HEALTH OF THE TELECOMMUNICATION SECTOR: A PERSPECTIVE FROM INVESTORS AND ECONOMISTS

HEARING

BEFORE THE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

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HEALTH OF THE TELECOMMUNICATION SECTOR: A PERSPECTIVE FROM INVESTORS AND ECONOMISTS

WEDNESDAY, FEBRUARY 5, 2003

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
Washington, DC.

The subcommittee met, pursuant to notice, at 1 p.m., in room 2123 Rayburn House Office Building, Hon. Fred Upton (chairman) presiding.

Members present: Representatives Upton, Stearns, Gillmor, Cox, Whitfield, Shimkus, Wilson, Bass, Terry, Tauzin (ex officio), Markey, Davis, Gordon, Engel, Wynn, Green, and Dingell (ex officio).

Staff present: Howard Waltzman, majority counsel; Will Nordwind, policy coordinator; Hollyn Kidd, legislative clerk; Jon Tripp, press; Gregg Rothschild, minority counsel; and Brendan Kelsey, minority professional staff.

Mr. UPTON. Before the Chair recognizes himself for an opening statement, I have a brief unanimous consent request that has been shared with all members of the subcommittee yesterday.

As members may recall, there was a lengthy discussion about opening statements at our Energy and Commerce Committee organization meeting last week. Chairman Tauzin and Ranking Member Dingell discussed a possible committee rule change to address what are often very lengthy periods for opening statements.

The following request is modeled after that discussion. I would ask unanimous consent that during the period for opening statements, and prior to the recognition of our first witness for testimony, any member may completely defer his or her 3-minute opening statement, and instead of using the 3 minutes, transfer them during an initial round of witness questioning.

By way of explanation, a couple of points. One, if a member comes after all opening statements have been completed, he or she will be just entitled to the normal 5 minutes of questioning. And, two, members may only defer their statement completely, all 3 minutes, or not at all. That is, they can deliver a 1-minute opening statement and then reserve 2 minutes for questioning—that doesn't happen. That won't happen. It is all or nothing.

So is there discussion on the request? Hearing none, without objection, that will be the order, and the Chair thanks all members. And I will not waive my right to give an opening statement.

I will only get 5 minutes.

So good afternoon. I want to welcome everyone to the first hearing in the 108th Congress of the Telecommunications and Internet Subcommittee. I especially want to welcome our new members on both sides of the aisle. In addition, I want to especially recognize our able ranking member, Mr. Markey, and our vice chairman, Mr. Stearns, who is on his way. And I look forward to another productive 2 years.

While I am glad that we are meeting today, I wish we weren't meeting under these circumstances. It has been said that the telecommunications sector used to be the propeller of our nation's economy, but it is now the heavy anchor weighing it down.

The telecommunications sector has issued an SOS. The industry has lost more than half a million jobs and $2 trillion in market value. In addition, the sector is burdened by approximately $1 trillion in debt. And what I always considered industry giants in the telecommunications equipment manufacturing and infrastructure field—companies like Lucent, Nortel, Alcatel, Ericsson, Corning—they have suffered devastating layoffs and massive cuts in capital investment, and the news is no better elsewhere in the sector.

For Verizon, capital expenditures declined from $17.3 billion in 2001 to $11.9 billion in 2002. For SBC, capital expenditures dropped from $11.2 billion in 2001 to $6.8 billion in 2002. For Bell South, capital expenditures fell from $6 billion in 2001 to $3.8 billion in 2002. For Qwest, capital expenditures dropped from $8.5 billion in 2001 to approximately $3 billion in 2002. Thus, the total decline in capital expenditures from 2001 to 2002, just by the RBOCs, was $17.5 billion.

The long distance carriers have also experienced a decline in capital expenditure. AT&T's capital expenditures declined from $5.8 billion in 2001 to $3.8 billion in 2002. Sprint declined from $5.3 to $2.2.

Wireless companies have also experienced a significant decline in capital expenditures. In 2001, capital expenditures declined by 16.1 percent. In 2002, capital expenditures fell by more than 25 percent. For the whole sector, some estimate that the capital expenditures could decline an additional 30 percent in 2003.

Of course, the dramatic decline in capital expenditures throughout the sector is bad news for the consumer, since it means less investment is flowing in for infrastructure to provide new services or upgrades of the services that they already have. The question is: how can we lift up the anchor and get the telecommunications sector propelled and under full steam?

As I look at the evidence and speak with investment analysts and economists, I believe that the FCC's rules implementing the Telecommunications Act in 1996, particularly UNE-P and unbundling of new broadband facilities, have been a major contributor to the massive decline in investment in the telecommunications sector, particularly in facilities.

Of course, all of the downstream telecommunications equipment manufacturers have suffered greatly as a result of this, too. So it is not just an ILEC versus a CLEC problem. As I mentioned earlier, the consumer is losing out, too, and all boats seem to be sinking with this receding tide.

Now is the time for the FCC to act boldly and decisively to overhaul the regulations. Actions on the triennial review is due, and simply reshuffling the deck chairs on this sinking ship will not help.

February 26 the subcommittee hopefully will hear from Chairman Powell and the commissioners about the state of the telecommunications economy, and we anxiously await their testimony, not to mention action on the triennial review in the meantime.

Today we will hear from investment analysts and economists about the state of the economy, which will help us understand what we need to do to stem the tide of water rushing over the gunnels and turn that anchor back into the propeller of the nation's economy.

I yield to my friend Mr. Markey for an opening statement.

Mr. MARKEY. Thank you, Mr. Chairman.

The telecommunications marketplace is in the doldrums. No one disputes that. It is not entirely surprising that this is the case, because the overall economy is in the doldrums as well. The promise, however, of our telecommunications sector is that it might help lift us out of the current recession, and analyzing what can be done to restock the telecommunications revolution is a worthy inquiry.

Wireline competition for voice and data services, wireless competition from advanced mobile services to unlicensed Y-FI technologies, the development of increased competition and innovation from internet service providers, and competition in the video marketplace are all important areas where competition-based telecommunications policy can help to promote economic growth, create much needed jobs, drive innovation, and offer consumers choices.

How to best start economic activity in this key sector of our overall economy is a question that may have multiple answers and suggestions. It would be helpful if the subcommittee is afforded an opportunity to hear from all such legitimate viewpoints. As brilliant as today's panelists are in their own fields and areas of expertise, there are equally brilliant men and women who may differ dramatically from the conclusions reached or suggestions offered by today's panel.

For a variety of reasons, we were unable to get a broader crosssection of witnesses for the subcommittee hearing this afternoon, but my hope is that in the future the subcommittee will make a special effort to provide members of the subcommittee a balanced panel as is possible.

The health of a marketplace sector can be measured in various ways, and one's assessment of marketplace well-being depends on what one considers optimum health. The workforce looks to job growth and reasonable wage increases over time. Consumers typically look to choice, service quality, and price. Investors often look to the bottom line—that is, profitability. Manufacturers like to have many outlets for their products unless, of course, they think they will win the contractor's supply long term, one dominant provider.

Investor risk assessment of what is a healthy investment might put them at odds with consumers and workers. Dozens of companies engaging in fierce competition with other lower prices is what the vast majority of consumers look for. But for investors, that kind

of competition may not be good for investment, because it is a highly competitive marketplace, often with low profitability.

I think that prior to proposing myriad solutions to a problem it is useful to identify clearly and convincingly the problems we propose to remedy. So what is the problem? Is there insufficient competition? Are there too many regulations on the incumbent Bell companies?

Are the subsidies in the system for supporting universal service bloated and unnecessary? Or do we need more subsidies to encourage deployment of certain broadband technologies? Do current FCC regulations need to be modified, or should they simply be eliminated? Is our nation's immediate telecommunications policy goal deregulation or, rather, demonopolization?

The challenge for telecommunications policymakers for many years has been to reform telecommunications statutes and rules in a way that substitutes a sound competitive policy framework consistent with the public interest, for a hitherto monopoly provided services and rules by which such monopolies were regulated and safeguarded from competition.

I believe a competition-based policy is preferable, because it maximizes consumer choice, job creation, technological innovation, and service quality, and price reductions.

Last Congress the subcommittee heard testimony from Mr. James Henry, managing partner of Greenfield Hill Capital, who I think captured part of the problem very succinctly. He said, "It is my observation, as an industry analyst, that the investment community's willingness to fund telecom companies in general, and CLECs in particular, is adversely impacted by legislative and regulatory uncertainty."

Since passage of the Telecommunications Act, we have certainly seen ample uncertainty, through legal challenges to implementing rules, constitutional challenges to the act itself. My recommendation would be to abide by a sort of telecommunications Hippocratic oath. First, do no harm.

Thank you, Mr. Chairman. I look forward to hearing from the witnesses.

Mr. UPTON. Thank you, Mr. Markey.

Mr. Tauzin?

Chairman TAUZIN. Thank you, Mr. Chairman.

Let me first join with so many others who asked for prayers and thoughts for the families of the shuttle Columbia who lost their lives this weekend. We are actually going to reverse our schedules tomorrow that we can all mourn together, and I think it is important in every one of our hearings that we remember them again and particularly in our prayers.

Mr. Chairman, this is an important hearing. The fact of the matter is that whoever you use for service providers in this area have been shrinking, and capital expenditures by the same service providers have been plummeting. The numbers are astounding. The capital expenditures for the four baby Bells, for example, dropped $17.5 billion from 2001 to 2002. And the reduction in those expenditures doesn't just mean less, you know, new services to be offered consumers or better systems to offer those new services on. It

means that the equipment manufacturers are literally in the dumps.

The U.S. high tech equipment manufacturing base, in fact, is dying. Companies have laid off hundreds of thousands of employees, and they have idled many plants that used to be the economic backbone of their communities.

For example, Lucent, which employed 150,000 people in 1999, now plans to cut its workforce by 35,000 by the end of this year. And Corning has been forced to idle four of its five fiber optic plants. And, frankly, I am tired of seeing the distressed look of our colleague Amo Houghton when I meet him on the floor.

They can't afford to starve much longer, or they are gone. And it doesn't take an economic genius to figure out what is wrong here. All you have to know is that when you have rules in place that tell an incumbent telephone company, "If you build new facilities, your competitors can use them to steal your customers," and tells the competitor, "It is better for you to park your facilities, not use your own switches, because it is cheaper under the Federal rules to use the incumbent telephone company's facilities."

Now, common sense tells you that when you have rules like that in place that disincentivize the investment into new facilities by the incumbents, and actually create a condition with those who compete against those incumbents, who have built their own facilities, no longer use them because it is cheaper to use at the subsidized rates the facilities of the incumbent companies, but none of them have an incentive to invest in new facilities. The incumbents won't invest, the challengers won't invest, and the equipment manufacturers die on the vine.

Now it doesn't take an economic genius to figure that one out. And the first step this FCC ought to take is to rip the rules that were put in place by Al Gore and Reed Hunt out by the roots and throw them away. At the very least, our Republican members of the FCC should run a wholesale change in the regulatory approach that was taken by Al Gore and Reed Hunt.

The FCC needs today to show some real leadership and vision. The so-called UNE-P rules ought to be abolished. New facilities, especially fiber, should not be subject to unbundling rules. We ought to create an incentive for the incumbents to lay out that fiber and connect up America, and we ought to create an incentive for those who want to compete against them to build their own facilities, rather than to idle their facilities to you at subsidized government rates the facilities of their competitors.

We make that simple change, and investments will grow again. Equipment manufacturers will come alive again, and the sector of our high-tech economy might stop starving to death.

Mr. Chairman, thank you for holding this hearing today. I look forward to hearing the testimony of witnesses.

[The prepared statement of Hon. W.J. "Billy" Tauzin follows:]

PREPARED STATEMENT OF HON. W.J. "BILLY" TAUZIN, CHAIRMAN, COMMITTEE ON ENERGY AND COMMERCE

Mr. Chairman, thank you for holding this important hearing today. The telecommunications sector has sunk into a state of economic malaise. Revenues for service providers have been shrinking. Capital expenditures by service providers have

been plummeting. Capital expenditures for just the four Baby Bells dropped $17.5 billion from 2001 to 2002.

This has obvious implications for consumers because it means that service providers have less money to spend on making improvements to their current infrastructure and on deploying new equipment in order to offer advanced services.

But the reduction in capital expenditures has much worse implications for equipment manufacturers. The U.S. high-tech equipment manufacturing base is dying. These companies have laid off hundreds of thousands of employees and idled many plants that were the economic backbones of their communities.

Lucent, which employed 150,000 people in 1999, has announced plans to cut its workforce to 35,000 by the end of this year. Corning has been forced to idle four of its five fiber optics plants.

These companies cannot afford to starve for much longer. While there are business and general economic reasons that affect capital expenditures, government policy does play a part, and the FCC's current unbundling regulations are killing these companies.

Rules that require a company to share parts of its network, even new parts of its network, with competitors are perverse. These rules stifle investment by giving ILECs a disincentive to deploy new facilities. Why would you deploy new facilities when competitors can use that equipment to steal your customers?

The FCC's current rules also provide a disincentive for CLECs to deploy their own facilities. Under the FCC's twisted scheme, it is more cost-efficient for a CLEC to use all of an incumbent's facilities than to deploy its own equipment. And the fact that neither the ILECs nor the CLECs have an incentive to deploy new facilities means one thing for equipment manufacturers—they will continue to lay off people and close plants important to many of our communities.

Mr. Chairman, Michael Powell's FCC needs to rip the rules put in place by Al Gore and Reed Hundt out by the roots and throw them away. At the very least, our Republican FCC Commissioners should want a wholesale change to the overly-regulatory approach taken by Al Gore and Reed Hundt. The FCC must show leadership and vision in this area. The so-called UNE-P must be abolished and new facilities, especially fiber, should not be subject to the unbundling rules.

Only through these changes will all companies have the proper incentive to invest in new facilities. And only through these changes will equipment manufacturers ever recover.

Mr. Chairman, thank you again for holding this hearing today, and I look forward to hearing the testimony of our witnesses.

Mr. UPTON. Thank you, Mr. Chairman.

Mr. Dingell?

Mr. DINGELL. Mr. Chairman, I thank you. Mr. Chairman, I commend you for holding this subcommittee's first hearing on the dismal state of our nation's telecommunications industry. This hearing is very badly needed and will serve a very useful purpose. Corrective action is needed now to restore vigor to this vital sector of our nation's economy.

In the past 3 years, we have lost about 600,000 jobs amongst telecommunications carriers and equipment vendors. These were good, rewarding, and productive jobs. Many of them were union jobs. Capital investment is decreasing by tens of billions of dollars annually. In 2002 alone, there was a decline of roughly 47 percent in capital expenditures for the telecommunications industry. Without this investment, our ability to innovate and keep these high-paying manufacturing jobs in America over the long term is put at risk.

Telecommunications companies and the equipment suppliers lost better than $2 trillion in value since March of 2002. Millions of retirees and pensioners have been left with fewer assets to tend to their needs as they grow older. Bankruptcies litter the telecommunications landscape. Although the economic toll is great, the human toll may even be greater.

Last year we in the House did our part to revive the telecommunications sector. By nearly a two to one margin, we passed the Tauzin-Dingell bill to facilitate and to accelerate the deployment of broadband services to all Americans. That legislation, had it been enacted, would have reversed the cycle of disinvestment and created proper regulatory frameworks for new investment in broadband networks.

The high tech industry has made it clear that in filings before the FCC, and in numerous public statements, that liberating the last mile to the home from the outdated and unsuited old telephone network is critical to unlocking investment in broadband infrastructure and services. Our bill did exactly that, while preserving access of internet service providers to these networks.

Unfortunately, the bill died in the Senate, and opportunity was lost. Precious time has been wasted, and the American people have suffered. The state of the industry tends to show that it was an unwise act by the Senate.

But another opportunity lies now in front of us. The FCC has five major pending proceedings before it, the outcomes of which have the potential to reshape the telecommunications industry, and I believe in a desirable way. The most imminent of these decisions involves reexamination of the obligation of incumbent local exchange carriers to unbundle their network elements and to provide them to competitive local exchange carriers at wholesale rates.

Last week I joined Chairman Tauzin, subcommittee Chairman Upton, and 19 other members of this committee in sending a letter to Chairman Powell outlining our reviews regarding key aspects of the Commission's triennial review. I would counsel the FCC to read that letter with great care. I also would ask unanimous consent that it be inserted in the record following my statement.

Mr. Chairman, let me reiterate a few key points. First, it is time to abolish the UNE platform or UNE-P method of resale. It is a curious, and, indeed, bizarre invention of the Commission that subverted both the language and the clear intent of the 1996 Telecommunications Act. Perhaps more than any other failing of the Commission in implementing the 1996 Act—and its failings have been very many—UNE-P has been destructive of the capital and infrastructure investment in the telecommunications sector.

Second, as a part of its statutory and court-mandated analysis of the network elements that must be unbundled, the Commission should conclude that there is no ILEC obligation to provide unbundled access to fiber loops and sub-loops used for the transmission of packet-based services. Such a rule would open the door to new investment in broadband networks, enabling consumers to reap the benefits of high-speed internet services.

Finally, the FCC must discharge its clear responsibilities under the 1996 Act, which do not permit it to defer to the States as it undertakes its review of which network elements must be provided on an unbundled basis. This is a defining moment for the Commission.

The committee can help the Commission to understand that fact. It can put us back on the road to facilities-based competition. It can reconfigure the regulatory environment to provide incentives for investment in equipment and infrastructure. Now is the time for de-

cisive Commission action. If the Commission fails, then the Congress must act.

Mr. Chairman, I commend you for the hearing, and I thank you for this opportunity to present this statement.

