises potential concerns about mixed incentives.

The deployment and adoption of broadband by US households is both a cause for both celebration and concern. Broadband’s position reflects the ascendancy of a superior product and service replacing dial-up, which is an unambiguous economic improvement over the near past. After all, a decade ago fewer than 5% of US households had access to broadband. Today it is close to 70%. Many of the firms who supply broadband succeeded in deploying the technology in a financially successful business. Today many of these firms enjoy enviable gross margins in a healthy business.

Why is it a source of consternation? The dominance of broadband raises concerns about the presence of market power, negotiating leverage, mixed incentives, and the way those might distort the incentives to innovate by other participants in the Internet.

There is a traditional argument about the potential distortions, and frankly, while it may matter, there are also reasons to think it represents the less salient concern. The traditional argument is as follows: At a broad level, while society benefits from giving incentives to firms to create superior products and services, rewarding firms with monopoly power leads to high prices for their services while

their provide those services. Firms with market power may face weaker incentives to innovate than firms in any more competitive market structure. Fear of cannibalization and excessive institutional inertia around existing technological paradigms are the typical concerns, observed many times in many case studies. Both lead a firm insulated from competitive pressure to introduce new innovation more slowly (or not at all) than would occur in a competitive setting.

While this may be a source of concern, this testimony will largely focus its attention elsewhere, on the factors that shape innovative activity – namely, the interplay between market power, negotiations, and mixed incentives. What does that mean specifically here? In the last ten years the ascendancy and diffusion of broadband interacted with a range of applications that blossomed, and in many instances the efforts and investments of broadband carriers played a positive role in that blossoming.

This means, generally speaking, four types of rather different uses share the same capacity: (1) browsing and e-mail, which tend to employ low bandwidth and tolerate delay; (2) video downloading, which can employ high bandwidth and can tolerate some delay; (3) voice-over IP and video-talk, which tend to employ high bandwidth and whose quality declines with delay; and (4) peer-to-peer applications, which tend to use high bandwidth for sustained periods of time, and can tolerate delay, but, in some applications (*e.g.*, Bit-Torrent) can impose delay on others.

While that diversity of applications wrings additional productivity out of the same capital supporting the network, it comes with a potential drawback: the use of one application can affect the productivity of another. In part this is due to capacity constraints at bottleneck positions in the network, or there are few backbone pathways to support browsing in isolated positions. Contributing to these constraints are geographically localized negative externalities – *e.g.*, many modern peer-to-peer applications employ all available bandwidth, diminishing the quality of other applications in the same cable network that cannot tolerate delay. In any case, improving efficiency requires some management of competing interests and users.

The causes for concern arise directly from this market structure. The National Broadband Plan (NBP) makes clear that many wireline broadband firms operate with very few competitors. Indeed, most households employ service from only one of two large firms – 78% have choices among two wireline

providers, 13% have one, and 5% have none. Only 4% of the US population live in a location with three or more suppliers. Most large wireline broadband providers effectively face competition from only one other large wireline firm.

The NBP offers evidence that this configuration arose as a consequence of the distribution of income and density across the country, which further suggests that these traits of the market will not likely change over time. That supports the concern that the absence of competitive checks on market power in local markets may be a persistent feature of the network, which further motivates a question about whether market power can shape the transactions cost of others.

One open question, also framed by the NBP, is whether wireless provision provides a substitute for wireline networks for a majority of households. It offers evidence that 98% of the population lives in census tracts with at least one 3G providers. Of these, 77% live in tracts with three providers, 12% have two, 9% have one.

Does this provide a competitive check? If wireless is a perfect substitute for wireline then this structure alleviates many competitive concerns, particularly urban areas. If 3G services offer differentiated services, then the existing structure alleviates few of the competitive concerns. That is, the open question is whether wireless platforms support a set of applications that wireline largely does not offer and visa versa.

Due to the mobility of wireless services and its very limited capacity constraints, almost by definition, wireline and wireless are not perfect substitutes in demand today. So the open question is whether they will be, and if so, how fast that will occur in mass market. That is, will many users drop their wireline use in favour of their wireless Internet use? There is considerable speculation among observers about this question. The answer clearly depends on many factors, such as how fast new spectrum becomes available, who will offer it, how users value different applications in new devices, what uses will be dominant, and whether growth in demand will exceed increases in supply. In addition, with the general growth in demand for Internet services across both wireline and wireless applications, it is virtually impossible to make any prediction about their substitutability in a few years with any confidence.

6. What would happen to transparency in the absence of regulatory oversight? Would carriers continue to act in transparent ways?

At present the actions of access providers is governed by rather light norms of transparency, such as the legal limitations inherent in service contracts with users. In the era of competitive provision of dial-up access this was of little concern. Most providers inherited the legacy norms and practices of the pre-commercial Internet, and users had many options to switch dial-up providers without changing local telephone companies (due to Computer II). It is a bit of an exaggeration, but not far from the truth, that competitive forces prevented lack of transparency, and there was little reason for concern.

This situation motivates the open question: what would happen in the absence of regulatory intervention about transparency? Many of the largest broadband carriers in the US agreed to abide by the FCC's "four freedoms" as conditions for accepting mergers, and despite the ambiguity of those principles, over the last half decade these seemed to preclude many actions. As noted, in some cases competitive pressure also must have pushed in that direction. In short, that means there is no historical precedent for observing such unfettered choice over behavior.

While the answer is necessarily speculative, it is possible to speculate from many existing practices in the present regulatory regime, informed by reasoning about economic incentives.

To begin, communication between engineers in firms is quite common, and so is access to the same set of engineering knowledge about how the network operates. In the recent past it was quite difficult for any carrier to do anything novel (from an engineering level) without others knowing what was being done, knowing about it as it was being done, or finding out about it eventually. Regular meetings within standards committees reinforced these tendencies. Nonetheless, lack of transparency can still emerge in spite of such institutions. It is quite common among wireless handset devices today, for example. Apple follows a very weak transparency norm, as does Microsoft. Both release information periodically, at strategic intervals, as part of their general approach to platform leadership.

Lack of transparency played a role in Comcast's unilateral declaration to throttle P2P applications on its lines with resets, as yet another example. There were many facets to this event, and I will focus on aspects that illustrate general points about the transparency of network management practices, as well as the transparency of other facets of firm conduct.

As it played out, one striking feature about this event was the willingness of all parties to act without telling anyone in advance what was happening. P2P users acted as if they could run any application on any time of day, irrespective of its consequences for others, even when it degraded the quality of service for neighbors during peak-load time periods. Comcast acted as if it had full discretion to manage its data over its facilities without informing other suppliers of applications on the Internet, or informing its own customers. It also acted as if it had no obligation to inform the other users with whom Comcast's customers were communicating and sharing files. When confronted directly and in public, the firm even denied certain actions that others could verify, suggesting there was even a lack of transparency inside the organization about its own policies and practices.

This feature is even more striking because the carrier had a well understood goal, bringing some efficiency to the use of the assets shared by all users of Comcast's network. The economics were straightforward on one level. Management could internalize the externality one user imposes on others—managing traffic for many users' general benefit. That is, P2P applications, like BitTorrent, can impose negative externalities on other users, particularly in cable architectures during peak-load time periods. Hence, on one level, Comcast's goals did not depart from widely accepted principles – namely, a firm should try to manage their assets to reduce cost and enhance efficient use for a customer base. In addition, a firm should try to manage the quality of the experience for its own customer base, and make choices to trade-off one its own customer's quality with another.

Why not give Comcast unfettered discretion to manage the situation then? There is at least one additional transaction cost to consider, that between Comcast and other providers of applications, namely, application providers other than BitTorrent. That includes innovative entrepreneurs with plans to develop further applications, and it might include those who are not in the market at present, but might be in the near term. In addition, it might include other users, those who are not direct Comcast customers, but do communicate with Comcast customers, and anticipate certain operational practices.

Simply stated, transparency affects many other Internet participants. Comcast's transparency shapes the activities of more than merely the users of BitTorrent and others in the neighborhood where the activity takes place. It shapes the transaction costs for many other suppliers of applications.

Unfettered discretion for Comcast could raise the transaction cost to many other application developers, particularly if Comcast retains the right to remain non-transparent about its management policies. If Comcasts' policies about network management further remain shrouded, then a future entrant cannot develop applications without knowing what to expect, when it will change, and how it might be altered in the future. That is a high transactions cost for setting up innovative applications.

In sum, Comcast's behavior had many less appealing aspects, such as its lack of transparency, as well as its virtually one-sided negotiating stance with all other application providers. It also illustrates a lack of clear statements about its own actions in advance or even while they were taking place.

It is not my goal to fully analyze the Comcast/Bit-Torrent events, and it is important to acknowledge that Comcast pledged to alter its practices after these events. I raised this example with a narrow purpose in mind, to illustrate the role of transparency in broadband access and innovation. More to the point, this example raises at least two general possibilities:

First, what if each of the major carriers in the United States used their discretion to pursue quite distinct approaches to managing their broadband operations, and did not make those practices transparent to other application developers or other users? That would raise transactions cost for many other providers of new innovative applications, as each new change worked its way through a maze of a variety of technical issues, each different in different carrier's network, each subject to change without notice. That would take the United States closer to a balkanized commercial Internet, and it would make entrepreneurship much harder, as well as application development for the whole country much harder.

Second, and perhaps most importantly, transparency does not come for free. Transparency about management practices can be costly to those who are required to be transparent. That should be said with some sympathy for those who must provide it. Management must notify others, communicate with those who have questions, and make effort to make sure the right participants address the right concerns. Does a firm have proper incentives to incur the costs affiliated with being transparent? In

other words, if management were given discretion, would they make decisions about transparency that aided collective invention? The answer is necessarily speculative.

A few key factors seem salient. On the one hand, programmers and engineers spend many parts of their professional lives in professional societies and standards committees. Firms want to provide services with high efficacy for their users. Cooperating with such standards committees is essential for that goal. Hence, there are some down-to-earth and straightforward economic forces pushing firms to be partially transparent, especially about technical matters.

I conjecture, however, that if firm management could push back they would have incentives to do so, particularly in the presence of market power and negotiations with business partners. I would conjecture that those with market power face incentives to not incur the cost of transparency that fully internalizes the gains that others reap from such transparency. The gains are wide and diffuse, outside the range of feasible commercial contracts by a single firm. Providing information yields gains for others than a firm simply does not internalize. In part incentives are low because a firm resists providing information to potential competitors, especially if a firm has stated their intention to become a rival.

By similar reasoning, there is also reason to be concerned if broadband firms get into commercial relationships with platform leaders.

In short, economic reasoning suggests that broadband firms with market power face weak economic incentives to notify others about changes to their management practices, or provide technical guidance about the future direction of change, and so on. Yet, the gains from lowering of transaction cost among many application and software providers exceed the cost of making the notification due to its importance to all the participants in the Internet.

7. What would happen to blocking of traffic and discriminatory routing in the absence of regulatory oversight? How would carriers behave?

In a network with a high degree of technical interrelatedness, there are general gains to all parties from bringing routines into business processes and activities, which lowers transaction cost.

Adopting such routines may require negotiation between multiple parties, and it requires uniform conformance with widely accepted protocols for exchanging traffic.

At present provider actions are governed by a rather well known norm about blocking and routing. This has been enforced in the last half decade by the FCC declaration about the “four freedoms” – i.e., all users shall have access to all legitimate Internet traffic, and should treat all traffic equally, subject to standard management practices. It has also been weakly enforced by user and application developer complaints about access provider services – e.g., the complaints from a user of Bit-Torrent set off the investigation into Comcast’s throttling of traffic with resets.

This situation motivates the open question: what would happen in the absence of regulatory intervention about blocking and discriminatory routing? What actions would one expect from a different regulatory regime than the one governing the system until now, one with totally unfettered carriers?

Once again, because a variety of carriers face a variety of situations across the country, there is nuance to the answer. To focus on the core issue, initially consider the use of blocking of traffic by a carrier for the purposes of generating negotiating leverage with others. Such negotiation could mimic what has become more common recently in cases that stretch from infrastructure to application, such as Madison River’s attempt to block a competitive supplier of IP telephone services, such as Cogent’s negotiations with Sprint for a peering relationship, such as Comcast’s recent negotiations with Level3, such as Intel’s negotiations over Centrino with Dell, and, such as Orbitz’ negotiations with American Airlines.

Why focus on negotiations? These are inherent in the operations of the Internet.

The very thing that makes the Internet economically successful—the accumulation of innovation that supports a wide set of applications for many participants, including entrepreneurs—gives rise to conditions that make it harder to negotiate around the uncertainty. More to the point, while the value chain probably will look similar next month, only a naïve fool expects little change over several years, namely, the time periods over which many innovative investments reap their returns. In short, the economic dynamism of the system gives firms the opportunity to negotiate, and one should expect them to do so, and vigorously.

Such negotiation offers no guarantee of success. Many outcomes are possible. Occasionally both parties want an agreement, but just as often one party will desire it more than the other. Alternatively, one party may have an ability to generate a better deal than the other, and, thus, perceives moments of negotiation as an opportunity to generate a strategic advance or gain additional revenue. As a general rule, the structure of bargaining sometimes can work out to a Goldilocks equilibrium that is just right—not too hot and not too cold—but more often it does not. One firm gets too powerful or another prominent bargainer loses its way.

Most interesting for policy, such negotiations cannot cover innovation when the relevant party may not even exist yet – if they will be entrepreneurial start-ups – and, thus, lack representation in even a basic form, such as trade-group or related commercial organization. For example, how would any broadband firm have negotiated with Mark Zuckerberg when he was a junior in college and visa versa? At the outset his entrepreneurial business depended critically on the availability of transparent processes, not any negotiation.

That is an especially salient issue in the Internet. That is, decisions today shape entrepreneurship tomorrow, but few speak up for those future interests, and negotiation breakdowns that shape future entrepreneurs impose high costs on society. Said another way, there is policy interest in protecting the conditions that support later entry of entrepreneurs, even though few today are there to keep established firms from raising transaction cost on later participants in the value chain.

For purposes of this discussion let me define one term-of-art. In the extreme, negotiation can become one-sided, with one party asking for something while the other refuses to provide it or only agrees to it at a high cost. The simplest manifestation of this extreme situation arises when the more powerful party declares a “take-it-or-leave-it” offer, leaving other parties no choice but one that favors the powerful party, or “refuses to deal”, leaving other parties with no choice at all, if the more powerful party perceives that no deal is in their interest.

The absence of one-sided bargaining and the absence of refusal-to-deal is a sign of well-functioning bargaining environment, while the presence of one-sided bargaining is a sign of potential illness, which might have adverse consequences that might spread. The key question is whether the less powerful parties have access to reasonable alternatives.

As illustration, consider a mild case that did not involve carriers, the disagreement Intel had with Dell over including WiFi in the standard laptop design. Intel negotiated a series of agreements with numerous OEMs about putting the Intel Inside and Centrino brands on their products to signal to users that the laptop includes a Wi-Fi compatible motherboard and antennae (compatible with designs approved by Intel). In addition, Intel often included compensation for the marketing expenses of putting the Intel copyrighted material inside an advertisement or marketing campaign for a PC.

This example illustrates that breakdowns can occur for many reasons. Initially Dell refused to carry the Centrino branded systems, preferring its own branded solutions, and, accordingly, did not receive the compensation as quid pro quo. Both parties went on their merry way for many years. Dell continued to carry both Intel products, but after that incident began to more prominently distribute designs with AMD chips. At the same time Intel reached deals with every other major OEM, and succeeded in making Centrino a feature of the majority of notebooks in use.

What else does this example illustrate? First, that Intel's market power had its limits with Dell. It eventually reached a point in its negotiation with Dell where Intel gave Dell a take-it-or-leave-it offer and, indeed, Dell chose to leave it (unlike virtually everyone else in the industry). Second, as long as Dell had plenty of other options, the losses to Dell or society at large were not large. Indeed, there might have been gains, since Dell's choices translated into more buyer options beyond the Centrino.

The presence of choices shaped how the negotiations proceeded. Users had choice among laptop suppliers. That fostered incentives at Dell to support their own brand. The largest laptop assembler in the world, Dell, had a choice among suppliers of Microprocessors, allowing it to push back against the largest provider, Intel. It was not many choices and options, but it was enough to prevent one firm from having its way.

More broadly, many alternatives at a key place in the value chain help users and society at large. In that case there are fewer justifications for policy concerns about negotiations between participants. When there are plenty options, if users are unhappy with a supplier, or vendors are unhappy with a business partner, they switch.

In the presence of few market options and concentrated supply, however, policy concerns are heightened. As noted earlier, it is the limited supply of wireline suppliers in many parts of the country that heightens these policy concerns.

Take-it-or-leave-it or refusal-to-deal can have some serious additional consequences when embedded in a network. Let me illustrate with one proposal. Some years ago there was a proposal to let all Internet participants simply negotiate compensation between them, so that Google/Yahoo/Disney would negotiate with Comcast/Time-Warner/Verizon, and every other possible combination. Intel's example suggests the obvious problem with such a proposal: it leaves out the concerns of users. Imagine the uproar among Internet users in the locations where such negotiations failed to come to resolution and no other close substitutes existed. It would be far worse than the brief uproar among Yankee fans who could not get local baseball telecasts due to a negotiation breakdown between Major Leagues Baseball, the Yankees, and a local cable provider. The most recent fight between Fox and cable firms is yet another example.

The concerns about what would happen in the presence of frequent negotiation lead to a related set of concerns about the absence of restriction on blocking and discriminatory routing. It is quite common in many parts of the economy for partner firms to refuse to deal with one another as a negotiating tactic. For the most part, this tactic has not been a part of Internet practice, but there is a concern if it is slowly becoming one. Moreover, once the industry begins to go down this path, it is clear that it would be far worse for an entrepreneurial firm or small start up.

I would conjecture that a muddled situation seems much most likely, with occasional deals here and occasional breakdowns there, some sites blocked, some not, some traffic making it through without any issues, some having a slow experience in some circumstances. As noted earlier, the economic world of the Internet is quite nuanced, and large variance in experience is the norm.

To close, it is important to note that this argument has used blocking to illustrate a broad point, in part because blocking is a rather blunt instrument in negotiations. The section extended the logic to discriminatory routing in places, but, in part, that is because many of the incentives to block traffic from near rivals yield a similar line of reasoning about discrimination of traffic by carriers, and similar analysis of payments for priority. To say it concretely, if a broadband firm had its own IP telephone service and

there was no restriction on slowing down Skype and no competitive check on its ability to do this, why wouldn't they do so?

It would be misleading, however, to stop there. When it comes to discussing management of traffic, there are numerous other economic considerations to account for. For example, carriers have to manage traffic as part of their operations, and doing so helps achieve desirable efficiencies. In wireless applications especially, carriers face many issues managing the allocation of capacity. Carriers have to make investments in anticipation of realizing these efficiencies as well, and these involve many trade-offs, depending on the setting and customers base.

In short, speculating about carrier behavior and conduct over traffic management – namely, in the absence of restraints – is a more complex topic than what has so far been discussed. This testimony leaves many aspects of that topic unaddressed. While it has identified the open question, readers should not regard this analysis as complete.

8. Why do the practices of carriers deserve attention? A well crafted and executed regulatory framework leads to more innovation, and more innovation creates more economic growth.

At one level this testimony is not saying anything new. Many broadband firms are well run and efficient at many of their core tasks, transporting data on a large scale from many sources to many households. Many analysts have recognized that. Given their success so far, many of these firms have ambitions to move into other commercial areas. Comcast's management is ambitious. So is AT&T's, and so is Verizon's, and so are others. The managers should be ambitious because that is what the stockholders of their firm expect.

The relevant policy question is whether this ambition leads those firms to take action that fosters innovation in the entire country. For that question consider the two twins of innovation inside a dominant firm. One twin is a model citizen. Commercial ambition from a dominant firm yields great outcomes for the country when that firm pursues competitive conduct, innovative services, and

invading of new service territories. The other twin is not a model citizen. Ambition from dominant firms is not in everyone's interest when it motivates blocking a rival's access to channels, when it leads dominant firms to refuse to deal with potential rivals, and when it leads dominant firms to raise a rival's cost.

It is naïve to expect one twin to show up to executive meetings without the other also voicing opinions. It is also not a foregone conclusion that one of them will influence decision making more than another.

Why care about which twin has more influence at dominant firms? As with other facets of this testimony, the answer is an economic one: so much economic growth arises from innovation. This innovation is important to the country, and it is important to protect the environment that fosters it.

Place the observation in context. The broadband industry in the US is quite healthy. Revenue for US Internet access more than doubled during the first decade of the millennium owing to some simple arithmetic: the number of households using the Internet increased, and prices for broadband access averaged twice those of dial-up. More concretely, in the summer of 2000, of the 41.5 percent of connected US households, only 4.4 percent had broadband. By October 2009, 63.5 percent of connected US households had broadband.

Many other industries around broadband are also healthy. The upgrade to broadband initially led most US households into the same activity found in dial-up (for example, checking e-mail, reading news, and shopping). Only gradually did users add activities that dial-up couldn't handle (such as watching YouTube video, downloading music, or reading many blogs). By now, the transformation is rather apparent: broadband has played a role in helping bring more users online and, moreover, these users are more valuable users of electronic commerce and advertising-supported media.

The relationship between broadband's growth and other online markets is what economists call a *growth spillover*—that is, growth in one market spilled into another. For example, as just noted, broadband's diffusion produced positive spillovers for electronic commerce and advertising media, as well as for businesses supporting both chains, such as UPS. The spillover is symmetric as well. The innovation in electronic commercial and advertising media produced more users of broadband.

Broadband also produced positive spillover for online video sharing, such as YouTube, as well as new equipment, such as wifi antennae, and visa versa in the same symmetry.

In general, spillovers can be negative as well, and such relationships tend to be more asymmetric. Broadband policy also should recognize that. For example, broadband's diffusion produced negative spillovers for the printed magazine and newspaper business and music retailing, in a process that is often labeled creative destruction. Creative destruction is a process that creates growth through radically reshaping businesses, lowering prices, altering market structure, and potentially generating radically new services.

Spillovers don't need to be confined to a geographically local area, so they're often challenging to observe and trace. For example, most economists do not know whether the geographic pattern of negative spillovers—for example, to newspapers and magazines—correspond closely to the geographic pattern for positive spillovers to electronic commerce and retailing. It is also unclear whether the geography of positive spillovers to online firms resembles the pattern for equipment suppliers, another beneficiary of positive spillovers from broadband.

Do not equate untraceable with unimportant. Much of modern understanding about economic growth presumes – based on many historical examples – that important technologies have a defining characteristic: their deployment and uptake produces large spillovers, and those spillovers comprise a large component of economic growth. Said simply, spillovers lead to lower prices, more services, and more productivity growth. That allows users to save money, spending on other goods and services.

In short, broadband's diffusion generated economic growth just like other major technical transitions. It resulted in negative and positive spillovers, and it is reasonable to expect these spillovers to continue to arise over the next decade.

More concretely, the commercial Internet has begun to transform digital markets, such as telephony, entertainment, and media business, which are a large and significant fraction of economic activity. Moreover, many heavy users of digital information – such as financial industries, insurance, wholesaling, logistics and transportation – have experienced significant productivity gains due to the advances in the commercial Internet, and should continue to do so. We should expect lower prices and new productivity advances.

In general, historical examples also illustrate a simple principle: The country benefits from the fastest development of spillovers as possible. It would, therefore, be a poor policy choice to allow any factor to slow down this diffusion and deployment. This is a big risk, and one worth avoiding. In short, the economic stakes are high.

Standard economic analysis talks about different risks in regulatory action, the risk of inaction versus the risk of action. Incurring such risks is a policy choice. In that sense this testimony's main theme can be summarized simply: there are risks from committing to regulatory inaction; the risks are plausible but not certain to arise; if the worst-case scenario turns out to be right, then users, entrepreneurs, and many suppliers will pay a high cost. A wide array of economic activities touched by the Internet will be diminished as a result.

9. Summary

What innovative activity is likely in the absence of no government intervention in Internet access markets? This testimony has reached the conclusion that the United States commercial Internet functions well today, as it has in the last fifteen years, because it avoids a number of industry practices that would raise the transactions costs of innovation. Related, in the absence of regulatory intervention some economic factors push in different directions. Some push towards the continuation of such practices, while others push towards the emergence of less transparency, blocking of legitimate content for gain in negotiations, and discriminatory routing of traffic for strategic gain. None of the latter is desirable for users or for many established firms or future entrepreneurs.

Taking away regulatory oversight out of this market, therefore, risks the emergence of many undesirable consequences. It risks the emergence of behavior that has not been prevalent in the past, and that would not contribute to innovation. While this testimony is not primarily aimed at one specific set of policies, and it is not aimed at comparing one alternative policy against another, it does lead to a favorable outlook for policies that tend towards continuity, namely, continued regulatory presence with occasional and consistent action.

10. Source material for this testimony

Authored by Shane Greenstein

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Mr. WALDEN. Doctor, thank you for being here. We appreciate your testimony.

Now our final witness this afternoon, Tom DeReggi, President, RapidDSL and Wireless from Boyds, Maryland. We welcome you. You probably came maybe the least distance. I don't know, but certainly not from overseas. Mr. DeReggi, thank you for being here.

STATEMENT OF TOM DEREGGI

Mr. DEREGGI. Thank you. Chairman Walden, Ranking Member Eshoo, and members of the committee, thank you very much for the opportunity to testify. It is a great honor to be here today.

Quickly about myself, I started selling—reselling DSL—started outselling DSL. In 2000, I formed RapidDSL and Wireless. My company is a grass-roots, independently owned and financed fixed wireless broadband access provider. We cover a 30-mile radius around Washington, D.C., serving businesses and residences in urban and rural communities. I have sat on advisory boards of ISPCON and until last year, I served on the Board of WISPA as legislative committee chairman.

Quickly a bit about WISPA. The WISP industry is primarily made up of small independent companies serving both competitive markets and rural markets, many of which would otherwise have no access to broadband at all. The combined services of all WISPs nationwide cover more than 75 million households, 71 percent of the entire population of the United States.

The speed of wireless is determined by topography. In heavily treed areas, a connection may be limited to as little as three megabits shared by 50 households, whereas in areas with direct line of sight between towers and customers, speeds as high as 80 megabits are possible. In short, WISPs are real and relevant competition for AT&T, Verizon, Comcast, and can reach means—can reach areas others are unlikely to cover without substantial government subsidies.

I am here today to show my industry's support for H.J. Res. 37, and ask Congress to vote to reverse the FCC's Open—recent Open Internet rules which are not open, and are not neutral. It is my belief that the FCC has overstepped their authority to address a problem that didn't exist at the detriment of our industry and the consumers.

If the rules take effect, it will destroy jobs, stifle innovation, deter investment, create uncertainty, distract WISPs from building networks to all Americans, increase government spending, create liability, increase legal costs, degrade broadband performance and increase consumer's price, and possibly put some small WISPs and ISPs out of business. These are facts that would be contrary to the goals of the FCC's National Broadband Plan.

Rules and regulations create jobs only for lawyers instead of putting more jobs to expand broadband access to all Americans, community based jobs that lead to life-long careers, locally owned WISPs create that. We don't need regulated band-aids, we need true competitive environments that give consumers choice. Foster competition between access providers and the consequences will be open Internet content. Net neutrality regulation is a foundation for monopolies and unnecessary if we build competitive industries.

Internet providers need the support from policy makers, not regulatory roadblocks. Uncertainty and liability created by these regulations would be so great that even I, the business owner, have to reconsider whether to continue investing money in my company.

The rules applied to broadband as a single uniform product, rather than recognize that two very different distinct generation broadband products exist, broadband and advanced broadband. It is inappropriate to expect first generation broadband network providers to allow the operation of second generation advanced broadband applications, such as HD streaming video, which minimum requirements may exceed the capability or acceptable use policies of the first generation basic networks. It is inappropriate to insist that broadband access products need to support a user application for which the product was not originally designed to support. I believe the term reasonable network management does not go far enough to guarantee that the rules properly match technology to the appropriate access technology. The rules give special consideration to mobile carriers but inappropriately bundle WISP fixed wireless providers. The rules intended for wireline and fiber providers, but failing to recognize that WISPs are subject to the same technical constraints as mobile providers, the Commission failed to fulfill its role as an expert agency, and instead, succumbed to political pressure to pick and choose winners.

One size does not work and does not fit all. I wish I could say the Internet was simple, but it is not. The Internet is extremely complicated and is different in every community that it is deployed. The Internet is an ever-changing dynamic industry with many variables. I see no way static regulation could ever keep up.

The FCC rules address what could happen, rather than what actually did happen. For example, ISPs have never censored legal content, but content providers have demonstrated actual anti-competitive behavior. For example, ESPN360/Disney prevents every one of its ISP customers from accessing its content unless the provider pays it a fixed fee for every customer it has, even though most will not watch the content. It gives favorable rates to large carriers than it gives small providers. This behavior is anything but neutral, but the FCC fails—rules failed to address the serious content neutrality issue. Certainly, if the rules are going to address prospective harms, they ought to address ones that actually already exist. In an environment where content providers can be discriminatory is not a neutral network.

The rules unjustly entitle consumers and content providers to free reign of someone else's private network at the access provider's expense. Because the rules literally could render an Internet provider's network inoperable, the rules may actually constitute a regulatory taking of Internet service provider's networks in violation of the Fifth Amendment. The Commission attempts to justify the rules, proclaiming that they are necessary, because many areas are served by only one or two providers. Not only is this false in most cases, but also the rules themselves would make the problem worse by making it more difficult to competitive providers to expand their services.

Are WISPs real competition for wired networks such as Comcast? The arithmetic says yes. Wimax actually delivers more capacity to

the end user than most widely deployed cable services, which are based on DOCSIS 2.0. A DOCSIS 2.0 hybrid fiber cable system has 43 megabits in downstream direction, two megabits upstream at the equipment cabinet that serves a neighborhood. The network is usually engineered so that 500 to 2,000 subscribers are connected by coaxial cable to that cabinet and the bandwidth is divided among them. But in wireless systems using Wimax or Airmax technology, each radio has typical capacity of 24 megabits and serves 60 or fewer users. So if all the bandwidth is in use and is divided evenly, each cable subscriber gets 86 kilobits per second, not much more than dial-up, while wireless users get up to 400 kilobits per second.

Mr. WALDEN. Mr. DeReggi, you have exhausted your time. Can you just wrap it up?

Mr. DEREGGI. Yes, let me wrap it up.

I have pointed out many reasons why the FCC Open Internet rules are inappropriate and should be nullified; however, please do not misinterpret this testimony to mean that WISPs or ISPs ought to be unfair to their customers or in any way limit their ability to express themselves online. What we want is the freedom and the flexibility to compete, to innovate, and to design our networks to provide the services the customers really want. The FCC's regulations should take effect would not only fail to do what the Commission claims, they will instead degrade harm, preventing us from competing to provide the best services to our customers.

Thank you.

[The prepared statement of Mr. DeReggi follows:]

Prepared Testimony of Thomas DeReggi
President of RapidDSL & Wireless, Inc
A Wireless Internet Service Provider Serving
Maryland, Washington DC, and Northern Virginia

Hearing on:
“H.J. Res 37, Disapproving the rule submitted by the Federal Communication
Commission with respect to regulating the Internet and broadband industry
practices”.

Before the Subcommittee on Communications and Technology

Wednesday, March 9th, 2011, at 10:30am
RM 2123 of the Rayburn House Office Building

Chairman Greg Walden, Ranking Member Anna G. Eshoo, and Members of the Committee:

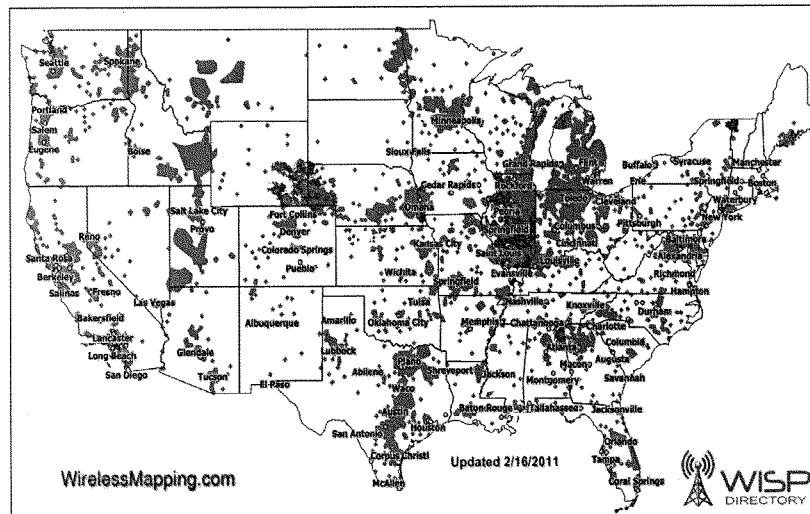
Thank you for the opportunity to testify and contribute. I consider it a great honor.

BACKGROUND:

First, a quick review of my background. In 1996, I started out reselling DSL, and in June 2000, I formed RapidDSL & Wireless, Inc. RapidDSL is a “grass roots” independently owned and financed Fixed Wireless Broadband Access Provider. We serve approximately a 30 mile radius around Washington DC. We’ve proven many case studies, including Urban, Rural, Served, Unserved, Business, and Residential models, competing against the toughest competitors. I sat on the ISPCON advisory board from 2003-2005. For 4 years, I had been elected to the board of WISPA, and the acting Legislative Committee Chairman until my resignation Summer 2010. I’ve been intimately involved in all aspect of my business.

Second, a quick review of the WISP industry. The WISP industry is primarily made up of many small independent companies, serving both competitive markets and unserved Rural America. WISP’s national combined footprint has potential to cover over 75 millions Households, 71% of America, as shown in the map below and data provided by Brian Webster of www.wirelessmapping.com. A Geographical environment can determine speed capability of wireless technology. In heavily treed areas speed could be limited to as low as 3mbps shared between 50 households, whereas in Line of Sight areas, speeds as high as 80mbps to a household

are possible. The Internet is not just about ATT, Verizon, and Comcast. WISPs ARE RELEVANT.



Testimony:

I'm here today to show my support for H.J. Res 37, and I beg the House Sub-Committee to overturn the FCC's recent Net Neutrality Rulemaking. It is my belief that the FCC overstepped their authority to address a problem that didn't exist, at the detriment of our industry. If the Net Neutrality rules are allowed to continue, I am certain that it will (1) result in fewer Jobs, (2) stifle innovation, (3) reduce investment, (4) cause uncertainty in the industry, (5) distract WISPs from building networks to all Americans, (6) increase government spending, (7) create unnecessary liability, (8) drastically increase legal costs, (9) degrade subscriber's performance,

(10) increase subscription fees, and (11) possibly put some small ISPs and WISPs out of business. These side effects are opposite of the National Broadband Plan goals.

Regulation and Net Neutrality just makes jobs for Lawyers. What America needs are more jobs to expand Broadband Access to All Americans. Community based Jobs that sustain and empower common folk into ownership roles and high-level positions, as well as jobs in the trenches of the trade. Locally owned WISP startups create that.

The American people don't need regulatory Band Aids. They need true competitive environments that give consumer choice. Foster competition between Access Providers, and the consequence will be open Internet content automatic. Net Neutrality regulation is a foundation to build monopolies, and not necessary in policy that is targeted to build a competitive industry.

Internet providers need support from policy makers, not more regulatory roadblocks. Net Neutrality is just one more roadblock to slow down Internet providers. The uncertainty and liability to provide service is getting so bad, I have to reconsidering whether it's wise to continue investing money.

The FCC Rules are flawed for a number of reasons.

1) The rules imposed on all broadband networks, inappropriately included provisions to protect consumers right to access Advanced Broadband applications like streaming video over basic broadband. Broadband networks were designed to deliver broadband, not Advanced Broadband. Provisions to protect Streaming Video access should have only been imposed on advanced

broadband networks. Why should a Broadband provider be forced to rebuild a network to Advanced Broadband standards, if there is still a market for their pre-existing broadband offering?

2) The rules inappropriately bundled Fixed Wireless providers in with Fiber wire line providers, completely ignoring the fact that Fixed Wireless has vastly different dynamics, which demand special consideration. But yet, the rules had a double standard that gave Mobile wireless carriers special consideration.

3) “One Size Fits All” doesn’t work. I wish I could say that the Internet was that “simple”, but it’s not. The Internet is complicated. The rules as written don’t even begin to scratch the surface of the many variables to consider in an ever-changing dynamic industry. I see no way static regulation could ever keep up with the Internet industry.

4) Rules addressed what could happen rather than what did happen. What did happen is that a content provider (ESPN360/Disney) discriminated against Access providers, preventing all customers of specific access providers from accessing the content. This behavior was far from neutral, but FCC rules failed to address this serious issue (content neutrality) in its rulemaking.

5) The Rules unjustly entitle consumers and content providers to things that they had no legal right to claim entitlement to, free reign of someone else’s private network, but yet left the Access Provider to foot the bill.

- 6) It's not your network! I designed, built, and paid for my network. It's MY NETWORK, and everyone else can't have it. It doesn't belong to the government, content providers or consumers. They aren't the investors or stockholders. I offer a service, and if someone wants access, they pay for it. It's that simple. Why should content providers be exempt, if they are a heavy abuser of the network?

- 7) Free Speech- How come I can't distribute content on Network television to address the public anytime I want for free? Is that preventing free speech? No, because resources are limited and using the airways are expensive. It's no difference for Broadband Access. Wireless networks have limited resources, and there is a real cost to deliver broadband.

- 8) Areas with only one provider - If policy makers are worried about areas where there is only one provider, then it would make sense to impose rule making to apply to circumstances where there is only one provider. Everyone else should not have to be hindered. I'm not a monopoly. I don't have market power. I'm too small to enact anti-trust anti-competitive behavior. I should be exempt, because I don't fit the profile.

- 9) Streaming HD Video is the killer, transferring enormous amounts of data for a long sustained period of time. Many ISPs don't want to charge for usage, because in some cases, the bill would be so high, many consumers would never pay it. As well tracking usage is resource intensive and many ISP's designs don't allow for tracking it. Many ISPs don't want to block the Streaming protocols, because there are many acceptable uses

of streaming that only stream for short periods of time. For example, YouTube to play a short 30-second clip. Instead, what ISPs do is look for pattern of sites that have a large number of connections that stay open for a long period of time. In these cases it infers a content provider is marketing and delivering services that sustain video streaming for extended periods of time, a service that may not be allowed under AUP or supported on some lower bandwidth Access Networks. An example of this would be NetFlix selling on-demand HD movies. The truth is NetFlix has no way of knowing what the end user's ISP's AUP is. The appropriate action might be to simply block NetFlix all together. Just like blocking the source of a spammer, instead of all Email. This would be reasonable network management, but could easily be misinterpreted by lawmakers as anti-competitive behavior. The portions of our network that can deliver 5-30mbps to the home wouldn't have NetFlix blocked, but portions of our network that had a community that had to share 3mbps likely would have NetFlix Blocked.

10) Can Wireless Compete with Cable (Comcast)? A DOCSIS 2.0 Hybrid Fiber Cable

System has a hard limit of 43 meg down and 10 meg up at the Fiber node that distributes to the coax used for the consumer connections. There are anywhere from 500 to 2000 coax subscribers engineered in to the network design for each fiber node. So in reality they are using a 43 meg downlink for a minimum 500 customers. When you look at a Wimax or Airmax Sector and assume say 24 meg throughput delivered from that radio as a conservative estimate, most WISP's will not put any more than 60 or so customers on that sector. That in theory gives a subscriber 40% of the total radio throughput where a DOCSIS 2.0 node that maximum a customer will get is 8% and as low as 3.65%.

Conclusion:

I have pointed out numerous reasons why the FCC Net Neutrality rules are inappropriate and should be overturned. However, do not misinterpret this testimony to mean that WISPs don't support the principles of Net Neutrality. In most cases, I have observed that WISPs have operated their networks in an Open and Neutral manner, except in severe cases of limited network resources that demanded reasonable network management. As well, we feel it's important that consumers basic right of Free Speech continues to prevail. We simply don't believe regulation is the answer.

Mr. WALDEN. Thank you, sir. Thank you to all of you who testified today. We will go into our questions now, and obviously we are on time constraints here. We each get about 5 minutes, so don't take offense if we ask these in sort of a yes and no environment. Mr. Dingell probably pioneered that on the committee quite successfully.

Mr. Turner, do you believe the FCC is on strong legal ground with this order and it will be upheld in the courts?

Mr. TURNER. I believe they took an unnecessary risk by going down the Title I route.

Mr. WALDEN. So you do not believe they are on strong legal ground?

Mr. TURNER. I think they are on less firm legal ground than they could have been.

Mr. WALDEN. Do you oppose the resolution of disapproval not because you like the FCC order, you have stated that, but because you think the FCC might lose in court when that happens? Won't you push for a reclassification on Title II? Isn't that your preference?

Mr. TURNER. I oppose the resolution of disapproval because of the consequences once Congress disapproves of these rules, the FCC is then forbidden from enacting any similar rules in that space that could extend to things far beyond network neutrality, bill shock, lots of other issues.

Mr. WALDEN. But the real issue is they can't do Title II, right, with this disapproval resolution if it becomes law?

Mr. TURNER. No, I don't believe that. I believe the issue of reclassification is separate from the resolution of disapproval, and I do not think reclassification acts would fall under the CRA.

Mr. WALDEN. Because in your own documents from Free Press, point number five, legal footing, it says "Genachowski reportedly is grounding these new rules in the same kind of legal arguments that were rejected by the courts last spring. This strategy presents an unnecessary risk in the shortsighted attempt to avoid reclassifying broadband under Title II of the Communications Act. Such a move doesn't just put net neutrality on shaky ground, it places the FCC's entire broadband agenda in jeopardy."

Mr. TURNER. That is exactly right.

Mr. WALDEN. So essentially a vote against this resolution is a vote for reclassification, something that more than 300 members of Congress have opposed in a bipartisan basis.

Mr. DeReggi, is it your sense that the larger broadband providers cut a deal that they could live with because it was better than Title II reclassification, but that ultimately you will be the one having to pay the price, companies like yours? Can you turn on your microphone, sir?

Mr. DEREGGI. That is correct. The smaller providers and the more competitive providers are the ones that will pay the price for the rules. I agree. I would say that all of us could probably live with the rules if we had to, if they stayed there. The question is they don't necessarily stay there and the rules don't really give all the protections that are needed for the access providers. You know, content providers are not the only person on the table to protect here.

Mr. WALDEN. And does it give you any concern that the FCC refuses to close its Title II rulemaking? They have that still open. They are taking information on it. Is it kind of like the little club hanging out there?

Mr. DEREGGI. I think this is really an issue that needs to be solved by Congress. So I think the same thing applies to Title II, that Congress should stop that if that were to happen, and pass laws that are—do the right process.

Mr. WALDEN. I would concur. We—some of us on this committee believe they don't have the authority, the FCC. It has not been granted by this Congress or any other Congress.

Ms. Kovacs, you explained in your statement that networks have a voracious and unending need for capital. Will the net neutrality order hurt the market for capital for network providers? Be sure to turn on your microphone there, ma'am.

Ms. KOVACS. Yes, I think that this rule, if it is implemented at all the way it appears likely, is going to be detrimental because it is going to hit at the revenue sources. It is going to make it easier to cannibalize the network provider's revenues. For example, Skype taking Frontier's voice revenues, driving up the cost of broadband by forcing all of the cost on that. So short version yes, I think it is going to be a problem.

Mr. WALDEN. For capital?

Ms. KOVACS. For capital.

Mr. WALDEN. Ms. Chase, again, thank you for coming, and I would just suggest the members that she does have to leave some time this afternoon to catch a flight back, so she may have to depart before we are done with our questions.

Despite the fact that these rules have never existed previously and the companies you have been involved with and thousands of others have thrived, do I understand correctly that you support these rules because you believe they are needed to ensure that small companies can compete on the Internet?

Ms. CHASE. These rules haven't existed. If we think about the Internet and Internet innovation, it doesn't have a very long life, so indeed, the power of the tel-co's is becoming more and more obvious, and yes, I think it does need protection. And while I didn't have to need that protection when I founded, today we definitely do.

Mr. WALDEN. And you said that without these rules small companies will get squeezed out by larger companies that can pay for priority on the Internet, in effect, correct?

Ms. CHASE. Priority is also classifying what constitutes the Internet, and if we don't have a definition at the FCC, the telecommunications companies can decide what access actually looks like. So I think I could be separated from my market as well.

Mr. WALDEN. The FCC order itself has said this is not going on today, but Ms. Chase, you are worried that that might go on in the future, right?

Ms. CHASE. We typically try to protect small interest from duopolies, and I see this as a duopoly so it definitely needs some oversight.

Mr. WALDEN. So would you be worried if web companies like Google charged Web sites for prioritized placement on the Internet?

Ms. CHASE. I think the FCC ruling doesn't deal with Google right at this moment. I think it is more talking about infrastructure and access to the Internet.

Mr. WALDEN. What would you be worried about that? Are you concerned about that, because somewhere on the end of the pipe somebody is prioritizing, right?

Ms. CHASE. Yes, I could become worried about that.

Mr. WALDEN. And in preparation for this hearing, I did a little search on carshare with Google to familiarize myself with the market, and I was pretty surprised to find that my search resulted in a paid place at the very top of the search list for Zipcar, the company that you founded and ran. So isn't that exactly the kind of issue you are concerned about, in terms of a market leader paying an Internet giant for better access to consumers?

Ms. CHASE. I would say exact opposite. If we think about the old days of newspapers where I, as a rich person, could buy a giant full-page ad on a newspaper and small companies could never afford that, I think that is the parallel that I would like to draw.

Mr. WALDEN. My time is expired. I will give it to Mrs. Eshoo now.

Ms. ESHOO. My thanks to all of the witnesses, an instructive hearing.

First to Ms. Chase, again, thank you for traveling the distance that you have to be here with us. You are an American entrepreneur, an American businesswoman, an innovator. I don't know if my colleagues know this, but Ms. Chase was named by Time magazine as one of the 100 most influential people. So you bring a lot to the table, and I am especially proud that a woman has achieved what you have.

There is a difference at the table. You heard what Dr. Kovacs said, and while I am not going to—I guess I will be paraphrasing. She claims that the rules that the FCC adopted would hit revenue sources, damage capital for investment. Do you want to comment on that, and then I will ask Dr. Greenstein to comment on that, just very quickly because I have several questions.

But would you go the heart of this whole issue of capital formation, businesses thriving or not thriving, whether the rules are helpful or hurtful, and this attempt to—I think there is a virus here in Congress, and it really is not about net neutrality. I think it is about any kind of regulation and whether government agencies have authority to carry out rules through their regulations. I think that is really what is at the heart of this thing. But at any rate, go ahead.

Ms. CHASE. When we think about the core and whether we are protecting the core, the edges and—the core is a duopoly, and so their investment choices—they have no competitive reason to make good investment choices. I think they—we can invest in something or we can cut our costs. We can do more innovations from an operational perspective. There has been an argument that there is only one thing for them to do to improve their system and only one revenue source. There are lots of revenue sources, so I do not buy the argument that just because we are cutting off one particular revenue source that the whole thing crumbles. It doesn't make any sense.

Ms. ESHOO. Thank you. Dr. Greenstein?

Mr. GREENSTEIN. I disagree strongly with the assertion that all the ISPs in the United States have a problem covering the costs of data. First of all, we should recognize that there are different costs and there is a large variety. About 15 percent of the U.S. population lives in low-density areas where it is expensive to run an ISP. In the urban populations and the high density parts of the United States, we had a complete build-out, at least by two wire line providers. That was shown in the national broadband plan. Those firms are really very healthy. They get margins somewhere estimated between 70 and 90 percent; that is to say, of the dollar they collect, something like 70 cents to 90 cents on the dollar goes back to capital investment, the stockholders, the owners, and then the rest of it covers the cost of their data, the costs of customer maintenance, the cost of service.

So given that is the situation, and for 15 years we have been watching the amount of data users ask for go up. I don't really think there is any particular crisis in 85 percent of the population over how much data the ISPs can handle. It is a dollar a month on average—

Ms. ESHOO. I appreciate it. I am going to ask you to stop because I want to get a couple more questions.

Mr. GREENSTEIN. You get the idea.

Ms. ESHOO. To Mr. DeReggi, I mentioned in my opening statement about innovative companies, Netflix and Skype and eBay and how they have flourished. Other companies, thousands of jobs that have been created, not just in my district, my constituent's companies, but across the country.

In your written testimony, you suggest that appropriate network management might be to simply block Netflix altogether. I find that a little chilling, and so—

Mr. DEREGGI. I can explain why. I don't believe—

Mr. WALDEN. Will you turn on your mic?

Mr. DEREGGI. I don't believe in blocking anything without—

Ms. ESHOO. But I mean to block anyone I think is part of the heart of all this, so why would you suggest that an appropriate network management is to block, and then fill in the blank. I mean, you said Netflix, but what—why do you find—

Mr. DEREGGI. If a spammer—

Ms. ESHOO. Wait a minute. Why do you find that to be appropriate, and just real quickly.

Mr. DEREGGI. OK. It is appropriate because you blocked the source of a problem. If the person that is violating your acceptable use policy is Netflix, you block Netflix. It takes less system resources to block them—

Ms. ESHOO. I think this is—

Mr. DEREGGI [continuing]. Than to—

Ms. ESHOO. Frankly, I think this is an ineloquent statement about a school of thought. I just don't agree with it, and I think it would be offensive to consumers across the country. But that is my view and you have yours, so thank you.

Mr. TERRY. [Presiding] Thank you. Dr. Kovacs, do you have a response to Ms. Eshoo's question?

Ms. KOVACS. I would like to—

Mr. TERRY. Microphone, please.

Ms. KOVACS. Sorry about that. I would just like to——

Mr. TERRY. It is still not on.

Ms. KOVACS. OK. I would just like to correct a fact. If you actually look at the margins of the carriers, that income margin is 10 percent for AT&T and Verizon in 2009, 6 percent for Frontier, that is opposed to 28 percent for Google. So I am afraid Dr. Greenstein's numbers are reversed of what he indicated.

To go back to the issue of revenues, I think part of what is being missed is that not only are the companies not being allowed to charge for wholesale carriage, so Verizon or Frontier can't charge Skype for carrying Skype. The revenues that are going to get lost are the revenues—voice revenues that Skype then takes away from Frontier or Verizon or AT&T or the others. The networks are supported by the core revenues. The cable networks are largely supported by video. The phone networks are largely supported by voice. Broadband right now is treated as incremental. If the core revenues go away, broadband will have to carry it all.

Mr. TERRY. I appreciate—I just want to give you that opportunity, but Mr. Cicconi, there was a statement made during the opening statements that this rule is necessary because companies like Verizon and AT&T have hindered or blocked or somehow have interfered with the vibrancy of the Internet and the ingenuity. Can you tell me what policies exist with—have existed with AT&T and would you hinder or block the vibrancy of the Internet?

Mr. CICCONI. Mr. Terry, I don't believe anybody can point to a single instance where AT&T has really done anything of that nature. In fact, I think one can argue that probably no company has made available to consumers more innovations or more choices in the past 5 years than AT&T. The notion that somehow we would have any interest, economic or otherwise, in disadvantaging any businesses represented at this table or frankly any other. I think——

Mr. TERRY. How about blocking? That is a major issue here to put that blocking. How have you blocked access?

Mr. CICCONI. We haven't.

Mr. TERRY. You haven't?

Mr. CICCONI. We have not.

Mr. TERRY. You have not, all right.

Ms. Chase, since you have come so far I want to make sure we use your time. In your statement, you had mentioned that there was an issue with wireless. Could you tell us with your previous company where there were problems with ISPs who were backed on or any part that hindered the ability of that company?

Ms. CHASE. The anecdote I gave about starting in 2000, there is a lot of talk about wireless and it turned out that we were the second application for consumers outside of cell phones. I was very struck then, and as we make this—think about it today that the telecommunications industry was lagging behind innovation, yet they were the gatekeepers so how I could buy data packets.

Mr. TERRY. Did they work with you to make sure that——

Ms. CHASE. No. No, we had to do a workaround for the first 3 years until they offered a different data plan, and it was very arduous. I would also add that in a similar fact, we manipulate black

boxes as we put into cars, there is a permissions process for that, and that was a 3- or 4-month delay while the telecommunications carrier that we were working with—I think it was Verizon—gave us permission to manipulate the box as they saw fit, and that was also a significant delay for us.

So it is better for innovators to not have to ask permission whenever possible.

Mr. TERRY. Would you like to reply? She did say that Verizon and not AT&T, but is that a net neutrality issue?

Mr. CICCONI. That would have been the point I would have made, Mr. Terry. First of all—

Mr. TERRY. Microphone, please.

Mr. CICCONI. I think companies are certainly free to price their services in a competitive market. How they choose to price them, and that may certainly help some companies and hurt others, but that is within their purview in our system.

The second point is none of the things cited with respect would be a net neutrality violation, frankly, under any of the proposals that were on the table, including the ones that we rejected pretty strenuously.

Mr. TERRY. All right, my time is up. At this time I would like to recognize the ranking member of the full committee, Mr. Waxman.

Mr. WAXMAN. Thank you very much, Mr. Chairman.

Mr. Cicconi, I would like to thank you for agreeing to be here today to testify. I know that you and your company have been under pressure to repudiate your past statements about the FCC's Open Internet order. I understand that AT&T would have preferred no rules in this area, but based on your public statements and conversations with my staff, it is my understanding that you think the FCC landed on a reasonable middle ground that removes the uncertainty that was impeding jobs and investment. Is that an accurate description of AT&T's position?

Mr. CICCONI. Yes, sir, it is. We do think it is a reasonable middle ground. I think provided the FCC, as it goes forward, interprets this rule in a narrow way and with appropriate regulatory humility, I think it could also provide the certainty we need in this industry.

Mr. WAXMAN. Your position is very similar to that of the Cable Association. In a letter filed with the committee earlier this week, NCTA CEO Collin Pasquale stated that the cable industry supports the FCC order because, among other things, it "provides greater certainty about our ability to manage and invest in our broadband services today, and those we may deploy in the future."

Professor Greenstein, in looking at the question of whether the FCC should put in place rules to protect the open Internet, my staff reached out to a number of prominent economists. They spoke with professors at NYU, Wesleyan, Stanford, Wharton, and USC, all of the economists shared a common belief in competitive markets, and all suggested that unnecessary regulation can undermine efficient markets. But there was also a consensus around the idea that competition in the market for broadband Internet access services is limited. Most said this lack of competition made the FCC's Open Internet rules necessary and appropriate. Do you agree?

Mr. GREENSTEIN. Yes, I do.

Mr. WAXMAN. You said that the Open Internet rules are essential for growth and innovation of online services. Can you explain?

Mr. GREENSTEIN. The access to the Internet goes back to the founding of the Internet. There has always been a question about who can use it and who has access to the transport level. It goes all the way back to when the NSF net was first prioritized. Congress has to pass an amendment to NSF charter in order to allow for multiple users, and in terms of the economics, there has always been a question of who can use it. The Internet is designed and it has always operated as a network for every user and every potential supplier doesn't have to ask anyone for permission to use it.

Mr. WAXMAN. That leads to growth and innovation in online services?

Mr. GREENSTEIN. Yes. It is great for entrepreneurs, even college sophomores at Harvard.

Mr. WAXMAN. I have heard of one, saw the movie.

Ms. Chase, do you agree? Do you think that open Internet rules are essential for growth and innovation of services?

Ms. CHASE. I absolutely agree, and I think you only have to look at the number of jobs and new companies created over the last 10 years to realize an open innovation—open Internet is the key to our future in America. I think if we close that down and we don't protect the status quo, which is an open Internet, we are putting ourselves in such an anti-competitive position relative to the rest of the world.

Mr. WAXMAN. Thank you. In addition to reaching out to academics, my staff also spoke with economists at the Department of Justice, and we wanted to speak with DoJ to get their reaction to the argument often repeated here, that the issue of net neutrality is better addressed through anti-trust enforcement. DoJ told us that that is not the case, although anti-trust can be useful if a phone or cable company uses its market power to stop a competitor from entering the market, anti-trust law doesn't stop a phone or cable company from blocking Web sites or applications that don't pay for access. According to DoJ, favoring Web sites that they hide fees and degrading Web sites that don't is perfectly legal under the anti-trust laws, as long as the phone or cable company isn't in direct competition with the Web sites being degraded. I don't know who to direct this to, but let me ask you, Mr. Greenstein. Do you agree that anti-trust laws are not sufficient to protect the public against attempts by the phone and cable companies to take advantage of their market power?

Mr. GREENSTEIN. Anti-trust laws are very good for looking at mergers, but at very narrow questions in mergers. That is principally what they are about.

Mr. WAXMAN. Does anybody on the panel disagree with the DoJ position?

Mr. TURNER. Mr. Waxman, I very much agree with Justice on this. There are numerous problems in the marketplace that anti-trust will not govern. Further, the limited selection of problems that anti-trust would govern has been weakened by the Supreme Court's *Trinko* case, so therefore, anti-trust is really no remedy at all to consumers, or producers, in this case.

Mr. WAXMAN. Thank you very much. Yield back my time, Mr. Chairman.

Mr. TERRY. Thank you very much. We will now go to the gentleman from California, Mr. Bilbray. Mr. Bilbray?

Mr. BILBRAY. I would yield to the gentlewoman from Tennessee.

Mr. TERRY. OK. The gentleman yields to the gentlewoman from Tennessee, Ms. Blackburn.

Mrs. BLACKBURN. Thank you, Mr. Chairman, and I want to thank our witnesses for being here today.

Ms. Chase, I wanted to come to you. Your testimony seems a little disconnected to me, and so I was hoping that you could help clear up a couple of things for me. Unless I am missing something, you set up a very successful company using the Internet as it was basically the status quo Internet. You did that without a whole lot of trouble, is that right?

Ms. CHASE. I wouldn't say without a whole lot of trouble at all, but yes.

Mrs. BLACKBURN. Well, you didn't have to overcome horrific odds or anything. You worked your business plan, set it up, and got it in place. So now I hear you saying that what you are wanting to do is to preserve the net neutrality rules that the FCC moved forward on, is that right?

Ms. CHASE. Yes.

Mrs. BLACKBURN. OK. And you are saying you want to do that so that edge companies like yours can innovate—like your current company can innovate. But see, I look at this and I think the Internet without net neutrality rules has worked great for innovators, and now you are wanting to change the rules. So why should the FCC's rules allow you to innovate, and then not other entrepreneurial companies like Mr. DeReggi's over here?

Ms. CHASE. I would say that I would like to see the FCC's rules preserve the status quo that existed when I was doing that innovation, and the—

Mrs. BLACKBURN. Ma'am, there was no federal governance of the Internet.

Mr. DeReggi, do you have a comment on that?

Mr. DEREGGI. Well yes, I think you pretty much summed it up with your statement.

Mrs. BLACKBURN. OK, well then let me ask you this. I have a very rural part of my district, Perry, Wayne, Hickman County where I was last week, they are very concerned about broadband, so speak to me, what do you think is going to happen with broadband investment? These communities need it for education and for economic development, so what should their expectation be?

Mr. DEREGGI. Most likely people aren't going to spend their money if they are not going to get a return on it. I think what people need to realize is that the cost to deploy difficult areas to get broadband is much higher than the cost to deploy broadband to the mass easy areas.

Mrs. BLACKBURN. Let me ask you this, then. Do you have any idea of what the magnitude of jobs loss would be for these areas that are underserved or sparsely populated and can't get it?

Mr. DEREGGI. Well, it is astronomical, but it is also going to lead to the population leaving to other areas.

Mrs. BLACKBURN. OK. Mr. Turner, I wanted to come to you for a minute. I was sitting here looking through everything. Now, Mr. Cicconi, we know he is with AT&T, Mr. DeReggi with RapidDSL, Ms. Chase with Buzzcar, so we know what interests that they are representing, and it is less clear to me whom you represent with Free Press. I think it might be instructive to us as we read your testimony and as we try to figure out, you know, the bias that you bring to the argument. If we—if you could detail to us where Free Press gets its funding.

Mr. TURNER. Certainly, do you want me to do that now or in writing?

Mrs. BLACKBURN. I would love to do it now, and if you want to submit for us the 10 largest supporters of Free Press, I think that would be great. It would be instructive.

Mr. TURNER. Free Press takes zero corporate money. We are completely supported by our members and by foundation support.

Mrs. BLACKBURN. OK, and then will you submit your funding?

Mr. TURNER. Absolutely. I would be pleased to, yes.

Mrs. BLACKBURN. All right, that would be great. I would appreciate that, and with that, I am going to yield back the balance of my time.

Mr. WALDEN. Gentlewoman yields back the balance of her time. The chair now recognizes the gentleman from Massachusetts for 5 minutes.

Mr. MARKEY. Thank you, Mr. Chairman, very much.

Mr. Cicconi, thank you for being here and walking this tightrope that you are here today.

Let me just begin. I heard you say that you feel that the regulations that were promulgated are a fair middle ground. Is that correct?

Mr. CICCONI. Correct.

Mr. MARKEY. And you also testified that as the rules have now been promulgated, that it is going to require no change in the business plans of AT&T, is that correct?

Mr. CICCONI. That is correct.

Mr. MARKEY. And you are also testifying that it is creating a longer-term predictable investment environment for AT&T, is that also correct?

Mr. CICCONI. It is correct. Again, with—provided that the FCC continues to interpret the plain language of the rule in a narrow way, and again, I would hope with appropriate regulatory humility.

Mr. MARKEY. But at this point, you identified that appropriate level of humility, is that correct?

Mr. CICCONI. Yes, sir.

Mr. MARKEY. Yes, and I think that is important for people to hear. Is there a problem? Is there something here that we are trying to cure that actually does not exist? Because obviously, before August of 2005 the non-discrimination principles were there and the Internet grew, expanded, for years until that ruling in 2005. So all these companies, Google, eBay, Hulu, YouTube, Facebook, whatever, all were able to be founded in that non-discriminatory era.

Ms. Chase, from the entrepreneur's perspective, you know, you are here representing thousands and thousands of smaller companies out there now looking at this decision—this potential resolu-

tion that the Republican Majority is thinking of promulgating. What do you think would be the impact in terms of how the venture capital industry, other investors will now view these thousands of companies that are in this space, trying to innovate using the Internet.

Ms. CHASE. If the venture capitalists think that I can't compete because I can't pay for special access or I might be stymied by special rules, clearly they wouldn't invest in us.

Mr. MARKEY. OK, and how many companies are in this space? I don't mean competing against Zipcar, but I am talking just the companies that are dependent as smaller startups?

Ms. CHASE. If we think about innovation and job creation, we know that startups are the ones that created all the jobs in the last 10 years, or 75 percent of them. So I would say a significant number of them.

Mr. MARKEY. OK, now this hope that the anti-trust laws could be used, if you are a small—if you are Zipcar, how long would it take and how much would it cost Zipcar to use the anti-trust process, and what is the likelihood that your vindication would be posthumous from a corporate perspective if a court ultimately did render a favorable decision?

Ms. CHASE. You have made a very good point, that without a body such as the FCC to whom I can turn to to protect me, as a small business, you never sue anybody. You can never enter into that at all.

Mr. MARKEY. Right, and I agree with that. That is a false promise, false protection because the anti-trust laws clearly for smaller companies and 80 percent of all new jobs in America are created by smaller companies, and a disproportionate number of them are now created by companies dependent upon the Internet. So that is where our job creation comes from, and this is a huge decision that the Republicans are now making, intervening into a marketplace where AT&T says they can live with the rules, Comcast says they can live with the rules, and the smaller Internet companies are all saying that they can live with the rules.

Mr. Turner, when you were just asked who do you represent, could a simple explanation of who you represent just be the consumer?

Mr. TURNER. We are a public interest advocacy group concentrated on the interest of consumers, yes, sir.

Mr. MARKEY. On the consumers, thank you. Now, why don't you just expand a little bit on what the impact of a repeal of these non-discriminatory principles could mean for our consumers in the United States?

Mr. TURNER. It could be devastating. Right now I think through Mr. Cicconi's testimony we have learned that there is really no problem the marketplace has with the FCC rules; however, if you remove that certainty, you then create potential discrimination against innovative companies like Ms. Chase. You potentially have companies that would block content, like Netflix, because it competes with their online video products. You potentially have the next Netflix, the next Zipcar not being able to start their business, and consumers ultimately are the losers in that.

Mr. MARKEY. Sir, if you are a kid in a dorm someplace and you have got an idea right now and your girlfriend is over at the business school, and she says maybe I can help you to raise some money right now, what is the difference in terms of the perspective of an investor if you have discrimination or non-discrimination principles on the books in terms of the startup of a small business that would ultimately provide consumers with more choice?

Mr. TURNER. Well, it would create tremendous uncertainty, and I think—we keep hearing, you know, that there was never network neutrality to begin with, but I think that is really an inaccurate view of history. The Internet was born from the principle of non-discrimination. It existed for the 30 years before it even became commercialized, and it existed, as you mentioned, until 2005. It wasn't until that recent change that this got started.

Mr. MARKEY. Thank you. Let me just finish on that point. That was the testimony that we had here from Tim Burners Lee, the creator of the world wide web. He made it quite clear that when he created the world wide web, he baked the principle of non-discrimination into the personality of the Internet. He invented the world wide web. He is still only 54 years old, and that was the first witness that we had 4 years ago before the committee. So we can either give some deference to the investor of the world wide web, which is the basis for all of this commercial activity, or we can just ignore it, but non-discrimination he testified was the central characteristic of the web. Thank you, Mr. Chairman.