[The letter follows:]

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
January 29, 2003

The Honorable MICHAEL K. POWELL
Chairman
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

DEAR CHAIRMAN POWELL: We ask that you take prompt action to change misguided regulations that have badly distorted important telecommunications policies. As we first made clear with our colleagues in our letter of September 12, 2002, Congress intended the Telecommunications Act of 1996 ('96 Act) to promote choice and competition for local exchange and other services—ultimately through facilities-based competition. In this respect, the implementation of the '96 Act by the Federal Communications Commission (FCC) has been a failure. Rather than fostering facilities-based competition, the FCC's local-competition rules have encouraged competitive local exchange carriers (CLECs) to rely exclusively on networks owned and operated by incumbent local exchange carriers (ILECs) to provide services to residential consumers. These policies subvert the intent of the '96 Act and must be reversed.

The '96 Act prescribed three methods of competitive entry for CLECs: reselling an ILEC's service, using a CLEC's facilities exclusively, and using a CLEC's facilities in combination with an ILEC's facilities through the purchase of unbundled network elements from the ILEC. However, the FCC distorted the '96 Act's requirements to manufacture a fourth method of entry by creating the unbundled network element platform or UNE-P—in essence a back-door way of forcing the ILECs to resell the entire local phone service. To further exacerbate the problem, the FCC developed a pricing model for the UNE-P that is based on a hypothetical cost model rather than on actual operating costs. The hypothetical model permits CLECs to lease network elements at a price that is lower than what it cost ILECs to purchase and maintain the elements.

As a result, the FCC created a regulatory fiction that provided CLECs with a disincentive to invest in their own facilities. No competing carrier has an incentive to risk capital and invest in its own facilities when it can simply lease an ILEC's network elements at below-cost prices and resell the service. Recent FCC data has confirmed the absurdity of this policy. According to the FCC's 2002 Local Competition Report, the number of customers served by CLECs using UNE-P increased from approximately 500,000 in 1999 to 7.5 million at the end of June, 2002.[1] Ironically, AT&T and Worldcom, which are reported to have more than one million UNE-P customers in New York state, operate at least 28 local circuit switches in New York, but do not use the switches to provide local service to these customers.[2]

There is no question that the '96 Act contemplated that a CLEC would be permitted to use elements of an ILEC's network in combination with elements of the CLEC's network. But the UNE-P is a regulatory fiction that must be eliminated.

In addition, in the context of the Triennial Review, the FCC must produce a sensible national policy regarding which network elements meet the '96 Act's stringent "necessary and impair" analysis and, therefore, must be provided on an unbundled basis. Delegation of that determination to the states would be a gross abdication of the FCC's statutory responsibility and a clear violation of the law.

Section 251(d)(1) of the Communications Act, as amended by the'96 Act, requires the FCC, not the states, to "complete all actions necessary to establish regulations to implement the requirements of this section," including the determination of which network elements must be made available on an unbundled basis. Section 251(d)(2) requires the FCC to determine, for network elements that are not proprietary in nature, "whether the failure to provide access to such networks elements would impair

[1] In contrast, the number of customers served by CLECs using their own switching increased from approximately 1 million in 1999 to 4 million at the end of June, 2002. In addition, the number of customers served by CLECs reselling an ILEC's service *declined* from approximately 4.5 million in 1999 to 3.5 million at the end of June, 2002.

[2] Telecordia, Local Exchange Routing Guide (LERG), January 2002.

the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer." While Section 251(d)(3) permits the preservation of state access regulations, such regulations cannot "substantially prevent implementation of the requirements of this section and the purposes of this part." Thus, if the FCC determines that the lack of access on an unbundled basis to a particular network element would not constitute an "impairment" under Section 251(d)(2), any state regulation that required unbundled access to that element would violate Section 251(d)(3).

The FCC, therefore, must engage in a rigorous analysis to justify why ILECs should be required to unbundle network elements, and a conclusion by the FCC that an element does not have to be unbundled cannot be contradicted, ignored, or overruled by state regulations. As the FCC conducts this analysis, there are particular elements that should not have to be provided on an unbundled basis in accordance with Section 251(c)(3).

For example, circuit switching should not have to be provided by an ILEC on an unbundled basis, with the possible exception of an extremely limited number of remote and rural areas.[3] More than 200 CLECs operate approximately 1,300 local circuit switches.[4] According to the National Cable and Telecommunications Association, by June 30, 2002, cable companies were providing telephone service to approximately 2.1 million subscribers, primarily over their own switches. How could the FCC determine that a CLEC would be impaired if it did not have access on an unbundled basis to an ILEC's circuit switch when thousands of such switches are being self-provisioned by hundreds of CLECs serving millions of customers?

Nor should the FCC require ILECs to provide unbundled access to fiber loops and subloops used to transmit packet-based services. The telecommunications manufacturing sector has been devastated by the dramatic decline in capital spending by telecommunications carriers and broadband service providers. While capital spending has declined for several reasons, the FCC's requirement that ILECs provide access on an unbundled basis to new facilities is one of the primary reasons why ILECs have reduced their capital investment. We cannot expect ILECs to invest in and deploy new facilities when they are required to share such facilities with competitors at below-market prices. Moreover, the pervasive deployment of fiber loops and subloops would dramatically improve the types of services that consumers could access at home and at work. While access to broadband services transmitted over copper loops has increased over the past several years, such services pale in comparison to the types of capabilities that consumers could enjoy if fiber accounted for a greater portion of so-called last-mile facilities. Our nation's consumers deserve no less. In addition, telecommunications equipment manufacturers need the "shot-in-the-arm" that would accompany massive investment in fiber deployment by ILECs.

The FCC's impairment analysis regarding fiber loops and subloops should support a conclusion that such facilities should not be subject to the unbundling requirement. The FCC's impairment analysis must take into consideration the fact that ILECs do not enjoy an advantage over CLECs with respect to investment in new facilities. The tens of billions of dollars that cable companies have invested to deploy fiber-based facilities throughout their networks demonstrates that investment made after the enactment of the '96 Act requires a different impairment analysis than facilities that have been deployed by ILECs for decades. Not surprisingly, the cable companies have made this investment in the absence of the unbundling regulations currently imposed on ILECs.

Mr. Chairman, your agency faces a tremendous responsibility. The future of the U.S. telecommunications equipment manufacturing base will be greatly affected by the outcome of the Triennial Review. You have an opportunity to remove regulatory impediments to investment in new networks and to facilities-based competition. The current rules have greatly undermined the achievement of these important goals. We strongly urge you to reshape the FCC's existing framework and put the telecommunications sector on a path to increased investment and greater facilities-based competition.

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[3] Packet switching should also not have to be provided on an unbundled basis. The FCC in the UNE Remand Order already acknowledged the pervasive deployment of packet switching by CLECs and declined to require packet switching to be unbundled except in limited circumstances. Given the even greater CLEC deployment of packet switching today, the FCC should eliminate the unbundling requirement for packet switching in all circumstances.

[4] Telecordia, Local Exchange Routing Guide (LERG), January 2002.

We look forward to your response to our correspondence and to you and your fellow commissioners testifying before the Committee on Energy and Commerce's Subcommittee on Telecommunications and the Internet in the coming weeks.

Sincerely,

W.J. "BILLY" TAUZIN, FRED UPTON, JOE BARTON, NATHAN DEAL, RICHARD M. BURR, JOHN M. SHIMKUS, VITO FOSSELLA, ROY BLUNT, STEVE BUYER, GEORGE RADANOVICH, GREG WALDEN, CHARLES BASS, MARY BONO, LEE TERRY, JOHN D. DINGELL, RICK BOUCHER, EDOLPHUS TOWNS, BOBBY L. RUSH, ELIOT ENGEL, ALBERT WYNN, , GENE GREEN, AND CHRIS JOHN.

cc: Commissioner Kathleen Abernathy
Commissioner Jonathan Adelstein
Commissioner Michael Copps
Commissioner Kevin Martin

Mr. UPTON. Thank you great gentlemen from the State of Michigan.

Mr. Shimkus?

Mr. SHIMKUS. Well, Mr. Chairman, I would be the first one to waive my opening statements and claim 3 minutes for questions.

Mr. UPTON. Done.

Mr. Whitfield?

Mr. WHITFIELD. I would like to waive my opening statement.

Mr. UPTON. Mr. Stearns?

Mr. STEARNS. Mr. Chairman, I want to exercise——

Mr. UPTON. The gentleman is recognized for 3 minutes.

Mr. STEARNS. Thank you, Mr. Chairman. And I commend you for having this hearing.

I was part of the Telecom Conference Committee when we passed the Communications Act and saw the possibilities, and I think for a while there we thought that it was working. And, of course, recently we have seen a lot of nosedive in businesses and bankruptcies, and capital investment has come down.

But I submit that part of this is just the normal business cycle, and also I submit that part of this is dealing with the Financial Accounting Standards Board. As chairman of that subcommittee with jurisdiction over that, I feel a lot of what happened was an overextension of capital, and a lot of these companies that went into bankruptcy were cooking the books. So you can't stop people from cooking the books unless you have an accounting standard which is transparent, which we don't have.

And I submit, Mr. Chairman, that we still need more transparency with the financial accounting standard. But I think you and the full committee chairman have touched on a very important aspect about this whole problem, and that is the regulatory uncertainty, and I am sure some of the witnesses will bring that out.

Perhaps the Act, when it was implemented, created a regulatory morass of rules and procedures that are overreaching and bureaucratic and unnecessary, so that would be good to find out if that is true today. There is a number of things that the FCC could do, and I hope they will do.

Mr. Chairman, I have always submitted, and I think Chairman Tauzin would agree, that if we could get more spectrum for third generation wireless, that would be an impact, enormous impact for the telecommunications industry by freeing up the analog, the UHF on the video—the television, to give them that third spectrum—that spectrum for the third generation.

And, second, if we could iron out the additional content rules so that high definition television could start to explode. And, third, if broadband could be more available to all the public, so that, in fact, instead of an ISDN line or a DSL line or a 56K modem, you had broadband, a million or 2 million kilobits per second.

Now, you would leave your computer on. You would be able to download videos, pay for them, download CDs, and there would be an enormous increase in productivity in America. So third generation wireless, high definition television, and broadband are three of the areas that I think would help. And regulatory uncertain in this area would be helpful if the FCC would move to alleviate that problem.

I will conclude by saying that in a capitalistic system like we have we can expect up and downs, and I think the market will come back. And, obviously, I think the government should get out of the way and let industry have the opportunity to do so.

And I thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Stearns.

Mr. Wynn?

Mr. WYNN. Thank you, Mr. Chairman. I appreciate the trend that seems to be evident of members waiving, and I also appreciate the chairman's wisdom in giving us the option to defer. And so I will take advantage of that at this point. Thank you.

Mr. UPTON. Thank you.

Mr. Gordon?

Mr. GORDON. I will also defer, so we can get on and listen to our witnesses. thank you.

Mr. UPTON. Mr. Gillmor?

Mr. GILLMOR. Thank you, Mr. Chairman, and I will be brief.

You know, what a tremendous difference just a little bit of time makes. A few years ago telecom stocks were going through the ceiling. Profits were strong, and all departments were talking about the endless growth in telecom. Employment was high.

Then, everything hit the wall, and revenues actually declined for a lot of companies, and they still are. There are billions of dollars of investment lost, very little investment, very little now in equipment, and for those affected worst of all, there were tens of thousands of people laid off probably permanently.

So I guess what I would hope we would have—I would like to let them answer—the panelists answer the questions that have been raised on the FCC rule as it affects the regional telephones and what impact that has had on investment and will have in the future. But also, I would like to know whether this group thinks something has fundamentally changed in telecom. Is it still a growth industry, or are we going to see kind of a stable—more of the same for the next couple of years?

So those are the kind of things hopefully that will be developed. I do have a statement that I would ask go into the record in addition to what I have just said. And with that, I will waive back, Mr. Chairman.

[The prepared statement of Hon. Paul E. Gillmor follows:]

PREPARED STATEMENT OF PAUL E. GILLMOR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

I thank the Chairman for the opportunity to address the health of the telecommunications sector, as well as providing an environment in which Members are offered the chance to learn more about and discuss this important subject without any kind of commitment to supporting or opposing specific legislation.

Over the years, this subcommittee has been active in keeping pace with the high-speed developments in the private sector. However, we must also give special attention when the telecommunications industry is facing difficulty. There is no question that this sector is experiencing a decline in business and investment. With the lack of new infrastructure, equipment suppliers suffer, as do service providers and their employees, further stunting research and development. Ultimately, this slows consumer spending and demands for telecommunications services.

Keeping this scenario in mind, I look forward to hearing from the expert witness panel of investors and economists, and in particular, any feedback regarding potential regulatory solutions, such as the Federal Communication Commission's (FCC) upcoming unbundled network element (UNE) Triennial Review.

In my home state of Ohio, incumbent local exchange carriers (ILECS) employ thousands and serve many more. In my rural district in Northwest Ohio, one incumbent local phone company employs 325 employees, serving 138,000 of my constituents. They, along with others, have consistently conveyed their concerns regarding competitors' exclusive reliance on their networks, preventing facilities-based competition. They are also troubled by the potential regulation of voice services into an already competitive broadband market. I also share their concerns, and feel that this hearing is certainly a step in the right direction, as Congress should continue to focus on spurring growth within the telecommunications sector.

As we all are aware, there is a great deal of controversy with respect to the deployment of broadband services. This complex issue has divided Congress and the American people, as well as polarized segments of the telecommunications industry. However, we also know that broadband deployment is essential, especially in rural America. Communities equipped with broadband technology provide an environment conducive to encouraging economic growth by attracting new business, residents, knowledge, and jobs.

Again, I thank the Chairman and yield back the remainder of my time.

Mr. UPTON. Thank you.

Mrs. Wilson?

Mrs. WILSON. Thank you, Mr. Chairman. I would ask unanimous consent that at the appropriate point in the record to include a piece of research by J.P. Morgan, U.S. Equity Research, and it is entitled "Communications Equipment: Potential FCC Ruling," and it is dated January 16, 2003.

US Equity Research
J.P. Morgan Securities Inc.
January 16, 2003

Communications Equipment

Potential FCC Ruling a Red Herring for Tech Investors

- We believe the upcoming rulings out of the FCC should have little to no impact on carrier spending at the large integrated equipment vendors and therefore are non-events for any of the 6 companies in our coverage universe (LU, NT, TLAB, CIEN, JNPR and CSCO).
- Of the many rulings likely to come out of the FCC in early '03, the two that have most captured the attention of equipment investors are the new list of UNE

requirements - which will likely include definitive sunset provisions for switching - and the reclassification of DSL as an information service.

- We firmly believe that RBOC spending will only increase in response to a re-accleration in revenue growth - an event that we believe is far more dependent on macro and secular issues then on the return of the roughly $2.3B in revenue lost to CLECs from UNEP.
- We also firmly believe that the notion of CLECs being forced to purchase their own switches to continue providing local service offerings in response to an FCC ruling is unreasonable.
- Finally, conversations with key contacts in DC lead us to believe that the new regulatory framework the FCC is purported to present will likely be tested in court almost immediately leading to a prolonged legal battle before any impact could be felt anyway.

Introduction

There appears to be much controversy in the investment community over the impact on equipment spending, primarily by the 4 RBOCs, from the outcome of the FCC's triennial review proceedings that we expect to conclude in the late February, early March timeframe. Concurrent with the results from the triennial review, we expect the FCC to present a ruling on the classification of DSL, as either a telecom service falling under Title II of the Telecom Act as it does now, or as an information service falling under Title I. The primary difference between the two is that information service offerings do not fall under the unbundling and resale requirements that telecom services do. After examining the issues involved in these two proceedings, we strongly believe that the outcomes should have little to no impact on carrier spending at the large integrated equipment vendors and therefore are non-events for any of the six companies in our coverage universe (LU, NT, TLAB, CIEN, JNPR and CSCO). Juniper and Cisco especially do not stand to gain any boost in topline from the FCC rulings since neither IP routers nor Ethernet switches are at the heart of the RBOCs' traditional spending patterns.

We state our specific points below in a point/counter-point format, but we would also note that regardless of the eventual impact of the FCC rulings , we fully expect the UNE ruling to be tested in court by the state PUCs seeking to protect the jurisdiction of their regulatory authorities over the FCC. We would therefore not be surprised to see this situation leading into a protracted court battle lasting through the end of the year. We treat the two rulings and the ramification from each separately.

Unbundled Network Element Reform

The Issue: The Telecom Act of '96 identified the need for the FCC to create a list of network elements that ILECs would be required to lease out to competitors (or CLECs) to help jumpstart the competitors' business models without the need for enormous sums of initial capital. Along with the list, the FCC was mandated to create a pricing framework to be used individually by each state PUC (Public Utility Commission) in order to set the lease prices for each of the network elements specified in the list. The pricing framework developed by the FCC and followed by the states is known as TELRIC (Total Element Long Range Incremental Cost). The states were also given the power to add any new elements to the FCC's master list that they deemed appropriate for their state. The idea was simple. Instead of having to deploy a massive duplicative local network from scratch, competitors could focus on building only parts of their network

needs while leasing the others from the incumbent, all the while moving slowly towards a fully facilities based model as the customer bases scaled.

Over the last 2 years, the RBOCs have aggressively raised the issue that many of the CLECs (including especially AT&T and WorldCom) are leasing out all of the network elements on the list at total discounts of 40%+ off of the retail customer price and have little interest in eventually moving to a facilities based system. The practice of leasing all network elements has become known as leasing the UNE-platform, or UNE-P. At the same time, for various esoteric reasons, the FCC's latest list of network elements was vacated (for the 2nd time) by the DC Circuit Court of Appeals and the FCC was given until mid January to draft a new list and to better support its decisions.