Mr. WALDEN. Gentleman's time is expired. Chair recognizes the gentleman from Louisiana, Mr. Scalise.

Mr. SCALISE. Thank you, Mr. Chairman. I appreciate the opportunity to ask some questions of the panel, and especially to have us focusing on this issue, this new government regulation of the Internet, net neutrality, and especially as we deal with the legislation later on today, you know, I am kind of amazed at some of the comments I am hearing not only from some people on the panel, but some of my colleagues on the other side. You know, I am a computer science major and I have watched as this industry has thrived, probably more than any other industry in the world, and it has thrived because the government hasn't figured out how to regulate it, how to mess it up. And yet you have got now a rule coming in by the FCC, this new net neutrality, where the government is coming in and saying we are going to fix the Internet. We are going to come in with regulations to fix the Internet, because boy, if you look all across this country, all the problems our country is facing, if the President really was focused on what the real problems of the country are, he would be focused on creating jobs. If you want to go and find a good template of how to create jobs, go look at the Internet. Go look at these great innovative companies. Go look at these great innovators who dropped out of college and are now billionaires because the federal government hadn't figured out how to regulate in a way that somebody can do just that, can innovate in a way that Ms. Chase and so many others have innovated.

And so now you have got the FCC coming in and saying we are going to regulate, and people are actually saying it is good that the FCC is regulating it to keep the status quo. Well first of all, it is

the other format, the non-regulated format that allowed all of this innovation, that still to this day—by the way, it is not over. Unfortunately with the FCC coming in, there is a big concern in industry of the people who actually invest billions of dollars.

I want to ask you, starting off with Mr. Cicconi, your company is one of the many companies who has invested tremendously. We had testimony a few weeks ago from the FCC, all five FCC commissioners came before us, talking about this new regulation of the Internet, net neutrality. We heard testimony from one commissioner, and nobody disputed it, that over \$500 billion of investment has been made to build the broadband infrastructure that exists today that allows all this innovation, and none of that was taxpayer money, by the way. Maybe that is one of the things that this administration doesn't like. It all happened with private investment.

How much money has your company invested in allowing this innovation and creating and building this network infrastructure?

Mr. CICCONI. I don't have an exact figure in front of me, Mr. Scalise, but last year we invested approximately \$19 billion in capital. I think—

Mr. SCALISE. How much was that? Can you say that again?

Mr. CICCONI. Nineteen billion dollars in capital in the United States, nearly all of that was in the United States, and I think that was more than any other American company invested in the United States last year.

Mr. SCALISE. And that was under non-net neutrality rules?

Mr. CICCONI. Correct, and this year we will invest roughly between 17 and 19 billion dollars in capital again.

Mr. SCALISE. And let me ask you this, because in your statement—I listened to your testimony and you used a number of comments that I thought were interesting. You know, some people act as if you are really thrilled about net neutrality, and maybe some people are thrilled about it, but in your statement you said “all of this, without any real evidence of a problem. It is still AT&T's strong preference to have no regulation. The proposal was extreme and upset the financial markets. You are talking about earlier proposals,” and then ultimately you said “the only proposals before us were either bad or worse.” So here you have got the government coming in and saying OK, first of all, there is no problem. The innovation has never been greater and no industry in the history of the world has seen this much innovation, and so now the government is going to come in and regulate it. But they are going to give you some options and we are going to give you a bad option and a worse option. Well, anybody would say well, I guess I will take the bad option instead of the worse option, and that to some people on the other side constitutes you supporting this new regulation of the Internet.

So I just want to put it in that context, but I ask you, because you expressed this as a concern. There is an assumption by some that the FCC is going to interpret these rules in a very narrow way. What if the FCC does not interpret these rules in a narrow way, which if we are not able to pass our legislation to block the regulation, the FCC would be free to interpret it as broadly as they like. What if they don't interpret the rules narrowly?

Mr. CICONI. I think it depends on the circumstance, sir. Clearly we would reserve the right to challenge that in court, if something were to occur that we feel is inconsistent with the plain language of the rule.

Mr. SCALISE. And I am sure some people would think that is good to have now, companies that innovate that add \$17 billion of their own capital to build out the infrastructure are now concerned about maybe having to go to court to be able to continue innovating.

Let me ask you, Ms. Chase, you know, I appreciate you coming here from France to participate in this. When I did, as the chairman of the subcommittee did, a Google search on carsharing, your company that you founded, Zipcar, came up. Is there anything in this FCC ruling that prohibits you from being able to buy that premiere placement under net neutrality where a startup wouldn't have that same advantage?

Ms. CHASE. I feel like that is not the question at hand.

Mr. SCALISE. Well, that is the question at hand. The bottom line is, you know, maybe you don't want to answer it because you are given now a monopoly. You are now given an advantage over the new startup. I am not as concerned about the companies that are already successful today, being able to innovate as much as the new company, the new idea that we will be blocking from innovating and maybe you would like the idea because under net neutrality, Google is still able to give you preference over the new startup that now is at a competitive disadvantage because of net neutrality.

So I would hope you would not only be concerned about your company's success—

Mr. WALDEN. The gentleman's time is expired.

Mr. SCALISE [continuing]. But also the new startup company that is going to be as innovative as yours.

Mr. WALDEN. Gentleman's time is expired.

Mr. SCALISE. And I yield back my time.

Mr. WALDEN. Chair recognizes the gentleman from Pennsylvania, Mr. Doyle.

Mr. DOYLE. Thank you, Mr. Chairman, and thank you to all the witnesses today.

It is amazing. Maybe sometimes we just don't speak clearly enough, but you know, up until 2005, the transmission component of DSL service was regulated as a telecommunications service. In the dial-up world, companies provided data transmission. They were obviously regulated as a telecommunications service, because the data traveled over phone lines. So you know, to keep hearing statements that there was never any regulation of the Internet and it worked just peachy keen, it just isn't based in any reality.

Dr. Kovacs, I was interested in your testimony. I hear you say that we can't take care of the edge at the expense of the core, and that you feel that these rules that the FCC has put forward would stifle investment in this. Are you aware of the analysis done by the Bank of America and Merrill Lynch?

Ms. KOVACS. I am not, no.

Mr. DOYLE. They came to a different conclusion. How about Citibank that called this FCC ruling balanced? They came to a dif-

ferent conclusion to you. Do you know that Wells Fargo in their analysis of these rules called it a light touch, and that Raymond James also disagrees with your analysis? It seems to me that you are somewhat of an outlier in the field with regards to whether or not this stifles investment in the field.

Let me ask Dr. Greenstein. You have looked at the literature on this and did a literature review. What did you find was, in your review of the literature, was the consensus on the FCC order and its impact on investment?

Mr. GREENSTEIN. It largely doesn't change the practices at most ISPs. We all went home tomorrow. The business—it looked the same as it did a year ago.

Mr. DOYLE. Mr. DeReggi, first of all, I want to say I appreciate your company and the competition that it provides in areas that need it, and I know it is hard for entrepreneurs to come up to this committee and provide testimony and engage in policy matters, so I appreciate the fact that you are here.

But I am a little confused by some of the things that you have said. On prior occasions, you have expressed support for open Internet principles. Specifically in comments that you made to the NTIA and RUS in response to the second round of BTOP funding, you stated that RapidDSL fully endorsed the comments of the Wireless Internet Service Providers Association, and among those associations' comments, it argued that the agency should make clear to any funding recipient that they will agree to abide by the rules the FCC adopts in its ongoing network neutrality proceedings.

So I guess my question is since you agree with applying the FCC's rules to funding recipients, why would you support a wholesale rejection of the rules through a resolution like this?

Mr. DEREGGI. Great question, because the government was paying for the network, not me. Also, I do support an open Internet. The net neutrality rules passed by the FCC is not an open neutral policy. It is a policy that favors content providers and gives it discriminative rights and does not allow those same—

Mr. DOYLE. Let me ask you this. Also you sent an e-mail to then-FCC Chairman Kevin Martin regarding Comcast blocking your traffic, and your quote was "Comcast is a necessary war. It sets the precedent that these net neutrality blocking won't expand as a strategic advantage to harm competitors." You have also expressed support for RapidDSL being subject to rules related to truth in advertising or disclosure of your network management practices. You said that in an ex parte letter to Chairman Genachowski. I guess what confuses me is, if you are in support of some of these FCC rules, such as transparency requirements, why do you want to see the Congressional Review Act be used to invalidate all of the FCC's rule? Wouldn't you—

Mr. DEREGGI. Because they—

Mr. DOYLE [continuing] Prefer Congress to take a more surgical approach to, you know, deal with those things that trouble you but not throw the entire rules out?

Mr. DEREGGI. They don't deal with any of the things that troubled us, so we are a provider too. We are there. Just protecting our competition doesn't help us.

Mr. DOYLE. Thank you.

Mr. DEREGGI. All the claims that I have asked help for, we haven't got that help. The rules don't give us protection—

Mr. DOYLE. But you are here to support a practice that is going to throw all of this up, that which you agree with as well as those things that you have a problem with.

Mr. TURNER, your testimony—you don't support this resolution. You basically think that the FCC didn't go far enough. Would that be an accurate statement?

Mr. TURNER. Yes, sir.

Mr. DOYLE. And Ms. Chase, I just want to say, I see Zipcars all over Pittsburgh. That is the area that I represent, and I think it is really a fantastic service and people use it a lot in Pittsburgh. Just as an entrepreneur and an innovator and a job creator, you know, you are here and you have come a long way to do that. We are policy makers up here, so what is the one thing that you would like to share with all the policy makers up here with regards to the Internet? What do you think Congress should be doing?

Ms. CHASE. We have talked a lot about the stymieing this promoting and will prevent investment for the core, and we—there is a figure here that was thrown out of \$19 billion that was—that Verizon is—AT&T is intending to invest. I would like to point out that the small business contribution to the economy is vastly, vastly larger than any of that, and we are talking about throwing out rules that protect those small businesses from lawsuits that we can't have anti-trust suits that we can't go after. I would also like to suggest that Mr. DeReggi's fears, as he represents a small business and he is also being crushed by the duopoly, and their advantages. So it comes back to this duopoly control of access to the Internet, and not about what happens on the Internet. The Internet itself is inherently open, if we can get there.

Mr. WALDEN. Gentleman's time is expired.

Mr. DOYLE. Thank you, Mr. Chair.

Mr. WALDEN. Chair recognizes the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. It is great to have the panel. We appreciate all the effort to be here.

This is what I have always struggled with, and I think I am going to open up with really Ms. Chase, because I think all of us appreciate a business model that people have an idea of a service that is not being rendered, it is an idea. You all have to develop a business plan and then you go to the markets to raise money. You are assuming risk. Hopefully somewhere down the road there is a return. That is the way the business works. That is the capitalist system. It is great, it is thriving. It is why we have one of the greatest economies in the world, even in a down time.

Why doesn't this work for—let me ask the question this way. If the FCC can control the pipeline by picking winners and losers in intervention, what is the market signal to build out more pipes?

Ms. CHASE. I don't think the FCC is controlling the pipeline to pick winners and losers.

Mr. SHIMKUS. OK, let me ask this question again, and I am not trying to pick a fight. I am saying I want to—where is the market signal if we want to build out more pipes? If there is a government

agency that then can say bad boy, bad girl, usually there is a constrained supply, the market would say you can pay a premium for access. Eventually, the market signal would be what? Build out another pipe, just like—and you have made these decisions in your whole business plan, and that is the way the system—my question is what is the market signal that would encourage build out of more pipes? Because what is a better answer, instead of government regulation, the better answer is build more pipes.

Ms. CHASE. I think there is a variety of answers. Build more pipes might be one of those answers, but I also think it only—

Mr. SHIMKUS. It is the only market answer. I mean, it is the only answer in a competitive market that then private capital would flow to build it. Now, we have an example of government trying to intervene in building this and the stimulus, and we found out that we overbuilt, we incentivize, government-run. We have unserved, underserved areas. The stimulus is a perfect example of how we failed by providing government money to do what the market should do. So let me go—I have got 2 minutes left, and I want to ask Mr. Cicconi—I hope I pronounced that right—

Mr. CICCONI. Yes, sir.

Mr. SHIMKUS. The FCC says that these rules bring certainty to the broadband economy, and certainty in the business model is very, very important. If you have got certainty, you have got lower risk, you can borrow more capital or the cost of capital is less. That is true, right?

Mr. CICCONI. Right.

Mr. SHIMKUS. Isn't the uncertainty that the FCC cure is originally caused by the FCC?

Mr. CICCONI. I couldn't—

Mr. SHIMKUS. Was that unfair?

Mr. CICCONI. No, I don't think so, Mr. Shimkus. I clearly—and I think I reflected this in my opening statement, that you know, I think this rule is a fair and middle ground, but certainly that is fair in comparison with the alternatives that we were facing.

Mr. SHIMKUS. That is great.

I want to end up with Mr. DeReggi, and I appreciate your testimony and to highlight your background, and again, I see a segue to market principles is the best way to provide goods and services to individuals.

But do you believe it is equitable that these rules apply to you but not web companies?

Mr. DEREGGI. I find that to be a tragedy that they apply solely to us and not web companies.

Mr. SHIMKUS. Do you agree with the letter we received from the NCTA, other cable folks that drawing these types of distinctions between broadband providers and web companies no longer makes sense?

Mr. DEREGGI. I would agree.

Mr. SHIMKUS. Great. Mr. Chairman, I am finished. Thank you for the time, and I yield back.

Mr. WALDEN. Gentleman yields back the balance of his time. Chair recognizes the gentlewoman from California, Ms. Matsui, for 5 minutes.

Ms. MATSUI. Thank you very much, and I thank the witnesses for being here today. Mr. Chairman, I thank you for holding this hearing prior to any markup on such an important issue, although I still have reservations regarding the process in which this resolution is moving.

There are far too many unanswered questions to resolve that would undoubtedly lead to unintended consequences on the market. That being said, I strongly oppose this resolution because it undermines market certainty, harms consumers, discourages innovation, investment, and job creation in this country, and does nothing to move our Nation's economy forward.

Mr. Cicconi, it is no secret that over the years AT&T has raised concerns over proposed net neutrality rules. Yet, AT&T took a stance in support of the FCC's order as a CEO and chairman earlier this year that the Open Internet order ended at a place where we have a line of sight and we know we can commit to investments. What are the specific factors that lead you to supporting the FCC's order?

Mr. CICCONI. As I said earlier, Ms. Matsui, I think we are comfortable with the order primarily because it locks this line, we feel, in a more balanced way than the other proposals that were in front of the FCC. I think keep in mind that the two proposals that were there, one was an NPRM that frankly had a discrimination standard in it that we felt was probably a violation of the Telecom Act and certainly didn't have support in the Act. It would have inevitably led to legal challenge. The other was to impose common carriage regulation on these services, again which would have been, I think, a very extreme proposal. We were pleased that the FCC was willing to work with us to try and deal with our concerns, and frankly, deal with the concerns of stakeholders to see if there is a middle ground. Like any middle ground, we are not happy with every part of it. We would have preferred some different language and different standards. We would have preferred nothing on wireless.

Ms. MATSUI. Right, I understand that. We heard from a great number of leading economists in support of the FCC's order. Assuming that the FCC moves forward with the order to ensure rules of the road are in place to protect innovators and consumers, what impact does CRA have on Wall Street.

Mr. CICCONI. I think that is tough to predict, Ms. Matsui, primarily because I think if the CRA were to pass, I think the ball then passes to the FCC, and I think the market reaction would depend heavily on how the FCC then reacted. If the FCC, for example, reacted by deciding that it didn't want to move forward with any further regulations in this area, obviously I think the market would be pleased and that would provide a high degree of certainty. If, on the other hand, the FCC reacted by going back to the still-open Title II proceeding and began that process all over again that we went through this past year, I think it would create a great deal of uncertainty.

So I think the answer to that really rests with the FCC. It doesn't really—it is not really a product of the CRA and what the Congress decides to do on that. It is really more a product of what the FCC decides to do in the wake of that.

Ms. MATSUI. OK, but you are still dealing with uncertainty, though?

Mr. CICONI. Potentially, but again, depending on what the FCC decides to do.

Ms. MATSUI. OK. The FCC Open Internet order includes a meaningful transparency requirement so that consumers and innovators have information they need to make informed choices. I should mention that this transparency rule is widely supported by all industry stakeholders and deemed non-controversial. If this resolution becomes law, the FCC's transparency rule, which simply states that broadband providers must disclose their network management practices, performance characteristics, and terms and conditions of the broadband service to consumers will be eliminated. That would be bad for consumers, bad for business, and bad for the Internet economy.

I have a question for the panel and I would like a yes or no answer, just a yes or no answer. Do you support the FCC's sixth principle on transparency, which would provide consumers, small businesses, and innovators with the information they need to make informed choices? I will start with you, Mr. Turner.

Mr. TURNER. Yes.

Ms. CHASE. Yes.

Mr. CICONI. Yes.

Ms. KOVACS. Yes.

Mr. GREENSTEIN. Yes.

Mr. DEREGGI. Yes.

Ms. MATSUI. OK, thank you for your answer. The FCC order includes a meaningful transparency requirement, which this whole panel seems to agree should be in place.

As our economy continues to evolve, and new emerging economic sectors are growing, a free and open Internet would be vital, one that acts as a framework for industry to follow to ensure that all stakeholders are playing by one rule.

Ms. Chase, you are a leading entrepreneur who relies on the Internet to conduct business. Using your experience, how would the FCC Open Internet order impact emerging new economic sectors like smart grid and health IT, among others?

Ms. CHASE. I think it will have an enormous impact, and that is one of the things I am concerned about.

Ms. MATSUI. OK, thank you. Yield back the balance of my time.

Mr. WALDEN. Gentlelady's time has expired. I now recognize the chairman of the Oversight Committee and the former chairman of this committee, Mr. Stearns, for 5 minutes.

Mr. STEARNS. Thank you, Mr. Chairman. I listened to the testimony of Mr. Waxman and Mr. Markey, and Mr. Cicconi, they have praised you as supporting the FCC approach to rulemaking, and Mr. Markey has phrased you and Mr. Waxman I think are the Democrats. I know that must put you in a little awkward position, having been the ranking member of this committee and working with you and all the consumer groups, as well as others, trying for months to try and work this out and realizing how difficult it was. In reading through your testimony, I think maybe this will clear it up for Mr. Waxman and Mr. Markey a little bit. The chairman of your company, Randall Stevenson, summed up his reaction to

the FCC—this is in your opening statement—his decision, and I thought I would read it because it really, I think, goes to the point and perhaps gets you off the hot seat here, because he is speaking for your company and he said “We would be lying if we said we were pleased with the approach, but it is a place we know we have. We didn’t get everything we would like to have, but I would like to have had no regulation.” That was his point. “I would have liked to have had no regulations, to be candid.”

So Mr. Waxman and Mr. Markey are saying that you folks are just out there touting this approach. I think your chairman has pointed out that if he had his druthers, he would like to have no regulation. Is that still accurate, in your opinion?

Mr. CICONI. That is absolutely accurate, Mr. Stearns. I think this entire debate for many years, but certainly for the past 2 years, has revolved around very difficult questions, which is should one regulate to deal with hypothetical problem, because by and large, that is what we are dealing with, are these hypothetical. It is the hardest thing, I think, for policymakers to decide. If you move into this space, it is very, very hard to draw lines, and this is one of the things that worries us the most about moving into this area. It was stated earlier that, you know, different members of the Internet ecosphere might be regulated in a different fashion, some regulated, some not. Inevitably, the danger there is of course the government gets into picking winners and losers. Our concern, of course, is not only with that but with the fact that the government doesn’t do this very well.

Mr. STEARNS. Dr. Kovacs, in looking through your testimony, the aspect about your opening statement where you talked about the transfer of wealth from broadband Internet access providers to application providers is accurate, but you say it does not seem to grasp the problem for both parties. So you say it provides those who ride the network with a strategically vital financial weapon to use against broadband Internet access who in many cases are their competitors. To put it another way, it takes all bargaining power away from the BIA. You might just confirm that, what you mean?

Ms. KOVACS. A couple of different things. For example, one of the things the FCC did not look at is a situation in which Google might decide to withhold its services from Verizon in Boston, but continue to provide them to Comcast, which would, I think, become a huge problem for Verizon retaining customers. The revenues that are taken away from the voice provider who is also a broadband provider, like Frontier, like Google Voice, Skype, Vonage, all of those represent a transfer of wealth, and they become problematic for Google and et cetera. That means that the network cannot continue to innovate, and I think to me, the really troubling piece of this discussion is the assumption that only the companies at the edge, like Robin’s, need to innovate, but that Mr. DeReggi doesn’t. And in fact, she won’t be able to do her business unless he keeps investing.

Mr. STEARNS. Mr. DeReggi, have you actually read the FCC’s approach to this net neutrality? I mean, have you actually—you or your staff actually taken time to read it?

Mr. DEREGGI. Yes.

Mr. STEARNS. What specifically is in there that you don't like? I mean, can you tell the committee maybe some specifics about it, just briefly?

Mr. DEREGGI. Yes, the thing that I don't like about it most is that it is—everything is a double standard. It does half the problem. For example, I want consumers to have their choice of content, but it doesn't really give that, you know.

Mr. STEARNS. So it is vague in areas you think it should be precise, would that be—

Mr. DEREGGI. Right, exactly. It is also very vague, so because of it, it allows the—it to be interpreted by the person who just happens to be in the office at that specific time who could have a completely different viewpoint of what those terms mean.

Mr. STEARNS. And because it is vague at this point, does it create uncertainty to you in terms of investment?

Mr. DEREGGI. A tremendous amount of uncertainty. I just don't know what to expect.

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. WALDEN. Gentleman's time is expired. Chair recognizes the gentleman from Michigan, Mr. Rogers, for 5 minutes.

Mr. ROGERS. Ms. Kovacs, the FCC claims that the order brings certainty to the market. I am having a hard time finding where the uncertainty was, except for the fact that the FCC was talking about intervening in the market. Doesn't a lawsuit over the FCC's lack of authority bring even more uncertainty into the market?

Ms. KOVACS. The issue is definitely not settled at this point, because of the possibility for litigation and because of the point that Mr. Cicconi made, that we are not going to know what the rules mean until the FCC interprets them one by one. So companies right now really have no idea of what they can do in terms of pricing, in terms of the kind of products they can develop as part of their business plan on the carrier's side, until sort of case law develops at the FCC.

Mr. ROGERS. And that never happens in a hurry.

Ms. KOVACS. Well—no. The whole—I mean, that is—

Mr. ROGERS. So now we have added another layer of uncertainty to the definitive uncertainty that the FCC put into the market in the first place. A little confusing to me. We are just a small construction company back in Michigan. We don't—maybe a little beyond our intellectual prowess to understand how we got to the uncertainty in the first place.

Ms. CHASE, thank you for being here today. I am really interested in your business model. When you negotiate a parking space, say, in Washington D.C. or Philadelphia, is that something the company pays for, is that something that the city gives you? How does that work?

Ms. CHASE. That is a jurisdiction by jurisdiction thing. It is typically done through an RFP.

Mr. ROGERS. All right, so there is—you compensate on most cases or are they given to you in most cases?

Ms. CHASE. I can't speak for what is happening today and I couldn't give that count, but I have paid for municipal parking spaces.

Mr. ROGERS. And so you took advantage, basically, it was a good business model, I think it is a smart business model, but you took advantage of the concrete and the per paid for by taxpayers. You negotiate a much lower rate, and the only reason I say that, I have driven by those spaces and looked with envy as I went around the block 16 times, trying to park my car.

So what you have done is you have utilized taxpayer-funded support networks, the infrastructure, you have utilized that part, taken it off the market for the rest of the taxpayers who paid for it, and for the service business model—I think it is clever, don't get me wrong, but you can clearly see that you are taking advantage of that particular spot, based on someone else's investment, mainly the taxpayer. I find it interesting, because I know you have got several millions of dollars to help you start your company from the federal government. The argument being—I think we found \$6.5 million to date on earmarks to Zipcar. I do believe the figure is larger than that at the end of the day.

So let me make my point, and I will certainly get your response. So you understand why I think advocacy is important and why we should understand advocacy and why people take position. I mean, your company did well, it was certainly helped—financed by the federal government, you are taking advantage of taxpayers buy using their infrastructure and making money off of it. If you get away with that, God bless you. It is capitalism. I am all for it.

But now you are saying we want to do the same thing to the Internet. We want the government to come in to protect me so I don't have to pay for the expansion of the Internet that we know should happen, based on hopefully what we would see as increased volume and more businesses coming into the Internet.

And so that is the part that I find confusing about your advocacy is that—I mean, clearly your business model heavily weighted on subsidies, especially by taxpayers.

Ms. CHASE. Let me just correct a couple of things. I was CEO for the first 3 years. In the first 3 years we took absolutely zero government dollars. As to parking spaces, parking is grotesquely underpriced everywhere. People—citizens park for free on street generally, and if you were to rent that parking space, it would be \$3,000 a month. So it is certainly by no means—I would feel it is uncompetitive that we had to compete with free on-street parking given to residents and we could not access that.

Mr. ROGERS. I am not sure where the free on street parking has begun. Try putting the quarters in. You better bring about 8,000 pounds of quarters to Washington, D.C. But I will just tell you—

Ms. CHASE. Well, so this is not the argument, but to this other piece, sir, I do not think at all that we have sucked at the corporate—at the government tit, in any case. I would say, though, that when I look at market—I have written here that market signals are driven by demand and by competitive pressures, and we can look to the—what we are talking about, which is that the access to an open Internet is gated by two major companies. They may be responding, the market signals might be working for demand but they are not responding to—

Mr. ROGERS. OK, I hear your point. I am running out of time. I hear your point, but you said something interesting. You said if

you can get there, and I completely agree with you. On-ramps and off-ramps are incredibly important. My fear is, and Mr. DeReggi, if you can follow up on this, we have now purposely—because the government now comes in and makes everything nice in theory, and they decide who wins and who loses. Why on God's green earth would you invent—invest in new on-ramps and off-ramps for the Internet.

Mr. WALDEN. Gentleman's time is expired.

Mr. STEARNS. Mr. DeReggi, could you just answer that? I see my time is almost up.

Mr. WALDEN. Very quickly.

Mr. DEREGGI. I pretty much fully agree with you. I am not quite sure how to answer it because I agree with what you have said.

Mr. STEARNS. On-ramps and off-ramps are important to companies like yours, are they not?

Mr. WALDEN. Gentleman's time—

Mr. DEREGGI. On-ramps and off-ramps are definitely important to our company.

Mr. STEARNS. Does this not stifle—

Mr. WALDEN. Gentleman's time—

Mr. STEARNS [continuing]. AT&T and Verizon from investing in new on-ramps—

Mr. WALDEN. Gentleman's time is expired.

Mr. DEREGGI. It definitely does, yes.

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. WALDEN. Gentleman's time is expired. Recognize Mr. Barrow for 5 minutes.

Mr. BARROW. I thank the chairman. I would like to yield my time to the gentlelady from California, Ms. Eshoo.

Ms. ESHOO. I thank the gentleman for yielding his time to me very, very much.

First, Mr. Chairman, I would like to ask unanimous consent request that the following items be entered into the record: a letter to the committee from numerous faith-based organizations, a letter to the committee from Consumers Union, a letter to the committee from Consumer Federation of America, a survey conducted by Consumers Union and Consumer Federation of America, a letter to the committee from the Mountain Area Information Network, known as MAIN, an editorial from the LA Times, an editorial from the New York Times, and an editorial from USA Today.

Mr. WALDEN. Without objection, each of those items have been reviewed by the Majority and are—they will be entered into the record.

[The information follows:]

March 1, 2011

The Honorable Fred Upton, Chairman
The Honorable Henry Waxman, Ranking Member
Committee on Energy & Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Greg Walden, Chairman
The Honorable Anna Eshoo, Ranking Member
Subcommittee on Communications,
Technology & the Internet
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Upton, Ranking Member Waxman, Chairman Walden, and Ranking Member Eshoo:

As the world watches how the Internet has fueled pro-democratic uprisings across the Middle East, we, as leaders and communicators representing many diverse religious traditions, write to share our strong support for Internet freedom here at home. Specifically, we support the Federal Communication Commission's Open Internet rules and urge you to oppose any attempt to repeal these rules through the Congressional Review Act. These rules are important for underserved communities as well as the faith community.

The Internet is a critical tool for nonprofits and other institutions nationwide. In particular, institutional networks such as health care providers and institutions of higher learning, as well as social service agencies and community organizations use the Internet for communication, organizing, and learning. The Internet is an increasingly important tool that helps needy persons access the education and services they need to improve their lives and the lives of their families. In these difficult economic times, the Internet is an essential tool for those seeking to get back on their feet.

Not only are the open Internet rules important for those the faith community serves, it is important for the religious community itself. As the National Council of Churches Communications Commission recently stated, Internet communication is "vital" to faith groups to enable them to communicate with members, share religious and spiritual teachings, promote activities on-line, and engage people—particularly younger persons—in their ministries. As the resolution noted, "Faith communities have experienced uneven access to and coverage by mainstream media, and wish to keep open the opportunity to create their own material describing their faith traditions." Without robust open Internet protections, our essential connection to our members and the general public could be impaired. Communication is an essential element of religious freedom: we fear the day might come when religious individuals and institutions would have no recourse if we were prevented from sharing a forceful message or a call to activism using the Internet.

We are particularly concerned about the way Congress has chosen to address this issue. Members of Congress have already initiated action under the Congressional Review Act to eliminate all open Internet protections. Even for legislators who might not agree with every aspect of the FCC's new rules, the proposed use of the Review Act is extreme.

After many months of public hearings and reviewing thousands of public comments, the FCC last December sought to strike a balance between the needs of Internet providers and the general public. The agency's compromise rules were designed to guard against the most severe forms of abuse. The result

was a set of regulations that competing parties in the industry and public sector were able to support. A number of the new rules are critical to ensuring that all citizens can gain access to high speed Internet. Among other things, the new disclosure rules will make it easier for low-income families to choose an Internet provider at a price they can afford.

In addition to new policies, the rules adopted in December reestablished a number of non-controversial common-sense FCC policies, including protecting the right of an Internet user to access any lawful Internet content. *If the Review Act is used to void the FCC regulations, not only would it restrict the FCC's ability to protect Internet users in the future, it would also dismantle even these limited and essential protections put in place during the Bush Administration.*

We hope that the House and Senate will reject the use of the Congressional Review Act to overturn these important rules. We hope that Congress will instead work to preserve openness online, and to ensure that all people, particularly people of faith, are able to take full advantage of the power of the Internet.

Sincerely,

Andrea Cano
Chair, United Church of Christ, OC Inc.

Rev. Robert Chase
Founding Director, Intersections International

Jodi L. Deike
Director of Grassroots Advocacy and
Communication
Evangelical Lutheran Church in America

Rev. J. Bennett Guess
United Church of Christ, Publishing, Identity,
and Communication

Rev. Dr. Ken Brooker Langston
Director, Disciples Justice Action Network

Reverend Peter B. Panagore
First Radio Parish Church of America

Wesley M. "Pat" Pattillo
Associate General Secretary for Justice &
Advocacy and Communication
National Council of Churches USA
Grady Parsons

Stated Clerk
Office of the General Assembly, PC(USA)

Dr. Riess Potterveld
President, Pacific School of Religion

The Rev. Eric C. Shafer
Senior Vice President, Odyssey Networks

Mr. Nick Stuart
President & CEO, Odyssey Networks

Dr. Sayyid M. Syeed,
National Director, Office for Interfaith &
Community Alliances
Islamic Society of North America

Jerry Van Marter
Director, Presbyterian News Service,
Presbyterian Church
Chair, Communications Commission, National
Council of Churches

Linda Walter
Director, The AMS Agency
Seventh-day Adventist Church

**Resolution on Network Neutrality and Internet Freedom
by the Communication Commission, National Council of Churches USA**

Whereas, the people of our communities of faith rely heavily on the Internet as a means to communicate, share experiences, and build community;

Whereas, many of our faith communities, which also are nonprofit organizations with relatively small budgets, rely on the Internet as a public platform for free speech, equal opportunity, outreach to their members, and ministry and social service to local communities in need,

Whereas, faith communities have experienced uneven access to and coverage by the mainstream media, and wish to keep open the opportunity to create their own material describing their faith and traditions.