In the creation of the new list, we and many others, now expect the FCC to take the opportunity to judiciously remove switching from the list under certain circumstances pertaining to the level of competition in a given area, thereby making it no longer possible for CLECs to avoid the capital outlays involved with deploying their own networks. This naturally has sparked a multi-faceted debate over whether the FCC's actions could trigger a bounce in spending and thereby a boon to vendors. While this conclusion is tempting, we believe the answer is a resounding no. In the paragraphs below, we list the major pro-spending arguments we have heard, followed by our rebuttal to each one.

Myth 1: RBOC spending is down because of the current UNE-P and TELRIC regulatory environment that dis-incents investment in new network plant. Therefore, once the regulatory environment changes, RBOC capital spending is free to move back up.

Our Response: The first question we ask is back up to where? In our initiation report, we showed that RBOC spending from 1996-2001 rode a wave of excess that was uncharacteristically out of pattern with any historical measure of spending. This myth also presupposes that UNEP and TELRIC are the primary cause of the severe falloff in RBOC CAPX when in fact they are but one of many, many reasons, and a relatively small part of the total picture at that.

We believe that RBOC spending is actually down primarily for the following 4 reasons:

1. It climbed unnaturally high during the bubble period from '96-'01 that the comparisons are now skewed;
2. Revenue, especially data revenue from special access sources such as T1s, T3s and OC-Xs, is down for the first time in well over a decade;
3. Access line counts are also declining for the first time in over a decade and are retracing the gains made in the '90s when fax machines and dial-up internet modems drove 2nd line penetration north of 20%;
4. Wireline long distance minutes, which peaked at 531 billion in 2000 fell 6% in 2001 and are driving down access revenues with them as people migrate their long distance calling minutes over to cheaper wireless calling plans or substitute them entirely by using email.

In truth, RBOC spending in 2003, roughly $19B by the companies' own guidance, will be only 10% below the RBOC spending total in 1995, the year before the Telecom Act was passed and local competition shifted into high gear. It is also interesting to note that RBOC spending had been relatively flat at the $21B level for over 6 years prior to 1995 and this was during an era of over 3% access line growth, and a rate-of-return regulatory environment. Without a return of topline growth, we do not expect RBOC spending to pick up regardless of the outcome of the FCC's proceedings.

Myth 2: RBOC revenues could rebound if UNE-P is legislated away leading to a turn around in RBOC spending policies.

Our Response: With only 11 million UNE-P customers, RBOC toplines have not been substantially impacted by UNE-P competition. Assuming the average local phone bill is $35/month and the average UNE discount is 50%, we calculate that the cumulative annual revenue loss for the RBOCs thus far has been only $2.3 billion which is 1.8% of aggregate RBOC wireline revenues of $130 billion and 1.5% of total aggregate RBOC revenues of $160B. Furthermore, since the UNE-P is a wholesale service, UNE-P customers are still being switched by the RBOC switches meaning that even if the RBOCs win back the UNE-P customers, the switching ports are already in place to serve them. Hence a transfer of UNE-P customers back to the RBOCs does not drive incremental spending since the RBOCs would not need to buy new equipment. The only change that would occur is the company doing the billing.

Myth 3: With the elimination of UNE regulation, the competitive providers, namely AT&T and MCI, would be forced to replicate the switching needed to serve customers and thereby drive industry spending.

Our Response: We strongly believe that the RBOCs are willing to "play ball" with the CLECs and continue to offer both switching and a complete wholesale access line service very similar to UNE-P to avoid forcing others into becoming true facilities-based competitors (see Classification of DSL below). They just want to paid more it. SBC's proposal of a single-rate $26/month wholesale charge is the perfect example of this. We believe the RBOCs would much rather lose a portion of customer revenue than lose the customer entirely. Further, it is only economic for a CLEC to buy its own switch in areas where it has significant scale, a situation that we estimate applies in less than 30% of the UNE-P lines in existence today.

Myth 4: UNE-P competition has depressed RBOC capex to sales ratios below sustainable levels. This is evidenced by current capex to sales ratios that are far below those from the 1980s and 1990s.

Our Response: First, as we outlined in our initiating coverage report, we believe the RBOCs are still working through old spending and equipment inventories acquired through the excessive spending during the last three years. Second, back in the 1980s, the RBOCs were largely regulated under a Rate of Return regulatory regime. Under this type of regulation, the RBOCs were somewhat forced to invest a certain percentage of their profits in order to justify new rate increases. Under the current price-cap regulatory regime, not to mention the more competitive marketplace, new capital spending is not automatically rewarded through higher rates. Hence, the RBOCs are now incented to improve spending efficiency and are therefore capable of producing capex to sales ratios below historic levels. Furthermore, the technology enhancements implicit in the equipment the RBOCs have deployed over the last several years have created efficiencies allowing the RBOCs to sustain the same level of revenues as they had before at a lower overall level of capex.

Classification of DSL

The Issue: For lack of any regulatory clarity in the '96 Telecom Act, DSL has been de facto classified as a standard *telecom service* submitting it to the same unbundling and resale requirements that govern standard access lines. In fact, the primary reason the '96 Telecom Act does not officially classify DSL is that DSL didn't even exist in 1996

(outside of R&D laboratories that is). The primary complaint raised by RBOCs on this issue has been that the main competing technology to DSL, cable modems, has been classified not as a *telecom* service, but as an *information* service, making it not eligible for either unbundling or resale.

While we cannot predict the exact outcome of the FCC proceeding surrounding this issue, we believe it is likely that the FCC could in fact reclassify DSL as an information service, thereby providing a measure of "broadband parity" between DSL and cable modem technology. The issue for equipment investors then is what the incremental spend out of the RBOCs would be under the assumption that DSL gets reclassified. While we agree that a pro-broadband parity ruling out of the FCC would incent the RBOCs to roll out DSL to a greater number of markets and therefore would spur a small spend on remote terminals and DSLAM equipment, we believe the aggregate spend would be measured in the hundreds of millions of dollars, be spread out over multiple years, and not appreciably impact equipment vendor toplines.

Myth 1: The RBOCs have delayed spending on broadband access services and have delayed rolling out remote terminals (RTs) and DSLAMs in areas because of ambiguity and uncertainty with unbundling rules.

Our Response: As we say above, this one is somewhat true. However, DSL is already available in approximately 63% of SBC's territory and 55% of Verizon's. The RBOCs have long stated that they only intend to rollout service to approximately 75% of their territories, and naturally started with the "sweet spots" with the highest demand. Recalling that wireless penetration in the US stands at approximately 55-60% and PC penetration at 60-65%, we find it unlikely that pushing DSL availability out to 75% of the RBOC's territories will unleash a huge pent up demand for the service that would make a meaningful impact on either backhaul traffic levels or on DSLAM port growth.

Myth 2: Once DSL availability increases, adoption should increase, which leads to increased usage and increased traffic on the networks. New network spending by the RBOCs, therefore, would have to increase to match the higher flow of Internet traffic.

Our Response: Carrier networks are optimized to carry peak load traffic. DSL is largely a residential technology used mainly on nights and weekends and consumes very little bandwidth relative to the high-capacity data needs of businesses during the day. We therefore do not believe carriers would need to increase backbone spending to support a potential surge in the DSL user population since the additional traffic from millions of off-peak DSL users does not even come close to comparison with the usage needs of corporate America during the peak daytime period. And if the aggregate traffic created does not push the peak load on the network, no additional network capacity spend is required.

In addition to that, I would have some questions that I would like to have submitted for the record if—in the eventuality that I am not here at the time that you come to me.

Mr. UPTON. Without objection.

Mrs. WILSON. Thank you, Mr. Chairman. And with that, I look forward to hearing the witnesses.

Mr. UPTON. Thank you.

Mr. Terry? Mr. Terry defers.

Okay. The experiment worked. Congratulations.

[Additional statement submitted for the record follows:]

PREPARED STATEMENT OF HON. BARBARA CUBIN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

Thank you, Mr. Chairman.

I would like to thank you all for coming Today to share your views on the health of the telecommunications sector.

As experts on economics and financial markets, I look forward to hearing your testimony.

As you know, since the passage of the Telecommunications Act of 1996, we have seen a great deal of change in how these important services affect our country; from home and work, to security and defense, and as an engine helping drive our economy.

Hindsight has shown us that there is a close correlation between the economic boom of the late 1990's, and the passage of this act. Today, however, we are witnessing a steep decline in capital expenditures by the telecom sector which appears to be having a substantial effect on the health of the economy. Now that this act is reaching a point of maturity, we need to ascertain what barriers exist to maximizing the benefits customers receive while giving companies a firm, clear and dependable regulatory environment to compete in.

In this hearing I would like to learn your opinions about these barriers: are they regulatory in nature? Can congress address them? Or are they simply manifestations of the business cycle? In short, we must find the cause and fix it before it's too late. With equipment manufacturers downsizing and investment in new technology stalled, we need to exhaust our options as a Congress, if necessary, to right the ship and achieve the true intent of the Telecommunications Act.

An important issue to me is the closing of the gap between rural and urban service. Representing a rural state, I know firsthand how important telecommunications are to Wyoming residents. They are a lifeline. Often with hundreds of miles separating cities, our phone lines allow us to connect to our neighbors, the Internet, and participate in the global economy, and do so while living in our rugged, frontier state. Unfortunately, rural America lags behind the rest of the country in comprehensive choices and innovative telecommunications solutions. I would like to see that changed.

I do understand that there are inherent costs in serving rural markets that don't exist in other places. Nevertheless, it is important to ensure that any legislative solution or regulatory approach that is taken keep these real and serious concerns in mind.

I look forward to hearing your testimony and welcome you to the Subcommittee.

Mr. UPTON. We are delighted to have a panel of outstanding witnesses today, and we will be led off by Mr. Robert Atkinson, Director of Policy Research-CITI, from Columbia University; Mr. Blake Bath, Managing Director of Lehman Brothers, Equity Research; Mr. Steve Brodeur, President of Cambridge Strategic Management Group; Mr. Robert Crandall, Senior Fellow of The Brookings Institute; and Mr. Eric Strumingher, Investment Analyst for Cobalt Capital.

And, gentlemen, we appreciated getting your testimony in advance. It is all made part of the record in its entirety, and I would like to limit your opening remarks to 5 minutes. And we will start with Mr. Atkinson. The time is yours. Welcome.

STATEMENTS OF ROBERT C. ATKINSON, DIRECTOR OF POLICY RESEARCH, CITI, COLUMBIA UNIVERSITY; BLAKE BATH, MANAGING DIRECTOR, LEHMAN BROTHERS, EQUITY RESEARCH; STEPHEN B. BRODEUR, PRESIDENT, CAMBRIDGE STRATEGIC MANAGEMENT GROUP; ROBERT W. CRANDALL, SENIOR FELLOW, THE BROOKINGS INSTITUTE; AND ERIC STRUMINGHER, INVESTMENT ANALYST, COBALT CAPITAL

Mr. ATKINSON. Good afternoon, Mr. Chairman and members of the subcommittee. My name is Robert Atkinson. I am currently Director of Policy Research at the Columbia Institute for Tele-Information, CITI, at the Columbia Business School in New York.

I am appearing here today in my personal capacity rather than on behalf of CITI, and I am bearing all the expenses of being here. And I am glad to do so.

From 1985 to mid-1998, I was responsible for the regulatory and public policy matters of Teleport Communications Group, TCG, which was the first, and certainly by current standards the most successful CLEC. TCG, I should note, was very much a facilities-based CLEC. I was personally and deeply involved in all of the legal and regulatory policy battles that shaped the first 13 years of local competition. It started well beyond 1996.

In addition, and after a decade as a private company, I helped to take TCG public in mid-1996 and saw how much investor sentiment shapes the evolution of a business. Shortly after TCG was acquired by AT&T in mid-1998, I had the good fortune of being recruited to be a deputy chief of the FCC's Common Carrier Bureau.

I developed the greatest respect and sympathy for the FCC during my 18 months at the agency. The Commission was, and still is, attempting to implement an ambiguous statute, the Telecom Act of 1996, while the view of the industry was, and still is, changing more quickly than regulatory due process and agency workload can possibly accommodate.

One obvious problem was that there was little or no experimental evidence for the Commission to evaluate, just endless speculation, hypothesis, and rhetoric. I should also note that during the very good times of the telecom boom there seemed to be very little concern among the parties petitioning the FCC about the fundamental health of the telecom industry or whether any of the decisions the FCC was taking might have a fundamentally adverse impact on the industry's health in the future.

So what about the health of the telecom sector, and what is the impact of regulation on that health? Briefly, as we have obviously heard this morning, the overall health industry is poor, but it is slowly improving. Clearly, some companies are in critical condition and may not recover, and it is too soon to predict when or if there will be full recovery from any others. It is also too soon to know precisely how much regulation has contributed to the meltdown, although I am sure it is probably—it was a contributing factor.

It is worthwhile to note that the telecom meltdown was a simultaneous worldwide event, and that each country has different laws and regulations and different degrees of regulation. I suppose it is possible that the simultaneous nature of the meltdown around the world was just coincidence and that the U.S. meltdown, in fact, could be largely attributable to the peculiarities of U.S. regulation.

However, it is more likely that regulation played a relatively minor role, and that other common factors, such as the laws of physics and the laws of human nature, which are the same in all countries, are more responsible.

CITI is in the midst of getting to the bottom of your questions that you have asked us to address. With a grant from the Alfred P. Sloan Foundation and supporting grants from a cross-section of the telecom industry, CITI has embarked on a year-long project entitled "Remedies for Telecom Recovery."

While our research and recommendations are far from complete, I believe that my CITI colleague, Professor Eli Noam, has put his

finger on the reason for the poor health of the telecom sector. He summed it up simply in just two words: fundamental volatility. If the telecom industry has entered a period of chronic volatility, which is brand-new, we have never had this volatility before, boom-bust cycles will become the norm rather than just a one-time aberration.

As we have discovered over the past 2 or 3 years, telecom managers, investors, and regulators have few tools and little or no experience in dealing with the uncertainties of a volatile boom and bust. Deer in the headlights is an apt description of how industry, government, and investors reacted to the meltdown. We need to do better than be a herd of deer next time.

One thing we can do is minimize some of the volatility. Professor Noam has suggested, for example, that price cap formulas could include automatic price inflaters that kick in during downturn, and wholesale prices and interconnection charges could be changed to distribute these additional revenues throughout the sector.

Some changes in policy might also minimize the severity of the next downturn, since some policies are—probably have contributed to the volatility that we are currently experiencing. It is certainly conventional wisdom that the Telecom Act contributed to the telecom boom, but it is important to note that the euphoria affected totally unregulated sectors. So the connection between the boom and the Telecom Act may not be as direct as some thing.

More certainly, the Telecom Act contributed to the bust. First, it inhibited the experimentation that can reduce risk in the first place and make recovery faster and more effective. Simultaneously, the Act created a legal and policy gridlock that spooked investors and prevented regulators from responding more effectively to the downturn.

The gridlock comes from the micromanagement inherent in the Act, which took away the FCC's freedom to adjust policies in the light of unexpected or changed circumstances such as the rapid development of the internet or a monumental bust in investor confidence.

My co-management also provides fertile ground for endless due process, so that every FCC decision seems to lead not to finality but to litigation, where fundamental decisions are made not by an expert agency but by judges and their law clerks.

Mr. UPTON. Mr. Atkinson, I am sorry to say your 5 minutes is up, so——

Mr. ATKINSON. It goes so quickly.

Mr. UPTON. We will come back to you.

Mr. ATKINSON. Thank you very much.

Mr. UPTON. Very well. Thank you.

[The prepared statement of Robert C. Atkinson follows:]

PREPARED STATEMENT OF ROBERT C. ATKINSON, DIRECTOR OF POLICY RESEARCH, COLUMBIA INSTITUTE FOR TELE-INFORMATION

Good afternoon, Mr. Chairman and Members of the Subcommittee.

Thank you for inviting me to testify this afternoon on the health of the telecommunications industry despite the fact that I am neither an investor nor an economist. Rather, I am a telecom lawyer and the Director of Policy Research at the Columbia Institute for Tele-Information (CITI) at the Columbia Business School in New York.

I should note, however, that I am appearing today in my personal capacity rather than as a representative of CITI and that I am personally bearing all the expenses associated with this testimony.

My personal involvement in the development of local competition since 1985 shapes my view of the health of the sector and the impact of regulation on that health, so let me briefly review that experience to provide you with a context for my comments.

Beginning in 1985, I was responsible for the regulatory and public policy matters at the Teleport Communications Group (TCG), which was the first and certainly, by current standards, the most successful CLEC. That put me personally right in the middle of the development of the state and federal local competition policies that laid the foundation for the Telecom Act of 1996.

TCG was very much a "facilities-based" CLEC, deploying our own fiber optic networks and local switches in over 30 markets across the company. We wanted to control our own destiny for two reasons: first, we didn't expect our incumbent competitors to help us; and, second, we wanted to differentiate our services on non-price factors so that we wouldn't have to compete solely on the basis of price. I learned that it takes a long, long time to develop a viable CLEC business: there is no quick solution, just lots of blocking and tackling.

TCG was a private company for its first ten years. Because private investors tend to be stingy with their capital, TCG had to be prudent, conservative and grow carefully. But private capital is also patient, which allowed TCG to pursue a longer term strategic vision rather than responding to the whims of public equity markets. Based on this experience, I was quite surprised to see that start-up CLECs were immediately "going public" in the late 90s to cash in on valuations based on "comparables" with mature "incumbent CLECs" such as TCG and MFS. It was the case of the irrational business plan meeting the irrational investor.

But after ten years of conservative, steady development and sound financial performance under the discipline of private capital, TCG was ready to "go public" in mid-1996, shortly after the passage of the Telecom Act of 1996. The IPO "road show" and subsequent dealings with the investors and analysts gave me the opportunity to see "up close" how the Telecom Act affected institutional investors' willingness to invest in the CLEC sector.

In the typical "roadshow" presentation, our Chairman and CFO gave a presentation on the company's background, strategy and solid financial performance. Then the prospective investor, instead of focusing on the fundamentals, would often turn to me and say "what's up with this Telecom Act?" A frequent investor concern was whether the Act would make it "too easy" for new entrants to get into the space being occupied by established CLECs such as TCG and MFS and whether unbundling would undercut the value of our existing investments. I couldn't answer those questions because the roadshow was conducted before the FCC's Local Competition Order of August of 1996 although the answer turned out to be "yes." But after that Order was released, TCG's stock struggled for a time.

The last chapter of the TCG story was its acquisition by AT&T in mid-1998, for about $12 billion in AT&T stock. The acquisition of TCG represented a quick way for AT&T to develop local networks capable of serving its large business customers, but it could do little for AT&T's "mass market" consumer and small business customers.

Fortunately for me, I was recruited to the FCC in late 1998 to be a Deputy Chief of the Common Carrier Bureau and, in order to comply with conflict-of-interest laws, was required to sell all of my telecom-related investments at what turned out to be near the peak of the bubble. As they say, it is better to be lucky than smart.

I developed the greatest respect and sympathy for the FCC during my 18 months at the agency. The Commission was (and still is) attempting to implement an ambiguous statute—the Telecom Act of 1996—while dealing with an industry that was (and still is) changing more quickly than regulatory due process and agency workload can possibly accommodate. One problem I saw was that little or no experimental evidence was available for the Commission to evaluate—just endless speculation, hypothesis and rhetoric.

I should also note that, during the very good times of the telecom "boom," there seemed to be little concern among parties petitioning the FCC about the fundamental health of the telecom industry or whether any FCC decisions might have a fundamentally adverse impact on the industry's health in the future.

To complete my personal context, I commuted to the FCC from my home in New Jersey for 18 months—until mid-2000—when Eli Noam, the founder of CITI, offered me the much shorter commute to Columbia in New York. And I should add that I am the current Chairman of the North American Numbering Council (NANC), the FCC advisory committee concerned with managing the telephone numbering system.

So, what about the health of the telecom sector? And what is the impact of current telecommunications regulation on the financial health of telecommunications companies?

Briefly, the overall health of the industry is poor, but slowly improving. Clearly, some elements are in critical condition and may not recover at all and it is too soon to predict when or if there will be a full recovery for many.

It is also too soon to know precisely how much regulation has contributed to the ill health, although I'm sure that it was a contributing factor. It is worthwhile to note that the telecom "meltdown" was a simultaneous, world-wide event and that each country has different laws and regulations and different degrees of regulation. So, the simultaneous nature of the meltdown might be just a coincidence, and it might be possible that the U.S. meltdown could be largely attributable to the peculiarities of U.S. regulation. However, it is more likely that regulation played a relatively minor role and that other common factors—such as the laws of physics and the laws of human nature, which are the same in all countries—are responsible.

CITI is in the midst of answering your questions. With a grant from the Alfred P. Sloan Foundation and supporting grants from a cross-section of the telecom industry, CITI has embarked on a year-long project entitled "Remedies for Telecom Recovery".

With the aid of advisory committees composed of experienced experts from academia, industry, government, unions and consumer organizations, we will be identifying the root causes of the telecom "meltdown" and developing practical and workable managerial, financial and public policy remedies. We expect to release a final report on our findings and recommendations in early October and we hope that our work will help this Subcommittee and other policy makers as well as telecom managers and investors.

While our research and recommendations are far from complete, I believe that my CITI colleague, Prof. Eli Noam, has put his finger on the reason for the poor health of the telecom sector. He has summed it up simply in just two words: fundamental volatility.

As Prof. Noam has pointed out, while business cycles are not new to many industries, in telecom they are a new phenomenon. Until recently, the network industry progressed in only one direction: up. Telecom used to be less volatile than the economy as a whole. It grew steadily, with long planning horizons hardly ruffled by the normal business cycle. But today, in sharp contrast, the fragmented telecom sector may well have become much more volatile than the overall economy: more like the office construction business, less like water utilities. And the reason for this is the basic cost characteristics of telecom industry have evolved to be more like office construction and less like water.

Fortunately, the present downturn appears to be ending: there are signs that the industry has "bottomed" and that the survivors will begin to grow, albeit slowly and cautiously.

So, the real challenge for the industry is what happens next? If the sector is just working through the consequences of a one-time boom and bust, then there really isn't much that anyone should do: we'll be back to the "good "ol days" of steady growth and good health soon enough.

But if Prof. Noam is correct, the telecom industry has entered a pattern of chronic volatility where boom-bust cycles will become the norm rather than an aberration.

As we discovered over the past 2-3 years, telecom managers, investors and regulators have few tools and little or no experience to deal with the uncertainties of a volatile boom and bust. "Deer in the headlights" is an apt description of how industry, government and investors responded.

If telecom has become a chronically volatile business, we need to do better than be a herd of deer: *all* the corporate strategies and cultures, all the investor expectations and *all* the laws and regulations that were premised on certainty and predictable growth will have to be changed, perhaps radically . . . and soon. This may require wrenching changes in processes, policies and people.

Of course, we don't have much experience with volatility and uncertainty in telecom to make long-term predictions. And it is true that we are learning from the recent past.

As a first step, we can and probably should try to minimize some of the volatility. For example, Prof. Noam has suggested that price cap formulas could be modified to provide for automatic price inflators that are triggered during a downturn, as a counter-cyclical measure. At the same time, wholesale prices would be lowered, also automatically, to distribute the additional revenues throughout the sector and to establish a safeguard against unfair retail prices.

But if we fail to identify and then tame all the drivers of telecom volatility—which is not likely in such a complex business—we must expect considerable uncertainty

to be with us into the foreseeable future and we must be prepared to quickly develop and adopt different management strategies, investor expectations, and laws and policies.

There are many causes for the boom and bust. CITI's "Remedies for Telecom Recovery" project will attempt to catalog them and I'm sure that, in addition to volatility, the list will include the separate dot.com bubble, technological advances that increased capacity too quickly, flawed business plans, and fraud. I believe that the Telecommunications Act of 1996 contributed to the new volatility of the telecommunications sector and is therefore a contributing cause of the sector's current poor health.

Specifically, the Telecom Act amplified both the boom and the bust. It is likely that the new law contributed to the telecom "boom" by encouraging investors to believe that there would be less risk and more reward from investing in the sector. (But it is important to note that euphoria affected totally unregulated sectors, so the connection between the boom and the Telecom Act may not be as direct as some think.)

The Act contributed to the "bust" in two ways. First, it inhibited the experimentation that can reduce risk in the first place and can makes cures faster and more effective. Simultaneously, the Act created a legal and policy "gridlock" that spooked investors and prevented regulators from responding more effectively to the downturn.

For all its well-meaning intentions about loosening the grip of government, the Telecommunications Act ended up centralizing all fundamental telecommunications policy in the Federal Communications Commission (FCC), effectively federalizing the 50 states with respect to local competition and preempting the judicially-supervised modified final judgment (MFJ) with respect to Bell entry into long distance. This centralization appeared to satisfy investors' desire for less risk and more reward by providing what turned out to be the illusion of greater "certainty" and "predictability". This change in investor sentiment made more capital available at less cost and that helped to fuel the boom.

However, to assuage the concerns of the habitually warring and suspicious factions in the industry, the Telecom Act did not simply establish broad policy goals "such as competition in all markets and less regulation—and then leave it to the FCC to achieve them. Rather, the statute itself sought to micromanage the implementation. Unfortunately, the result has been a legal gridlock that has, so far, thwarted achievement of the Act's fundamental objectives.

As we know, the Act set numerous implementation deadlines, specified three pricing methodologies for ILEC-CLEC interconnection, established a detailed system for negotiating, mediating and arbitrating interconnection agreements, and imposed a 14-point checklist to be satisfied before a Bell could offer long distance services. There is nothing substantively wrong with these policies except that they took away much of the freedom of the implementing agency—the FCC—to adjust policies later in light of unexpected or changed circumstances . . . such as the rapid development of the Internet or a monumental "bust" in investor confidence.

If the Act took flexibility from the FCC, it took even more from the States. With respect to local competition, it is useful to recognize that the Telecom Act was neither revolutionary nor innovative. Rather, the Act largely codified into national law and policy the results of many experiments conducted by State public utility commissions (PUCs) over the prior decade to introduce local competition.[1]

This state-by-state experimentation—with its admittedly untidy look of "muddling through"—did not provide the "certainty" and "predictability" sought by investors.

Ironically and not appreciated by investors at the time and perhaps even today, "muddling through" was and is much less risky than a single federal policy, particularly one that gets "gridlocked" in interminable due process. That is because "mud-

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[1] Local competition (at least in the modern era) did not start with the Telecom Act. Rather, it started when the New York Public Service Commission, in mid-1985, issued a Certificate of Public Convenience and Necessity to Teleport Communications, proposing to provide local high-capacity private lines in New York City. By the early 1990's, many other PUCs had authorized "Competitive Access Providers" (CAPs) to provide unswitched local services. In so doing, the States had required "central office collocation," later known as "collocation" after the FCC ratified the various PUC decisions, and some forms of loop unbundling to facilitate this initial phase of local competition.

The pattern repeated for switched local services: in 1994 the NYPSC authorized the first competitive local exchange service in the country and by the end of the following year—1995—fourteen "Competitive Local Exchange Carriers" (CLECs) had installed 70 competitive central office switches. Such issues as mutual compensation, now known as "reciprocal compensation," number portability, and OSS interconnection were being addressed and had been at least partially resolved on a state-by-state basis.

dling through" in the States allows for a continuous and low-risk iterative process of field experimentation, testing, and fine tuning of business strategies and public policies before irrevocable, major investment bets are placed.

Although the Act stopped the state-by-state experimentation, it did not empower the FCC to undertake its own experiments. Instead, everything became a single high-risk roll of the dice. Now, every FCC decision—because it has such far-reaching application—literally becomes a "federal case" and leads not to finality but to litigation, with fundamental decisions being made not by an expert agency but by judges and their law clerks. This sort of gridlock cannot engender investor confidence.

It is also important to note that the Telecom Act also gridlocked the entry of the Bell companies into long distance markets. The flexible standard of sec. VIII(C) of the MFJ[2] became the detailed, specific and rigid "14 point checklist" of the Telecom Act. Each of the 14 points became a point of contention, friction, and delay—more gridlock wearing away investor confidence.

Ironically, by the end of 1995, at least two Bell companies (New York Tel and Illinois Bell) were ready to seek interLATA relief under the MFJ standard on the basis of competition in their major markets (i.e., New York and Chicago).

Whether Judge Greene would have granted their initial applications is, of course, unknowable. But my involvement in negotiations with Ameritech and the Department of Justice leads me to conclude that Judge Greene would have allowed them to enter to establish the regulatory carrot that would encourage other BOCs to open up and to begin to free themselves from the MFJ stick. My guess is that most BOCs would have been in most of the long distance market years earlier if the Telecom Act had not passed.

In the guise of promoting competition, the Act and the FCC regulations that followed have created an enormous regulatory apparatus and set of requirements. The Act has created a set of companies and industries whose very survival is by the good graces of federal regulators. This dependency relationship is not one that makes for a healthy policy environment or acceptable investment risk.

If the Telecom Act has increased investor risk by eliminating experimentation and gridlocking decision-making, what should be done? My answer, of course, is to increase experimentation and reduce gridlock.

I expect that CITI's final report, due in October, will provide a comprehensive set of recommendations on these and many other topics. At the present, I can think of a few things that could be done to simultaneously encourage experimentation and reduce the gridlock:

1. **First, wherever possible under the law and Constitution, the FCC should use the States as laboratories, particularly on local telecom issues.**

As they did in the past, a few States will make decisions that the FCC will regard as "good" and a few others will make "poor" decisions. Then it is likely that other States will copy and improve the "good" results and, when the evidence is clear and convincing, the FCC can quickly and confidently make national policy based on experimental evidence rather than speculation . . . no more risky rolls of the dice.

I believe that investors would soon understand and appreciate the certainty, predictability and risk containment inherent in State-federal experimentation and, as a result, be more willing to invest on more favorable terms.

2. **Second, the FCC should reform the carrier-to-carrier "negotiation and arbitration" process established by sec. 252 for interconnection agreements to encourage experimentation and minimize regulatory involvement.**

It is important to remember that many of the issues that are consuming the FCC and the industry and bothering investors—including unbundling, collocation, reciprocal compensation, quality measures—can and should be determined by the negotiation and arbitration process established by sec. 252. That is the "deregulatory" approach to carrier-to-carrier relations envisioned by the Act.

By "fixing" the interconnection agreement process[3], there would be no need for endless speculation about whether UNE-P is good, bad or indifferent or whether

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[2] "The restrictions . . . shall be removed upon a showing by the petitioning BOC that there is no substantial possibility that it could use its monopoly power to impede competition in the market it seeks to enter."

[3] My recommendation is that the FCC should specify the use by State Commissions of "baseball arbitration," where one side wins all the disputed issues and the other loses every issue. The arbitrator would be guided by the goals of the Communications Act. The mere prospect of "baseball arbitration" should encourage early, non-regulated settlement since it forces parties

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"bill & keep" is a better mutual compensation system. The real-world results of a variety of interconnection agreements—the results of experiments—would speak for themselves. The proven answers can then be applied to subsequent negotiations, arbitrations and the few regulatory decisions that still might be needed.

States should also be encouraged to use private, expert commercial arbitrators to speed the process, lower the cost and reduce regulatory gaming, with the State's role being limited to reviewing and adopting the arbitrator's decision.

Any agreements, negotiated or arbitrated, should only be subject to "opt in" by other parties, not "pick & choose" to encourage real bargaining and to ensure that there are a substantial variety of experiments.

Finally, the geographic scope of arbitrated (but not negotiated) agreements should be limited to relatively small areas—perhaps as small as exchange areas—so that there will be many different arbitrated arrangements within a State and even between the same two carriers. Each of these different arrangements will be an experiment, the results of which can be fed back into private carrier-to-carrier negotiations (perhaps between the carriers to make all their agreements uniform) and better informed, less speculative regulatory policies and future arbitrations.

I appreciate the opportunity to appear before you this afternoon. I look forward to sharing with you and other policy-makers the results of CITI's "Remedies for Telecom Recovery" project. I'm confident that our research and analysis will help you to get to the root causes of the telecom industry's meltdown and provide you with a clear understanding of the sort of policies that can prevent or at least ameliorate the impact of subsequent downturns.

Mr. UPTON. Mr. Bath?

STATEMENT OF BLAKE BATH

Mr. BATH. Good afternoon, Mr. Chairman and distinguished members of the committee. I thank you for the privilege of speaking with you about the state of the telecommunications industry and the impact of regulation on the health of the sector.

My perspective on the sector is derived from my 10 years as an industry financial analyst at Lehman Brothers and Sanford C. Bernstein, and my nearly 4 years as a financial analyst at MCI Communications prior to that. My clients include mutual funds, pension funds, investment advisors, banks, hedge funds, and others who commit capital to the sector.

I would like to focus my comments today on four topics—the evolution of the telecom industry since the 1996 Act, the impact of telecom regulation on capital investment, the state of competition in the consumer market for telecommunications, and, finally, the impact of these issues on how investors view the telecom sector.

The evolution of the telecom sector since the signing of the Telecom Act of 1996 has been profound. At the time of the Act, the revenue composition of the services sector was 90 percent wireline voice, 5 percent wireless, and 5 percent data. Voice calling was distinctly separated from local—between local and long distance for both wired and wireless calling, and the industry structure in each geographic market largely consisted of monopolies, duopolies, and very well-behaved oligopolies.

Every sector of the services industry grew at or above the rate of growth of the overall economy. Not surprisingly, investors were very keen on the telecom industry for its combination of growth and stable operating performance. In the last 7 years, the industry has evolved dramatically. The industry's revenue composition is now 40 percent wireline voice, 30 percent wireless, and 30 percent data.

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to be reasonable and start at the middle rather than at the extremes in the expectation that an arbitrator will "split the baby."

Voice services for wireless callers very rarely distinguish between local and long distance, and this type of any distance offering is taking hold in the wireline industry as well. The telecom sector across wired and wireless, voice, and data is now robustly competitive with virtually all customers in all geographies enjoying a range of supplier choices and technology choices to meet the rapidly evolving and growing needs.

Investors are considerably less enthusiastic about committing capital to the sector, and industry valuations are among the lowest they have been relative to the market since the 1984 breakup of AT&T.

On the impact of telecom regulation on capital investment, I believe there is compelling evidence that deregulation of telecom subsectors has led to strong growth in spending. Since the 1996 Act, the growth in telecom services revenues has come predominantly from wireless and data services as I highlighted earlier.

These are two areas that are substantially deregulated and where the capital investment and technological evolution has been most dramatic. Since the 1996 Act, capital spending on wireless networks has grown at nearly three times the rate of growth of spending on wireline. Capital spending in the cable sector has also grown substantially since it was deregulated in the mid-1990's, with cable spending growing twice as fast as telecom spending and giving birth to a range of new services, including high-speed internet access and video on demand.

In my view, the analysis of the state of competition in the consumer market for voice and data communications is often modeled, because of an unwillingness to look at the impact of intermodal competition between wired and wireless and the growing importance of data communications to residential customers.

Current competition for consumer share of wallet is intense. In each major metropolitan area, customers seeking voice services have a choice of six wireless providers, the local telephone company, one or two of the national long distance companies, and, in many cases, the cable company.

Customers wanting high-speed internet services largely choose between the RBOC and the cable company. Customers have clearly embraced the opportunity for choices of providers and technologies. In each of the last 3 years, 2 or 3 million customers per year have discarded their wireline phones in favor of wireless, which can offer any distance packages and mobility.