Whereas, as faith communicators, we see every day the vital connection between a free and fair communications system and the achievement of important social justice goals;

Whereas, if vital net neutrality protections are not assured by the FCC, large for-profit companies providing Internet services may have a commercial incentive to favor their own content over others and as a result could limit the activity and equal access of members of faith communities and other non-commercial organizations online;

Whereas, we believe the only way to carry out this mandate is for the FCC to ensure that the National Broadband Plan guarantee network neutrality applicable to all types of technology used by citizens to access Internet communications services, both wired and wireless, and equally applicable to the Internet services provided by telecommunications providers, cable providers, wireless mobile Internet access providers, and any other type of technological access to Internet services;

Whereas, network neutrality principles will allow the full diversity of voices to flourish and will be the principle that will make broadband access a meaningful self-empowerment tool driving achievement of these broad social goals;

Therefore, we jointly urge the Federal Communications Commission to take any and all action to adopt network neutrality, including reclassification of broadband services as a telecommunications service, as a fundamental and necessary part of the framework for all forms of broadband Internet service that will protect the freedom of every individual and group to see and hear and send any information they desire.

<http://www.nccusa.org/news/101018netneutrality.html>

Since its founding in 1950, the National Council of the Churches of Christ in the USA has been the leading force for ecumenical cooperation among Christians in the United States. The NCC's 36 member faith groups -- from a wide spectrum of Protestant, Anglican, Orthodox, Evangelical, historic African American and Living Peace churches -- include 45 million persons in more than 100,000 local congregations in communities across the nation. NCC News contact: Philip E. Jenks, 212-870-2228 (office), 646-853-4212 (cell), pjenks@nccusa.org

Consumers Union

Nonprofit Publisher
of Consumer Reports

Dear Chairman Upton, Ranking Member Waxman, Chairman Walden, and Ranking Member Eshoo:

I write to you to express our concerns with H.J. Res. 3, which would undermine the Federal Communications Commission's (FCC's) ability to protect consumers from anti-consumer, anti-competitive practices by Internet access service providers (ISPs). Consumers Union, the non-profit publisher of *Consumer Reports*® magazine, supports the efforts of the FCC and its recently adopted rules as a means to ensure that all Internet users have nondiscriminatory access to the content and services of their choice. Indeed, a recent public opinion poll released by Consumers Union and the Consumer Federation of America finds the majority of the public supports the FCC's efforts to ensure that consumers have such access. We urge you to reject any efforts to adopt this joint resolution so that consumers can benefit from the protections adopted by the FCC.

The Need for the FCC's rules:

History has shown that today's concerns over network discrimination are not unique. For years, firms with market power have used their dominance to censor or discriminate against services or products they did not approve. For example, in the 1960's the Bell companies prohibited "foreign attachments" to their networks. This meant that consumers could only use telephones and other phone equipment approved or manufactured by the phone company. As a result, the Bells were essentially able to discriminate against third party manufacturers by requiring the use of Bell equipment on the Bells' network.

Today, the concentrated ISP market similarly lends itself to use its market power to discriminate against certain types of uses. Proper oversight and net neutrality rules will promote civic discourse, advance competition, facilitate innovation, and ensure competitive and nondiscriminatory access to the Internet.

The ISP Marketplace is not Competitive

The ISP market has increasingly become concentrated. According to the FCC's data, 96% of the population has access to only two wireline ISPs, either the phone company or the cable provider. Unfortunately, according to the FCC's data, competition in the wireline ISP marketplace is not increasing and instead is quickly moving to a monopoly in most markets; that is, only one single, monopoly provider will be able to provide the high-speeds that Internet users are demanding for activities like gaming and video streaming. As much as 85% of the population will have access to only one ISP - the local cable monopoly - that will be able to offer very high download speeds. This considerable market power will make it easy for these ISPs to exercise market power to discriminate against or interfere with the ability of consumers to access certain content or services, especially competing services (such as voice and video), or even censor speech that the ISP may not agree with.

Some will suggest that wireless Internet access will create more competition to the duopoly/monopoly wireline market. However, the prospect of robust wireless Internet access does not in and of itself create a competitor in the market. This is especially true when much of the

ISPs have suggested also that network neutrality rules will affect jobs. However, while earning billions of dollars in profits, some ISPs are still shedding their workforce. The report by the Media and Democracy Coalition found that from 2007-2009, AT&T reported \$36.5 billion in profit, yet reduced its workforce by 20,500 employees during that same period of time. Similarly, from 2007-2009, Verizon reported a profit of \$15.6 billion, but has 19,073 fewer employees than it did in 2006.

No one argues that ISPs as suppliers must earn revenue to deploy and invest in their networks, and it is evident ISPs are earning healthy profits. However, the Internet is only economically valuable if other businesses have unfettered access to the Internet to innovate and sell their products and services in a free and open marketplace. With a low barrier to entry, the Internet allows small businesses and innovators with new ideas to enter the open and free marketplace where ideas will succeed or fail on the merits.

Net neutrality fosters free speech, democratic participation, and social engagement

The most popular aspect of the Internet is its open and interactive features, which facilitates communication by anyone to and from everyone. Regardless of political or social values, an Open Internet increases opportunities for all persons and communities, increases diversity of opinions and thought, and ensures that consumers can engage in and benefit from the opportunities afforded by access to the Internet.

The Internet provides many forums for citizens to connect with each other and express themselves; it not only facilitates citizens' ability to speak to one another, but it also allows citizens to be publishers and speakers as well as readers and listeners. Importantly, the Internet is a medium that supports and enhances the free expression of citizens and serves as a vehicle for democratic governance and economic activities. Unimpeded access to the Internet is an essential component for social, economic, and political discourse.

For these reasons, we urge you to reject any efforts to adopt this joint resolution so that consumers can benefit from the protections adopted by the FCC. The benefits of the Internet have become apparent, and all stakeholders agree upon the basic principle of an open Internet or "network neutrality." However, the debate ensues over the best and most reasonable means to ensure that all Americans can continue to reap the benefits of an open Internet. At its core, the debate over an open Internet is a balancing act between the interests of Internet users (which include entrepreneurs, small businesses, and innovators) and the interests of the ISPs. The net neutrality rules adopted by the FCC present a reasonable path forward for ensuring that balance.

Respectfully Submitted,



Parul P. Desai



Consumer Federation of America

1620 I Street, N.W., Suite 200 * Washington, DC 20006

March 9, 2011

Chairmen Walden and Upton, Ranking Members Waxman and Eshoo,

The Consumer Federation of America is pleased to submit the results of a recent national public opinion poll on Internet access to aid the Committee in its deliberation on H.J.Res. 3, a Resolution of Disapproval to reverse the FCC's rules. The results of this poll show that the public is deeply concerned about network management practices that impede access to the Internet, web sites, applications and content. The public wants policymakers to adopt policies to ensure access because it appreciates the importance of the Internet and the value of unimpeded access to it.

The passage of H. J. Res. 3 would be harmful to consumers and disastrous for the Internet because it would undermine the ability of the FCC to prevent discriminatory, anticompetitive and anti-consumer behavior on the broadband Internet.

There are seven reasons the Energy and Commerce Committee should not vote this resolution out to the floor and the House should not pass it if it gets to the floor – history, technology, law, policy, economics, public opinion and widespread support for the FCC order. The FCC order has garnered widespread support because it is a “light-handed, carefully crafted, approach”¹ that “strikes a balance between Internet service providers’ desire to pursue innovative business models and consumers’ ability to access legal sites and service without interference from their ISPs.”²

The survey findings affirm the long standing commitment of the Consumer Federation of America to an open communications network. With extensive involvement in universal service policy after the breakup of AT&T,³ the Consumer Federation of America became involved in Internet policy in the late 1980s,⁴ when the Internet moved out of the Universities and national laboratories and began to penetrate into society at large. Based on the belief that ubiquitous, open communications networks are vital for both commerce and democratic discourse,⁵ the Consumer

¹ “Network Neutrality, Back in Court,” *New York Times*, March 6, 2011

² “The FCC’s Neutral Net,” *Los Angeles Times*, March 3, 2011.

³ An early examples include: Mark Cooper, “In the Matter of the Petition of the State of Michigan Concerning the Effects of Certain Federal Decisions on Local Telephone Service,” before the Federal Communications Commission, CC Docket No. 83-788, September 26, 1983

⁴ Early examples include: Mark Cooper, Expanding the Information Age for the 1990s: A Pragmatic Consumer Analysis, January 11, 1990; Developing the Information Age in the 1990s: A Pragmatic Consumer View, June 8, 1992; The Meaning of the Word Infrastructure, June 30, 1994;

⁵ Mark Cooper, “The Role Of Technology And Public Policy In Preserving An Open Broadband Internet,” The Policy Implications Of End-To-End, Stanford Law School, December 1, 2000; “Open Access To The Broadband Internet: Technical And Economic Discrimination In Closed, Proprietary Networks,” University of Colorado Law Review, Vol.

Federation of America fought against repeated telephone and cable company⁶ efforts to undermine these most fundamental cornerstones of communications policy in the U.S.

Over two decades ago, the Consumer Federation of America recognized that it was the decentralized decision making of individual consumers that would drive the dynamic development of the Internet and create a consumer-friendly and citizen-friendly communications environment. CFA argued that allowing network owners to reassert centralized control

could set the information age development back by undermining the diversified, innovative process of the current decentralized approach... The fact that a great deal of the necessary intelligence is currently located on the periphery of the information age network has led to a pragmatic, decentralized pattern of development.

Pragmatic: Most of these new innovative services have close substitutes. Why not give individuals maximum flexibility in the choice of equipment and services allowing them to develop applications at the periphery of the network?

Decentralized: Decentralized decisions will select the most cost effective technologies for specific applications.

Periphery: Intelligence is more concentrated in homes and businesses and on the premises of service providers who connect their services through a local transmission network.

Applications: Specific applications will be required to be cost-effective. There will be successes and failures, but the process of trial and error driven by the profit motive will generate lowest cost and minimize public cost risks of network applications.

Individualized: Costs are more highly individualized, borne by those who develop the applications and those who choose to subscribe to them, either through or around the public network.⁷

Notwithstanding the prodigious efforts of the communications companies, until last year they had failed to reverse the policy that prevented discrimination. The ruling by the Court of Appeals for the District of Columbia in the Comcast BitTorrent case could undermine the FCC's authority to prevent discrimination and to promote universal service and access to telecommunications for people with disabilities, as well as implement policies to protect consumers, privacy and public safety.

69, Fall 2000; "Open Communications Platforms: They Physical Infrastructure as the Bedrock of Innovation and Democratic Discourse in the Internet Age, *Journal on High Technology Law*, 2(1) , 2003; *Open Architecture as Communications Policy* (Stanford Law School, Center for Internet and Society: 2004) "The Importance of Open Networks in Sustaining the Digital Revolution," in Thomas M. Lenard and Randolph J. May (Eds.) *Net Neutrality or Net Neutering* (New York, Springer, 2006)

⁶ Early examples include, "Reply Comments Of The Consumer Federation Of America And Consumers Union," before The Federal Communications Commission. In The Matter Of Deployment Of Wireline Services Offering Advanced Telecommunications Capability, Etc., CC Docket Nos. 98-147, 98-11 98-26, 98-32, 98-78, 98-91, CCB/CPD Docket N. 98-15 RM 9244, October 16, 1998. "Petition to Deny of consumers Union, Consumer Federation of America and Office of Communications, Inc. of the United Church of Christ," *In the Matter of Joint Application of AT&T Corporation and Telecommunications, Inc. for Approval of a Transfer of Control of Commission Licenses and Authorizations*, CS Docket No. 98-178, October 29, 1998;

⁷ Expanding the Information age for the 1990s, pp.ES-5, 6, 12.

The FCC reacted swiftly and appropriately in sounding the alarm. Its analysis in the National Broadband Plan had already demonstrated that the goals of the Communications Act in the broadband era have not been achieved. It recommended a host of policies necessary to make progress toward those goals. The National Broadband Plan affirms the urgent need for policy. The network neutrality order clarifies the FCC's authority to pursue the goals.

Our reading of the Federal Communications Commission order in the Broadband Industry Practices Docket (the network neutrality order) leads us to conclude that it provides a platform for preserving the open Internet and pursuing the broader goals of the Communications Act. We believe that under this order, the Commission, the public and those parts of the industry that are committed to preserving the Open Internet have tools that are more than adequate to do so. At the same time, the communications companies have the flexibility to continue to grow and manage the networks that carry high speed data. It is this balance that has created the widespread support that the FCC network neutrality order enjoys.

Widespread Support for the FCC Order

I begin with the widespread support that the FCC order has garnered because it rests on a unique, hard fought compromise. The overwhelming majority of Americans want policymakers in Washington to collaborate and cooperate to implement policies that advance the interest of the nation. This compromise is a perfect example of how to accomplish that goal.

The fact that AT&T's General Council, James Cicconi will testify in support of the FCC order is noteworthy. This is the first time that CFA has been on the same side as AT&T and the cable operators on this issue and we are glad they have seen the light. CFA has been battling to preserve the open Internet for almost a quarter of a century. We opposed the effort of the Baby Bells to reassert centralized control over the Internet in the late 1980s and published our first major analysis of Internet policy in January 1990. When cable operators entered the Internet access business, we opposed their efforts to engage in discriminatory practices.

Consensus and compromise are not easy. There were tough negotiations and compromises were made. The vast majority of Internet access providers believe they can do business under this framework and we believe the consumer interests are protected. We will certainly have to gain experience with and make adjustments in this framework, but we are convinced that the approach taken by the FCC is flexible, consumer-friendly, technology-neutral and pro-competitive.

Furthermore any time the Congress wants to modify the FCC's approach to nondiscrimination, it can do so by passing a law that improves the framework. Simply stripping the authority of the Commission, as this resolution does, makes no sense whatsoever. It will leave the public and the economy at the mercy of the communications companies who have shown time and again, through accident or intent, they are willing to abandon the principle of nondiscrimination.

Public Concern about Practices that Impede Internet Access and Supports for Policies that Ensure Access

Our recent public opinion poll shows that the public overwhelmingly takes a dim view of network management practices that impede their access to the Internet, web sites, applications or content. They want policymakers to adopt policies to ensure access. By a margin of 3 to 1 the public says practices like tiering, paid prioritization, degrading and blocking websites, content and applications are problematic.

The respondents prefer the FCC to take action and the one thing they don't want is for Congress to stop the FCC from taking action. This support for policies to ensure access exists cross all demographic categories and political orientations. Even a majority of respondents who say they are or lean Republican support FCC action.

The three-quarters of respondents, who say the Internet is important to them, expressed the greatest concern about network management practices that impede access and the highest level of support for policies to ensure access. Among respondents who say the Internet is important,

- 78% of the respondents said consumer tiering is problematic (68%=severe problem) in contrast to only 12% who said it is not a bother (9%=not really a bother).
- 70% of the respondents said paid prioritization is problematic (53%=severe problem) in contrast to only 15% who said it is not (12%=not really a bother).
- 62% of the respondents said service degrading is problematic (48%=severe problem) in contrast to only 22% who said it is not (16%=not really a bother).
- 71% of respondents said that blocking service is problematic (58%=severe problem) in contrast to 14% it is not (9% not really a bother).

With respect to policies to ensure access, among the respondents who say the Internet is important

- 59% of respondents agree (42% strongly) with the statement that the FCC should adopt policies to ensure access and only 18% disagree (10% strongly).
- 54% of respondents agree (41% strongly) with the statement that the Congress should adopt policies to ensure access, while 24% disagree (17% strongly)
- In contrast, 45% disagree with the statement that Congress should stop the FCC from adopting policies to ensure access, while only 28% think that Congress should stop the FCC.
- Application of one set of policies to both wireless and wireline consistently receives the highest level of agreement (63% overall, 51% strong).

History

The principle of nondiscriminatory access to the means of communications has always been the cornerstone of the communications networks on which our great continental economy was built. It came over with the very first settlers in the common law tradition they brought with them from England, where it had been the law of the land for centuries. In the late 19th and early 20th centuries, as huge corporations came to dominate the means of communications, the principle was enshrined in legislation – first in 1886 in the Interstate Commerce Act, which codified the principle

for railroads and other physical means of communications, and then in 1910 when the Mann Elkins Act extended the principle to electronic communications. The obligation became the centerpiece of the Communications Act of 1934 in sections 201 and 202.

In 1968 as the Federal Communications Commission was confronted with the rapid growth of data transmission over the nation's telecommunications network, it relied on its Title I authority to ensure that the principle of nondiscrimination applied to data communications. This was the first of a series of orders, known as the Computer Inquiries, that kept data communications open to the public on a nondiscriminatory basis. In the same year the FCC required the telecommunications companies to allow consumers to attach their own devices to the network. This is known as the Carterphone decision.

These two decisions to ensure an open communications network for data were the cornerstones on which the Internet was built. The 1996 Telecommunications Act adopted and codified the definitional and regulatory approach that the FCC had taken. For the first thirty years of its existence, the data that traversed the Internet and reached the public in the U.S. was carried on a network that was required by regulation to operate in a nondiscriminatory manner and delivered to devices that regulation had required the telecommunications companies to allow to be attached to the network.

As communications and commerce merge in the digital information age, the principle of nondiscriminatory access to communications becomes even more important to the health of our economy and democracy than it has been throughout the nation's history.

Technology

From the point of view of technology, the distinction between the Internet and the communications network that transported data traffic was central to the regulatory approach that enabled the Internet to thrive. It was a distinction that was easy to make. The FCC had made just such a distinction for over three decades under the Computer Inquiries. The telephone companies had no difficulty making high-speed data transmission available on a stand-alone basis, primarily to the enterprise market. In the years after the cable modem order hundreds of small telephone companies offered plain vanilla high speed data transmission services to their mass market customers for a fee separate from applications and content. It is hard to argue that the much larger network operators, many of whom had plenty of practice, could not figure out how to make high-speed transmission service available to the mass market on a standalone basis.

In the context of conditions in a merger decree, AT&T agreed to network neutrality provisions that rested on a technological definition that it could easily implement. Indeed, as part of its agreement, it distinguished specific services for which it wanted the ability to prioritize traffic, thereby affirming the distinction between the underlying transmission of data and the service. Comcast has recently agreed to full implementation of the network neutrality order in a merger consent decree, regardless of what happens in the Congress or the Courts.

In the BitTorrent case Comcast demonstrated the ability to distinguish transmission from applications, by singling out a specific application for discriminatory treatment and, when pressed, quickly came up with a nondiscriminatory alternative. Independent third party provision of functionalities that the FCC argued were “inextricably intertwined,” with transmission, like IP address assignment, DNS, caching, etc. is readily available on a stand-alone basis.

Consumers fully understand the difference between data transmission and services, even with respect to the services that the Commission once claimed had to be bundled with data transmission. Thus, the majority of e-mail accounts are with independent service providers who do not bundle transmission and e-mail. Web sites of the top high-speed data transmission service providers are nowhere to be found in the top twenty web sites in general or for specific types of content like news. Even, if we look at the top video web sites, we find that Comcast, the largest broadband ISP ranks 12th and AOL (owned by Time Warner) ranks 13th. Comcast and AOL account for about 2 percent of video views on the web, but they account for close to one-third of all broadband subscribers. Consumers clearly take the data transmission service and use separate applications and content services from independent ISPs. The claim of an integrated bundle was never a technological issue. It is not even a marketing reality. Cable operators routinely market separate services.

Thus, the distinction between data transmission and the Internet are clear. Requiring nondiscrimination transmission of data on communications networks does not involve regulating the Internet.

Law

While the Commission’s authority to regulate high speed data transmission under Title II of the Act was hotly debated for about a decade after the passage of the Telecommunications Act of 1996, its authority to do so under its Title I ancillary authority was never in doubt. Whether or not the FCC could or should regulate high speed transmission as a Title II service was a close call. That it could require nondiscrimination under Title I was settled for over thirty years as a matter of law and practice.

After 30 years of settled practice under the computer inquiries, the issue was litigated new before the Ninth Circuit Court of Appeals in 1999, in *Portland v. AT&T*, when Portland attempted to impose conditions of nondiscrimination on cable modem service. The court concluded that the underlying service was a telecommunications service, which should be subject to the nondiscrimination provisions of the Act. Later that year, the Federal Trade Commission imposed open access requirements on Time Warner as a condition of approving the AOL-Time Warner merger. In 2002, the FCC issued its Cable Modem declaratory ruling, which declared it an information service, in contradiction to the Ninth Circuit decision. Brand X, a small, non-facilities based Internet Service Provider (ISP), appealed the decision to the Ninth Circuit, which affirmed its earlier conclusion that the high-speed data transmission is a telecommunications component of the service.

Beyond the debate over title II authority, both of the orders that classified mass market, high-speed data transmission service as information services presumed that the FCC had ancillary under Title I of the Act to implement the policies necessary to carry out the purposes of the Act. Both orders affirmed that policy was necessary, although they devoted less attention to those issues than they should have. While the Supreme Court review of *Brand X v. AT&T* was pending, the FCC engaged in two acts that seemed intended to quiet fears that classifying high-speed data transmission would undermine the principle of nondiscrimination in telecommunications.

First, Chairman Michael Powell, a vigorous defender of the information service classification, declared that there were four Internet freedoms that should be preserved. These were later turned into a policy statement of the Commission and were proposed as part of a new Open Internet rule. Second, the FCC brought an enforcement action against a small telephone company for blocking Voice over Internet Protocol, an Internet application that competed with its voice service. In the consent decree, Title II authority was invoked twice – section 201 (a) in the introduction and section 208, in the body of the consent decree. In other words, three weeks before the oral argument in the *Brand X* case and less than four months before the ruling, the FCC was using its Title II authority to prevent undue discrimination in access to the telecommunications network. Two years later, the FCC found a cable operator had violated the nondiscrimination policy of the Commission, under its Title I Authority.

At every key point in the regulatory and judicial process, the FCC asserted that it needed and had the authority to implement policies to promote the Communications Act goals under both Titles I and Title II. The assumption, repeatedly made by the Commission, that it would be able to exercise substantial “ancillary” authority under Title I to accomplish the goals provided for in Titles II and III has been called into question by the Comcast-BitTorrent case..

However, when the D.C. Appeals Court overturned the FCC order in the Comcast-BitTorrent case, it made it clear that the legal standard for Title I ancillary authority is well settled. There are half a dozen rulings, some that granted ancillary authority, some that did not, which outline the necessary analysis precisely. The fact the some exercises of ancillary authority were upheld and some denied does not mean that the law is murky. On the contrary, if there is a consistent pattern of what makes for a winning case versus a losing case, it means that the path to winning ancillary authority is straight forward. The D.C. Appeals Court ruling drew the roadmap.

The agency must (1) identify the Congressional policy that governs the FCC action; (2) cite specific authorities elsewhere in the Act that are the nexus for ancillary authority; and (3) explain why the new technology, not covered by the Communications Act, threatens to frustrate the FCC’s ability to implement the authorities in the Act. (4) As a natural outgrowth of the second and third steps, the ancillary authority claimed and exercised must be narrowly tailored to the underlying authority and the specific threat of the new technology. If the FCC makes these four showings, it can assert ancillary authority tailored to the stated purpose.

The D.C. Circuit Appeals court ruling works carefully through the steps of an ancillary authority showing in the Comcast case. It (1) accepted the validity of the Congressional policy goals identified by the FCC, and (2) found the new technology argument plausible; but (3) it noted that the FCC had not identified any specific authority elsewhere in the statute to which the Title I authority would be ancillary. Therefore, the claim for ancillary authority looked like an effort to make a claim that was overly broad. The D.C. Circuit denied ancillary authority as an illegal expansion of FCC authority.

It is interesting to recall that the D.C. Appeals Court noted that the FCC's argument "places particular emphasis on the Computer Inquiries." This is important for four reasons.

First, the Computer Inquiries established the regime of nondiscriminatory interconnection for data transmission that allowed the Internet to grow under Title I, putting the lie to the claim that network neutrality hurts the Internet. Second, the Computer Inquiries validate the principle that voice and video can be invoked to reach the transmission of data. Third, the Broadband Wireline Order, which was the basis for the Comcast complaint, relied on the same theory of ancillary jurisdiction on which the Computer Inquiries were built, but it merely sought to replace the regulatory scheme of the Computer Inquiries with a lighter-handed "Internet Policy Statement." Fourth, perhaps the clearest statement of the legal standard for ancillary jurisdiction made by the D.C. Circuit is with regard the Computer Inquiries, which reaffirmed the long pedigree of Title I ancillary authority.

The crux of our decision in CCLIA was that in its Computer II Order the Commission had linked its exercise of ancillary authority to its Title II responsibility over common carrier rates – just the kind of connection to statutory missing here... In other words, we viewed the Commission's Computer II Order – like the Supreme Court viewed the regulations at issue in *Southwestern Cable* – as regulation of service otherwise beyond the Commission's authority in order to prevent frustration of a regulatory scheme expressly authorized by the statute.

Responding to the D.C. Appeals Court ruling, the recent FCC order provides the missing pieces and reinforces the argument with respect to the goals of the Act by citing several sections of the Act.

- Sections 151, 152, 230, 254 and 706.

The FCC could cite these and many other candidates for the missing piece of specific authority to provide the nexus for ancillary authority because of the policy adopted in the Communications Act.

Policy

As a practical matter, there are many candidate sections of the Act as the basis for Title I ancillary authority nexus because of convergence of communications onto broadband. The expression triple play, so commonly applied to broadband services, refers to voice, video and data. Voice and video (broadband and cable) are the services to which Titles II, III and VI apply. The

FCC's ability to implement the Communications Act policies in the 21st century will be frustrated unless ancillary authority exists. As a legal matter, each of the authorities now identified by the FCC is tied directly to an aspect of the order, which tailors them narrowly, and many of them are tied directly to issues raised in the rulemaking, which makes them directly relevant.

Throughout the regulatory and judicial review of the classification decision, the full implications for all of the goals of the Act were never fully vetted (as demonstrated in the following table). Each of the major orders acknowledged that there might be implications for universal service, consumer protection, public safety, people with disabilities, etc. Each initiated inquiries and notices to investigate those implications, after the fact. The proceedings to investigate the full implications were not completed, which is why each order required another round of proceedings.

The National Broadband Plan, a major report ordered by Congress, filled that gap and affirmed that the goals of the Act have not been achieved with respect to Broadband. The FCC's network neutrality order restores the authority to address these issues and it is moving swiftly to do so in a series of orders. The National Broadband Plan supersedes the Universal Service (Stevens) Report. The National Broadband Report establishes a firm evidentiary basis for immediate implementation of policies to accomplish the goals of the Act, but the uncertainty about FCC authority hampers its ability to do so. Weakening the tools available to achieve these goals would be contrary to clear Congressional intent.

Economics

The focal point of public policy concern about digital connectivity provided by Congress in requiring the National Broadband Plan reflects the growing importance of broadband technology. The concern about simple access as framed in the initial digital divide debate – households not being connected to the Internet – has been replaced by a concern about much more than the availability and affordability of service. As digital, broadband communications become the focal point of innovation and move to the center of economic, social and political life, broadband adoption also considers how the technology is used by the households that have it. The broader concept – digital inclusion – considers the impact of the technology on individuals and society. Success is no longer measured by the counting of the number of households that are passed by the technology, or even whether they choose to subscribe to Internet service, but rather the inquiry goes deeper into the nature and degree of uses of the technology.

The reason that the definition of success has expanded with the penetration of broadband is that digital information and communications technologies (ICTs) have proven to be transformative technologies. Digital technology fundamentally alters the conditions for success across a wide range of economic, social and civic activities at both the individual and societal levels. Simply put, in the 21st century it is extremely difficult for households or societies to thrive without adoption and utilization of broadband to the maximum extent possible.

THE HISTORY AND POLICY IMPLICATIONS OF A CLOSE CALL

Year Event	Policy Implication
1998 Stevens Report	Ambiguous on Classification
1998 Public Interest Groups Petition for Title II Classification	Need for Nondiscrimination demonstrated
2000 Portland v. AT&T Cable: 9th Circuit Court of Appeals finds cable modem service involves telecommunications is subject to Title II	Title II Classification asserted
2000 FTC imposes commercial access condition on AOL-Time Warner	Concern about bottleneck provider expressed
2002 FCC issues Cable Modem Declaratory Order classifying Cable modem service as an information (not telecommunications) service.	Classified Information Service; Title I Authority Asserted, Need to address Communications Act principles affirmed
2003 Brand X v. FCC – 9th Circuit Court of Appeals affirms its in Portland v. AT&T and overrules Cable Modem order	Information Service rejected; telecommunications affirmed
2004 Chairman Powell declares Four Internet Freedoms	Importance of Non-discrimination, Consumer protection affirmed
2005 FCC uses Title II authority to investigate undue discrimination by Madison River	Importance of Non-discrimination affirmed
2005 Supreme Court reverses 9th Circuit (6-3) on procedural grounds and upholds FCC information service classification	Information service upheld, Justices debate Title I authority
2005 FCC extends the Information service definition to mass market, high-speed data transmission services offered by telephone companies.	Title I authority claimed; Need to address Communications Act principles affirmed
2005 FCC turns Four Internet Freedoms into a policy statement	Importance of Non-discrimination, Consumer protection affirmed
2006 AT&T agrees to network neutrality Bell South merger condition	Ability to distinguish service demonstrated
2007 FCC finds Comcast illegally discriminated against peer-to-peer applications.	Need for non-discrimination affirmed
2010 Open Internet Proceeding initiated	Technical ability to offer separate services demonstrated
2010 National Broadband Plan	Need for Non-discrimination stated, Title I authority asserted
2010 D.C. Appeals Court overrules FCC action against Comcast	Importance of Communications Act principles affirmed
2010 Broadband Internet Access Notice of Inquiry	Failure to achieve Communications Act goals documented
2010 Network Neutrality Order Adopted	Title I authority questioned Recognizes important of all Communications Act principles Documents failure to achieve goals of the Act. Establishes “Light-Handed” approach to nondiscrimination, Asserts Title I authority

Recognizing the impact that utilization has on individuals and society leads to the broader concept of digital inclusion. Adoption and use of technology by individuals has benefits at the societal level through network effects and feedback loops creating a virtuous circle of development. The empirical evidence overwhelmingly supports Congress' view that maximum utilization of broadband infrastructure can deliver benefits to households and the nation – consumer welfare, economic growth, worker training, civic participation, e-government services, education, training, community development, ability/disability, and maximum utilization. For at least the last decade, the evidence has overwhelmingly supported the proposition that using digital ITC has a positive effect on a wide range of factors generally associated with economic success at both the individual and societal levels.

For individuals the benefits have been documented for educational attainment, worker productivity, skill, compensation levels, autonomy, and entrepreneurship, especially among women, as well as social development. Being networked is immensely valuable and communications. Differences in usage with broadband compared to dial-up are dramatic. Broadband users are able to accomplish more online and are more active and creative with their online activities than narrowband users. The earlier one adopts, the greater the benefit.

Consumer Sovereignty and Citizen Empowerment and the Success of the Internet

Network management practices that impede access reduce utilization and impose costs on users and society. The engine of economic growth that the Internet provides is driven by the explosion of competition in applications and uses at the edge of network and the freedom that the Internet provides to innovate. Allowing the heavy hand of network operators to stifle competition and innovation with discriminatory practices by stripping the FCC of the authority to prevent discrimination will destroy the essential ingredient for the success of the Internet and slow its engine of growth.

With this background on history, technology, law, policy, and economics, it is clear that those who say the network neutrality order adopted by the FCC is a new form of regulation imposed on the Internet are either ignorant of the history or wearing ideological blinders that will not allow them to see the facts. For over a century, the central thrust and core principle of communications policy in the United States has been to increase the ability of consumers and citizens to speak on an open communications networks. With the convergence of communication and commerce, this principle is more important than ever. This is the worst possible moment to turn our back on that principle.

Therefore, this Committee should reject the Resolution of Disapproval and turn its attention to developing positive policies that will ensure the openness and strength of the communications network that is vital to the continued expansion of the digital information age. We look forward to working with the Committee and the Congress on this vitally important, positive agenda.