Noteworthy is that wireless pricing is currently below that of wireline, with a package of 1,000 anytime, any distance minutes, at $40 to $50 per month, versus the packages from the national long distance companies for wireline services at $50 to $60 per month, and the RBOCs at comparable levels. I see nothing that is going to reverse the trend toward more and more customers choosing wireless over wireline, particularly if wireless carriers are given the incentive to continue substantial investment to bring their network voice performance in line with wireline networks.

One major opportunity for the wireless companies would clearly be the 10 million customers over the last 3 years who have chosen a UNE-P-based competitor for service. On the data side, cable companies have taken two-thirds of the 16 million residential lines for

high-speed internet access. I believe that will grow to 40 million by 2007, and that ultimately these broadband networks will carry packetized voice.

In the interest of time, I just would defer you to the rest of my statement.

[The prepared statement of Blake Bath follows:]

PREPARED STATEMENT OF BLAKE BATH, MANAGING DIRECTOR, LEHMAN BROTHERS

Good Afternoon.

I thank you for the privilege of speaking with you about the state of the telecommunications industry, and the impact of regulation on the health of the sector. My perspective on the sector is derived from my 10 years as an industry financial analyst at Lehman Brothers and Sanford C. Bernstein, and my nearly four years as a financial analyst at MCI Communications prior to that. My clients include mutual funds, pension funds, investment advisors, banks, hedge funds, and others who commit capital to the sector.

I would like to focus my comments today on four topics: the evolution of the telecom industry since the 1996 Act; the impact of telecom regulation on capital investment; the state of competition in the consumer market for telecommunications; and, finally, the impact of these issues on how investors view the telecom sector.

I.

The evolution of the telecom sector since the signing of the Telecommunications Act of 1996 has been profound. At the time of the Act, the revenue composition of the services sector was 90% wireline voice, 5% wireless, and 5% data. Voice calling was distinctly separated between local and long distance for both wired and wireless calling, and the industry structure in each geographic market largely consisted of monopolies, duopolies, and very well-behaved oligopolies. Every sector of the services industry grew at or above the rate of growth of the overall economy. Not surprisingly, investors were very keen on the telecom industry for its combination of growth and stable operating performance.

In the last seven years the industry has evolved dramatically. The industry's revenue composition is now 40% wireline voice, 30% wireless, and 30% data. Voice services for wireless callers very rarely distinguish between local and long distance, and this type of "any distance" offering is taking hold in the wireline industry as well. The telecommunications sector—across wired and wireless, voice, and data—is now robustly competitive, with customers in virtually all geographies enjoying a range of supplier choices and technology choices to meet their rapidly evolving and growing needs. Investors are considerably less enthusiastic about committing capital to the sector, and industry valuations are among the lowest they have been relative to the market since the 1984 breakup of AT&T.

II.

On the impact of telecom regulation on capital investment, I believe there is compelling evidence that deregulation of telecom sub-sectors has led to strong growth in spending. Since the 1996 Act, the growth in telecom services revenues has come predominantly from wireless and data services, as I highlighted earlier. These are two areas that are substantially deregulated, and where the capital investment and technological evolution has been most dramatic. Since the "96 Act, capital spending on wireless networks has grown at nearly three times the rate of growth of spending on wireline. Capital spending in the cable sector has also grown substantially since it was deregulated in the mid-1990s, with cable spending growing twice as fast as telecom spending and giving birth to a range of new services including high speed internet access and video on demand.

III.

In my view, the analysis of the state-of-competition in the consumer market for voice and data communications is often muddled because of an unwillingness to look at the impact of inter-modal competition between wired and wireless and the growing importance of data communications to residential customers. Current competition for consumers' share of wallet is intense.

In each major metropolitan area, customers seeking voice services have a choice of six wireless providers, the local telephone company, one or two of the national long distance providers, and, in many cases, the cable company. Customers wanting high speed internet services largely need choose among the RBOC and the cable

company. Customers have embraced the opportunity for choices of providers and technologies. In each of the last 3 years, 2-3 million customers per year have discarded their wireline phones in favor of wireless, which can offer "any distance" packages and mobility. Noteworthy is that wireless pricing is currently below that of wireline, with a package of 1000 anytime/any distance minutes at $40-50 per month, versus the packages from the national long distance companies at $50-60 per month and the RBOCs at comparable levels. I see nothing that would reverse the trend towards more and more customers choosing wireless over wireline, particularly if wireless carriers are given the incentives to continue substantial investment to bring their network voice performance in line with wireline networks. One major opportunity for the wireless companies would be the 10 million customers over the last 3 years who have chosen a UNE-P based competitor for service.

On the data side, cable companies have taken two-thirds of the 16 million residential lines for high speed internet access. I believe the number of consumers choosing broadband access will grow to 40 million by 2007, and that ultimately these broadband networks will carry packetized voice. Notably, the cable industry has taken fewer than 2 million telephony customers, due to the uncertainty about technological evolution and the type of regulatory environment that will exist for telephony in the coming years. Without question, the cable companies would look more favorably on investing in telecom voice service if regulation favored facilities-based competitors.

IV.

Finally, the impact of the current environment on how investors view the telecom sector—investors despise uncertainty and excessive competition, two things they believe exist in abundance right now in telecom. Investors are encouraging companies to enter a "bunker" mentality: conserve cash until the regulatory, competitive, and demand landscapes show greater clarity and investors can be more confident in return on invested capital. I believe the FCC and the state commissions will play a critical role in the weeks and months ahead in clearing away some of the regulatory uncertainty, creating an environment which favors facilities-based investment, and embracing a market of fewer—but perhaps stronger—competitors.

I would be happy to answer any questions you have.

Mr. UPTON. I like the word "defer." Thank you.

Mr. Brodeur?

STATEMENT OF STEPHEN B. BRODEUR

Mr. BRODEUR. Thank you. Mr. Chairman, distinguished members of this committee, thank you for the opportunity to appear before you today.

My name is Steve Brodeur. I am the President of the Cambridge Strategic Management Group. We are a leading provider of management consulting services to the emerging and established telecommunications operators, equipment manufacturers, and financial services companies.

The firm's practice areas encompass a wide variety of disciplines within the sector, including market opportunity and competitive analysis, financial analysis, and economic evaluation. Throughout the firm's 13-year history, we have helped clients, incumbents, and new entrants alike evaluate business opportunities and identify and assess critical risk factors, whether entering new markets or deploying new technologies. We have also provided in-depth economic analysis and advice to financial services companies and large operators seeking to invest in the telecom sector.

As directed by your staff, today I am not here to provide a policy statement on any matters appearing before the Congress or the FCC. Furthermore, I would not even characterize myself as a regulatory expert, having only loosely followed the day-to-day discourse between the various parties in these regulatory matters.

What I am is an observer of the economics of the telecommunications industry, with over 15 years of consulting experience in the sector. What I can say to you today is that in those 15 years I have never seen a greater period of uncertainty. As you know, and as has been mentioned here, there are a record number of bankruptcies in the sector today, and there are even more companies in financial distress.

These companies include large and small operators and manufacturers alike. As you have mentioned, there are some 500,000 jobs that have been shed in this sector since 2001. Liquidity is virtually absent in the sector right now, with external financing extremely tight, and internal financing constrained by ongoing economic uncertainty.

Many companies operate also with unprecedented levels of debt. Capital investment has been spoken about already today—has fallen dramatically among both large carriers and small carriers alike, which has had tremendous downstream impact on wholesale infrastructure providers like Level 3 and Willtel, and equipment manufacturers like Lucent and Nortel.

Perhaps most importantly, there have been significant shifts in purchasing and usage behavior among residential and business customers; for example, substitution of wireless services for wireline, local, and long distance usage, and the substitution of wireless access for second lines in the home.

The results of these purchasing changes is that many operators have seen absolute revenues decline and lines and service decline. Given the highly fixed cost nature of most telecom operators, new and old alike, this produces severe impact on their profitability.

Competition with the industry has also been fierce with different competitors, CLECs, cable companies, satellite providers, large carriers, using different network service delivery platforms to offer select services across a variety of customer segments within the industry.

Regulation has been a factor but not the only one in contributing to the state of the industry today. Regulation, though, clearly will be a factor in the continued emergence of competition in the sector and continued investment by existing operators in cutting edge technology and capabilities.

About a year ago, we complete a study for Corning in which we examined the impact of extending today's unbundling regulatory paradigm to fiber loop facilities, fiber loop facilities being a new broadband infrastructure designed to replace copper facilities to the home. In that analysis, we concluded that incumbent providers like SBC and Bell South could rationally build fiber loop facilities for roughly 30 percent of households without regulation, but only 5 percent of households if today's unbundling paradigm were extended to these fiber loop facilities.

The heart of this economic analysis is an extremely complicated investment decision that each incumbent operator must undertake—a decision that is complicated enough even before considering the impact of regulation. To make this decision in an economically rational manner, each incumbent will need to estimate its present and future market takeup rates across voice, long distance, broadband, data, and video, estimate the average revenue

per customer for those services, and estimate operating costs and capital expenditures.

Making these estimates is extremely difficult, given that most ILECs have only recently entered the long distance business and don't have any presence in the video sector whatsoever. Add to this that there is no unassailable market research to guide these estimates of market takeup and revenue, and the absolute investment in fiber loop facilities may reach $40 to $50 billion, you can see why this is a very, very difficult decision to make.

Now overlay the impact of regulation. Today's unbundling paradigm extended to fiber loop facility only makes it more complicated and risky, and ultimately reduces the likelihood of broad fiber facilities deployment.

I will submit the rest of this for the record.

[The prepared statement of Stephen B. Brodeur follows:]

PREPARED STATEMENT OF STEPHEN B. BRODEUR, PRESIDENT CAMBRIDGE STRATGEIC MANAGEMENT GROUP

Mr. Chairman, thank you for the opportunity to appear before you today. My name is Stephen Brodeur. I am the President of the Cambridge Strategic Management Group (or CSMG). CSMG is a leading provider of management consulting services to emerging and established telecommunications operators, equipment manufacturers, and financial services companies. The firm's practice areas encompass a wide variety of disciplines within the sector, including market opportunity and competitive analysis, financial analysis, and economic valuation. Throughout the firm's 13-year history, we have helped clients (incumbents and new entrants alike) evaluate business opportunities and identify and assess the critical risk factors, whether in entering new markets or deploying new technologies. We have also provided in-depth economic analysis and advice to financial services firms and large operators seeking to invest in the telecom sector.

As directed by your staff, I'm not here to provide a policy statement on any matters appearing before the Congress or the FCC. Furthermore, I would not even characterize myself as a regulatory expert, having only "loosely"' followed the day-to-day discourse between the various parties in these regulatory matters. What I am is an observer of the economics of the telecom industry, with over 15 years of consulting experience in the sector. What I can say to you today that in those 15 years I have never seen a period with greater uncertainty.

- As you know, there have been a record number of bankruptcies in the sector and there are still many more companies in "financial distress." These companies include large and small operators and manufacturers alike.
- The sector has shed roughly 500,000 jobs since the beginning of 2001.
- Liquidity is virtually absent, with external financing extremely tight and internal financing constrained by ongoing economic uncertainty.
- Many companies—big and small—operate with unprecedented levels of debt.
- Capital investment has fallen dramatically among both large carriers and small carriers alike, which has had tremendous "downstream" impact on wholesale infrastructure providers and equipment manufacturers.
- Perhaps most importantly, there have been important shifts in purchasing behavior among residential and business users (for example, the substitution of wireless services for wireline local and long distance usage and the substitution of wireless access for second lines in homes). The result of these purchasing changes is that many operators have seen absolute revenue and lines in service decline. Given the fixed cost nature of most telecom operators, this has severely impacted profitability.
- Competition within the industry has also been fierce, with different competitors (CLECs, cable companies, satellite providers, large carriers, etc.) using different network service delivery platforms to offer select services across a variety of segments within the sector.

Regulation has been a factor—but not the only one—in contributing to the state of the industry today. Regulation, though, will clearly be a factor in the continued emergence of competition in the sector and the continued investment by existing operators in cutting-edge technology and capabilities.

About a year ago we completed a study for Corning in which we examined the impact of extending the unbundling regulatory paradigm to fiber loop facilities. In that analysis, we concluded that ILECs could rationally build fiber loop facilities—a completely new broadband infrastructure—to roughly 30% of US households without regulation—but to only 5% of US households if the unbundling regulatory paradigm were extended to these fiber loop facilities.

The heart of this economic analysis is an extremely complicated investment decision that each ILEC must undertake—a decision that is complicated even *without* considering the impact of regulation. To make this decision in an economically rational manner, each ILEC will need to (1) estimate its present and future market take-up rates across local voice, long distance voice, broadband internet access, data services, and video; (2) estimate its average revenue per customer for those customers it serves across the same set of services; and (3) estimate its operating costs and capital to support the fiber loop facilities business.

Given existing levels of competition and the fact that most ILECs have only recently entered the long distance and broadband markets and have no significant presence in the video sector, this fiber loop facilities investment is inherently risky. Add to this that there is no unassailable market research to guide these market take-up and revenue per customer estimates and that the absolute investment in fiber loop facilities may total as much as $40-50 billion and you can begin to understand the magnitude of this decision.

Today's regulatory paradigm extended to fiber loop facilities only makes it more complicated and risky and ultimately reduces the likelihood of broad fiber loop facilities deployment.

Robust investment, of course, is crucial to the continued vitality of the sector. I applaud the Committee for tackling the difficult challenges facing the telecom industry today. It is a critical sector for our economy and its health should be of paramount importance. I would be happy to lend my knowledge of the sector to the Committee in whatever way is most appropriate.

Mr. UPTON. Thank you.

Mr. Crandall?

STATEMENT OF ROBERT W. CRANDALL

Mr. CRANDALL. Thank you, Mr. Chairman, members of the subcommittee. My name is Robert Crandall. I am a Senior Fellow in economic studies at The Brookings Institution. I come here today to testify for myself. My views do not represent those of The Brookings Institution.

But I think to put what is happening today in context, it might be useful to hear from someone with an experience of 30, 35 years in looking at regulated and deregulated industries, and I have had about 25 years of experience in looking at the telecom sector.

We have been through this before. By the way, I am just going to summarize the statement which I submitted for the record. We have been through deregulation liberalization of airline, of trucking, of railroad, of air cargo, of natural gas, natural gas distribution, and we know what happens. We know that, first of all, we can't predict what is going to happen. We know that a period of turmoil will ensue.

In the case of airlines and trucking, we could have been sitting 20 years ago talking about many of the same problems afflicting the airline industry, as they are parking planes in Arizona, as their stocks had had a run-up and suddenly had collapsed in the 1982 recession. It takes a long time to work through a period of economic liberalization of any industry, and particularly one with deregulation.

Now, fast forward 1996 to 2003. Here we have an industry which has been heavily regulated for decades, whose rate structure is thoroughly distorted by regulation, which is subject to very rapid

technical change, and is now subject to the intervention of a new phenomenon—namely, the internet.

Shortly after the 1996 Act was passed, we were involved in the stock market bubble. Just before the Act was passed, the FCC deregulates AT&T's long distance services. Three years before the Act was passed, we began to open up the spectrum for competitive wireless, expanding the number of wireless carriers from two to six nationally.

We regulated in 1992, and then deregulate cable programming services. And then we impose upon the industry in the 1996 Act a completely untried, new set of wholesale regulatory approaches, none of which we could predict how they would work out.

Well, in this environment, and particularly from the stock market bubble investment surge, but a large part of that investment was in capacity, which was driven by an anticipation of incredibly rapid growth in demand, some of it fed by rhetoric from WorldCom. And also, it was fed by very ambitious, but untried, business plans by the new competitive local carriers.

Now, 7 years later we sit here and we see that those plans of the competitive local carriers have mostly collapsed. They spent $45-, $50 billion over this period. At one time, their market capitalization was estimated at $80 to $100 billion. Today it is about $1 billion.

We have tremendous excess capacity in the long haul market, because wireline telecommunications revenues have not grown at all since the 1996 Act was passed. They have growth about 1 percent or slightly less per year, since the 1996 Act was passed, in nominal dollars but not at all in real dollars when you just take account of the limited amount of inflation we have had over that period.

All of the growth in revenues has come from the wireless sector. Now, when you invest this amount of money and have this tremendous surge with investment spending rising from $40 billion to $100 billion in the sector, a large part of it going into the wireline sector and no revenue growth, you are bound to have disappointment.

So the thrust of my testimony is that if we are to see recovery, and don't think that recovery in the telecom sector is going to be all that important for the overall economy—telecom is still only 2 percent of GDP, and it has fallen since the 1984 AT&T breakup. But if we are to have recovery in the telecom sector, it must come through revenue growth.

We are not going to get that revenue growth in traditional telephone services, because deregulation is working, or at least liberalization is working. Prices are falling dramatically. Price elasticities in demand are less than one. As a result, revenues are falling for traditional services. You have got to get growth in new services.

Those new services aren't going to be introduced by the competitive local exchange carriers. They are on their backs and have no new service stuff in the first place. That is why they are on their backs, in part.

They are not going to come from the long distance sector. The wireless sector is waiting out what to do about 3G and Spectrum and all of that. That is a long ways away. It is going to have to come from the last mile investment, and that is why I would agree

with several of you today that one of the things one can do is to clarify and reduce the regulations on the incumbent local exchange carriers for advance services the UNE-P. Advance services are much more important than the UNE-P, because those people using the UNE-P are not going to succeed with it.

Thank you very much.