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**INTERNET ACCESS AND NETWORK MANAGEMENT PRACTICES:
THE PUBLIC REMAINS CONCERNED AND WANTS POLICIES TO ENSURE ACCESS**

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MARCH 2011

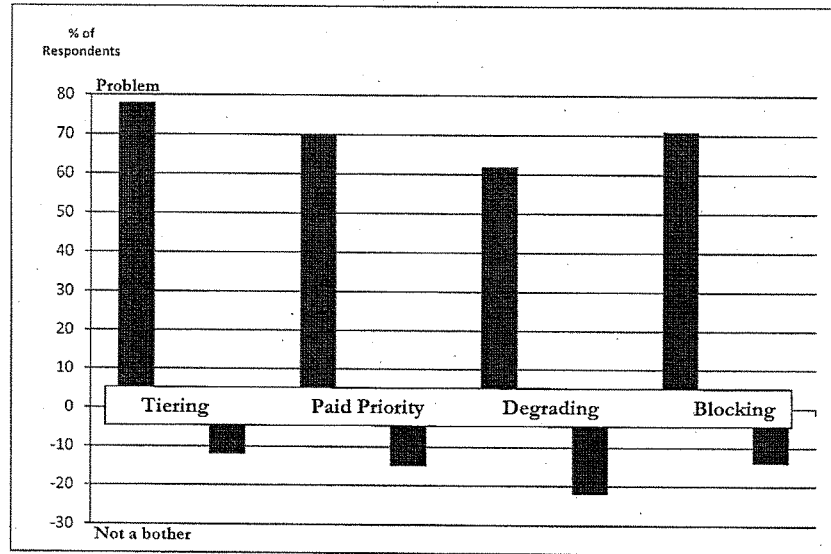
**INTERNET ACCESS AND NETWORK MANAGEMENT PRACTICES:
THE PUBLIC REMAINS CONCERNED AND WANTS POLICIES TO ENSURE ACCESS**

Executive Summary

Problematic Network Management Practices: A national, random sample, public opinion survey conducted for the Consumer Federation of America in February 2011 found that three quarters of the respondents believe that the Internet is important to them. Large majorities of respondents have a negative view of network management practices interfere with their access to the web, applications and content. Respondents are between two and three times as likely to say network management practices, like including tiering, paid prioritization, degrading and blocking, are problematic than say they are not a bother. These findings are based on questions that were originally used in a national random sample poll in 2005 and the results for the 2011 survey are similar to the earlier, 2005 results.

As shown in Figure ES-1, the respondents who said the Internet is important expressed even greater concern about these network management practices. Internet Important Respondents were six times as likely to say the network management practices that involved payment are a problem as not and three to four times as likely to say the service quality management practices are a problem.

**ES-1: ATTITUDES TOWARD NETWORK MANAGEMENT PRACTICES:
INTERNET IMPORTANT RESPONDENTS ONLY**

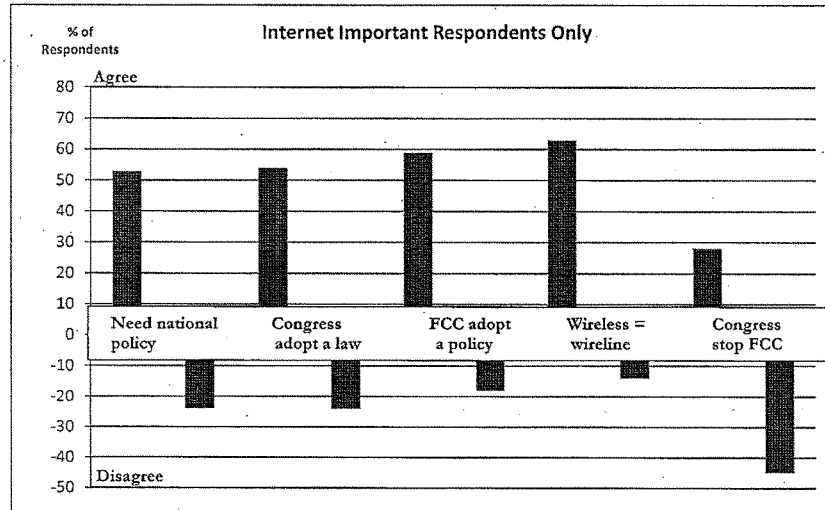


Source: Consumer Federation of America, National Poll, February 2011

- 78% of the respondents said consumer tiering is problematic (68%=severe problem) in contrast to only 12% who said it is not a bother (9%=not really a bother).
- 70% of the respondents said paid prioritization is problematic (53%=severe problem) in contrast to only 15% who said it is not (12%=not really a bother).
- 62% of the respondents said service degrading is problematic (48%=severe problem) in contrast to only 22% who said it is not (16%=not really a bother).
- 71% of respondents said that blocking service is problematic (58%=severe problem) in contrast to 14% it is not (9% not really a bother)

Agreement with Policies to Ensure Access: A majority of respondents supports policies to ensure access. Agreement with statements calling for policies to ensure access exceeds opposition by more than two to one. Respondents who say the Internet is important to them are more likely to support policies to ensure access, but the difference with respect to policy is smaller than it was with respect to perception of network management problems.

FIGURE ES-2: ATTITUDE TOWARD POLICIES TO ENSURE ACCESS



Source: Consumer Federation of America, National Poll, February 2011

- Among the Internet important respondents, agreement with these policies falls in the range of 53% to 63% and disagreement is in the 13% to 24% range.
- In contrast, 45% disagree with Congress stopping the Federal Communications Commission from adopting policies to ensure access, while 28% of the respondents agree that Congress should stop the Federal Communications Commission.

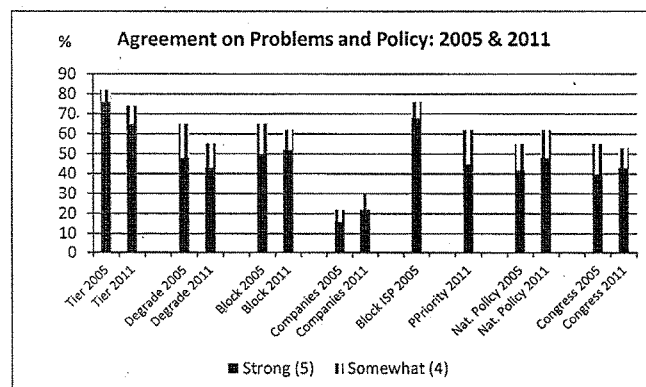
- Application of one set of policies to both wireless and wireline consistently receives the highest level of agreement (63% overall, 51% strong).
- Federal Communications Commission implementation of policies to ensure access receives the second highest level of agreement (59% overall, 42% strong).

Attitudes Toward Company Behavior: The respondents are split with respect to the question of whether the telephone and cable companies would engage in the network management practices that are problematic.

- A little over one third believes they would, a little over two fifths believes they would not.
- However, respondents who believe strongly that companies would engage in the practices and those who believe strongly that they would not, both support policies to ensure access. The respondents who are unsure about what the companies will do are less likely to support policies.

Comparison to the 2005 Survey: Public opinion about network management practices and policies to ensure access in 2011 are quite similar to public opinion in 2005. Figure ES-3 shows the results for the questions from the two polls that are similar or identical. It shows the percentages of respondents who found the network management practice problematic and those who agreed with the need for policy. These were the predominant responses in both polls. In 2005 and again in 2011 we find large majorities concerned about these network management practices and majorities agreeing with the need for policy.

ES-3: COMPARING THE 2005 AND 2011 PUBLIC OPINION POLLS

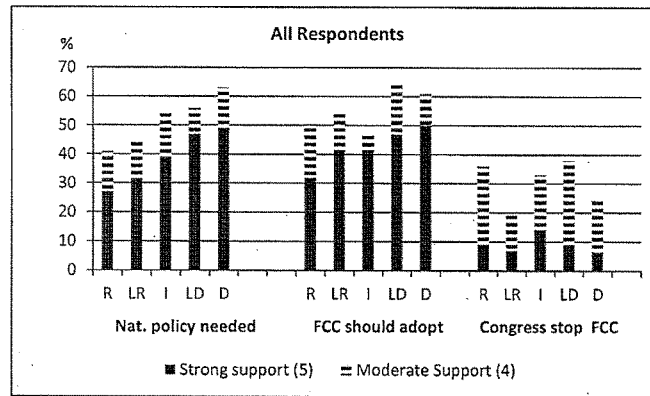


Source: Consumer Federation of America, National Poll, February 2011, October/November 2005

Political Orientation and Attitudes toward Problematic Practices and Policy Responses: Not surprisingly, respondents who identify themselves as independent, leaning Democrat or Democrat are more slightly more likely to view the practices as problematic. The responses vary somewhat

more across the political spectrum in the answer to the general question about the need for a national policy, with the independents and Democrats more likely to see the need. However, with respect to the issue of FCC action or the Congress stopping FCC action, the differences are smaller, as shown in Figure ES-4. Moreover, a majority of the respondent who say they are Republican or lean Republican agree that the FCC should adopt policies to ensure access, while about one-third say the Congress should stop the FCC.

FIGURE ES-4:
POLITICAL ORIENTATION AND ATTITUDE TOWARD POLICIES TO ENSURE ACCESS



Conclusion: The responses to the national public opinion poll show that the public continues to find network management practices that impede their access to the Internet, web sites, content and applications to be problematic. They continue to want policies to be adopted that ensure their access. These responses are similar to the responses from 2005. The three new issues that are addressed in the current survey that reflect recent developments in the debate over access elicit responses that are consistent with the overall tendency of the public to want policies to ensure access. Respondents prefer the FCC over Congress adopting such policies by a small margin. They reject the proposal that Congress should stop the FCC from taking action to ensure access. They express more support for equal treatment of wireless and wireline technologies than any other policy to ensure access.

I. INTRODUCTION

In late 2005, with Congress taking up legislation on network neutrality, CFA, CU and Free Press commissioned a national public opinion poll on the issues. With network neutrality again on the Congressional front burner, we have commissioned another poll on the topic. The public interest groups are responsible for the wording of the questions, with the advice of Opinion Research Corporation, who executes the poll. To the greatest extent possible, we have used the exact questions used in 2005. Where issues have changed slightly we have modified the wording as little as possible to reflect the change.

The questions are posed without preamble or comment. Jargon is avoided and the questions about issues and concerns are stated in the first person. Questions about policy are stated strongly, asking about actions that should be taken. This approach yields a very low number of respondents who refuse to answer or say they "do not know."

All results reported below are based on the weighted responses and include respondents who did not answer or said "don't know," which makes the sample representative of the population.

II. METHODOLOGY

The poll is a national random sample of 1006 adults conducted February 17-20. A standard and full set of demographic questions is provided by ORC, including political affiliation.

The initial question, which provides the introduction to the topic, is to ask respondents how important the Internet is to them (in the 2005 survey this question was followed up with a long list of activities that are conducted over the Internet, which was not included in 2011).

How important is the Internet to you? Is it . . .

- 01 Very important
- 02 Somewhat important
- 03 Not at all important
- 99 DON'T KNOW

We asked questions about four primary issues, as follows (for purposes of comparison, the questions from 2005 are provided in the Appendix):

On a scale of 1 to 5, where 1 is not really a bother and 5 is a very serious problem, how would you feel if . . .

- .01 Not really a bother (1)
- 02 (2)
- 03 (3)
- 04 (4)
- 05 Very serious problem (5)
- 99 DON'T KNOW

- A. The company that connects you to the Internet required you to pay an additional fee on top of your regular monthly fee to reach some web sites or to use certain applications. If you did not pay this fee, your service would not allow you to visit these sites or use these specific applications

- B. Services from your preferred websites, like streaming video, were slowed down by interference from the company that connects you to the Internet
- C. New services that other companies wanted to offer, such as telephone calls on the Internet, were blocked by the company that connects you to the Internet
- D. The company that connects you to the Internet blocks or slows certain website content that you requested unless the content provider pays your Internet provider an additional fee

This question identifies two management practices that involve payment and two that involve service quality. One of the payment practices affects the consumer directly, while the other affects service providers. For ease of presentation in the following Exhibits and discussion, we label the consumer payment as “tiering and the supplier payment as “paid prioritization” (PPriority). The two quality of service practices are labeled “Blocking” and “Degrading.”

To round out the set of questions about “problems” and transition to the questions about policy, we also asked respondents the following question about company practices and whether there is a need for policy (this transition is identical to the earlier survey).

Some people say that the telephone and cable companies would not engage in blocking or impairing access to Internet services from other companies, such as streaming video or Internet telephone calls. Other people say we need a national policy to ensure that these problems don't arise. On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, please tell me whether you agree or disagree with each of the following statements.

- 01 Strongly disagree (1)
- 02 (2)
- 03 (3)
- 04 (4)
- 05 Strongly agree (5)
- 99 DON'T KNOW

- A. The telephone and cable companies would not impair or block services
- B. We need a national policy to prevent these problems

We then asked about public policy options. These reflect the current options on the table (the first option was included in the 2005 survey; the second two have been added to reflect the current situation). The questions are framed as agreement or disagreement with statements about the adoption of policies to ensure access to all lawful websites, content and applications available on the Internet.

Some think Congress should adopt a law to ensure that Internet service providers cannot interfere with their customers' accessing all lawful websites, content and applications available on the Internet.

Others believe that the Federal Communications Commission, or FCC, should adopt policies to ensure that Internet service providers cannot interfere with access to all lawful websites.

Still, others want Congress to stop the FCC from adopting these policies, thereby allowing the Internet service providers to behave as they choose.

On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, please tell me whether you agree or disagree with each of the following statements.

- 01 Strongly disagree (1)
- 02 (2)
- 03 (3)
- 04 (4)
- 05 Strongly agree (5)

99 DON'T KNOW

- A. Congress should adopt a law to ensure access to all legal Internet services
- B. The FCC should adopt policies to ensure access to all legal Internet services
- C. Congress should stop the FCC from adopting policies to ensure people have access to all legal Internet services, thereby allowing the Internet service providers to behave as they choose

In the discussion below we refer to these as policies to ensure access, "national policy," "Congress act," "FCC Act" and "Congress stop the FCC."

Finally, the new policy issue of whether wireline and wireless broadband should be subject to the same policy was addressed with the following question. We refer to this as equal wireless.

Next, please think about wire based services to access the Internet -- things like cable, fiber optic and DSL phone on one hand and services that provide wireless high speed access to the Internet on the other, such as service through a cell phone.

Some people think that the same policies to ensure users can access all lawful websites, etc. that apply to wire based services should also apply to high speed Internet services provided with wireless technologies. Others believe that the technologies are so different they cannot be subject to the same requirements. On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, please tell me whether you agree or disagree the following statement:

One set of policies should apply to both wireless and wire-based high speed Internet service.

01 STRONGLY DISAGREE (1)

02 (2)

03 (3)

04 (4)

05 STRONGLY AGREE (5)

99 DON'T KNOW

III. FINDINGS

Concern about Network Management Practices

We find that approximately four fifths of the respondents say the Internet is important to them and there is a high correlation between those who use the Internet and those who say it is important. As shown in Tale 1, 91.5% of those who say they use the Internet also say it is important. In contrast, 87.3% of those who say they do not use the Internet say it is not important at all. In the analysis below, we will pay special attention to those who say the Internet is important.

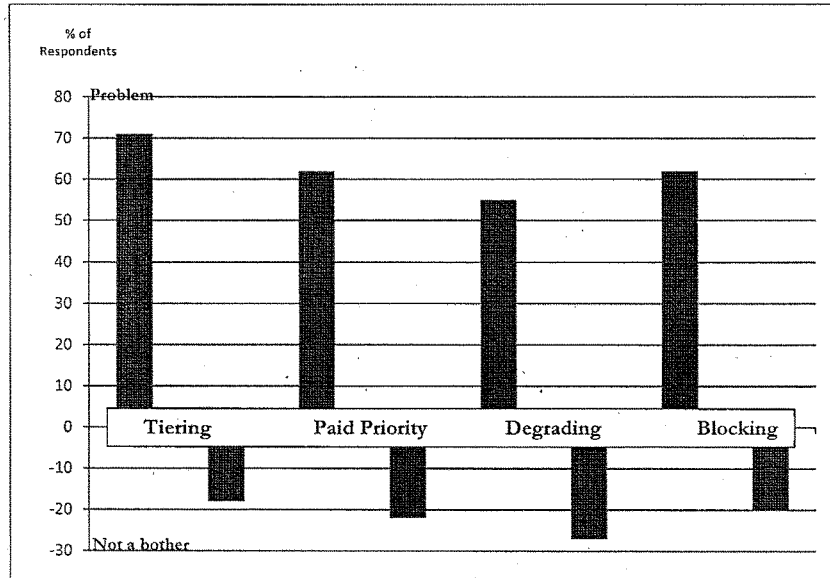
TABLE 1: IMPORTANCE AND USE OF THE INTERNET

		<u>Importance</u>		Total
		Important	Not at All Important	
<u>Internet Usage</u>	Use	91.5%	8.5%	100%
	Do Not Use	12.7%	87.3%	100%

Source: Consumer Federation of America, National Poll, February 2011

As shown in Figure 1, large majorities of the respondents to the poll find each of the network management practices that have been the focal point of recent debate to be problematic. Respondents are between two and three times as likely to say these network management are problematic than not.

**FIGURE 1: ATTITUDES TOWARD NETWORK MANAGEMENT PRACTICES:
ALL RESPONDENTS**



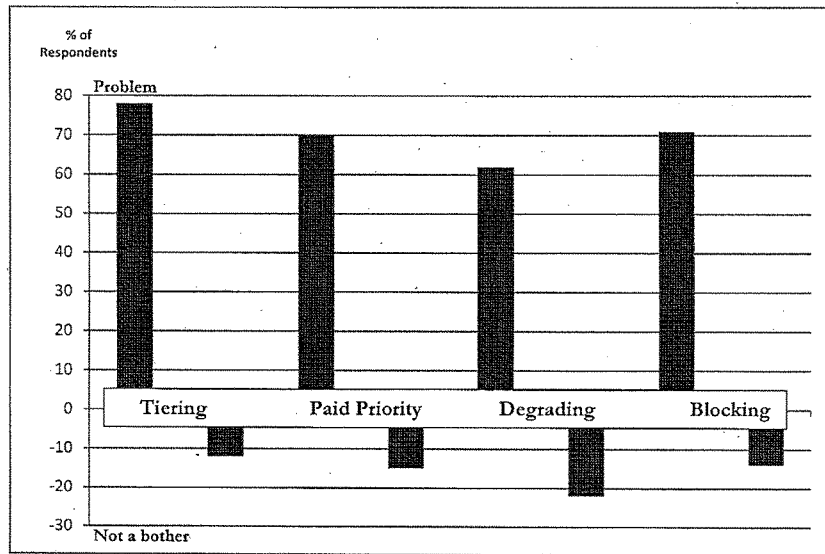
Source: Consumer Federation of America, National Poll, February 2011

- 71% of the respondents said consumer tiering is problematic (62%=severe problem) in contrast to only 18% who said it is not a bother (15%=not really a bother).
- 62% of the respondents said paid prioritization is problematic (45%=severe problem) in contrast to only 22% who said it is not (19%=not really a bother).
- 55% of the respondents said service degrading is problematic (43%=severe problem) in contrast to only 27% who said it is not (23%=not really a bother).
- 62% of the respondents said service blocking is problematic (52%=severe problem) in contrast to only 20% who said it is not (16%=not really a bother).

As shown in Figure 2, respondents who say the Internet is important to them were more likely to view these management practices as problematic and less likely to say they are not a bother. On

average, 7% more of the respondents said they are problematic, while 9% fewer said not they are not.

**FIGURE 2: ATTITUDES TOWARD NETWORK MANAGEMENT PRACTICES:
INTERNET IMPORTANT RESPONDENTS ONLY**



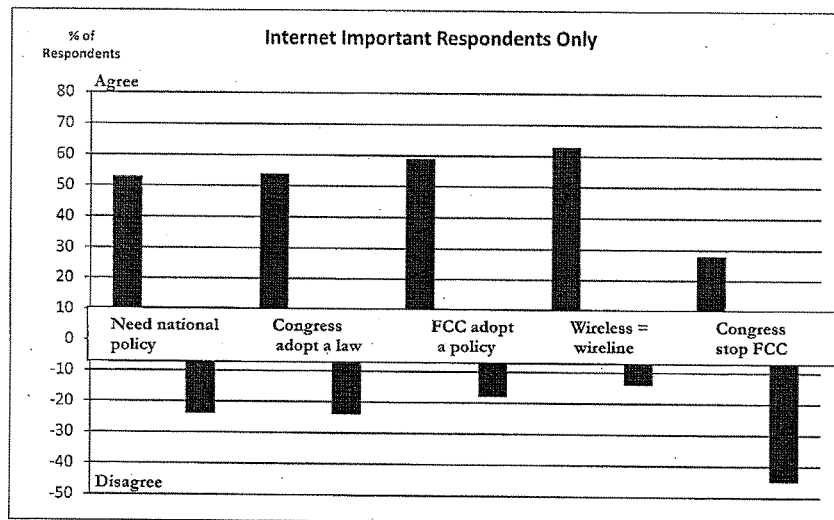
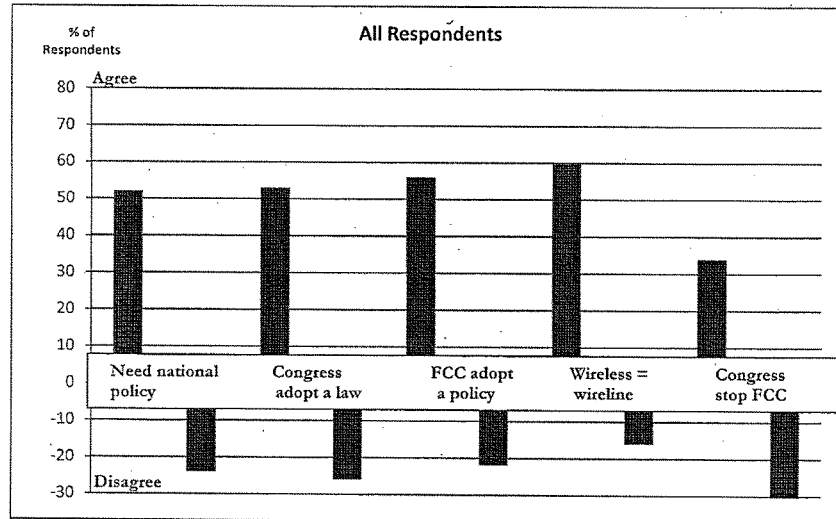
Source: Consumer Federation of America, National Poll, February 2011

- 78% of the respondents said consumer tiering is problematic (68%=severe problem) in contrast to only 12% who said it is not a bother (9%=not really a bother).
- 70% of the respondents said paid prioritization is problematic (53%=severe problem) in contrast to only 15% who said it is not (12%=not really a bother).
- 62% of the respondents said service degrading is problematic (48%=severe problem) in contrast to only 22% who said it is not (16%=not really a bother).
- 71% of the respondents said service blocking is problematic (53%=severe problem) in contrast to only 14% who said it is not (9%=not really a bother).

As shown in Figure 3, the respondents support the adoption of policies to ensure access.

- Clear majorities of the respondents agree with policies to ensure consumers have access,
- Agreement with policies to ensure access exceeds opposition by more than two to one.

FIGURE 3: ATTITUDE TOWARD POLICIES TO ENSURE ACCESS



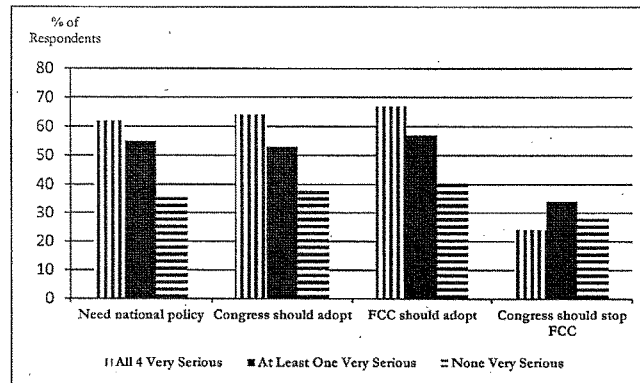
Source: Consumer Federation of America, National Poll, February 2011

Respondents who say the Internet is important to them are more likely to support policies to ensure access, but the difference with respect to policy is smaller than it was with respect to perception of network management problems

- Among the Internet important respondents, agreement with these policies falls in the range of 53% to 63% and disagreement is in the 13% to 24% range.
- In contrast, 45% disagree with Congress stopping the Federal Communications Commission from adopting policies to ensure access, while only 28% the respondents agree that Congress should stop the Federal Communications Commission.
- Application of one set of policies to both wireless and wireline consistently receives the highest level of agreement (63% overall, 51% strong).
- Federal Communications Commission implementation of policies to ensure access receives the second highest level of agreement (59% overall, 42% strong).

Although the perceived importance of the Internet does not have much of an impact on the attitude toward policies to ensure access, perception of the network management practices as problematic does have a large and significant impact. Approximately one quarter of the respondents (26%) say that all four of the network management practices are a very serious problem. Approximately one quarter of the respondents (26%) say that none of the practices is a very serious problem. About one half says that at least one of the management practices is a serious problem. As shown in Figure 4,

FIGURE 4:
PERCEPTION OF NETWORK MANAGEMENT PRACTICES AND POLICIES TO ENSURE ACCESS



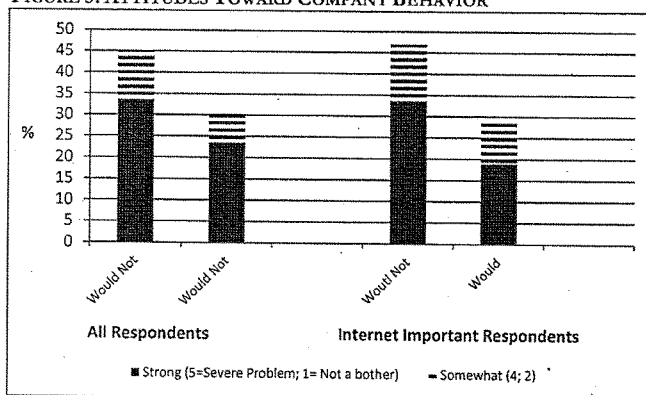
- about two thirds of the respondents who say all four network management practices are a severe problem support policies. This is about 25 percentage points higher than those respondents who say none of the management practices is a very serious problem.

- Over half of the respondents who say at least one (but not all) of the management practices are a serious problem agree with the need to adopt policies to ensure access.

Attitudes Toward Company Behavior

As shown in Figure 5, the respondents are split with respect to the question of whether the telephone and cable companies would engage in the network management practices that are problematic. A little over one third believes they would, a little over two fifths believes they would not.

FIGURE 5: ATTITUDES TOWARD COMPANY BEHAVIOR



Source: Consumer Federation of America, National Poll, February 2011

However, as shown in Figure 6, it is interesting to note, that respondents who believe strongly that companies would engage in the practices and those who believe strongly that they would not, both support policies to ensure access. The respondents who are unsure about what the companies will do are less likely to support policies.

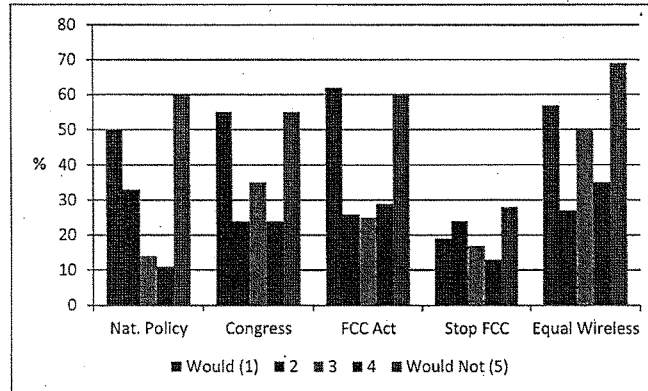
- A majority of the respondents who have a strong opinion about company behavior (either would or would not engage in problematic practices), also strongly support policies to ensure access.
- The support for equal treatment of wireless is also less affected by the attitude toward company behavior than the other two policies examined. The opinion about company behavior has virtually no effect on attitudes toward Congress stopping the FCC from adopting a policy to ensure access. There is little support for stopping the FCC in all categories of attitudes about company behavior.

Then and Now

- Public opinion about network management practices and policies to ensure access in 2011 are quite similar to public opinion in 2005. Figure 7 shows the results for the questions from the

FIGURE 6: ATTITUDES TOWARD COMPANY BEHAVIOR AND POLICY:

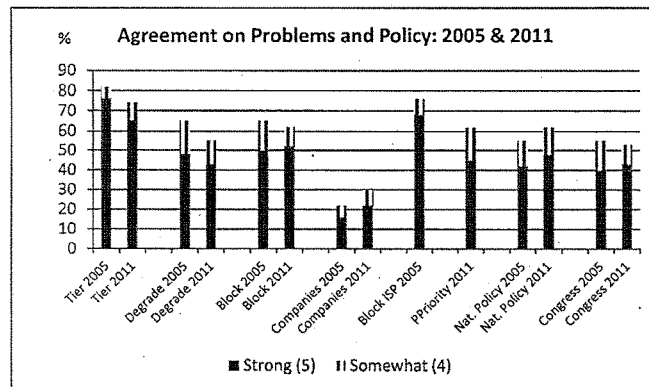
% OF RESPONDENTS WHO STRONGLY AGREE WITH POLICY



Source: Consumer Federation of America, National Poll, February 2011

two polls that are similar or identical. It shows the percentages of respondents who found the network management practice problematic and those who agreed with the need for policy. These were the predominant responses in both polls. In 2005 and again in 2011 we find large majorities concerned about these network management practices and majorities agreeing with the need for policy.

FIGURE 7: COMPARING THE 2005 AND 2011 PUBLIC OPINION POLLS

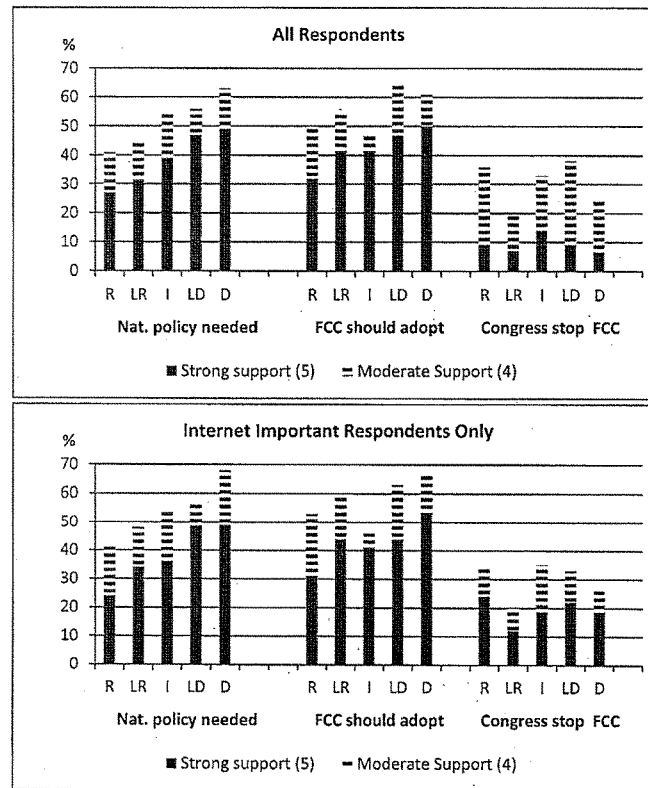


Source: Consumer Federation of America, National Poll, February 2011, October/November 2005

Political Orientation and Attitudes toward Problematic Practices and Policy Responses:

Not surprisingly, respondents who identify themselves as independent, leaning Democrat or Democrat are slightly more likely to view the practices as problematic. The response varies somewhat more across the political spectrum in the response to the general question about the need for a national policy, with the independents and Democrats more likely to see the need. However, with respect to the issue of FCC action or the Congress stopping FCC action, the differences are smaller, as shown in Figure 8. Moreover, a majority of the respondent who say they are Republican or lean Republican agree that the FCC should adopt policies to ensure access, while about one-third day the Congress should stop the FCC. The responses are similar for all respondents and those who say the Internet is important.

FIGURE 8:
POLITICAL ORIENTATION AND ATTITUDE TOWARD POLICIES TO ENSURE ACCESS

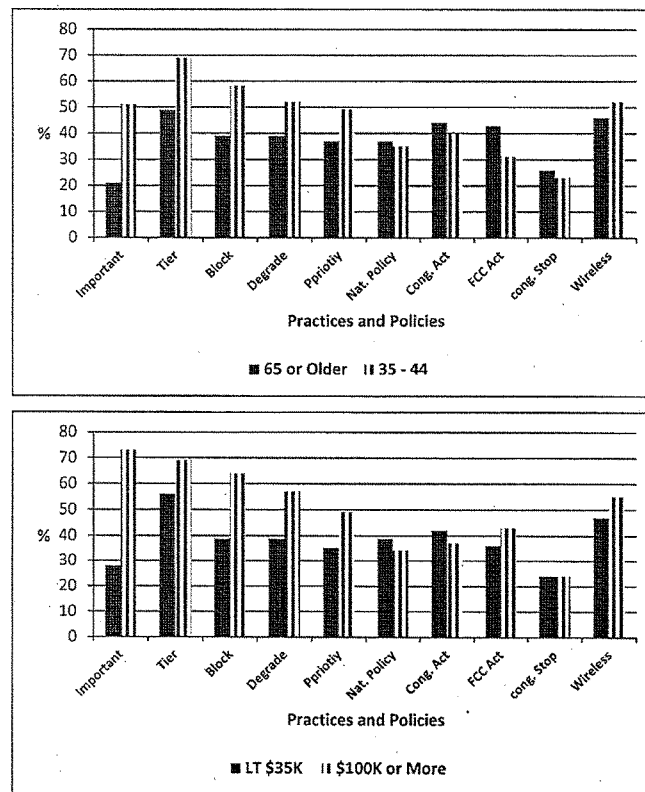


Source: Consumer Federation of America, National Poll, February 2011

Demographic Factors

Demographic characteristics that are widely recognized as being correlated with Internet adoption and use exhibit similar relationship in this survey. The do not alter the findings discussed above. Figure 9 includes the two demographic traits that have the most consistent relationship with the variables studied in this paper – age and income. Education has a smaller number of correlations that are similar although smaller. To demonstrate the effect, we show three percentage of respondents in the most different categories of the variables. The categories make the largest contribution to the statistically significant difference across the variable.