[The prepared statement of Robert W. Crandall follows:]

PREPARED STATEMENT OF ROBERT W. CRANDALL, SENIOR FELLOW, THE BROOKINGS INSTITUTION [1]

THE HEALTH OF THE TELECOMMUNICATIONS SECTOR

Mr. Chairman and Members of the Subcommittee, I am pleased to be here this afternoon to express my views on the current state of the U.S. telecommunications sector. This is an important topic, given the severe downturn that has occurred in equity values and capital expenditures in the sector. Indeed, telecommunications is suffering the greatest financial distress and general turmoil that I have seen in the roughly 25 years that I have been studying this industry.

As we focus on the current dire condition of the telecommunications sector in this proceeding, we should recall that we have been through similar problems in other sectors after they were first opened to entry and subjected to deregulation. For example, similar, but less severe problems gripped the airline and trucking industries shortly after they were deregulated in 1978 and 1980, respectively. A surge in investment by the airlines led to excess capacity that was exacerbated by the rather deep 1982 recession. As a result, airline stocks tumbled in 1982. Similarly, the natural gas pipeline industry suffered through much more severe adjustments to natural-gas and oil price deregulation in the 1980s. Finally, no one needs to be reminded of the recent difficulties that California utilities faced when "deregulation" was instituted in that state in the 1990s. In each case, policymakers, industry participants, and economists could not predict how these industries would adjust to entry and deregulation or who the winners and losers would be. We simply knew that prices would eventually be lower under deregulation, and that output would be greater.

These observations are important, because, as my colleague Clifford Winston has found, deregulation has created much larger benefits in virtually every instance than many economists and other observers would have expected.[2] Given the turbulence that often follows from opening markets to competition and from deregulation, we should have expected the 1996 Telecommunications Act to create similar turmoil. The 1996 Act was not as deregulatory as many of the earlier statutes, but it opened a regulated market to competition and thereby threatened to place considerable pressure on an incredibly distorted regulatory rate structure. For this reason, in October 1996, I opined in a speech in Maine that "all hell would soon break loose" in the telecom sector. As it turned out, my prediction was premature, and it may have been right for at least some of the wrong reasons. Neither I nor anyone else could have predicted the 1998-2001 stock market bubble that swept the sector, the nature of the competition that would develop, the regulatory policies that would be adopted under the new Act, nor the telecommunications market's response to all of these events.

THE TELECOM SURGE—RHETORIC MEETS REALITY

The years leading up to the 1996 Act were a period of excited discussion about the potential of the "Information Superhighway" [3] and the promise of network convergence. The declining cost of fiber-optics transmission and the technological progress driving microprocessor technology (at a rate described by Moore's Law) led some to predict that communications bandwidth would soon be virtually free.[4] Households, physicians, teachers, and businesses would be able to send and receive high-speed video images that would substitute for personal diagnoses, provide remote monitoring, allow remote tutoring, and supply much more personalized access

[1] The views expressed in this testimony are those of the author. They do not represent the views of the Brookings Institution, its Trustees, or its other staff members.

[2] Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," *Journal of Economic Literature,* Vol. 31, September 1993, pp. 1263-89.

[3] Vice President Gore was credited with this description of modern communications technology. See, for example, http://www-tech.mit.edu/V113/N65/gore.65w.html.

[4] George Gilder, *Telecosm: The World after Bandwidth Aiundance.* Simon & Schuster, 2000.

to entertainment. Once the telecommunications sector was opened to competition and deregulated, innovation could flourish, thereby allowing subscribers access to new services and providing existing services at dramatically lower prices.

Capital Spending and Market Valuations

The 1996 Act was not deregulatory. It created a vast new system of wholesale-price regulation of local services that was only vaguely spelled out in the statute. Indeed, local telecommunications would continue to be intensely regulated by the states and the FCC. On the other hand, long distance and wireless services were essentially deregulated before the Act was passed. Both sectors had begun to invest heavily in infrastructure in the early 1990s, and the lure of the Internet would entice them to accelerate this investment after 1996. Moreover, new local carriers sprouted from everywhere and were able to attract enormous amounts of capital. The result was an investment boom that continued for more than five years.

Figure 1 shows the acceleration in capital spending in the telecommunications sector that occurred after 1995 in both nominal dollars and constant dollars.[5] Between 1987 and 1996, nominal and real (inflation-adjusted) capital spending increased at average rates of 4.8 and 4.5 percent per year, respectively. In the next four years, however, the growth rate soared to more than 20 percent per year. By 2000, real capital spending had risen 148 percent from its 1996 level. This surge in capital spending was accompanied by an even greater rise in the prices of telecommunications industries equities—a stock market "bubble" that burst with a vengeance in 2000-01. (Figure 2)[6]

The bubble gripped three of the four major groups of carriers: the new CLECs, the wireless carriers, and the long-distance companies.[7] The largest rise was in the CLEC index in Figure 2, which also shows the greatest collapse. The wireless stocks were next in the upsurge, and the long-distance stocks were third. The Bell companies enjoyed much less of a surge in 1998-2000 and suffered less in the downturn as they essentially tracked the S&P 500, which had a much more modest bubble.

Of the facilities-based long distance companies, only AT&T remains with any market capitalization attributable to long distance, and even AT&T has lost roughly one-third of its market cap in the two months since it spun off its broadband division. It now appears that the long distance companies must offer a wider bundle of services to survive.

At this point, it appears that very few of the new competitive local carriers ("CLECs") are likely to survive and prosper. Once the repository of more than $80 billion in market capitalization, the publicly traded CLECs now have a scant $1 billion in total market cap after reporting more than $40 billion of spending on capital facilities between 1996 and 2001. As was the case in the airlines and trucking industries two decades ago, a large number of new entrants have foundered on bad business plans and a disappointing market.

Even the stocks of the Bell companies are only slightly above their 1996 levels, hardly a stunning result in the wake of the 1999-2001 surge in their capital expenditures. The wireless sector's equity prices are about two-thirds of their 1996 values. The cable television companies, who are not included in my analysis, also appear to be relatively stable. Thus, the problems in telecom are heavily concentrated in the companies with large national fiber networks who offer long distance services, the new local entrants, who offer little new after investing more than $40 billion, and to a lesser extent, the wireless carriers. This is not to say that the incumbent local carriers operators are prospering in this environment, but the equity markets are suggesting that they are not in long-term difficulty.

As a result of the collapse in market valuations, capital spending declined substantially in 2001-02, a decline that was exacerbated by an incredible series of bankruptcies of telecommunications carriers. Total capital spending has fallen from more than $100 billion in 2000 to less than $40 billion last year, according to most esti-

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[5] These data are from the Bureau of Economic Analysis, U.S. Department of Commerce, downloaded on August 25, 2002 from http://www.bea.doc.gov/bea/dn/faweb/AllFATables.asp#S3 They are investment expenditures in current dollars and constant dollars for the "telephone and telegraph" industry.

[6] The indexes in Figure 2 are calculated from monthly closing prices of individual equities. The RBOC index is a weighted average of the common equities of SBC, Bell South and Verizon. The CLEC index is a weighted average of the equities of Allegiance, Covad, McLeod, Time Warner Telecom, and XO Communications. The wireless index is a weighted average of the equities of Leap, Nextel, RCCC, and Sprint PCS. The long-distance index is a weighted average of the equities of Sprint and WorldCom.

[7] My "long-distance" sample includes only Sprint and WorldCom. AT&T was very much a cable company for a good part of this period. Global Crossing and Qwest were much more than long-distance companies.

mates, and it is forecast to remain low for at least the next year. This decline in capital spending is clearly the most alarming aspect of the current telecom malaise for it portends a slowdown in the deployment of new technology and even the possibility of a degradation of traditional services if it continues. Capital spending is now less than it was when the act was passed seven years ago.

The capital spending boom is now widely acknowledged to have created excess capacity in data and voice transmission,[8] but the rise in investment spread far beyond fiber-optic transmission facilities. Capital spending by the new local carriers increased from virtually nothing to nearly $20 billion in 2000.[9] The wireless sector increased its capital outlays from $8.5 billion in 1996 to $18.4 billion in 2000.[10] And the regional Bell Companies (including GTE) increased their wireline capital spending from $20.8 billion in 1996 to $35.7 billion in 2000 even though they were largely banned from interstate communications.[11] All of these companies have pulled back substantially since 2000.

Telecom Revenues

Perhaps the most surprising feature of the telecom industry since 1996 has been the absence of growth in carrier revenues despite the explosion of the Internet and the strong growth of the economy. Between 1987 and 1995, the growth in telecom output (its contribution to the "gross domestic product" of the entire economy) and capital spending growth were virtually identical.[12] But after 1995, the industry's output did not accelerate very much in nominal dollars, rising from a 4.6 percent growth rate during 1987-95 to just a 6 percent growth rate after 1995. Figure 3 provides annual data from the Commerce Department on investment and output, as measured by gross product, for the telephone and telegraph industry. Given that current-dollar GDP grew at a 5.8 percent average annual rate during this period, the growth in telecom spending was surprisingly low and far below the growth in nominal capital spending. Indeed, the value of telecommunications output in nominal dollars has grown more slowly than has durable-goods manufacturing in recent years.[13]

Most of the growth in telecommunications services output and revenues in recent years has come from the wireless sector. The local exchange companies, long distance carriers, and wholesale fiber-optic transmission companies, have seen little or no growth in their total revenues. (See Figure 4.) Between 1996 and 2001 (2002 data are not available yet), end-user wireline revenues increased by less than $8 billion, from $159.4 billion to $167 billion, or only 0.9 percent per year. In real, inflation-adjusted terms, wireline revenues actually decreased by about 1 percent per year.[14] This was surely not the explosive growth that had been anticipated from the IT revolution and "deregulation."

The lack of revenue growth does not mean that there was no real output growth in telecommunications, but that the output growth was not great enough to more than offset the substantial decline in prices that was occurring. Prices of transmitting the trillions of bits of information generated by the Internet fell dramatically, but the demand response to these price declines was not sufficient to boost revenues. *Real* output growth was substantial, but not as spectacular as many have suggested. Figure 5 shows the recent trend in the telecom industry's contribution to gross domestic product in real terms along with its contribution to gross domestic product in nominal dollars that was shown previously in Figure 3.

Regulatory Changes

Though the 1996 Act was not deregulatory, telecom regulation was changing during the period preceding that Act and in the first few years of implementing it. Be-

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[8] Yochi J. Dreazen, "Wildly Optimistic Drove Telecoms to Build Fiber Glut," *Wall Street Journal Online,* September 26, 2002.

[9] It is unclear how much of this reported capital spending was devoted to productive capacity. Much of it may have been spent on office facilities, collocation cages, marketing-related equipment, etc. For a discussion of this issue, see Larry F. Darby, Jeffrey A. Eisenach and Joseph S. Kraemer, *The CLEC Experiment: Anatomy of a Meltdown, Progress and Freedom Foundation,* September 2002, p. 10 *et seq.*

[10] CTIA, *Semiannual Wireless Survey.*

[11] Total investment spending by wireless carriers is published by the Cellular Telecommunications Industry Association. All other data are calculated by the author from reports by publicly-traded companies to the Securities and Exchange Commission.

[12] These data are obtained from BEA at http://www.bea.doc.gov/bea/dn/faweb/AllFATables.asp#S3 and www.bea.doc.gov/bea/dn2/gpo.htm.

[13] The Federal Reserve Board's Industrial Production Index for durable goods manufacturing rose at an average annual rate of more than 8 percent per year between 1995 and 2000.

[14] This does not imply that telecom output declined. Given the sharp declines in the price of telecom services, real *output* was increasing substantially throughout this period.

tween 1993 and 2000, the following regulatory changes combined to make the telecom sector a treacherous environment for investment when combined with the technological changes also buffeting the industry:

1. Wireless communications were opened to competition for the first time in 1993, and wireless rates were largely deregulated;
2. Government auctions were initiated in 1995 to provide the requisite spectrum for new wireless competitors;
3. AT&T's interstate long distance rates were deregulated by the FCC in 1995;
4. Local telecommunications services for residential and small business customers were opened to competition by the Telecommunications Act of 1996;
5. Local incumbents were required by the 1996 Act to lease network facilities to new entrants at regulated prices; but the extent of the required unbundling and "line sharing" remained uncertain due to court reversals of FCC decisions;
6. In 1997, the FCC launched a sweeping new program to reduce international "accounting rates" and to increase competition in international services.
7. In 1999-2000, the "UNE Platform" began to replace other forms of competitive local entry as AT&T, WorldCom, and others responded to the deep discounts that states offered for leasing (essentially reselling) the incumbent' networks.

All of these changes occurred as equity and debt capital poured into a large number of telecom companies, funding hastily constructed investment plans. In this environment, one had to expect a large number of failures, and this expectation was surely fulfilled. A tabulation of recent telecom bankruptcies found that 59 firms have filed for bankruptcy protection in the last few years.[15]

WHY WAS GROWTH SO SLOW?

The lack of revenue growth for wire-based telecom carriers after 1996 can be attributed to perhaps three factors. First, competition in wireless and long distance services began to drive prices down substantially. Because the demand for traditional telecommunications services is price inelastic, these price declines translate into lower subscriber expenditures unless there are important new uses of these services. Second, the revolution in wireless communications has siphoned enormous amounts of traffic from the wireline network, particularly the over-priced long distance traffic. Third, new services, such as broadband, were slow to develop, in part because of regulatory uncertainty.

Household Spending.

Approximately 60 percent of all end-user telephone expenditures are made by households. Census data show that the share of household expenditures devoted to telephone service remained remarkably constant throughout the1980s at about 2 percent of their overall expenditures.[16] Beginning in 1993, however, this share rose gradually to 2.3 percent. In nominal dollars, the average household spent $877 in 2000 compared to $658 in 1993.[17] However, household data collected by TNS and reported by the FCC, reproduced in Table 1, show that all of this increase reflected a growth in wireless spending, not expenditures on traditional wireline services. Rising expenditures on local service, reflecting principally the increase in FCC mandated subscriber line charges, could not offset the decline in long distance spending.

Why have these revenues fallen in an era of explosive growth of the Internet/ The reason must be that revenues from the new uses of the telephone network have not offset the decline in revenues from falling long-distance rates. Given that the residential demand for local access has an estimated price elasticity of less than -0.05, any increase in local rates would lead to higher expenditures on local services. The modest increases in local rates that occurred after 1995, reflecting principally the increase in FCC mandated subscriber line charges as a substitute for per-minute carrier charges, could not offset the decline in long distance spending as Table 1 shows. This decline in spending is much greater than can be accounted for by lower rates; it obviously reflects a substantial shift to wireless services. Competition is truly working.

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[15] *Converge! Network Digest* accessed at http://www.convergedigest.com/Mergers/financialarticle.asp68ID=4160 (1/20/03)

[16] U.S. Bureau of the Census, Current Population Survey, as reported in FCC (2002b), p. 46.

[17] *Id.*

Table 1

Average Annual Household Expenditures on Telephone Service ($/Year)

Year	Local Carriers	Long Distance Carriers	Wireless Carriers	Total Spending	Total Non-Wireless Spending
1995	358	250	82	690	**608**
1996	359	250	108	717	**609**
1997	379	305	129	813	**684**
1998	398	270	164	832	**668**
1999	402	257	205	864	**659**
2000	416	211	279	906	**627**
2001	426	176	351	953	**602**

Source: FCC.

The Growth of Wireless.

The 1996 Act provided major policy changes towards the wireline telecommunications sector, but it largely ignored the wireless sector. Competition in the delivery of mobile wireless services had been limited to two carriers per local market by FCC policy since the 1970s, but liberalization was thrust on this sector by Congress three years before the 1996 Act was passed. The 1993 Omnibus Budget Reconciliation Act instructed the FCC to begin auctioning spectrum for commercial wireless uses. These auctions began in 1995, and construction of the new digital "PCS" networks was just beginning when the 1996 Act was passed.

The 1993 legislation that established the spectrum auctions essentially eliminated price regulation of wireless services. States may now regulate these rates only if the carriers have "market dominance," an unlikely condition in today's wireless sector, even in rural areas. The auctions of 120 MHz of spectrum essentially allowed four new entrants into wireless services in each local market to compete with the two carriers that were already operating there. Since 1996, the wireless industry has been transformed by mergers and consolidations into an industry with six, large national carriers

Although the U.S. launched its "second-generation" digital wireless service somewhat after Europe and Japan, wireless is now growing very rapidly. (See Figure 6) By mid-2002, the number of wireless subscribers had risen to almost 135 million; by 2004 or 2005 the number of wireless subscribers is likely to exceed the number of fixed access lines.[18] The substitution of wireless for traditional wire-based telephony is developing very rapidly. Many households, particularly those with young adults, do not even have a traditional copper-wire telephone service. Others are using their wireless service rather than their home telephone for long distance calls. The effect on traditional wire-based telephone carriers is obvious. Long distance revenues for wire-based carriers are now declining rapidly, and the number of fixed access lines is now also falling after decades of steady growth.

The potential stumbling block for wireless operators is the technology required to provide higher-speed Internet access. In Europe and other parts of the world, carriers have paid billions of dollars in auctions for spectrum designated for "Third Generation" wireless services (3G). But these services are likely to be much slower and less easy to use than fixed-wire broadband services, such as cable modems and DSL, or even "WiFi" services.

Regulatory Uncertainty.

In most other sectors, the liberalization of entry has been accompanied by, or at least followed by, rate deregulation. This is clearly not the case in telecommunications. The profound changes that have gripped, if not overwhelmed the telecommunications sector have not changed the traditional regulatory policy towards retail rates very much. State regulatory commissions continue to regulate local retail rates very much as they did in 1996 despite the growth in wireless, the steady expansion of competitive local carriers, and the lurking threat of cable telephony.