FIGURE 9: STRONG AGREEMENT (5) ON PRACTICES AND POLICIES ACROSS DEMOGRAPHIC GROUPS



Source: Consumer Federation of America, National Poll, February 2011

Although respondent 65 and older are less likely to say the Internet is important to them and less likely to agree that the network management practices are problematic, they are not less likely to agree with the positive policy statement to ensure access. They are somewhat more likely to agree with several of the policy statements.

A similar pattern holds across income categories. Although respondent with incomes below \$35,000 are less likely to say the Internet is important to them and less likely to agree that the network management practices are problematic, they are not less likely to agree with the positive policy statement to ensure access. They are somewhat more likely to agree with several of the policy statements.

CONCLUSION

The responses to the national public opinion poll show that the public continues to find network management practices that impede their access to the Internet, web sites, content and applications to be problematic. They continue to want policies to be adopted that ensure their access. These responses are similar to the responses from 2005. The three new issues that are addressed in the current survey, which reflect recent developments in the debate over access, elicit responses that are consistent with the overall tendency of the public to want policies to ensure access. Respondents prefer the FCC over Congress adopting such policies by a small margin. They reject the proposal that Congress should stop the FCC from taking action to ensure access. They express more support for equal treatment of wireless and wireline technologies than any other policy to ensure access.

APPENDIX: 2005 Question Wording

Now I want to ask you some questions about how the Internet might develop in the years ahead. As a result of recent legal decisions, companies that connect most households to the high-speed Internet, mainly cable and telephone companies, may be allowed to change the way you access the Internet. I'm going to read a list of statements about how you think these changes could affect you.

On a scale of 1 to 5, where 1 is not really a bother and 5 is a very serious problem, how would you feel if . . .
[READ AND ROTATE ITEMS]

Not really a bother (01)

(02)

(03)

(04)

Very serious problem (05)

DON'T KNOW

- A. You were not allowed to use the Internet service provider (like AOL or Earthlink) of your choice
- B. The company that connects you to the Internet required you to pay for an Internet service provider you did not want
- C. Services from your preferred Internet service provider, like streaming video, were slowed down by interference from the company that connects your house to the Internet
- D. New services your preferred Internet service provider wanted to offer, such as telephone calls on the Internet, were blocked by the company that connects your house to the Internet

Some people say that the telephone and cable companies would not engage in blocking or impairing access to Internet services from other companies, such as streaming video or Internet telephone calls. Other people say we need a national policy to ensure that these problems don't arise. Finally, some think Congress should adopt a law to ensure that people can have access to all legal Internet services. On a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree, please tell me whether you agree or disagree with each of the following statements. [READ STATEMENTS]

Strongly disagree (01)

(02)

(03)

(04)

Strongly agree (05)

99 DON'T KNOW

- A. The telephone and cable companies would not impair or block services
- B. We need a national policy to prevent these problems
- C. Congress should adopt a law to ensure access to all legal Internet services



MOUNTAIN AREA INFORMATION NETWORK
The Community Network of Western North Carolina

March 8, 2011

The Honorable Fred Upton
 Chairman
 House Commerce and Energy Committee
 U. S. House of Representatives
 Washington, DC 20515

The Honorable Henry Waxman
 Ranking Member
 House Commerce Energy Committee
 U.S. House of Representatives
 Washington, DC 20515

The Honorable Greg Walden
 Chairman
 Subcommittee on Communications
 and Technology
 U.S. House of Representatives
 Washington, DC 20515

The Honorable Anna Eshoo
 Ranking Member
 Subcommittee on Communications
 and Technology
 U.S. House of Representatives
 Washington, DC 20515

Re: Open Internet Rules

Dear Chairman Upton, Chairman Walden, Ranking Member Waxman, and Ranking Member Eshoo:

The nonprofit Mountain Area Information Network (MAIN) writes to urge your support of the Federal Communications Commission's open Internet rules and your rejection of a resolution of disapproval under the Congressional Review Act.

Founded in 1995 in the "self-help" tradition of rural electric and telephone cooperatives, MAIN is one of the nation's longest-surviving rural Internet service providers. We are among the fortunate few independent, rural ISPs to survive the FCC's "deregulation" of broadband between 2003 and 2005. When the FCC removed "common carrier" rules for broadband services during these years, the independent ISP sector almost disappeared. Only those networks who found a way to offer broadband via Wi-Fi and related wireless technologies have been able to survive.

As a result, today more than 95 percent of all broadband access is controlled by just two industries: cable and telephone carriers. The FCC's deregulatory action between 2003 and 2005 was supposed to usher in a new era of broadband investment, competition, expanded access, and lower costs for consumers. Instead, competition has virtually disappeared, and the crisis of affordable broadband access in rural and other under-served communities has steadily intensified.

In 2008, a bipartisan and unanimous vote at the FCC freed up the vacant TV channels, the so-called "white spaces," for unlicensed use in providing wireless broadband access. Was this a "deregulatory" action because it removed limits on the use of this powerful spectrum? Not if you ask the TV broadcasters! They viewed it as "regulatory overreach" because they preferred the status quo, which would have allowed them to maintain control of this spectrum until they found a profitable use for it.

For wireless Internet service providers, by contrast, liberating this spectrum for use by "mom-and-pop" networks serving rural communities could be viewed as a "deregulatory" victory!

Obviously, one man's regulation can be another man's deregulation. As the old saying goes, it all depends on whose ox is getting gored.

We speak from our 15 years of experience as a rural ISP in one of the nation's toughest wireless environments: the Blue Ridge Mountains of North Carolina. The only hope our rural citizens and small businesses have for robust, affordable broadband is a strong FCC operating, not in the interest of Wall Street-backed carriers, but in the interest of Main Street and the regular folks who struggle to get by in these difficult economic times.

If this move to strip the FCC of its remaining authority over broadband policy succeeds, all rural areas will be completely at the mercy of the big cable and telephone carriers, as we have been since the "deregulation" of 2003-05. Maybe some rural Members do not know this history. If this resolution of disapproval succeeds, you can tell your rural constituents that you saved the Internet from the FCC. But what do you tell them when they ask, "What is the plan for bringing affordable broadband access to our district?"

The FCC has a draft plan; it's called the National Broadband Plan. It's not perfect, but it's a start. If you strip the FCC of its authority over broadband policy, the National Broadband Plan becomes a non-starter. This resolution of disapproval is misguided. We urge its rejection. We have much work to do to solve America's broadband crisis, and it's time to get on with it.

Respectfully,

Wally Bowen
Executive Director

Los Angeles Times | ARTICLE COLLECTIONS

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Editorial

The FCC's neutral Net

The GOP's argument is that the Internet has thrived without government regulation. But the FCC is seeking to ensure that technology and innovation determine which content and services prevail online.

March 03, 2011

Republicans are so determined to block the Federal Communications Commission's proposed Net neutrality rules that they're pulling out a little-used law that gives Congress the chance to second-guess federal agencies before their regulations go into effect. The GOP's argument is that the Internet has thrived without government regulation, so there's no reason to start now. That's a fine sentiment, but the point of the rules is to protect the Net from being manipulated by the handful of giant phone and cable TV companies that dominate the market for home broadband services. Reversing the commission's order would invite those companies to pick winners and losers among websites and services, potentially strangling the openness and innovation that has been vital to the Internet economy.

The commission's neutrality order, adopted in December, strikes a reasonable balance between Internet service providers' desire to pursue innovative business models and consumers' ability to access legal sites and services without interference from their ISPs. The order bars broadband providers from unfairly favoring or disfavoring any lawful sites or applications on their Internet access services, but leaves open the possibility for them to create optional, managed service tiers that give priority to certain types of traffic, such as video from their partners. It also exempts wireless broadband networks, which are evolving rapidly, from most of the new neutrality rules.

House Republicans already voted to bar the FCC from enforcing the order, and two telecommunications companies have asked an appeals court to overturn it. But that's apparently not enough. Soon, a House committee is expected to approve a resolution of disapproval that seeks to block not just the order but any similar FCC action.

The court appeal is a meaningful test, but the resolution of disapproval is more of a gimmick. Under the 1996 law that authorized them, resolutions of disapproval must pass both houses of Congress and be signed by the president. There's virtually no chance that President Obama, who made Net neutrality a campaign promise, will sign a resolution if it somehow makes it way through the Senate, and absolutely no chance of Congress overriding the veto.

Instead, the GOP attack on the Net neutrality order seems intended mainly as a show of force that, win or lose, would discourage the commission from enforcing the new rules. Rather than railing against the evils of regulation, opponents of the order should consider the fact that most U.S. households have access to only one or two Internet providers that offer affordable broadband service. Which content and services prevail online should be determined by technology and innovation, not by the duopoly that acts as a gateway to broadband.

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March 6, 2011

Net Neutrality, Back in Court

It was predictable that a telephone or cable company would challenge the rules proposed last December by the Federal Communications Commission to guarantee that the Internet remains an open network.

Still, the lawsuits filed by Verizon and MetroPCS earlier this year against the F.C.C.'s net neutrality rules are disappointing. The suits fall into a swirl of antiregulatory fervor among Republicans on Capitol Hill. The continuing resolution passed by the House last week forbids the F.C.C. from using any money to put the new rules into effect.

That bill, and the lawsuits, risk stripping away the F.C.C.'s light-touch attempt to ensure that the Internet remains open — an approach carefully crafted in months of negotiations with Verizon and other companies.

The suits could potentially free Internet service providers from regulation — allowing them to treat their own content better than that of rivals, and block content that they didn't like or competed with. Verizon and AT&T have about 60 percent of wireless subscribers. And 80 percent of Americans live in areas with only two wireline broadband providers. In a market with such slender competition, consumers are likely to lose out.

Verizon's argument is simple: it doesn't want the F.C.C. to write rules for the Internet. This is especially true when it comes to wireless, which it views as virgin territory. The question is, should Verizon be allowed to, say, block Web sites that compete with its own services and discriminate at will to pursue its business interests? To us, that should be an area of federal intervention.

Both lawsuits take advantage of a weakness in the F.C.C.'s approach: in proposing new rules for the Internet, it decided to stick to the Bush administration's definition of the Internet as an "information service" rather than reclassify it as a telecom service. The F.C.C. has limited regulatory power over information services, and much more over telecommunications.

In April 2010, the United States Court of Appeals for the District of Columbia Circuit ruled that the F.C.C.'s authority over information services was so limited that past efforts to ensure

network neutrality exceeded its authority. While the commission believes its new rules will survive the court challenge, we fear that its strategy is legally vulnerable. Verizon and MetroPCS are bringing their cases in the D.C. Circuit.

The choice for American consumers is between the open broadband they have come to expect — in which they can view any content from sources big and small — and a walled garden somewhat like cable TV, where providers can decide what we can see, and at what price.



Our view on 'net neutrality': On the Internet, the pipes shouldn't control the content

Updated 1/3/2011 7:24 PM



By Sean Gallup, Getty Images

In 1969 man first walked on the moon. Also that year, a Pentagon office known as the Defense Advanced Research Projects Agency installed the first computer network that would allow scientists, engineers and senior government officials to communicate with each other.

OPPOSING VIEW: Unnecessary intervention

The moon program was a huge success but came to an end in 1972. The computer network, initially known as the ARPANET, received less attention but eventually grew into something bigger even than the moon program. It is called the Internet.

The Internet is a classic case of a mind-bogglingly important technological advance whose significance was at first not understood. Spawned by the government (yes, government), it has been a phenomenal success because no one owns or controls it. It was built on a backbone of common carrier telephone companies that could no more

favor certain content than they could decide which telephone calls should go through.

But after years of investing in Washington and testing the limits of what they can get away with, the descendants of Ma Bell, along with companies that came up through cable television, are demanding the right to pick winners and losers among Internet content. To prevent this from happening, the Federal Communications Commission recently unveiled a sensible set of rules designed to preserve "network neutrality." This would ban the service providers from steering customers to content and applications that they have some stake in, while slowing or blocking access to other content.

Not surprisingly, the broadband companies are up in arms and are getting their backers on Capitol Hill to argue that net neutrality amounts to Big Government and excessive regulation. A plan is already in the works in Congress to block the new FCC plan. A legal challenge is likely as well.

The FCC's critics should cool their jets. This is hardly a case of government overreach or excess regulation. The original architecture of the Internet was created by government and universities. Its usefulness was greatly enhanced over the years by companies such as Intel, Cisco Systems, Microsoft, Apple and Google, much more so than by service providers such as AT&T, Verizon and Comcast. Yet it is now these latter types of companies that are demanding to become its gatekeepers. As Google CEO Eric Schmidt puts it, "You can't have the operators picking the voices."

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If anything, the FCC plan might be too timid. While it would prevent landline broadband companies from favoring, or blocking, certain content, it would leave wireless providers pretty much alone to do as they choose. That has caused a number of consumer groups and Democratic lawmakers such as Sen. Al Franken of Minnesota to oppose the plan. Opposition from both the left and the right suggests that the FCC found the appropriate middle ground.

Broadband companies argue that they need financial incentives to lay the cables and build the networks that will be necessary to handle surging amounts of digital traffic. They are right. And for that reason, they should charge heavy consumers of bandwidth more than they do modest users.

Their argument that increased traffic should give them the right to favor certain content is absurd. It is a bit like an electric utility saying that, to cope with surging demand for power, it should be allowed to require customers to use only appliances that it licenses.

As for members of Congress, taking up the broadband companies' cause might be a good way to raise money. But, ultimately, it is a bad way to foster innovation and economic growth.

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Ms. ESHOO. Thank you very, very much.

It has been said that there isn't any reason for a—for the FCC to have developed these rules of the road and that we are operating in theory. That is not correct, and I don't think that can stand on the record. The Open Internet order was a reaction to specific abuses designed to prevent future problems. Those are the facts. This is not theory; this isn't something that we made up. In 2005, Madison River Communications blocked VoIP on its DSL network. It was settled by FCC's consent decree that included a \$15,000 payment. In 2006, Cingular blocked Paypal after contracting with another online payment service. In 2007, Comcast initially denied and then admitted, after an FCC complaint was filed, that it blocked peer-to-peer traffic. Comcast subsequently changed its practices and the FCC directed Comcast to disclose its network management practices and enjoined it from blocking VoIP. In 2008, Max Plank Institute released a study finding significant blocking of bit torrent in the United States, including efforts by Comcast and Cox. In 2009, RCN entered in the class action settlement agreement in which it acknowledged it blocked degraded or slowed P to P apps. In 2009, AT&T blocked use of iPhone VoIP applications that used 2G or 3G, and in 2010, AT&T blocked use of the slingbox iPhone application on a 3G network.

So we are not operating out in the ether somewhere, and neither is the FCC. So I think it is important to set those things down for the record.

I would also like to make an observation, and again, thank the chairman for having this legislative hearing. What I have heard today is consumers believe that we should not be proceeding with the CRA, and that there is a very important set of standards—light by standard by the FCC that really should be put into place. We have heard from one of the 100 of Time magazine's most influential persons in our country, maybe in the world, Ms. Chase, say that this is not menacing to innovators, that this is helpful and that it is important.

Dr. Kovacs, you are the only one that I really don't get here, in terms of your theory of economics. But Mr. Cicconi, I appreciate the fact that you would come, that you would accept our invitation and say what you have said, and stand where you are standing. I have had disagreements, policy disagreements with AT&T, but we see where Comcast, where AT&T, where small entrepreneurial businesses as well as consumer organizations, as well as economists all weighing in and saying that these rules are not menacing. In fact, what is menacing is this CRA.

So I am glad that we have had this legislative hearing, because it has cast even a brighter light on what the committee is considering doing, following this legislative hearing. I am grateful to all of you, even those whose views I don't entirely either understand or embrace, but that is what makes for a great hearing, and I think that this has been, and I will—oh, right there, almost on the money, used my time.

Thank you, Mr. Chairman.

Mr. WALDEN. Thank you, and I appreciate your comments. For the witnesses' edification and for the committee, we are in the middle of a vote right now so we will recess now and resume the hear-

ing immediately thereafter. Now I know some of you may have to depart, I understand that. Our committee members will probably submit some questions for the record then for those of you that have to leave. Those who don't, we will reconvene, and then after we are done with the round of questions, the final round here, we will then recess briefly so the room can be reset and we will go right into the markup.

And so I would welcome you all to stay around who can, and we will be back after the vote. With that, the committee stands in recess.

[Recess.]

Mr. WALDEN. We are going to call the committee back to order, so if you would like to take your seats, and maybe we can close the doors out to the hallway there. Excellent.

I will call the Subcommittee on Communications and Technology back to order. We are under a hearing on H.J. Res. 37, a resolution disapproving the rule submitted by the Federal Communications Commission with respect to regulating the Internet and broadband industry practices.

We have a couple more members who have been here for the duration who want to ask some questions of our remaining panelists. I appreciate our panelists, by the way, for staying and continuing to participate.

With that, I would recognize the gentleman from Georgia, Mr. Gingrey.

Mr. GINGREY. Mr. Chairman, I want to thank you, first of all, for calling today's actually second hearing on the FCC order on net neutrality. I know that my time is limited, so let me—I would like to proceed with my questions to these industry stakeholders that are present today, and thank you also for your patience.

Dr. Kovacs, before we broke for votes, the distinguished ranking member of the subcommittee had kind of questioned your economic logic in your testimony, but you really weren't given an opportunity to respond to that, so I am going to go to you first and maybe you would want to expound on that and my own questions.

Is there currently some sort of network neutrality crisis warranting government intervention, or do you think we are better off letting the technology and the relationships between and among broadband providers and web companies just continue to evolve?

Ms. KOVACS. Let me try and address those and a whole bunch of questions that came up earlier and went away. I think one of the best ways to answer that question is to look at the last few years and say that both the vast investment in fiber, that is, FiOS, most of the wireless broadband investment has come since the triennial review and since the classification of broadband as an information service.

So to me, it clearly shows that giving the companies flexibility to run their businesses the way they need to run them makes it a lot easier for them to raise capital. It is not clear to me that at this point there is any kind of crisis. Certainly the incidents that have come up that the ranking member referred to were dealt with one-by-one under the old regime.

Mr. GINGREY. Well, if you will let me comment, and I agree. I don't know that there is a crisis. Do you see any market power

analysis in this FCC order demonstrating that there truly is an actual problem and it is not just some speculation that there could be some future harm?

Ms. KOVACS. The FCC looked at an enormous record, and I think we do have to give them credit for having looked at an enormous record in reaching their decision. Having said that, there is not anything like the kind of analysis that you would have an HHI index, that kind of thing, that would be looking even at the transport layer at the broadband access providers, and there is no recognition that wireless actually, in some markets, does serve—and for some market segments does serve as a competitor. So I would disagree pretty strenuously with Ms. Chase's earlier repeated comments about the duopoly.

There is also no analysis at all of anything above the transport layer, so the kind of market power, if there is market power, that Google, for example, has—

Mr. GINGREY. Let me reclaim my time, and I thank you for your answer.

Ms. KOVACS. Sure.

Mr. GINGREY. I mean, it is certainly nothing that I would think rises to the level of what the President said in his Executive Order recently in regard to rulemaking and what standards need to be met in regard to cost benefit analysis.

Mr. DeReggi, the testimony delivered earlier by Ms. Chase—I am sorry she had to leave—but she stated that eliminating the FCC's network neutrality rules will put future entrepreneurs and small businesses at a significant disadvantage. Based on your testimony, I can tell that you are in disagreement with that characterization. In fact, you go as far to say that the FCC order will—and I think I will quote you—"result in fewer jobs and indeed stifle innovation."

So in addressing Ms. Chase's testimony, can you describe why the FCC order will do just the opposite of what she characterized?

Mr. DEREGGI. Let me share my hometown of Bernardsville, 70 out of the 300 homes operate home-based businesses. That was made possible because of three megabit broadband shared by 50 homes, which we provided. Broadband provides jobs, not HD video.

When Netflix started streaming across that network, it compromised the businesses in our town. I had no choice but to slow Netflix. That is it.

Mr. GINGREY. Well, has there been a lack of innovation in the absence of government regulation over the Internet during the past decade?

Mr. DEREGGI. Repeat the question?

Mr. GINGREY. Has there been a lack of innovation in the absence of government regulation over the Internet during this past decade?

Mr. DEREGGI. Absolutely not.

Mr. GINGREY. Is this a hammer looking for a nail?

Mr. DEREGGI. Exactly.

Mr. GINGREY. Mr. Chairman, I realize my time is expired and I yield back.

Mr. WALDEN. I appreciate the gentleman's participation. Now recognize the gentleman from Kentucky, Mr. Guthrie for 5 minutes.

Mr. GUTHRIE. Thank you, Mr. Chairman.

Mr. Turner, Mr. Markey's questioning established that you are here on behalf of the consumer. Do you think that the web content should also be regulated, or do you think it is sufficient that just the Internet providers are regulated?

Mr. TURNER. Well, we come at this from the perspective of economics. I am sure Dr. Greenstein can speak to this. There are tremendous fixed costs to providing broadband networks. There are very high switching costs for consumers in those markets. There is nothing preventing this consumer going one click away to another Web site, so think they exist in different markets.

That is not to say there isn't problems with market power in those markets, but I don't think that the FCC in the context of its authority over communication by wire or radio should really be the ones looking at that. But certainly, we would welcome—

Mr. GUTHRIE. So they should address that market power in that place that the one has more than the other?

Mr. TURNER. Well again, there is—there potentially is market power in the search markets, but it is not the same from a consumer perspective in terms of switching costs, nor from the barriers to entry for other competitors to come in. If you have a good idea for a search algorithm, it is very easy for you to start a search engine today. It is not the same for someone to go build a network next to AT&T.

Mr. GUTHRIE. OK, thanks.

Mr. Cicconi—Dr. Kovacs, you said it was going to be more difficult for capital for people to enter the market because of this rule. Now, would that affect AT&T and Mr. Cicconi more, or would that affect Mr. DeReggi and his smaller business more?

Ms. KOVACS. It would affect smaller businesses more, obviously, and—

Mr. GUTHRIE. I knew that too, I just wanted to get the answer—

Ms. KOVACS. I also, if you will allow me just to comment on switching costs. If it is that easy for anyone to enter the search business, why have companies like Microsoft, for example, not been able—or Yahoo not been able to very effectively challenge Google?

Mr. GUTHRIE. That is a fair point. That is what I was getting at as well. Thank you so much.

Mr. Cicconi, I know Mr. Shimkus asked—we have used the word uncertainty I don't know how many times here today. I still haven't figured out in the marketplace, and you said this brought certainty to a business. What in the marketplace was there uncertainty about? I know in general there is uncertainty in the marketplace, but what in the marketplace did this rule—may bring certainty to your business?

Mr. CICCONI. Well, I think, Mr. Guthrie, the uncertainty that was roiling these markets was largely the result of the prospect of pretty heavy-handed regulation by the FCC to implement net neutrality. They had a notice of proposed rulemaking out there in the fall of 2009 that was very specific and very onerous, and that was

followed by a proposal that was laid out in spring of last year that was even more onerous and heavy-handed.

Mr. GUTHRIE. But there wasn't something in the marketplace they were trying to solve that is real—a real problem in the marketplace today they were trying to solve?

Mr. CICONI. Well—

Mr. GUTHRIE. If you don't want to go there, that is OK.

Mr. CICONI. I think it is fair to say that, you know, that the uncertainty that has been created over the years in this debate, and I think we should stress that the debate over net neutrality and the authority the FCC should have in this area didn't just start in January of 2009. It has been going on for 5 or 6 years. It got worse in 2009 and 2010, but we do feel that this rule, you know, addresses much of the uncertainty that that debate helped cause.

Mr. GUTHRIE. Unless the new FCC wants to go further, which is unsettled.

Mr. Greenstein, you said—what is the number you said, 70 to 90 cents of every dollar, is that the gross profit is what you were—

Mr. GREENSTEIN. That's the gross margin.

Mr. GUTHRIE. Gross profit in typical Internet service providers?

Mr. GREENSTEIN. Gross, so that doesn't account for—

Mr. GUTHRIE. Gross profit. Now when you said that, Mr. DeReggi, you were shaking your head no. Why were you shaking your head no?

Mr. DEREGGI. I just wish and dream that I could have those type of profit margins.

Mr. GUTHRIE. Gross profit. Your gross profit is not that right?

Mr. DEREGGI. No, gross profit is not that high. That would barely—revenue barely covers the antenna co-location costs, let alone a profit. If we are lucky, we can get legal and pay permit fees. No, I don't think so. Some business models may have those costs, but all WISPs aren't uniform. There are different costs to provide service to different places in the country.

Mr. GUTHRIE. Thank you.

Mr. Greenstein, that number—

Mr. GREENSTEIN. Yes, I just got this from UBS and from Craig Moffett at Bernstein. These are authorities. I am just quoting somebody else.

Mr. GUTHRIE. OK.

Mr. GREENSTEIN. And I think it is largely for wire line ISPs, so that is quite different than his business.

Mr. GUTHRIE. OK, I just wanted to establish that.

Ms. Kovacs—Dr. Kovacs, I am sorry.

Ms. KOVACS. Not to get arcane, but he is talking about gross margin, which is when you removed only some part of the—and then there is a huge amount of other costs that have to be covered. So again, net income is in the 5 to 10 percent range.

Mr. GUTHRIE. So—

Ms. KOVACS. Which is what goes back to the shareholder.

Mr. GUTHRIE. Net income is what you have to go to your investors with, isn't it?

Ms. KOVACS. That is what goes back to your investors, exactly.

Mr. GUTHRIE. I yield back.

Mr. WALDEN. Thank you, gentleman's time is expired.

I recognize the gentleman from California, Mr. Bilbray, for 5 minutes.

Mr. BILBRAY. Thank you, Mr. Chairman.

Mr. TURNER, you indicated in your testimony that you really don't think the FCC has gone far enough on this, and I assume that means that you would prefer the FCC to have gone and reclassified into Title 2?

Mr. TURNER. Well look, I recognize that net neutrality appears messy, and it is really because it is a band-aid to what the earlier FCC—

Mr. BILBRAY. OK, well I am just wondering about this. I am trying to find the line. In your opinion, would the Title 2 be a better option for us to be going down, rather than stopping at this level?

Mr. TURNER. You may not be aware, but much of the large business enterprise market for broadband is today regulated lightly under Title II. Mr. Cicconi's business—

Mr. BILBRAY. My point is that you would like to expand that and bring it into this field?

Mr. TURNER. Well, I think by doing that, the WISP Association which Mr. DeReggi was a member of, they would actually probably prefer that because it takes away the regulation on the Internet service provider layers and—

Mr. BILBRAY. So your support for going to Title 2 is because the business—some in the business community would like that?

Mr. TURNER. My support for Title II is because that is what Congress adopted in the 1996 Telecommunications Act. It is the law of the land.

Mr. BILBRAY. Well, I don't normally associate with someone who was on the committee at that time that some of this is an interpretation.

I got to say one thing. Let me just say one thing. I know—I just think that I want to clarify something. There was a comment made earlier—Mr. Turner, have you ever run for elected office?

Mr. TURNER. I have not, no.

Mr. BILBRAY. You have never gotten a vote? OK. Mr. Chairman, I just want to clarify. There are statements made here that Mr. Turner represents consumers. Now people around the world are standing up and demanding the right to elect their representatives. And it is not just on Mr. Turner, we do this all the time. I am sorry, in this country, you elect your representatives. I really think it is quite inappropriate from this gentleman's point of view for us to be in this institution and basically assume that people represent someone without that person being—having the right to choose who represents them. Self-declared representatives is what Libya is fighting against right now.

So I just want to say in all fairness, nothing personal. It is something we do in this institution that is quite inappropriate, I think, seeing the makeup of this institution.

So that—

Mr. TURNER. I meant no offense, sir. We do have 550,000 members that I do represent that are consumers.

Mr. BILBRAY. Right. OK, and you say that, but the fact is that when it comes down to it, the choices you make, we try to open them up. I just think that we have got to remember that we elect

people in our system, and that—I just worry about how many people are identified as representatives without having gone through a due process that I would assume would be a minimum standard in our society.

That aside, I wish Ms. Chase was here because I had a question, but Mr. DeReggi, interesting thing on Ms. Chase's situation. She was at Zipcar and if I remember right, normally if she wanted to get basically rated somewhere on—through the system, it would either be alphabetical, which would put her at the bottom, or it would be based on how many hits she gets.

Now, if you are little guy going up against a big guy, that system kind of puts you at a major disadvantage, wouldn't it?

Mr. DEREGGI. It certainly does.

Mr. BILBRAY. Now, so she now actually—her company or former company had the option of paying into an advertising mode that moved her up to the front and made it big.

So by having the ability to sort of pay to play, that gave her the ability to compete on a much more even footing than somebody who was an established big guy, right?

Mr. DEREGGI. That is correct.

Mr. BILBRAY. Now, what would happen if the FCC said no, that is not an option either, that somebody can't buy their way onto the front page by paying for advertisement. What would that do to little guy's ability to take on the big established operations in this kind of business that Zipcar was in?

Mr. DEREGGI. Yes, that would let the little guy have an equal opportunity.

Mr. BILBRAY. OK. I just think that as we go down here, there is one—you know, we forget that a lot of times what we perceive to be a big advantage of the big guy is really the only vehicle that a little guy has to compete in the system. And I always get kind of frustrated if somebody comes from a blue collar background, and that is why, you know, Mr. Turner, I bring this up all the time because everybody says they represent the poor and the working class, and some of us never got to elect these guys.

But I think that when it comes down to the system of who gets to participate, the fact is big government favors big business. Little business is the one who keeps big business honest, and allowing the little guy to compete, get access, that is what keeps the big guy honest. Traditionally when we think we are helping with big government, we actually end up creating more protection for the big guy.

Mr. WALDEN. Gentleman's time—

Mr. BILBRAY. Is that fair to say?

Mr. TURNER. The concern for small businesses is why we are strong supporters of network neutrality, sir.

Mr. WALDEN. Gentleman's time has expired. Now recognize the gentleman from Illinois, Mr. Kinzinger, for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman. Thank you for spending your morning, afternoon, and forever with us. I appreciate it.

I have said this before. One of my concerns with this whole thing is, you know, we can argue the merits for or against net neutrality, and I have my position, but one of the biggest concerns is—and you five now, but six weren't necessary privy to this discussion, but to

me, it is just amazing, the whole idea that we are sitting here talking about something that I don't even think the FCC had a right really to do. That was outside of the venue, outside of the will of the body of the American people. I mean, last year, last Congress over 300 members of this body signed something opposing these rules. I heard the FCC commissioners talk about they are pretty doggone sure, basically, that this is going to hold up in court. Well, if you are not positive why don't you come talk to us and we can talk about it.

So that is—I think with this whole discussion—again, talking about the merits, where it's good, where it's bad. The 10,000 foot overview I have is just the fact that we have regulatory bodies that are operating outside of the will of the House of Representatives, and that, to me, is unbelievable. That is not what was ever intended to happen.

I had to get that off my chest.

Let me say to Dr. Kovacs. I hope I am saying your name correctly.

Ms. KOVACS. You are.

Mr. KINZINGER. The current order, and I know you have discussed this, but I want to ask it in this way: If the current order from the FCC were to be implemented, with the current lack of complete definitions in a lot of areas in many of these aspects, do you believe that that lack of definitions and this current order would create the necessary certainty that broadband Internet access providers will need to determine that long-term strategy?

Ms. KOVACS. I think it is going to take a long time to get to the point where we know what the definitions are, because it is going to be case by case, as protests are filed and the FCC deals with them. So we have quite a while to go before we have certainty about what the rules are actually going to—

Mr. KINZINGER. Well we don't even know in, you know, 5, 10, whatever—I am just pulling those numbers out. We don't even necessarily know what this is all going to look like, anyway, so this is all still—

Ms. KOVACS. It is going to be a multi-year process.

Mr. KINZINGER. Right.

Mr. DeReggi, I hope I am saying that right. You guys have difficult names. You need an easier one, like Kinzinger. I currently represent a rural district that is fairly rural, and it is served by a lot of small companies like your own. One of the things that I tend to know with consumers in these kinds of areas is that they choose, in many cases, small companies like yours so that they are able to pay for the services that they want to have in that area. The FCC order has a provision that mandates that every consumer be able to access every service on every device, regardless of cost. Could you expound a bit on how that particular provision would impact your pricing plans as well as what you think it would do to your ability to serve customers in areas like that?