The 1996 Act also ushered in a major new form of regulation: network unbundling at cost-based rates. After seven years of intense intra-industry battles, the FCC has maintained a rather steady course of intense wholesale regulation and has not placed any pressure on the states to deregulate retail rates. In fact, unbundling and line-sharing requirements have actually increased with the passage of time. And

[18] The Cellular Telecommunications Industry Association's *Semi-Annual Wireless Survey* found that there were 134.6 million wireless subscribers in June 2002. At this time, the FCC's *Local Telephone Competition: Status as of June 30, 2002* reported that there were 189.1 million wire-based switched access lines in the country.

new services, such as broadband services, have been subject to asymmetric regulation since 1996.

Fortunately, there are numerous proceedings open at the FCC that could alter the regulatory landscape substantially.

a. Network Unbundling—The FCC's approach to wholesale unbundling has been controversial from the outset, in part because of the vague language in the 1996 Act. Facilities are to be unbundled and made available to entrants if without them the entrants would be "impaired" in competing with the incumbents.[19] But what is the measure of "impairment?" Moreover, should a facility be unbundled *everywhere* if it is determined that the entrants would be "impaired" *somewhere* without it? The FCC on two separate occasions essentially decided that virtually everything in the incumbents' networks must be unbundled and that there should be no differences between rural and urban areas or across states. This broad approach to unbundling is unique to the United States and has been the source of controversy for more than six years.

The most recent challenge to this broad-based approach to unbundling was mounted by the incumbent telephone carriers in 2001 in the form of a petition to the U.S. Court of Appeals for the District of Columbia. The court's opinion in May 2002 requires the FCC to reconsider its unbundling requirements and, in particular, its requirement for line sharing with entrants seeking to offer DSL services, but not basic telephone service.[20] The court criticized the Commission for failing to account for the effect of competition in determining whether the absence of an unbundled element would "impair" the ability of entrants to compete. As of this writing, the FCC has not responded to this court order.

The Commission now has the opportunity to back off from its broad attempt to require everything to be unbundled and to bring U.S. policy to a less interventionist level that is consistent with that employed elsewhere in the world. First, if it decides that certain switching and transport functions need not be unbundled, it would bring an end to the use of the "UNE Platform" that now accounts for one third of all entrants' lines. This would force entrants to build facilities or to scale back their local services where they are essentially reselling the incumbents' services. Second, the Commission can end its unsuccessful attempt to force intra-platform competition in broadband through line-sharing requirements. Both decisions would lead the Commission in a deregulatory direction and reverse six years of increasing regulation of inter-carrier relationships.

b. Broadband—Economic regulation is generally premised on the existence of market failure due to monopoly. In telecommunications, competition is increasing rapidly in most markets. However, one cannot claim that the delivery of the new broadband Internet services are or are even likely to be plagued by problems of monopoly. Cable television systems compete actively with telephone-company DSL services, and a variety of wireless and satellite services are under development. Because these services have developed over facilities that were originally designed to carry other communications services, they have been subject to the threat or actuality of regulation under different provisions of the Communications Act. Recently, however, the FCC has decided that cable modem service is an "interstate information service," and therefore subject to the FCC's jurisdiction. It is also contemplating the appropriate regulatory approach to all wireline broadband services, including DSL.[21]

Through a welter of different proceedings, the Commission has the opportunity to exercise "forbearance" from regulating any of these services under Section 706 of the Act. Unfortunately, it has been examining these options for a very long time without reaching any decision on whether to regulate cable modem service or to forbear from regulating any of these "advanced" services, allowing the market to drive technology, facilities deployment, and pricing of the services. Once again, the Commission has the opportunity to move in a deregulatory direction in a market that is evolving rapidly and has no clear tendency towards monopoly.

POLICY OPTIONS FOR RECOVERY

In a sense, the telecommunications industry is suffering from the effects of successful competition. The cost of accessing and using traditional telecommunications services is declining rapidly, led by the aggressive competition among six national wireless companies. Further competition will place more downward pressure on the

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[19] Section 251(d)(2)(B).

[20] U.S. Telecom Association, et. al. v. FCC, 290 F.3d 415 (D.C. Cir.), May 24, 2002.

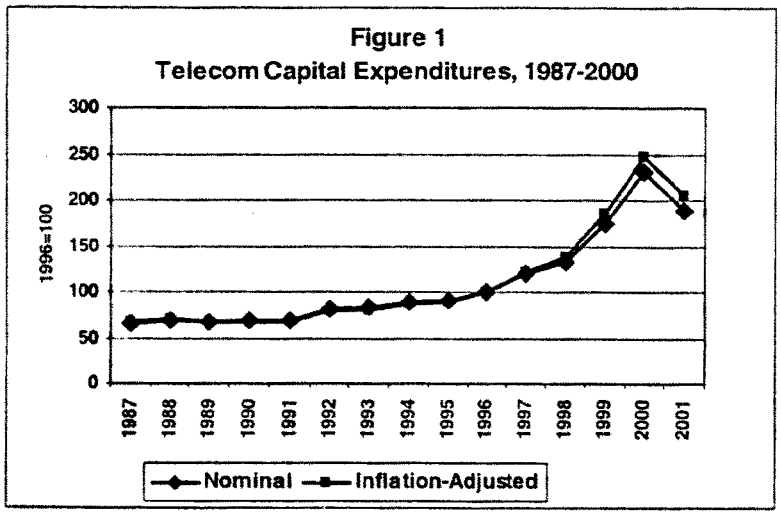
[21] FCC, *Notice of Inquiry,* In the Matter of Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, GN Docket 00-185, September 28, 2000; *Declaratory Ruling and Notice of Proposed Rulemaking,* GN Docket 00-185, March 15, 2002.

traditional local and long distance rates, particularly as the fiber-based local carriers drive down business rates in central business districts. Wireless rates will continue to fall. All of this is beneficial to consumers and the economy, but it does not provide the resources for growth and expansion of the network. These forces will further reduce telecom revenues. As wireless continues to replace wireline services, the incentives to invest in the traditional telephone network will be further reduced.

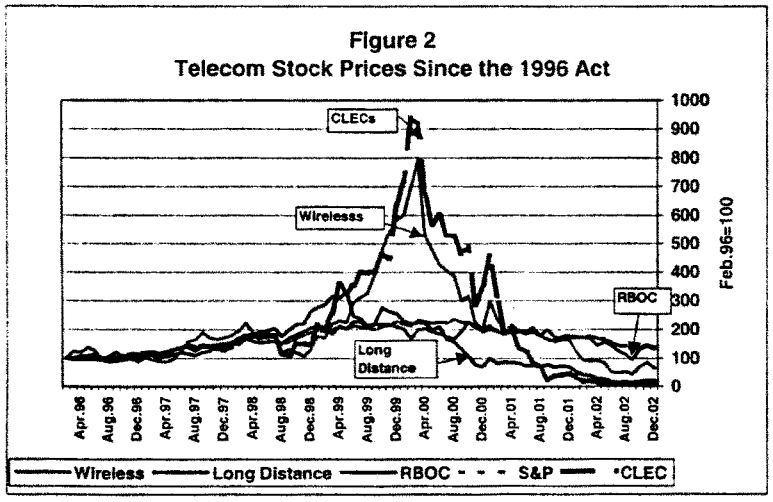
If we are to see a revival of capital spending, it must be stimulated by the development and deployment of new services that expand telecom revenues. But the incentive to develop these new services is clearly impeded by the continuing uncertainty over attempts to regulate the wholesale and retail access to these services. Wireless companies, local incumbent carriers, and cable companies cannot and will not underwrite large capital expenditures to develop new services if they must share the gains with rivals or be subjected to rate regulation in selling these services to customers. For this reason, the FCC should make it clear that traditional telephone companies and cable television companies will not face regulation of their new high-speed, broadband Internet services.

Decisions regarding unbundling of network facilities for the delivery of traditional telephone service are also important, but not as important as the removal of regulation from the newer services. The spread of the UNE platform will increase the appearance of competition, but not the reality of it. Simply allowing other carriers to deliver the same service over the same facilities to the same customers at a greater social cost will not promote competition. The UNE platform is not stimulating the development of new local services. Nor are the companies offering local service over the UNE platform using this network strategy to gain a toe-hold before moving ahead to build their own networks. Indeed, I believe that the securities markets are already telling us that those using the UNE platform are not likely to thrive from such a strategy. For a while, the increase in transactions costs, the bickering over wholesale rates, and the uncertainty over the UNE-P's effect on the incumbents' cash flows will simply displace more productive uses of these resources. But eventually, I believe, the UNE platform will die because it is not an economically viable method of organizing a network industry in which there is so much technical change.

The United States was not alone in experiencing a telecommunications "bubble." Virtually every other developed country suffered a similar boom-bust cycle. The exaggerated expectations for telecom created by the Internet and general IT revolution were met with stark reality in Europe, Asia, and Oceania at about the same time. Stock market valuations in many of these countries also soared in 1998-2000 only to collapse in 2000-02. Capital spending in telecommunications collapsed everywhere, placing most telecom equipment suppliers in severe difficulty. The only way out of these problems is to allow investors to find and fund productive new uses of telecommunications. Otherwise, declining prices will translate into declining revenues and little appetite for capital spending.

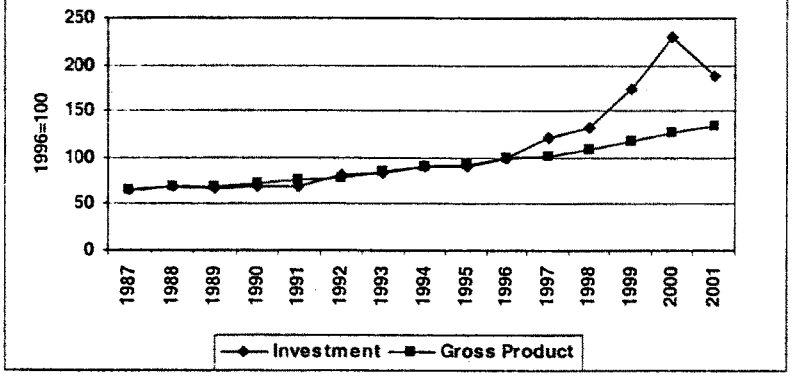


Source: U.S. Department of Commerce, Bureau of Economic Analysis.("BEA")



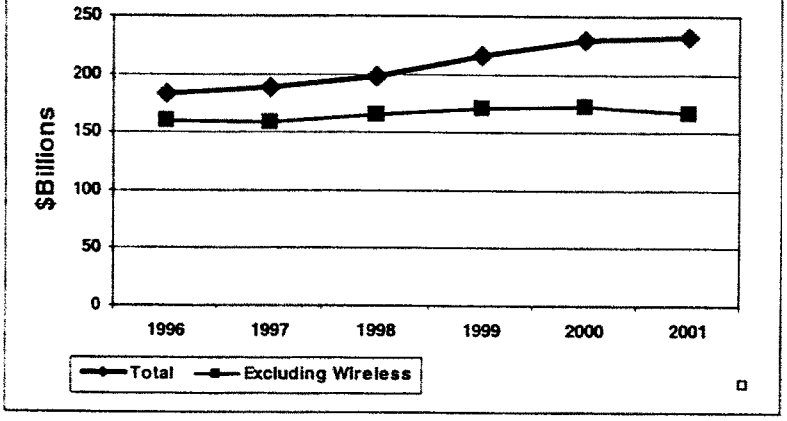
Source: Author's calculations from closing prices on
www.finance.yahoo.com

Figure 3
Current Dollar Investment and Output in the U.S. Telecommmunications Sector, 1987-2001

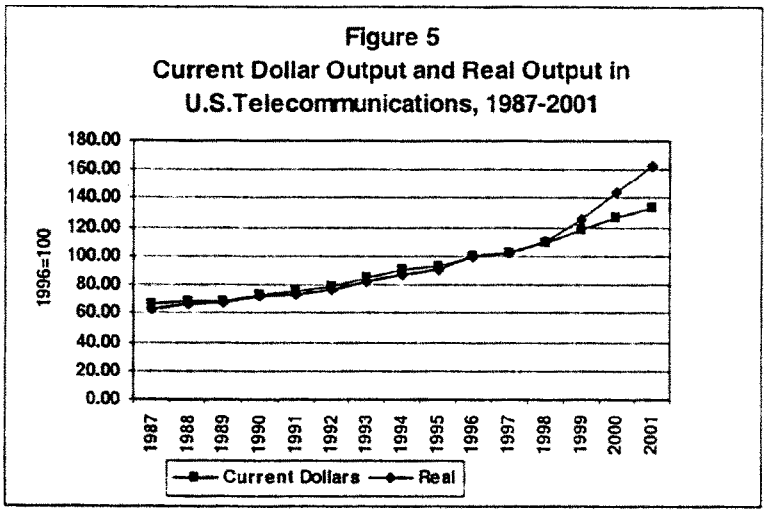


Source: BEA

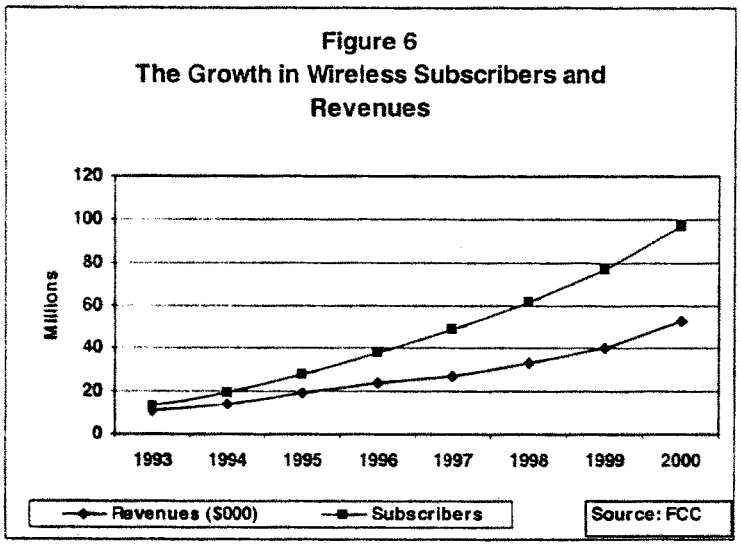
Figure 4
Total U.S. Telecommunications Revenues, 1996-2001



Source: FCC.



Source: BEA.



Source: FCC

Mr. UPTON. Thank you very much.
Mr. Strumingher?

STATEMENT OF ERIC STRUMINGHER

Mr. STRUMINGHER. Thank you, Mr. Chairman.
Mr. UPTON. Is that button on?
Mr. STRUMINGHER. That would help. I, too, am pleased to give some observations about the health of this industry, this time from the perspective of an investor in the industry. Since 1994, I have worked as an investment analyst, specializing in the telecommunications industry and related industries, and I am currently an analyst for Cobalt Capital, which is an investment partnership that at times will take positions and whose returns will be influenced by policy decisions made by the Federal Government.

I just want to state up front that my intent in providing this testimony is to provide an empirical analysis based on my observations of the impact that government policies have on industry investment returns and not to recommend or to influence specific policies that could benefit or disadvantage individual industry participants.

I hope that your committee will be able to use this information in order to better understand how the actions in Washington impact outcomes on Wall Street, and consequently on investment in the telecom industry. I will also focus my comments on important industry growth area, about which uncertainty over important aspects of regulation appear to this observer to be detrimental to the health of the industry overall and, indeed, asymmetric in their application across industry participants.

In my opinion, clarity, consistency, and predictability in regulation, coupled with an overarching bias toward restraint, will minimize the cost of capital for industry participants, thereby encouraging increased investment and strengthening the industry.

The consequences of the Telecom Act of 1996, some intended and others likely not, have been such that there are critical areas of potential investment for the industry in which Federal regulation lacks all of the necessary conditions listed that I just mentioned to minimize the cost of capital, with the possible exception of what appears to be an evolving bias toward regulatory restraint by some at the FCC.

The most glaring example to me of an area in which the above conditions that I just mentioned are absent is in the regulation of broadband access to the telecom network, and the uncertainty surrounding the future duties of the incumbent local telephone companies to lease elements of this network to competitors.

To frame the discussion, I must point out that the very notion that a shareholder-owned corporation is subject to mandates requiring it to lease out its primary asset to competitors at a rate dictated by the government is, to say the least, atypical when looked at against the backdrop of the U.S. economy overall.

Now I am not here to judge whether this is good public policy or not, but merely to point out this idiosyncracy that local telephone companies face here, and it is a foundation for investor analysis of this sector—clearly, the one that raises the cost of capital for these companies, and, thus, discourages investments.

Now, compounding this, the lack of clarity, consistency, and predictability of regulation with respect to future investments in broadband infrastructure just really complicates the issue even further. And what I am really specifically referring to here is the investment requirements to deploy fiber optic-based technologies deeper into the access network in order to deliver bandwidth to homes, educational institutions, and health care facilities, places that are generally outside of the main commercial districts of our cities, and to bring the same to also more sparsely populated parts of the country.

Now, I am not here to hold myself out as an expert on the intricacies of FCC regulation in this area. But I can tell you that there is sufficient uncertainty surrounding the potential obligations to lease out "elements" of this network to competitors that is raising the cost of funding the investment for the incumbent phone companies. Simply put, investors are far less likely to embrace aggressive plans to invest in this kind of network upgrade when there is uncertainty over what in the vernacular of telecom regulation is called unbundling.

In the absence of clear regulation, investors will be far less tolerant of additional investment and more likely to demand their money back through increased share buybacks and dividends. Managements, on the other hand, will be far more likely to explore investing outside of the United States in geographies where they can more easily evaluate risk associated with their investment.

What makes this situation somewhat perplexing to me is that policymakers are addressing the very same issue for the cable industry with far less ambiguity. While there has been no affirmative claim by the FCC stating that cable broadband access will remain deregulated in perpetuity, the mere absence of such existing regulations compared with the requirements currently placed on the local telephone companies gives an investor more confidence that the future resale requirements will be less onerous.