Mr. DEREGGI. It would definitely force us to raise our prices in order to be able to do that, but it is also not physically capable of happening because a spectrum is not available to be able to fulfill that request.

Mr. KINZINGER. So we basically are creating something or something is being created that is just not even possible to follow through on anyway?

Mr. DEREGGI. You are basically making the operators a criminal because I can't comply.

Mr. KINZINGER. Right, OK. And you know, finally Mr. Turner, just to be clear, yes or no is fine on this. Please, just yes or no. If the FCC loses in court, will you support Title II regulation of the Internet.

Mr. TURNER. I support Title II regulation of Internet access—the transport segment of Internet access services today.

Mr. KINZINGER. So the answer is yes?

Mr. TURNER. The answer to—you didn't ask the question the way I would answer, but yes, the answer on the connectivity side, not the access service side, yes, sir.

Mr. KINZINGER. OK. So basically a vote against this resolution is a vote for Title 2 regulation.

I yield back. Thank you.

Mr. WALDEN. Gentleman yields back his time.

We have now entertained the unanimous consent request to allow Mr. Inslee to sit at the subcommittee level. Without objection, so ordered, and he will be our final questioner before we go into the markup. So I will yield now 5 minutes to the gentleman from Washington State, Mr. Inslee.

Mr. INSLEE. Thank you, Mr. Chair. Thank you for your courtesy in letting me participate. I appreciate it. These are very important things. I want to thank all the panel for being here. These issues and the constellation of issues this represents, with all the problems we have got in the world, from Libya to—for gas prices, this one I hear more about. I mean, not necessarily more than some of those others, but a lot about, and I have almost come to think that when people in my district think about life, liberty, and the pursuit of happiness, they think about free access to the Internet as either life or liberty or the pursuit of happiness, or maybe all three of them, and they really do perceive a threat to that because certain business plans could result in the loss of their decision-making about what they look at on the Internet, and losing that ability and that going to some commercial entity instead. We are imposing costs on them that are not necessarily in their benefit.

So it is a huge issue in my district. People are very, very concerned it and I am as well. I don't believe the FCC actually went far enough to guard against the life of that life, liberty, and the pursuit of happiness. Interests in part because it didn't deal with the wireless spectrum, which is the future. We are really talking about the past or the present here in wired, but wireless is the future and the fact that we haven't considered protections on that is very disturbing to me.

So I just have a couple questions. First off for Mr. Cicconi. Do you think that consumers are the ones that ought to have final say in deciding what content and services they have when they access the Internet, and in what ways, if any, does the present order restrict those consumers, if any?

Mr. CICCONI. I think by and large we are—the objective of our business is to provide that very access and it is not our position or

policy to hinder it in any way. I—as I have said before, I don’t think we have done that in any way, and I think it is in the interest of our business to make it as broadly available as possible.

Mr. INSLEE. And do you think that the FCC’s present net neutrality order restricts access of consumers to access they would want in any way?

Mr. CICONI. I don’t think so, Mr. Inslee. I am not sure I am getting the import of your question. There are provisions in the rule that provide for and allow for reasonable network management, which you know—I mean, there are certain things you have to do to make sure a network runs properly, and then on shared networks such as cable or wireless, your objective is to ensure the most access for the most people at any given time. And so there could be policies or terms and conditions on the service that are related to the ability—to management of that network that could impede that. But I think the Commission has recognized that and I don’t think there is any disagreement that we have with the Commission about the importance of that.

Mr. INSLEE. Thank you.

Mr. TURNER. I want to talk if I can about previous frameworks. Isn’t it true that non-discrimination really was the agreed-upon rule of the game, if you can call it that, during the past few decades, and including during much of this explosive growth through the Internet? And AT&T really agreed to it—that principle of net neutrality in FCC merger approvals. If that is the truth, and I think it is, what is the reason that the American people should be asked to abide by jettisoning that framework?

Mr. TURNER. Well I don’t think they should, and you raise a great point. I always turn back to the ’96 Act, because that is the governing law here. The focus of the Act was keeping Internet companies like AOL, CompuServe, Prodigy viable. They were dependent on the infrastructure. We had great ISP choice there. We had—any consumer could choose dozens of ISPs. There was no way I think Congress would have said the FCC should be not allowed to invent words like inextricably intertwined to basically take away that choice. I don’t think Congress would have wanted in ’96 to look out at the world of ISP choice and say 15 years later, I only want consumers to have choice of two, and I don’t want them to be able to choose the content that they would like to access on the Internet. I wish this body could return to first principles, return to the principle of non-discrimination. The FCC may have not done it the right way. Let us talk about the right way to do it.

Mr. WALDEN. Thank you. Gentleman concludes his questioning and returns his time.

We have concluded now the hearing phase today—or actually the hearing today, our second hearing on this topic. We have a document that has been shared with the Minority that we will put in the record, National Broadband Plan for our Future. This is from Solicitor General Seth P. Waxman, former solicitor general, as counsel for the United States Telecom Association. I assume not necessarily a relative of the former Chairman Waxman. And in it he makes the case that the Internet was never regulated at the retail level. Without objection, this will be entered in the record.

[The information follows:]

WILMERHALE

April 28, 2010

Julius Genachowski, Chairman
Federal Communications Commission
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Seth P. Waxman

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Re: *A National Broadband Plan for Our Future*, GN Docket No. 09-51; *Preserving the Open Internet*, GN 09-191; *Broadband Industry Practices*, WC Docket No. 07-52

Dear Chairman Genachowski:

I submit these views in response to reports that the Commission is considering a "reclassification" of broadband Internet access services within Title II of the Communications Act of 1934.

Five years ago, the federal government represented to the United States Supreme Court that treating cable modem broadband Internet access as a Title II "telecommunications service" subject to traditional common carrier regulation would be "impossible to square with the deregulatory purposes of the Telecommunications Act of 1996."¹ That statement reflected both the factual realities of how broadband access is provided and the Federal Communications Commission's long-held interpretation of the 1996 Act. The Commission has *never* classified any form of broadband Internet access as a Title II "telecommunications service" in whole or in part, and it has classified all forms of that retail service as integrated "information services" subject only to a light-touch regulatory approach under Title I. These statutory determinations are one reason why the Clinton Administration rejected proposals to impose "open access" obligations on cable companies when they began providing broadband Internet access in the late 1990s, even though they then held a commanding share of the market.² The Internet has thrived under this approach.³

Recently, some have encouraged the Commission to reverse this settled view and treat broadband Internet access providers as offering both an "information service" and a "telecommunications service" subject to Title II regulation. Embarking on that course would bring an enormous sector of the economy within the ambit of public-utility-style common carrier

¹ FCC Reply Br. 3-4, *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005) (Nos. 04-277, 04-281).

² See William Kennard, *The Road Not Taken: Building a Broadband Future for America*, FCC (June 15, 1999), <http://www.fcc.gov/Speeches/Kennard/spwek921.html> (explaining reasons for the Commission's decision not to regulate cable broadband service).

³ The National Broadband Plan observes: "Fueled primarily by private sector investment and innovation, the American broadband ecosystem has evolved rapidly. The number of Americans with broadband at home has grown from eight million in 2000 to 200 million last year." FCC, *Connecting America: The National Broadband Plan*, at XI (Mar. 2010) ("*Broadband Plan*"), available at <http://www.broadband.gov>.

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regulation. Yet these transformative proposals are not driven by any relevant changes in either the law or the facts bearing on the relevant statutory definitions. Rather, advocates of this shift are motivated by doubts about the extent of the Commission's "ancillary" authority to regulate broadband service providers under Title I in light of the D.C. Circuit's recent *Comcast* decision, which rejected some (but not all) of the potential Title I rationales the Commission could attempt to invoke to regulate network management practices.⁴ These advocates have cited that decision as a basis for urging the Commission to advance an industry-transforming regulatory agenda. Title II classification, if adopted, could thus revolutionize government regulation of a vast sector of the economy without any warrant from Congress, all for the evident purpose of evading the consequences of a court decision limiting the Commission's authority. In the words of the *Washington Post* editorial staff, it would be perceived as "a legal sleight of hand" and "a naked power grab."⁵

Given the obviousness of these motives and the absence of any change in circumstances to justify the results, the Commission's assertion of authority to regulate broadband Internet access as a "telecommunications service" under Title II would be fundamentally at odds with principled agency decisionmaking and with the proper role of administrative agencies within our constitutional system. It would surely be met with skepticism by a reviewing court, and the odds of appellate reversal would be high—particularly given significant industry reliance on the Commission's prior, deregulatory interpretation of the same statutory scheme. Administrative agencies are charged with implementing the law, not with assuming for themselves the legislative authority that the Constitution vests in Congress. Unlike the local competition rules that the Commission enacted on the heels of the 1996 Act and that I defended in the Supreme Court,⁶ this is not a case where the Commission would simply be responding to a major legislative innovation by Congress or engaging in a mere gap-filling exercise. Instead, the Commission would be—for the first time ever and with no action by Congress—extending a common carrier regime, designed for the monopolist telephone market of the early twentieth century, to a dynamic Internet marketplace that you recently called "the foundation for our new economy."⁷ Such a significant and consequential policy choice should be made, if at all, by Congress.

I. Agencies Have Discretion To Fill Gaps Left By Congress, Not To Create Law Beyond What Congress Has Enacted

Administrative agencies authorized to exercise substantial power are an accepted and necessary feature of modern governance. But as Justice Kennedy recently reminded us, "the amorphous character of the administrative agency in the constitutional system" requires that

⁴ See *Comcast Corp. v. FCC*, ___ F.3d ___, No. 08-1291, 2010 WL 1286658 (D.C. Cir. Apr. 6, 2010). The D.C. Circuit declined to consider the merits of several Title I arguments that the Commission had developed on appeal but not in the underlying administrative order. See *id.*, slip op. at 33-36 (citing *SEC v. Chenery Corp.*, 318 U.S. 80, 87-88 (1943)).

⁵ Editorial, *Internet oversight is needed, but not in the form of FCC regulation*, Wash. Post, Apr. 17, 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/04/16/AR2010041604610.html>.

⁶ See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999).

⁷ Video, "Announcing the National Broadband Plan," at 0:24, available at <http://www.broadband.gov/plan/>.

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agency discretion cannot be unbounded.⁸ Hence, agency action must reasonably heed the statutory boundaries enacted by Congress, and agency decisionmaking must also be adequately justified in light of the relevant facts. These limitations and procedural requirements leave agencies with significant authority, yet they are meaningful: along with other principles of constitutional and administrative law, observance of these limits serves to secure the legitimacy of administrative agency power within the constitutional order.⁹ Federal courts play an important role in enforcing these constraints on agency action, but the members of this Commission also carry an independent obligation to observe these limits on their discretion.

Under the *Chevron* doctrine, ambiguity in a federal statute is understood as an implicit delegation by Congress to the administering agency of authority to make a policy choice within the bounds of that ambiguity, and courts will defer to that choice so long as it is reasonable.¹⁰ Where Congress leaves ambiguity in statutory meaning, it is the agency—armed with unique experience, expertise, and fact-finding ability—that has the right and the responsibility to interpret that ambiguity in a rational manner. In exercising that discretion, it may be appropriate for an agency to reconsider the wisdom of its existing policies or to reverse those policies or undertake new regulation when circumstances change.¹¹

But this rationale only goes so far. The *Chevron* doctrine protects normal exercises of agency discretion to fill gaps—to make policy in the interstices that Congress has left in its legislation.¹² Because, as Justice Breyer once wrote, “Congress is more likely to have focused upon, and answered, major questions, while leaving interstitial matters to answer themselves in the course of the statute’s daily administration,” it is generally plausible that gaps created by

⁸ *FCC v. Fox Television Stations, Inc.*, 129 S. Ct. 1800, 1823 (2009) (Kennedy, J., concurring in part and concurring in the judgment).

⁹ Acknowledging the “significant antidemocratic implications” of governance by administrative action, Judge Friendly observed that enforcement of procedural requirements is “necessary” if administrative action “is to be consistent with the democratic process.” Henry J. Friendly, *The Federal Administrative Agencies: The Need for Better Definition of Standards*, 75 Harv. L. Rev. 863, 880 (1962). Professor Jaffe similarly suggested that while judicial doctrines disfavoring delegation of legislative power to agencies threatened to hamper the administrative state, enforcement of procedural requirements and limits on legislative delegations could both improve the operation of administrative authority and “safeguard . . . its legitimate exercise.” Louis L. Jaffe, *Judicial Control of Administrative Action* 85-86 (1965). Jaffe thus wrote that while delegations of power to administrative agencies “may be exceptionally broad and may, indeed should, be taken to grant enormous room for the improvisation and consolidation of policy,” a delegation nonetheless necessarily “implies some limit.” *Id.* at 320. “Action beyond that limit is not legitimate.” *Id.*

¹⁰ See *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-844 (1984); see also, e.g., *National Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 982 (2005); *Smiley v. Citibank (S.D.)*, N.A., 517 U.S. 735, 740-741 (1996).

¹¹ See, e.g., *Brand X*, 545 U.S. at 981-982; *Smiley*, 517 U.S. at 742; *Chevron*, 467 U.S. at 863-864.

¹² See *Chevron*, 467 U.S. at 843 (“The power of an administrative agency to administer a congressionally created . . . program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress.” (quoting *Morton v. Ruiz*, 415 U.S. 199, 231 (1974))).

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ambiguity in statutory terms should be construed as a delegation of authority for the agency to make policy—particularly given the agency’s comparative advantages in doing so.¹³

The *Chevron* doctrine is rooted in *and delimited by* this presumption about Congress’s delegatory intent. Where an agency takes action that tests these boundaries, the Supreme Court has cautioned that “there may be reason to hesitate before concluding that Congress has intended ... an implicit delegation.”¹⁴ Particularly where an agency asserts broad new authority in an important area without a clear statutory basis, or makes a fundamental change in its implementation of a statute that upsets settled practices and reliance interests, the agency should not assume that its determinations will enjoy the ordinary degree of deference. Rather, as Professor Sunstein has observed, “it would be a major error to treat all ambiguities as delegations,” and deference may be reduced where an “agency is seeking to extend its legal power to an entire category of cases, rather than disposing of certain cases in a certain way or acting in one or a few cases.”¹⁵ Courts properly show *less* deference to such actions due to the strain they place on the checks and balances that otherwise make the role of administrative agencies reconcilable with our constitutional system.¹⁶

Of particular relevance here, where agencies cite supposed “ambiguities” in a statute to effectuate major shifts in federal policy or assert aggressive new regulatory authority over broad subject areas, courts have refused deference on the ground that the cited ambiguity cannot plausibly be thought to delegate such enormous discretion. One instructive case is *FDA v. Brown & Williamson Tobacco Corp.*¹⁷ In that case, after many years of proceeding otherwise, the FDA undertook an exhaustive rulemaking and concluded that cigarettes were subject to regulation under the federal Food, Drug, and Cosmetic Act. Although the literal statutory language supported the agency’s conclusion, the Supreme Court rejected the FDA’s interpretation. The Court expressed doubt that the rationale of *Chevron* should apply where, as in that case, the “breadth of the authority” the agency had asserted made it less plausible that Congress would have intended an implicit delegation of such broad discretion.¹⁸ However pliable the relevant statutory terms might be, the Court was “confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion.”¹⁹

¹³ Stephen Breyer, *Judicial Review of Questions of Law and Policy*, 38 Admin. L. Rev. 363, 370 (1986).

¹⁴ *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000).

¹⁵ Cass R. Sunstein, *Law and Administration After Chevron*, 90 Colum. L. Rev. 2071, 2090, 2100 (1990).

¹⁶ See Breyer, *supra* note 13, at 370 (degree of deference may vary depending on “whether the legal question is an important one”); see also Sunstein, *supra* note 15, at 2100; Cass R. Sunstein, *Chevron Step Zero*, 92 Va. L. Rev. 187, 231-242 (2006) (discussing cases in which the Supreme Court has shown less deference to agency resolutions of major questions).

¹⁷ 529 U.S. 120 (2000).

¹⁸ See *id.* at 159-160.

¹⁹ *Id.* at 160. The FDA was similarly rebuffed when the Supreme Court rejected the FDA’s position that state tort suits against drug manufacturers alleging failure to warn should be preempted because they interfere with the purposes and administration of the federal drug regulatory regime. See *Wyeth v. Levine*, 129 S. Ct. 1187 (2009). The Court held that the FDA’s position merited no deference in part because it “reverse[d] the FDA’s own longstanding

The Supreme Court's decision in *Gonzales v. Oregon* reflects a similar principle.²⁰ There, the Attorney General had asserted authority to define legitimate medical practice and prohibit doctors from participating in medically assisted suicide in accordance with state law. Although the Attorney General asserted this authority under the guise of enforcing the federal Controlled Substances Act, the Court again rejected the notion that ambiguity in that statute could be read as a broad delegation of the "extraordinary authority" claimed by the Attorney General: "The idea that Congress gave the Attorney General such broad and unusual authority through an implicit delegation ... is not sustainable. 'Congress ... does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes.'"²¹

Decisions of the federal appeals courts provide similar examples. For instance, in *American Bar Association v. FTC*,²² the FTC had cited an ambiguity in a statutory definition as a basis for asserting authority to regulate attorneys engaged in the practice of law as "financial institutions" subject to the privacy provisions of the Gramm-Leach-Bliley Act. But the D.C. Circuit invalidated that decision on the ground that the existence of ambiguity alone did not support the conclusion that Congress *intended* to delegate authority of the nature the FTC had asserted. In light of other features of the statute, the court found it "difficult to believe that Congress, by any remaining ambiguity, intended to undertake the regulation of the profession of law" when that profession was not mentioned in the statute and had never before been seen to fall within the statute's reach.²³ Similar considerations drove the court of appeals to invalidate this Commission's action in *American Library Association v. FCC*, in which the court criticized the Commission for attempting to justify a claim of "sweeping authority" it had "never before asserted."²⁴

II. Classifying Broadband Internet Access As A Common Carrier Telecommunications Service Would Be An Extraordinary Assertion Of Broad New Authority, Not A Gap-Filling Measure

Whether resolved on the ground that the agency had acted outside its delegated authority, that Congress had spoken directly to the issue, or that the agency's position was unreasonable,

position without providing a reasoned explanation," *id.* at 1201, and "represent[ed] a dramatic change in position" that was inconsistent with Congress's evident intent, *id.* at 1203.

²⁰ See 546 U.S. 243 (2006).

²¹ *Id.* at 267 (quoting *Whitman v. American Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001)).

²² 430 F.3d 457, 469 (D.C. Cir. 2005).

²³ *Id.*

²⁴ See 406 F.3d 689, 691, 704, 708 (D.C. Cir. 2005). While this and the other examples discussed each involved judicial disapproval of agency *assertions* of regulatory authority, similar reluctance to construe statutory ambiguity as license for agencies to undertake a fundamental shift in a regulatory scheme also influenced the Supreme Court to reject this Commission's *surrender* of regulatory authority in *MCI Telecommunications Corp. v. AT&T Co.*, 512 U.S. 218 (1994). There, the Court held that the Commission's authority to "modify" any tariffing requirement of 47 U.S.C. § 203 did not authorize the Commission to make tariff filing optional for all nondominant long-distance carriers. The Court found it "highly unlikely that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to agency discretion." *Id.* at 231.

these cases illustrate courts' appropriate reluctance to infer from statutory ambiguity a delegation of agency discretion to assert broad regulatory authority over a whole new category of issues. A decision by the Commission to extend common carrier regulation to broadband Internet services, based on nothing more than alleged ambiguity in the definitional terms of the Act, would fall in the same category. It would be just another case in which an agency had reversed itself and seized broad new authority to pursue a favored regulatory agenda despite the absence of any clear congressional authority—indeed, despite the agency's own prior conclusion that Congress had affirmatively *withheld* such authority.

According to many of its proponents, authority for Title II classification would supposedly derive from alleged ambiguities in the statutory definitions of “telecommunications service” and “information service.” But as history makes clear, Title II classification would require far more than an interstitial implementation of these terms. Broadband Internet access service has never been regulated under Title II. From the advent of the Internet, the Commission has instead treated broadband Internet access as an “information service” without a separate “telecommunications service” component, subject only to the Commission's ancillary authority under Title I.

The Commission's 1998 *Report to Congress* articulated the key interpretations of the 1996 Act that have formed the basis of that consistent treatment of broadband Internet access.²⁵ The Commission determined there that Congress specifically intended that “telecommunications services” and “information services” be construed as mutually exclusive categories, and that application of these statutory terms required examination of how service is “offer[ed]” to the end user.²⁶ Thus, the Commission explained that an “information service” offered to end users as a functionally integrated whole should not simultaneously be treated as a “telecommunications service,” even though by definition it includes a telecommunications component.²⁷

These conclusions in turn built upon a framework that pre-dated the 1996 Act. In the *Computer Inquiry* proceedings, as traditional communications common carriers moved into the nascent field of computer data processing, the Commission distinguished between “basic services” (defined as the offering of “a pure transmission capability”) and “enhanced services,” which combined basic services with computer processing applications.²⁸ Critically, the Commission determined that “enhanced services” were not within the scope of its Title II jurisdiction, but rather were subject only to the Commission's ancillary authority under Title I.²⁹

²⁵ See Report to Congress, *Federal-State Joint Board on Universal Service*, 13 F.C.C. Rcd. 11,501 (1998).

²⁶ *Id.* at 11,507 ¶ 13, 11,520 ¶ 39, 11,522-11,523 ¶ 43, 11,529-11,530 ¶¶ 58-59.

²⁷ *Id.* at 11,520 ¶ 39.

²⁸ See *id.* at 11,512-11,514 ¶¶ 23-28, 11,520 ¶ 39 (discussing Final Decision, *Amendment of Section 64.702 of the Commission's Rules and Regulations*, 77 F.C.C. 2d 384 (1980) (“*Computer II*”)); see also Order, *Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, 20 F.C.C. Rcd. 14,853, 14,866-14,868 ¶¶ 21-24 (2005) (“*Wireline Broadband Order*”) (discussing *Computer II*).

²⁹ See *Wireline Broadband Order*, 30 F.C.C. Rcd. at 14,867-14,868 ¶ 23. Some have cited the so-called “unbundling” requirement of the *Computer Inquiry* regime as a basis for claiming that the proposed Title II classification of broadband service would be consistent with past (pre-2002) practice. But that argument confuses

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In its 1998 *Report to Congress*, the Commission concluded that Congress intended the terms “telecommunications service” and “information service” in the 1996 Act to build upon the “basic” and “enhanced” service distinction the Commission had previously drawn, and it construed the terms to be mutually exclusive in light of Congress’s evident intent to maintain a regime in which information service providers are not subject to regulation as common carriers merely because they provide their services “via telecommunications.”³⁰ The Commission thus concluded that “when an entity offers transmission incorporating the ‘capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information,’ it does not offer telecommunications. Rather, it offers an ‘information service’ even though it uses telecommunications to do so.”³¹

In later orders classifying various broadband Internet access technologies, the Commission straightforwardly applied this same statutory framework it had adopted in 1998. In the 2002 *Cable Modem Declaratory Ruling*, for example, the Commission concluded that cable modem service is provided to the end user as a single, integrated service, with a telecommunications component that is not separable from the computer processing, information provision, and computer interactivity functions.³² Applying the approach articulated in the 1998 *Report to Congress*, the Commission found, and the Supreme Court later agreed, that the service does not include an offering of telecommunications service.³³ Since 2002—and as recently as 2007—the Commission has repeatedly applied the same approach to find that even though it includes a transmission component, broadband Internet access service as provided through other technologies likewise constitutes an “information service” without a stand-alone offering of telecommunications service, and thus is subject only to the Commission’s ancillary authority under Title I.³⁴

In short, from their inception in the 1990s, broadband Internet access services have always been “information services” with no separate “telecommunications service” component,

two quite different issues: the threshold statutory classification of a service (the issue here), versus whatever regulatory consequences might follow from that classification (not the issue here). Under the so-called “unbundling” obligation, the Commission used to require wireline telephone companies (but not cable companies or wireless providers) to strip out the transmission component of any information (“enhanced”) service, tariff it, and sell it as a stand-alone telecommunications service to any willing buyer. See *Wireline Broadband Order*, 20 F.C.C. Rcd. at 14,867-14,868 ¶¶ 23-24. But the Commission never found that the finished Internet access services that those companies sold to end users were (or contained) Title II “telecommunications services.”

³⁰ *Report to Congress*, 13 F.C.C. Rcd. at 11,507-11,508 ¶ 13, 11,520 ¶ 39.

³¹ *Report to Congress*, 13 F.C.C. Rcd. at 11,520 ¶ 39.

³² See Declaratory Ruling, *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 F.C.C. Rcd. 4798, 4802 ¶ 7 (2002) (“*Cable Modem Declaratory Ruling*”), *aff’d*, *Brand X*, 545 U.S. 967 (2005) (intermediate history omitted).

³³ See *id.*, 17 F.C.C. Rcd. at 4820-4824 ¶¶ 34-41; see also *Brand X*, 545 U.S. 967.

³⁴ See *Wireline Broadband Order*, 20 F.C.C. Rcd. 14,853 (2005); Memorandum Opinion and Order, *United Power Line Council’s Petition for Declaratory Ruling Regarding the Classification of Broadband Over Power Line Internet Access Service as an Information Service*, 21 F.C.C. Rcd. 13,281 (2006); Declaratory Ruling, *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, 22 F.C.C. Rcd. 5901 (2007) (“*Wireless Broadband Order*”).

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and they have never been subject to regulation under Title II. The Commission has applied this position consistently, defended it successfully in litigation all the way to the Supreme Court, and repeatedly professed that it best reflects Congress's intent and the broad objectives of federal Internet policy.³⁵

Against this backdrop, any decision to reclassify broadband as a "telecommunications service" under Title II would be a startling about-face. After years of concluding that Congress wished to insulate broadband Internet access services from common carrier regulation in order to protect the healthy and competitive development of the Internet,³⁶ the Commission would abruptly reverse itself—and contradict its own account of congressional intent—by saddling those services with the burdens of a regulatory model that was developed for the monopoly public utilities of the last century. As in other cases, it would be irrational to presume that Congress wished to delegate authority to make a "decision of such economic and political significance"³⁷ and "alter the fundamental details of [the] regulatory scheme"³⁸ that had long applied in the industry, merely by including a supposed definitional ambiguity in the terms "telecommunications service" or "information service."

Proponents of Title II classification of broadband Internet access have cited the Supreme Court's decision in *Brand X* as providing carte blanche authority for the Commission to reverse itself and assert unprecedented authority to regulate the Internet, but that decision does not support any such presumption. The Court was not faced in that case with a seizure of broad new authority or a major policy shift of the type that is contemplated here; indeed, as discussed above, just the opposite was true. The Court's decision thus does not endorse the kind of anything-goes discretion the Commission would have to invoke to classify broadband Internet access as a Title II "telecommunications service." Moreover, the only question before the Court was whether the Commission's position that cable modem broadband Internet access service constituted an "information service" without a separate "telecommunications service" was "at least reasonable."³⁹ The Court held that it was, and that the statute did not "unambiguously require" the conclusion that cable modem broadband service providers "offer[ed]" telecommunications.⁴⁰ In doing so, the Court had no occasion to go further and decide whether, in addition, the statute might *compel* the Commission's interpretation and preclude the opposite outcome that the challengers had proposed there and that the advocates of reclassification

³⁵ See, e.g., *Report to Congress*, 13 F.C.C. Rcd. at 11,507-11,508 ¶ 13, 11,511 ¶ 21, 11,520-11,526 ¶¶ 40-48, 11,540 ¶ 82, 11,546-11,548 ¶¶ 95-97; *Cable Modem Declaratory Ruling*, 17 F.C.C. Rcd. at 4801-4802 ¶¶ 4-6; FCC Br. 8, 16, 29-31, *Brand X* (2005); FCC Reply Br. 3-4, *Brand X* (2005); *Wireline Broadband Order*, 20 F.C.C. Rcd. at 14,877-14,878 ¶ 44; *Wireless Broadband Order*, 22 F.C.C. Rcd. at 5902 ¶ 2.

³⁶ See *supra* note 35.

³⁷ *Brown & Williamson*, 529 U.S. at 160.

³⁸ *Gonzales*, 546 U.S. at 267.

³⁹ 545 U.S. at 990 (emphasis added).

⁴⁰ *Id.* at 989-990.

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propose now. The opinion, however, suggests that the Court would not readily accept a reversal by the Commission on the regulatory classification of broadband service providers.⁴¹

Nor does the legislative record support an inference that Congress intended any statutory ambiguity to authorize a reversal of this magnitude. Indeed, to the extent the statutory scheme addresses the topic of Internet regulation, it indicates a strong congressional preference for keeping the Internet *unregulated*.⁴² When an agency adheres consistently to a particular view of statutory meaning, and Congress is aware of the agency's interpretation and takes no action to correct it, Congress's inaction is persuasive evidence that the interpretation is the one intended by Congress.⁴³ Here, Congress has known of the Commission's approach since the Commission presented it in the 1998 *Report to Congress*, applied it in the 2002 *Cable Modem Order*, and showcased it in the Government's *Brand X* arguments to the Supreme Court. During the ensuing years, Congress has never signaled disapproval of the Commission's current statutory interpretation or taken any action to overturn it—a strong indicator that the Commission's approach thus far has been the one intended by Congress. Indeed, while Congress has taken up several bills designed to authorize the Commission to regulate some aspects of broadband Internet access, it has not sought to accomplish this by redefining that service as (or as containing) a Title II telecommunications service.⁴⁴

Thus, rather than filling a gap in a manner consistent with congressional intent, the proposed Title II classification would occur solely on the Commission's say-so. Citing the Supreme Court's recent decision in *Fox Television*, some advocates of Title II classification have suggested that this say-so is all that is required, so long as the Commission cites a good reason.⁴⁵ That assertion is incorrect. To the contrary, *Fox Television* reaffirmed that when an agency changes course, it must provide a "more detailed justification [for the change] than what would suffice for a new policy created on a blank slate" if—as would be true in this case—its "new policy rests upon factual findings that contradict those which underlay its prior policy" or its

⁴¹ See, e.g., *id.* at 990 ("it would, in fact, be odd" to adopt a reading of the statute under which cable modem providers "offer" the discrete transmission components of the "integrated finished product" offered to consumers); *id.* at 989, 990 (Commission's interpretation of "offer" best reflected "common" and "ordinary" usage); *id.* at 995 (expressing "doubt" that Congress intended the "abrupt shift in Commission policy" that would be required under the statutory interpretation offered by the advocates of Title II regulation). Cf. *Cuomo v. The Clearing House Ass'n L.L.C.*, 129 S. Ct. 2710, 2715 (2009) (presence of "some ambiguity as to the meaning" of relevant statutory terms "does not expand *Chevron* deference to cover virtually any interpretation").

⁴² See 47 U.S.C. §§ 230(a)(4), (b)(2), 1302(a).

⁴³ See *CBS, Inc. v. FCC*, 453 U.S. 367, 382-385 (1981); see also *United States v. Rutherford*, 442 U.S. 544, 553-554 & n.10 (1979). Cf. *Brown & Williamson*, 529 U.S. at 143-159.

⁴⁴ See, e.g., Internet Freedom Preservation Act of 2008, H.R. 5353, 110th Cong. (2008) (bill would have charged Commission to undertake study and report to Congress on issues pertaining to broadband Internet access service); Internet Non-Discrimination Act of 2006, S. 2360, 109th Cong. (2006) (bill would have imposed obligations on network operators without reference to Title II and authorized Commission to adjudicate violations).

⁴⁵ See, e.g., Reply Comments – NBP Public Notice # 30, Comments of Public Knowledge, GN Docket No. 09-47, 09-51, 09-137, at 4 (filed Jan. 26, 2010) (citing *Fox Television* as license for the Commission to declare broadband Internet access a "telecommunications service" so long as the Commission concludes that doing so would better serve the Commission's policy goals).

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“prior policy has engendered serious reliance interests that must be taken into account.”⁴⁶
 Failure to do so, the Court reaffirmed, requires judicial invalidation.⁴⁷

Here, there is no reasoned explanation the Commission could give for rejecting the considerations that underlay its own longstanding treatment of broadband service. Rather, Title II classification would appear to come as a direct and obvious response to the D.C. Circuit’s recent *Comcast* decision limiting the Commission’s authority to regulate the Internet under Title I. That this assertion of significant new regulatory authority would serve solely as a means to an end—as an effort to “provide a sounder legal basis” for a particular regulatory agenda in the wake of a court loss⁴⁸—would not satisfy *Fox Television*’s requirements for reasoned decisionmaking and would lessen the case for judicial deference further still. In short, this is not gap-filling of the sort *Chevron* contemplated, and it is not an appropriate undertaking for this Commission.

* * *

By classifying broadband Internet access as a “telecommunications service” under Title II, the Commission would essentially be making new law for a major sector of the economy. It would do so not to accommodate an improved understanding of statutory meaning or to account for new factual circumstances bearing on the relevant legal criteria, but solely in reaction to a court decision rejecting its prior assertion of regulatory power. As stewards of a critical national industry and of the Commission’s proper place in the governmental structure, the members of this Commission should pause before embarking on that course. The Commission’s discretion to tailor federal telecommunications policy to fit the changing needs of an evolving industry is cabined by the boundaries set by Congress and by the requirements of reasoned decisionmaking, and the proposed reversal on Title II falls outside those limits. Any sea change in the Commission’s overall regulatory framework should come from Congress, not from the Commission itself.

Sincerely yours,

/s/ Seth P. Waxman

Seth P. Waxman
 Counsel for the United States
 Telecom Association

⁴⁶ *Fox Television*, 129 S. Ct. at 1811.

⁴⁷ *Id.*; see also *id.* at 1811 (Kennedy, J., concurring in part and concurring in the judgment) (an “agency cannot simply disregard contrary or inconvenient factual determinations that it made in the past”).

⁴⁸ *Broadband Plan* 337; see also, e.g., Notice of Oral *Ex Parte* Communication of Free Press, GN Docket No. 09-51, GN 09-191, WC Docket No. 07-52 (Apr. 9, 2010) (urging reclassification of broadband Internet access service under Title II in direct response to *Comcast v. FCC*).

Mr. WALDEN. And with that, the subcommittee will be adjourned. Thank you again for testifying, it has been most helpful to our process.

For our committee members who are watching, listening, or somewhere out there in telecommunication land, we will reconvene as the subcommittee and for purposes of the markup on this legislation at, let us say, 3:30, so 15 minutes. We will reconvene for the markup.

We stand adjourned as the Subcommittee on Communications.

[Whereupon, at 3:15 p.m., the subcommittee proceeded to other business.]

[Material submitted for inclusion in the record follows:]

Statement of Rep. Ed Towns (NY-10)
before the US House Of Representatives
Committee on Energy and Commerce
Subcommittee on Communications and Technology

“Hearing and Markup on H.J. Res. 37, a resolution disapproving the rule submitted by the Federal Communications Commission (FCC) relating to the matter of preserving the open Internet and broadband industry practices.”

Wednesday, March 9, 2011, at 10:30 a.m. in room 2123 of the Rayburn House Office Building

Thank you, Chairman Walden and Ranking Member Eshoo. I am very pleased that the Sub Committee agreed to hold the hearing and markup to better understand the Congressional Review Act process and what using it means for FCC authority to regulate industry practices regarding network management and open internet principles.

As a long time member of this Committee I have seen the debates evolve on Net Neutrality over the years. It has taken up much of the time and work of industry, congress and regulators and here we are again. While we have all had our differences on this issue, the use of the Congressional Review Act to disapprove of these rules raises many troubling questions.

The CRA process does not allow members to improve the underlying bill. It is an all or nothing approach that does not properly use the expertise in this body to make improvements in law. H J Res 37 would completely wipe out the FCC’s authority to regulate in this arena, even on areas within the order where there is broad agreement such as the need for transparency and the right to reasonable network management. I do not believe that the companies, consumers, and investors most affected by this rule would be happy with a situation where the FCC would be hamstrung in protecting their interests.

I understand that there are court cases that challenge the results of the administrative proceeding. We will soon see how the court rules on whether the FCC overstepped its authority. Congress and the FCC may have to revisit these issues depending on that ruling. We can wait until then because this resolution is guaranteed to be vetoed by the President. In addition, I believe the use of the CRA to strike them down will have many unintended consequences that will be more harmful in the future.

I encourage my colleagues to vote against H J Res 37 because it is too cumbersome and throws out moderate rules resolving eight years of regulatory overhang and included many provisions where there was broad consensus.

Thank you and I yield back the balance of my time.

Response of S. Derek Turner to
Questions for the Record

Regarding the March 9, 2011 hearing
Before the Subcommittee on
Communications and Technology

on the matter of
“H.J. Res. 37, Disapproving the rule submitted
by the Federal Communications Commission
with respect to regulating the Internet
and broadband industry practices.”

Responses to Questions from The Honorable Henry A. Waxman

Question 1: Chairman Walden concluded his line of questioning to you by stating that a vote against the resolution is a vote for reclassification. Similarly, Rep. Kinzinger asked you if you would support Title II regulation if the FCC’s Open Internet Order is overturned in court. Rep. Kinzinger concluded by stating that a vote against this resolution is a vote for Title II regulation. You didn’t have an opportunity to respond further to Chairman Walden or Rep. Kinzinger. What is your view?

Neither Chairman Walden nor Representative Kinzinger explained exactly *why* they believe that a vote against H.J. Res 37 is a vote for reversing the classification decisions made by the FCC in the *2002 Cable Modem Declaratory Ruling*, the *2005 Wireline Broadband Order*, and the *2007 Wireless Broadband Order*. I do not agree with their assessment and do not believe the question of reclassification has *any* relationship to the Resolution of Disapproval.

I believe Chairman Walden and Rep. Kinzinger are arguing that if Congress fails to overturn the *Open Internet Order*, that the court challenges to the FCC’s assertion in the *Order* of Title I ancillary authority and authority under Section 706 of the Telecommunications Act of 1996 will proceed, and that the courts would disagree with these authority arguments. I believe Chairman Walden and Rep. Kinzinger are saying that if this occurred, the FCC would then move to reclassify.

But one could just as easily make an equally plausible argument that a vote *for* the resolution is a vote *for* reclassification. For example, if the Resolution of Disapproval does pass, the Commission would be prohibited from enacting any rules that dealt with discrimination by ISPs against online content. The Commission could still however offer protection against discrimination without rulemaking by reclassifying the transmission component of Internet access service under Title II of the Communications Act, subjecting ISPs to the non-discriminatory duties of Section 201 and 202. The public could then file complaints pursuant to Section 208, and the Commission could then act to stop any ISP discrimination it found to be unjust and unreasonable.

The truth is no one knows how the court challenges against the *Order* will turn out. No one knows the nature of *exactly* how, and to what extent the courts would reject the Commission's authority theory if they were indeed to find against the agency. And even if an enacted Resolution of Disapproval ended the current legal challenges to the Commission's authority theory, there certainly would be other challenges to other orders that use the same fundamental authority arguments.

This all just illustrates that the problems created by the Powell and Martin Commission's decisions to ignore the plain meaning of the Act are far bigger than the Network Neutrality issue. Congress clearly intended for all two-way communications networks, including advanced telecommunications networks, to be subject to a basic level of non-discriminatory obligations, while the information services provided *over* those transport networks to remain unregulated. The reclassification questions will persist because what Mr. Powell and Mr. Martin did with their classification decisions made the law completely unworkable. And as broadband increasingly becomes essential infrastructure, one offered in a highly concentrated market, the lack of a working law will continue to impact national priorities.

Question 2: Having reviewed the FCC's Open Internet Order, do you believe the Commission conducted the necessary market power and cost-benefit analysis?

Yes. I do understand that some Representatives feel that the Commission's analysis was not formal or rigorous enough, but I respectfully disagree. In practice, formal benefit-cost analyses are very difficult to perform in a *meaningful* way due to lack of reliable input data. In the open Internet case it is extremely difficult to perform a highly formal CBA due to the high degree of uncertainty of the exact value of openness (which is certainly very large), and the lack of *any* evidence that the rules would have direct or indirect costs. Further complicating matters is the fact that the open Internet rules are essentially codifying the existing status quo treatment. Given these constraints, any attempt to produce a formal CBA similar to one conducted to evaluate a new tax or infrastructure project would be highly misleading and impossible to defend due to the inherent high degree of sensitivities in the underlying input data. The Commission's approach in concluding the overwhelming net benefits of this rule was appropriate, defensible, thorough, and their conclusions are supported by substantial evidence in the record.

Anna-Maria Kovacs
April 11, 2011

Attachment: Reply to questions from the Honorable Henry A. Waxman by Anna-Maria Kovacs on 04-11-2011

1. **You testified during the hearing that you support the transparency rule adopted by the FCC in December. If that's the case do you still believe a Congressional Resolution of Disapproval overturning all of the FCC's Open Internet rules is an appropriate legislative vehicle, rather than something that is more narrowly targeted?**

As I indicated in both my oral and written testimony, I agree with the FCC Open Internet Order's stated goals of openness and transparency, as well as the desire expressed in the Order for an environment in which innovation and investment can flourish.

However, I am concerned about some central aspects of the Order that are likely to have unintended detrimental consequences to investment and innovation, both at the Internet's core and the edge. The Order's restrictions on the sources of revenue for broadband Internet access providers (BIAs, core), as well as its potential for increasing costs for the core are fundamental parts of the Order.

I am also concerned that unlike the FCC's Four Broadband Principles, which applied to all players in all layers of the Internet ecosystem, the Open Internet Order's rules apply only to the broadband Internet access providers. That is a radical shift in the balance of power between these infrastructure providers and those who ride over their networks (edge), a shift whose implications the Order does not examine.

I am by no means advocating for regulation of all layers of the Internet, but am suggesting that regulation of one layer is likely to be detrimental and would best be postponed unless problems that arise cannot be handled on a case-by-case basis, as they have been so far.

2. **You mentioned in your testimony that the Open Internet Order forces broadband carriers to subsidize competitors who "cannibalize their customer base." If that's the case do you believe a broadband carrier should be able to block Voice-over-IP (VOIP) from riding its network because it helps broadband carrier's own landline business?**

No, I do not believe that a broadband carrier should be able to block VOIP providers from riding its network, subject to reasonable network management.

What concerns me is the Order's indication that the FCC does not consider it reasonable for the broadband Internet access provider to charge the VOIP provider for carriage. It is possible to charge for carriage without blocking. There are several reasons why I believe it is important that BIAs should have the flexibility to do so.

Anna-Maria Kovacs
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It is a concern that VOIP providers' pricing is radically distorted because they do not cover the actual network costs they cause. Competition is good for consumers, but it can become dangerous when it is based on regulatory arbitrage, in this case when VOIP providers can offer free or very cheap service because they are shifting the real cost of their service to the underlying carrier with whom they compete. It is particularly dangerous when it threatens the health of the underlying network on whom the VOIP provider depends for carriage, and without whom the VOIP provider cannot exist.

As traditional sources of voice (and video, in the case of cable) revenues for BIAs shrink, it will become increasingly important for them to have the flexibility to develop new sources of revenue, potentially including revenues from edge providers such as VOIP. Without such additional revenues, the BIAs may have to cut back on investment, and they may have to raise broadband end-user prices to levels that hinder or reverse adoption of broadband. Those effects would be harmful not only to the BIAs but to consumers and to the edge providers themselves, including VOIP.

3. **You testified that the economic impact of the FCC's Open Internet Order will be a "transfer of wealth." It is not difficult to see that the growth of broadband network services over the past decade came about at the expense of some of the offline industries such as news organizations, magazines, and retail outlets for music. Are you equally concerned about this type of "wealth transfer" between offline and online models of business? Don't we all understand this type of transformation as part of the nature of economic growth from technical advancements?**

As I indicated in my testimony, the transfer of wealth between two parties becomes a problem for both parties when it cripples the party on which the other party is dependent for its survival. Edge providers cannot exist without core network providers who continually maintain and upgrade their networks. Harming the networks harms the edge providers as well.

As traditional voice and video sources of revenue from end-users dry up because those services migrate to the Internet over-the-top, it is important for the networks to still be able to recover their costs. One option is to recover some of the cost from the over-the-top service providers. Another is to have much higher end-user prices for broadband access than we currently enjoy. At this early stage in the evolution of the broadband ecosystem, it is dangerous to foreclose any options and players at all levels of the broadband ecosystem need flexibility in developing their business plans.

The Internet clearly needs content, services, and applications, as well as network infrastructure. Thus, it is important that providers of Internet content, services, and applications receive compensation, and that their intellectual property be protected.

As long as providers of content can be adequately compensated purely from on-line sources, the loss of off-line distribution media such as magazines and retail music outlets may not matter to the Internet. However, if the Internet becomes an engine of disintermediation, destroying the ability of content providers to be adequately

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compensated so that they can continue to provide content, then the destruction of the off-line industries could matter greatly.

But even then, the cases are radically different at the edge and the core. No edge provider can exist without the core for an instant. The core can exist without many specific edge providers indefinitely. True, consumers subscribe to networks because they want to receive content, applications, or services, and some of those are particularly popular. But also true, what consumers want is constantly changing. The networks operate even as specific content or applications or services come and go. The content, applications, and services stop the instant the network goes down. And even if the network is operating, unless its capacity is constantly upgraded, edge providers' ability to innovate is limited.

Because the edge cannot exist without the core, because it cannot thrive unless the core thrives, a regime that impoverishes the core hurts both the core and the edge.

4. **During the hearing, a letter was submitted into the record from Kyle McSillarow of NCTA, which stated that the Open Internet Order's plain language "minimizes the overhang on investment decisions for new and innovative services that are currently deployed, and thus, if implemented and enforced modestly, should promote continued investment and job creation." Do you agree or disagree? If not, why not?**

Investors in broadband infrastructure providers were very concerned about the FCC's intentions with regard to net neutrality throughout 2009 and 2010. The language of the Open Internet NPRM which was issued in October 2009 went well beyond the FCC's previous Four Principles with regard to infrastructure providers. Investors became even more concerned when Chairman Genachowski announced in May 2010 his intention of reclassifying broadband Internet access under Title II.

It is certainly fair to say that investors have found the Open Internet Order which was voted in December 2010 less troubling than the earlier Title II reclassification proposal or the 2009 NPRM's proposal.

Having said that, the Order still has some troubling provisions. Modest implementation would be less damaging than aggressive implementation, but it is not clear how even modest implementation fully ameliorates the FCC's expressed intent of insisting on one-sided pricing, forbidding paid priority, and shifting the balance of power between infrastructure providers and those who ride their networks.

5. **NCTA also stated that it supports the FCC Order for the following four reasons: 1) it largely codifies the status quo practices; 2) it contains helpful clarifying language around such issues as what constitutes "reasonable network management;" 3) it provides greater certainty about a broadband provider's ability to manage and invest in broadband services today and those they may deploy in the future; and 4) the alternative of Title II regulation presented a stark and much work risk. Do you agree or disagree with each of his reasons? If not, why not?**

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With regard to (1):

In one sense, the Order codifies the status quo--there have been very few net neutrality violations by broadband Internet access providers (BIAs) and they have been dealt with promptly case-by-case. BIAs have generally practiced net neutrality and will continue to do so--in that operational sense the status quo has not changed much. But in other ways the Order goes beyond the status quo as it existed before the Order.

The FCC's Four Principles did not address pricing as the Order does.

Also, the Four Principles gave consumers the same set of rights with regard to all levels of the broadband Internet ecosystem, not just the network access infrastructure. That balanced set of consumer rights implied a balanced set of obligations from all providers, which protected not only consumers but all providers vis à vis one another. That equilibrium is disturbed by the FCC's Order, which imposes obligations on only a subset of one layer, the infrastructure access providers. For example, there is now nothing to prevent a key service provider, such as a major search engine, from withholding its service from one BIA in a market while providing it to other BIAs in the market.

With regard to (2):

It is, nevertheless, worth noting that the Order's definitions of aspect of "reasonable network management" still leave a great deal of room for interpretation as the FCC implements and enforces the Order.

With regard to (3):

It is, nevertheless worth noting, that this Order limits BIAs' flexibility with regard to their sources of revenues, in ways that could prove damaging to investment as traditional revenue sources dry up.

With regard to (4):

As I explained in response to question 3 above, infrastructure investors were extremely concerned about reclassification of broadband Internet access under Title II and this Order does present a less stark risk than reclassification would.

Having said that, the reclassification proceeding is still open, and this Order--while less far-ranging than reclassification--still has some troubling aspects.

6. Critics have made the charge that the FCC's rules are a "government takeover of the Internet." Are the FCC's rules a "government takeover of the Internet?" If they are, why? If not, why not?

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The phrase “government takeover” can have a broad range of meanings depending on the context. Without the context, I am unable to interpret or express an opinion about the critics’ views.

What I am able say is that the FCC’s Order imposes a new set of regulations on broadband Internet access providers and that the regulations, while based on laudable underlying goals, are in some cases troubling nevertheless.



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Responses to the questions of the Honorable Henry A. Waxman

**Shane Greenstein
Elinor and Wendell Hobbs Professor
Kellogg School of Management
Northwestern University**

before the

**United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications, Technology and the Internet**

regarding

**H.J. Res 37
Disapproving the Rule Submitted by the Federal Communications
Commission
With Respect to Regulating the Internet and Broadband Industry Practices**

April 11, 2011

The Honorable Henry A. Waxman

1. Rep. Shimkus asked Ms. Chase what signal the FCC's Order sends to the market to build more "pipes." What is your view on the impact of the Order on investment in broadband Internet access service?

The Order has very little impact on the incentives of firms to conduct investment. It differs little from present practice, and changes daily operations very little. In general, issuing the Order had a positive and incremental impact.

The Order had incremental impact for one primary reason. As the analysis in the National Broadband Plan made clear, most broadband firms in urban areas went through a build out in the last decade, extending "new pipe" to homes and businesses that previously were not served. Today most are not building "more pipe" in the sense of reaching newer customers. Rather, most are "widening the diameter of the existing pipe," in the sense of raising the bandwidth of existing connections to homes and business. Only homes in low density areas still experience any significant build out today, and only in a fraction of those areas. In short, the Order had a positive incremental impact to upgrade facilities, because it largely did not alter the economic incentives to make upgrades.

Issuing the order had value in that it reduced uncertainty in multiple ways. First, and foremost in my opinion, it reduced uncertainty about the meaning of applications of general principles, which was an issue frequently raised about prior approaches to assuring an open Internet. The FCC tried to assure openness with use of general principles, the four freedoms. The Order defines many aspects of the four freedoms in ways that give firms a strong sense of certainty about how these limitations will be implemented.

In addition, the act of issuing the order – in comparison to leaving the matter unsettled for longer – helped markets by settling uncertainty about the outcome of a year-long process. It also settled the uncertainty about the FCC's commitment to enforce some of the principles affiliated with court decision in the Comcast case. Had the non-transparent practices by Comcast – which came to light in the Comcast-Bit-Torrent dispute – been allowed to stand without challenge, there would have been considerable uncertainty in the industry about what practices were acceptable. It also settled an open question about whether the commission would attempt to enforce a more stringent regulatory framework under Title II, which this Order did not do.

Issuing the Order did not settle all sources of uncertainty. The main sources of uncertainty in the near future will come from two sources: (1) the open questions raised by Resolution HR-37 (whether it passes or not, and what follows if it does); and (2) the court challenges raised to the Order (whether these will find in favor of the FCC or not, and what happens in the event that it does not).

2. Ms. Kovacs raised concerns about a lack of market analysis above the transport layer, and Mr. DeReggi thought there should be regulation of the content providers. Do you share these views? What are the differences in market power between the broadband Internet access providers (that some describe as a duopoly) and content providers?

In general, I do not share these views. In part this is due to the significant differences between access markets and content markets.

The Order was concerned with the transparency, traffic management practices, or blocking practices of dominant broadband carriers. It was not concerned with any analogous practices at content providers (and it is not all clear what that would mean for a content firm). The topic seems outside the scope of the issues considered by the order.

The Order also premised its approach on the presence of market power in access markets. The vast majority of online content providers, in contrast, are subject to extremely competitive forces. Thus, most content markets would fail to meet one of the Order's key premises for considering a regulatory approach, namely, dominance in primary markets.

A brief review of the detail can illustrate. As a general rule, most content providers do not inhabit markets with both (a) histories of sustained market concentration; and (b) strong potential for sustaining that concentration due to high barriers to entry from new competitive threats. Barriers in broadband provision include limited spectrum, limited rights of way, franchise restrictions from local authorities, in addition to high capital requirements and other matters. In contrast, such conditions prevail in most broadband markets.

Perhaps the biggest difference is the extent and dynamism of competitive rivalry in online markets, where most firms are concerned with Schumpeterian competition. Such competition is named for Joseph Schumpeter, the Austrian economist who first identified many of these patterns as a fundamental force of capitalism's dynamism. In Schumpeterian competition two general factors drive innovative behavior. First, competition *for* new markets and opportunities drives established firms to innovate. Second, the fear of *replacement* of a core business by entrepreneurial entrants with superior services drives established firms to innovation. Not a single sensible observer or market analyst characterizes US broadband carrier markets today as "Schumpeterian," while plenty use the label, and regularly, for content markets, particularly those that continue to be driven forward by entrepreneurial energy.

It is worthwhile to belabor the point. For example, Yahoo, the leading portal and most popular web site *less than a decade ago* is now the third most popular web site in the US, and no longer holds that top spot. It faces considerable competitive pressure for advertising dollars. It lost its pre-eminent position to Google, a firm started a dozen years ago by two drop-outs from a PhD program in computer science and which rose to prominence in the middle part of the decade. Both firms now fear competition from Facebook, a firm started by a Harvard undergraduate half-dozen years ago, and which climbed into the number two spot last year. Today Facebook is taking advertising dollars from Google and Yahoo, placing pressure on both to innovate further. That type of dynamic cannot be found in broadband access markets.

3. Comparisons were drawn between the FCC's rules banning unreasonable discrimination and companies paying to advertise prominently on a search engine banner. How would you assess such a comparison?

The comparison does not illuminate any significant issue in the Order.

Consider Google's practices, an example raised in the hearing. Google operates what-is-often-called a "position auction", as part of its general strategy to act as an organizer for a two-side market bringing together users of search engines and advertisers of potential services that meet the user's search needs. In that auction bidders pay for the right to have a position in the column for advertised services, which today lay to the right of the organic search results, and can pay for the position above the organic search results. Google does not set prices, nor does it alter its auction procedures for different types of key words. More to the point, Google has strict policies about not altering its auction procedures for the identity of the bidder, namely, when competitors to Google's services bid – and that goes for all competitors, whether that is Mapquest, iPhone app providers, or Amazon Kindle providers, all of whom compete with services offered by Google.

Google adopted these policies some time ago, and its management continually and publically acknowledges their commitment to them. This is because Google's management worries, as a sensible manager should in a two-sided market, that some users would be more hesitant to use its search services if the users perceived that Google's practices discriminated against potential informative ads.

In contrast, no broadband firm has any strict policy to treat rival providers of retail services in an analogous way to what was just described for Google. Hence, systematic discriminatory routing of one content firm's services by a dominant broadband provider is possible.

The open question is whether an unrestricted carrier would adopt discriminatory routing. Most experts expect it would occur if a broadband firm does not anticipate losing many customers as a result of discriminatory practices, which would be the case in the presence of market power in retail services.

A broadband firm with retail market power would have incentive to put any content firm at a disadvantage when that content firm's activities competed with similar services being offered by the broadband firm. Voice and video entertainment are, for example, services offered over broadband channels, and most sensible observers expect the latter category of services to grow over time. These would be a natural target for discriminatory routing.

In addition, if not allowed, discriminatory routing would naturally become a matter for negotiations between a broadband firm and potential business partners. Related, if a broadband firm were to make a business partnership with other firms in additional businesses, it would be natural for the business partner to request that a broadband firm favor its services over other

rivals. It also would be natural as well for a broadband firm to negotiate with content firms for different priorities, extracting extra fees for the fast lane.

All such behavior raises the possibility that some US broadband users will not receive content they request either as quickly as the favored service, or not at all. Such discrimination could have consequences for the ability of the content firm to reach customers, and it would have consequences for an entrepreneurial content firm to explore new services and build a viable business.

In short, there are so an enormous number of important differences between these the markets for content and carriers. That makes them incomparable for purposes of illuminating policy.

4. Ms. Kovacs cited as an example that under the FCC's rules, Frontier cannot charge Skype at the wholesale level even while Skype takes away voice customers at the retail level from Frontier. She added that if carriers are forced to charge only for broadband access, the price for broadband access will increase and investment will fall. Do you agree with these views?

Ms. Kovac's analysis uses flawed economic reasoning. In brief, there is only a maximum value to be extracted in any market for services, and the maximum depends on the consumer's willingness to pay. The maximum does not change just because a market is competitive or monopolized. The fallacy is the premise that total value does change, when, instead, the only economic matter to change is the fraction of value captured by users or providers.

Here is an illustration of the flaw from Ms. Kovac's analysis. When users buy Frontier's services they do so accounting for that use of broadband. Their willingness to pay for broadband anticipates making calls over Skype. Hence, the broadband firm captures some of the value created by Skype's services in the price it charges, while Skype also captures some of that value because the broadband firm cannot single out Skype users for special charges. In contrast, if the broadband firm is permitted to limit a user's choice over phone services by blocking Skype (and others with similar services), then the broadband firm captures more value by monopoly pricing. In the latter case, total consumer expenditure is higher (i.e., prices for services are higher), and choice is more limited.

In short, broadband firm can increase its revenue, but only by becoming a monopoly provider of a valued service such as IP-telephony. The increase in value comes at the expense of users and the distribution of gains to other providers. Why would the US Congress want to encourage monopoly to become so central to the user experience? It would be terrible for users, for all competitive providers of services affected by the broadband firm, and for the development of competitive markets in the US more generally. Ms. Kovac's analysis failed to stress the loss to users, the loss for many other suppliers, and to the competitive process.

Ms. Kovac's analysis also underemphasizes the dynamic gains from a market structure where entrepreneurs vie for the right to provide services in a level playing field. Any gain to a broadband firm stockholder's comes at the expense of users, unaffiliated content firms, entrepreneurial content firms, future entrepreneurial content firms, and the competitive process

more generally. The US has had 15 years of experience with the present structure and watched many entrepreneurs compete for user attention. The latter has been an engine of growth, and made the US content firms the envy of the world. It would be a terrible policy to encourage the stockholders of a few broadband firms to gain so that US economic growth varies from this positive historical experience.

5. Ms. Kovacs testified that in her view, the economic impact of the FCC's Open Internet Order will be a "transfer of wealth" from broadband Internet access providers (e.g., Verizon, AT&T) to content providers (e.g., Google, Netflix). Have you had an opportunity to review Ms. Kovacs' testimony? If so, do you agree with her assessment? If not, why not?

I have reviewed her testimony. The analysis of the transfer of wealth is flawed.

First, as a matter of economic analysis the view is flawed. As explained in the prior answer, any gain to broadband firm stockholders comes at the expense of users, unaffiliated content firms, entrepreneurial content firms, future entrepreneurial content firms, and the competitive process more generally. The present structure has a fifteen year track record of dynamic growth that is worthy of preservation.

Second, as a matter of down-to-earth accounting, Ms. Kovacs' analysis presents an unrepresentative case. The illustrative case in Ms. Kovacs' testimony concerns Frontier's situation. It is not representative of the setting found in most of the United States. Frontier tends to cover low density area, and inherited a weak balance sheet as a result of organizational restructuring. The analysis also considered a build out case. Most of the major wireline broadband firms in the US do not cover low density areas, which are more expensive to serve. Close to 85% of the US population lives high density or medium density locations in which the per-household cost of a build out is inexpensive. Most of the broadband firms do not have weak balance sheets, and are quite healthy under any financial yardstick one might use. Finally, most are far past the vast majority of their initial plans to build out broadband.

The analysis in the National Broadband Plan, particularly Chapter 4, makes that latter point very clear, demonstrating that well over 82% percent of the US residences have access to two or more wireline suppliers of broadband firms who have *already built their networks*, while another 13% have access to one. This should be emphasized. In the near term the vast majority of US broadband firms will be upgrading their existing plant. This costs money, to be sure, but it is not as expensive as building greenfield broadband services.

Third, Ms. Kovacs' analysis should have stressed a different question, namely, whether most broadband firm today had sufficient gross margins to internally finance large scale investment projects for existing customers. It is quite clear they do. (A gross margin is the fraction of the dollar left over after variable expenses are paid. Such money goes to capital projects, stockholders and debt holders). With gross margins at 70% to 85% (as I said in the hearing), most major wireline broadband firms in the US will face no severe constraint financing upgrades to their existing plant. Hence, there is no financial crisis necessitating a change in policy to generate an implicit subsidy for broadband providers in high density locations.

Please note an important qualification to the above reasoning. It does not apply to the 5% of the population that lives in low density locations with no wireline suppliers, and, depending on policy preferences, it might not apply to the 13% with only one wireline supplier. Such locations do face access issues worthy of policy discussion. However, changing the open access rules for 95% of the population to suit the situation for only 5% would seem to be a poor policy tradeoff, and that would still be so if the trade-off was 82% for 18%.

6. Having reviewed the FCC's Open Internet Order, do you believe the Commission conducted the necessary market power and cost-benefit analysis?

The Order did not contain any significant departures from standard professional benchmarks for economic analysis for regulatory purposes. It is not clear what additional analysis would be required in practice.

In particular, the Order follows a logical argument, identifies clearly stated premises, and considers the appropriate range of arguments. It also identifies the relevant policy trade-offs and states why it made its choices. The Order also cites many other analyses presented during many of the hearings held by the FCC, and many of these did contain extensive analyses of the market's structure, and many of the policy options. Lastly, and in particular, in many places the Order builds on, and cites the extensive analysis of market structure contained in the National Broadband Plan, which was issued a year ago and contains the most thorough statistical analysis of the US broadband market ever conducted by a government agency. There was no need for the Order to recreate on the extensive market analysis in the current and existing public record.

7. Do you think passage of the Resolution of Disapproval will be good for innovation and investment? If not, why not?

I think passage of the resolution will be bad for innovation. There are two principal reasons for this conclusion.

First, the resolution throws the baby out with the bath water. That statement should be put this in context. In professional circles there is no professional disagreement for the importance of transparency for the conduct of operations in the Internet. The resolution throws those out, and despite widespread agreement about their value.

Transparency of carrier practices has an enormous value. Broadly speaking, transparency largely encompasses three activities, (a) timely information about firm procedures for carrying data and remaining interoperable with others; (b) timely notification about when those procedures change; and (c) general forecasts and procedures for allowing others to anticipate likely changes in the future. The Order codified the first two notions of transparency, helping ensure a uniform platform on which content firms can develop their applications. This was not controversial, and virtually every firm acknowledges that good citizenship in the Internet community requires such transparency.

Only one practice raises professional discussion about the implementation, the practices for making forecasts, which are costly to do well. That is a comparatively minor issue in the greater scheme of things.

Passing the resolution would remove all codification, which invites a rogue and selfish firm to depart from this norm, tempting others as well. The resolution prevents any regulatory action in the event that a rogue firm should behave in such a way. While I am hopeful that professional organizations and related social norms will keep most rogue firms in line, I cannot see any potential benefit in raising the likelihood of departures from the transparency presently found in most of the US carrier networks.

Second, as stated earlier, I also believe the other aspects of the Order, concerning blocking and discriminatory practices among broadband firms with dominant positions in their retail markets, help prevent established firms from blocking innovative activities.

8. Do you believe that concerns about Internet openness can be addressed adequately by antitrust law?

Yes and no. Yes, only if the major broadband firms continue to display an appetite for mergers, and only if US regulators continue to negotiate openness restrictions as conditions for mergers (as they have in the past). Otherwise, I would have to say no.

US Antitrust processes for mergers employ a routinized process, and it is about as predictable as is possible for such a varied activity. Many firms can anticipate this process because the Department of Justice long ago issued merger guidelines, helping legal counsel forecast its actions. The FCC also conducts merger review when it involves communications firms, and they tend to work closely with the DOJ. Experienced legal counsel in these industries can anticipate FCC concerns, and experienced legal counsel can anticipate the likely conditions the DOJ and FCC will negotiate as a precondition for merger.

In addition to that, many broadband firms have attempted mergers and faced antitrust scrutiny from time to time in the last dozen years. *Ad hoc* conditions were placed on broadband firms as conditions for the mergers. Any sensible observer would expect this to continue as long as broadband firms retain their appetite for merger.

Outside of these merger cases, antitrust tends to be expensive, blunt, and late. There are no such guidelines for the other areas of antitrust, such as the law for vertical restraints and monopolization attempts (namely, the areas discussed in the Order), and both of these areas are subject to multiple interpretations in a young and evolving industry, such as the Internet. The trials to determine damage and remedy in antitrust also tend to come far after the damage has been done to competitive processes, and long after effective remedies can be implemented at a low cost.

In brief, in an industry like the Internet, exclusive use of antitrust would give a dominant firm and a rogue firm sufficient time to do considerable damage to the industry. The potential danger and cost to the country could be quite high.

Well managed regulatory action can be quick, and focused, particularly when regulators have anticipated a likely set of issues, as they did in the Order. It comes with one obvious drawback, a lengthy implementation due to court review, as the present circumstances illustrate.