The only legitimate reason that I can see for this current asymmetry between the two industry segments is that the Federal Government feels like public policy is advanced by choosing winners here, and that is truly perplexing when you think about it.

My comments, while focusing primarily on the local telephone companies, can be equally applied to other companies in the telecom food chain. AT&T is currently spending significant resources to market bundled local and long distance voice telephone service. If they are not going to be able to do this over time, they shouldn't be investing the money right now to go after these customers, and they should be returning money to shareholders—basically, harvesting their consumer investment.

I do have a lot more to say on this, but, unfortunately, it looks like I am about to get the gavel. So I will just submit the rest of my testimony for the record, and I am happy to answer any questions that you might have.

[The prepared statement of Eric Strumingher follows:]

PREPARED STATEMENT OF ERIC STRUMINGHER, INVESTMENT ANALYST, COBALT CAPITAL

I am pleased to give some observations about the health of the telecommunications industry from the perspective of an investor in the industry. Since 1994, I

have worked as an investment analyst specializing in the telecommunications industry and related industries. I am now an analyst for Cobalt Capital, an investment partnership that at times takes positions in companies who's returns will be influenced by policy decisions made by the federal government. However, my intent in providing this testimony is to provide an empirical analysis, based on my observations, of the impact that government policies have on industry investment returns and not to recommend or influence specific policies that could benefit or disadvantage individual industry participants. I hope that your committee will be able to use this information in order to better understand how actions in Washington impact outcomes on Wall Street and, consequently, on investment in the telecommunications industry. I will focus my comments on an important industry growth area in which uncertainty about important aspects of regulation appear to this observer to be detrimental to the health of the industry and indeed asymmetric in their application across industry participants.

In my opinion, clarity, consistency, and predictability in regulation coupled with an overarching bias toward restraint will minimize the cost of capital for the telecommunications industry, thereby encouraging increased investment and strengthening the industry. The consequences of the Telecommunications Act of 1996, some intended and others likely not, have been such that there are critical areas of potential investment for the industry in which federal regulation lacks all of the necessary conditions listed above to minimize the cost of capital, with the possible exception of what appears to be an evolving bias toward regulatory restraint by some at the FCC.

The most glaring example of an area in which the above conditions are absent is in the regulation of broadband access to telecommunications networks and the uncertainty surrounding the future duties of the incumbent local telephone companies to lease elements of their networks to competitors. To frame the discussion, I must point out that the very notion that a shareholder-owned corporation is subject to mandates requiring it to lease its primary asset to its competitors at a rate dictated by the government is to say the least atypical when looked at against the backdrop of the U.S. economy. I'm not here to judge whether this is right or wrong from the standpoint of public policy but merely to point out that this idiosyncrasy serves as a foundation for investor analysis of the local telephone companies and is clearly one that raises the cost of capital for these companies and thus discourages investment. Moreover, the lack of clarity, consistency, and predictability of regulation with respect to future investments in broadband infrastructure.

Here I am specifically referring to the investment requirements to deploy fiber optic-based technologies deeper into the access network in order to deliver increased bandwidth to homes, educational institutions, and healthcare facilities that are generally outside of the main commercial districts of our cities and to bring the same to the more sparsely populated parts of the country. While I do not hold myself out as an expert on the intricacies of FCC regulation in this area, I can tell you that there is sufficient uncertainty surrounding the potential obligations to lease out "elements" of this new investment to their competitors that it is raising the cost of funding these investments. Simply put, investors are far less likely to embrace aggressive plans to invest in this kind of network upgrade when there is uncertainty over what is in the vernacular of telecom regulation "unbundling" obligations. In the absence of clear regulatory policy, investors will be far less tolerant of additional investment and more likely to demand their money back through increased share buy backs and dividends. Managements will be far more likely to explore investing outside of the United States, in geographies where they can more easily evaluate the risk associated with their investment.

What makes this situation somewhat perplexing to me is that policy makers are addressing the very same issue for the cable industry with far less ambiguity. While there has been no affirmative claim by the FCC stating that cable broadband access will remain deregulated in perpetuity, the mere absence of such existing regulation compared with the requirements currently placed on the local telephone companies gives an investor more confidence that future resale requirements will be less onerous. The only legitimate reason that I can see for the current asymmetry that exists in broadband regulation among the cable and local telephone industries is that the federal government feels that public policy is advanced by choosing winners here.

My comments, while focused primarily on the local telephone companies, can be equally applied to other companies in the telecommunications food chain. Clarity on regulation is equally important for shareowners of AT&T as it is for Verizon. AT&T is currently spending significant resources to market a "bundled" local and long distance voice telephone service through leasing the local access network of the incumbent local telephone companies. To me, this investment only makes sense in the context of a long-term plan in which AT&T will be able to provide broadband access

to these subscribers as it is likely that voice and data services will migrate onto one converged network over time and that carriers will need the ability to offer both services with a competitive cost structure in order to survive. The current lack of clarity is raising AT&T's cost of capital as is evidenced by a declining stock price. Current and prospective investors in the company would benefit from more certainty over the course of future regulation. Should the company be spending aggressively to defend its consumer long distance business through bundling it with local telephone service, or should it be harvesting this business and returning cash to investors? The answer to these questions hinges on regulatory clarity. Much the same can be said about another participant in the telecommunications food chain, namely the manufacturers of equipment used in the telecommunications network. Investors in companies such as Lucent, Nortel, Corning, and others face difficult decisions on funding the large investment in research and development required to develop market-leading technology. The difficulty in making this decision is compounded by the lack of clarity in regulation, causing investors to just walk away from the sector.

By way of conclusion, I believe that in regulating this industry policy makers must not lose sight of the fact that strong companies, both service providers and equipment vendors, are essential to a strong telecommunications industry. These companies, however, are owned by and run for the economic benefit of private shareholders who seek an economic return in excess of their investment cost. The lack of clarity, consistency, and predictability of industry regulation is raising the cost of capital for the industry, thereby weakening its participants. Importantly, the only legitimate explanation that I see for the current state of ambiguity in the rules is that the federal government is generally conflicted as to whether the local telephone companies should be run for the benefit of their shareholders or for the benefit of U.S. citizens generally. This is an inherently unstable equilibrium. I believe that there is ample evidence to suggest that inertia in clarifying regulation in this industry is destroying value not only for shareholders but also for citizens generally. To put it bluntly, I see only two ways for government to skin the cat on this issue: either spell out the rules of the game clearly and allow private investors to evaluate the risks associated with an investment based on these rules, or nationalize the telephone system and lease it out as a platform to resellers at tax-payer subsidized rates that are deemed to achieve the redistribution of wealth or other policy goals that are deemed to be in the public interest. I can't see how the current straddling of the fence benefits anyone.

I look forward to responding to any questions that you may have on my testimony.

Mr. UPTON. Well, thank you very much. Thank all of you. And as I read your testimony last night, and as I listened to many of you, to all of you talk this afternoon, it seems—and as I look at a whole series of analysts' reports done over the last number of months with regard to the health of the teleco industry, it seems as though almost virtually every one cites the example of what is going to happen with UNE-P—what is the FCC going to do with UNE-P, and will things continue about at the same level, or are they going to make massive changes and try to remove that, in my view as an obstacle to capital growth.

And as I listen to you talk about the unbundling of broadband, coupled with UNE-P, I would like each of you to maybe expand a little bit in terms of your analysis, knowing that you only have about 40 seconds each before my time expires, to expand specifically just on that angle. What will happen to the teleco industry if, in fact, the FCC makes some rather dramatic changes and removes the UNE-P requirement, and, thus, allow things to go freely? Mr. Atkinson? Would it be better or worse?

Mr. ATKINSON. It could be better, and it could be worse. The problem is that there is really no way to predict. We don't have any evidence. You know, it is speculation on a lot of sides, and everyone is claiming the sky is going to fall. Probably in some markets it will be much better. In large cities, large urban markets, we know, you know, UNE-P probably isn't necessary. In rural markets, smaller

markets, it might be. So if you took a meat axe approach to the—you know, said "all in/all out," you are going to get kind of a meat axe result, and you need a scalpel result.

Mr. UPTON. Now, one of you in your testimony talked about allowing the States to experiment. Some States—it was you? Okay. I don't know how workable that is, but you, as a former FCC employee, do you think that that is possible?

Mr. ATKINSON. Well, my observation coming——

Mr. UPTON. In Massachusetts versus Michigan? Holy Cross versus the Wolverines?

Mr. ATKINSON. My experience comes from my pre-FCC life, where before the Telecom Act States made all of the decisions, State by State. It looked pretty ugly and inconsistent, but they made the decisions to open up a collocation, to allow local competition in the first place. And, actually, you got to fine-tune these policies. Each State made a little step forward. Some got it right; some got it wrong. If it was right, other States adopted it, and then eventually the FCC and Congress adopted the right results.

And my concern is that the lack of the ability to fine-tune, to experiment, really says we are going to place a big bet on one outcome. Now that may be right, and the FCC is a pretty smart group of people. But if they get the UNE-P decision or the UNE decision wrong again, where does that leave us? I mean, you know, we need to experiment, I think.

Mr. UPTON. Mr. Bath?

Mr. BATH. I guess, in my view, the elimination of UNE-P would be favorable for the industry. Really, I think as Eric Strumingher mentioned, the elimination of that unbundling requirement would lower the cost of capital; therefore, improving hurdle rates for the telephone companies.

As I said in my written testimony as well, there is 10 million plus UNE-P customers out there that would be prime candidates for the wireless companies seeking to offer local voice services to those companies as well as the cable companies who to date have taken less than 2 million local telephony customers. Certainly, if you eliminate UNE-P, the opportunity—industrial opportunity to compete in telephony for cable becomes much greater.

Mr. UPTON. Mr. Brodeur?

Mr. BRODEUR. I think it would be both good and bad. In the short term, it would be bad, as the UNE-P allows a competitor to access and provide sets of services that would be hard to do. But in the long term, it would be good, because you would force an investment on the part of other carriers to provide local services. Otherwise, it is just a price gain that is somewhere between what the UNE-P rates are and the retail price.

Mr. UPTON. Do you think that it would begin to reverse the long-term—the last couple of years trend in terms of capital investment, then, from the sharp decline to coming back up to where they were?

Mr. BRODEUR. It could contribute to improving that. It is not—it will not solely do that.

Mr. UPTON. Mr. Crandall?

Mr. CRANDALL. It is a minor event, I think, in terms of the future of the industry, because those people using UNE-Ps are not going

to succeed. MCI and AT&T are the two major users. AT&T stock has fallen by 30 percent since it spun off its broadband assets. MCI is not going to succeed with this.

I think it will help raise capital for the Bell companies, but in a marginal way. I think the broadband piece is much more important.

Mr. UPTON. Well, you just have to agree or disagree, Mr. Strumingher. I am out of time.

Mr. STRUMINGHER. You are putting me on the spot. I think we need clear rules on both UNE-P and all unbundling, because either a competitor will have access to everything, or they should have access to nothing. This state of straddling the fence where we are now, and we have been for it seems like an eternity, has got to stop.

Mr. UPTON. Thank you.

Mr. Markey?

Mr. MARKEY. Thank you, Mr. Chairman.

In 1994, this committee and the Congress passed a bill, the Markey-Fields bill, which had 400 votes on the House floor, and then Senator Dole killed it over in the Senate. Here is what it says in terms of its goals. It says, "To make available, as far as possible to all people of the United States, regardless of location, a switch broadband telecommunications network capable of enabling users to obtain affordable, high-quality voice, data, graphics, and video telecommunications services," making reference to its digital quality.

Now, that legislation was killed. However, obviously what we were interested in is dislodging from the Bells this DSL technology which they had but were not deploying, because much like the black rotary dial phone that we all had in our living rooms in 1980, they were refusing to deploy anything because they had no competition.

Or, as in 1993 when we created the third, fourth, fifth, and sixth cell phone companies, they were refusing to move from analog because they had no competition. And so the interesting development since 1996 when the Telecom Act passed is that now, just a brief 6 years later, more than 75 percent of all American homes have broadband passing their front door. That didn't happen before the 1996 Act, even though the Bells had the technology and had no impediments in terms of the deployment of it.

So this inducement of paranoia is something that actually played a big role, as it did in every other area, right back to black rotary dial phones, that they said if you allowed any other competitor to sell one and they plugged it in in their home, it would ruin the whole phone system for greater Boston or any other system in America. We have heard it over and over. This is just a continuation of that complaint.

So the interesting thing, though, is even though Americans have, through the duopoly, access—75 percent of them—to broadband, they are not subscribing. A very small percentage are subscribing to something that is now available to them because the price is too high.

So the question is: how do you solve that problem? Do you guarantee that there are no new competitors able to use this—these

wires in order to get into homes, to provide new services, to provide interesting price structures? Or do you say once again to the Bells, "Don't worry. No paranoia. Continue to just do your research, but you don't have to deploy"? Which is going to work better for America? What is going to work better for the consumer, not just for—all of you represent basically that investor perspective.

I am talking here about consumers. They have been the beneficiary of the 1996 Act. It has been a huge, roaring success. The Bells weren't deploying anything. So my question is, to anyone who wants to take it, isn't it better that we get more competition that will lower prices and increase the quality of services, so we get the price down from $55 or $60 down to $35, and then they will get 75 percent of Americans subscribing rather than having this—that is, the future that I have heard this panel express has a name for it.

It is called the past. You are advocates for the past, over and over again. So I want to hear from at least somebody here, somebody that does support more competition, not less.

Yes, Mr. Atkinson?

Mr. ATKINSON. There is a potential new development which is coming along I hope called powerline communications. Now, if you got—that would make—it is the idea of using the powerline to every home, to every plug in your home, upgraded to some of these trials have gone to five megabits. Could be a very, very inexpensive broadband connection, which would break the duopoly and at least——

Mr. MARKEY. Can I call and get the——

Mr. ATKINSON. There are some very—there are some trials going on around the country.

Mr. MARKEY. No. I mean, I need—I said I want to dump my company today, so——

Mr. ATKINSON. You have got to keep your eye on it. Obviously——

Mr. MARKEY. While I am waiting for that to arrive, can I keep the competition in place waiting for that? Or would I be a fool to wait for a new technology that might never actually fulfill its promise?

Mr. ATKINSON. It is a risk that the technology certainly won't evolve.

Mr. MARKEY. But that is that boom-bust that is—prefer not to go that route, and just take the bird in the hand until something new comes along.

Mr. ATKINSON. Well, a third or more competition certainly would, you know, provide the competition for—and lower prices, etcetera, for consumers. That is a good thing. Investors will go, hmmm, that is not a good thing. Maybe I don't want to invest in it. Yes, that is the typical—the tradeoff and a concern.

The question, of course, would be, should we have—in the sense from a government policy point of view, carrots or sticks to——

Mr. MARKEY. Should we change policy in anticipation of technology——

Mr. ATKINSON. No, it should——

Mr. MARKEY. [continuing] that may not arrive, or should we wait for the technology to arrive and then change the policy because the technology is here?

Mr. ATKINSON. I would go with my—do an experiment to see what happens in——

Mr. MARKEY. Thank you, Mr. Atkinson.

Yes, sir?

Mr. STRUMINGHER. Yes. I would just offer one or two observations in response to your statement. First of all, I think you can't just consider the price. You have to consider the economic return to not just the incumbent but all competitors in providing the service. Right now there are many different providers of DSL service—for example, COVAD, Earthlink, just to name two, or AT&T and other—who are currently leasing out the copper loop to deliver service over DSL.

They are pricing at the same level roughly as the incumbents. The reason—well, in my opinion—they don't consult me about their pricing decisions. But in my opinion, the reason is because it is an expensive service to provide. None of these is actually making money at DSL yet. There are large provisioning costs involved. There are lots of costs in ramping the business up. So I say you have got to consider both the price, but also the cost of providing the service when you take a look at it.

The second——

Mr. MARKEY. If they eliminate that competition, do you think the Bells are going to lower prices and increase deployment if there is no pressure on them at all? That just seems like it is anti—that is counterintuitive. That is not how they have acted for the first 100 years of their existence.

Mr. STRUMINGHER. Yes. Actually, that is not what I was saying. I wasn't suggesting that we should do that. I was just pointing out that we need to take a look both at the price and the cost of delivering the service.

The second point that I would make in this that I think is important is a comparison of price and value that the customer is receiving. Right now, if you want to get dial-up access to the internet, a lot of people buy a phone line or lease a phone line from the Bell company, and then lease another phone line that they use for their internet service.

It varies depending on geography, but the rough cost is approximately equal to what you would pay for a DSL line, where with DSL you can get both a voice service and an always-on high-speed connection. So the value received by the consumer is actually, in my opinion, better than in the contrary case where they are buying two lines.

Mr. MARKEY. Mr. Chairman, you have been overly indulgent to me. Thank you.

Mr. UPTON. Mr. Tauzin?

Chairman TAUZIN. Thank you, Mr. Chairman.

Mr. Crandall, you make the point that the spread of a UNE platform into these new advance services will increase the appearance of competition but not the reality of it. You say in your statement, "Simply allowing other carriers to deliver the same service over the

same facilities to the same customers at greater social cost will not promote competition."

If I can draw an analogy maybe—if we need some more taxicab competition in this town, does it help us to say that we are going to allow competitors to use the incumbent's taxicab to drive people around at a discounted rate set by government? Does that really increase competition in taxicabs?

Mr. CRANDALL. Well, as you well know, I mean, we have been in this debate for a long time. The idea of using unbundled network elements was one of providing entrance either of the ability to access essential facilities that they couldn't build themselves economically or to get a toehold prior to building their own facilities.

Chairman TAUZIN. The idea was to get things started.

Mr. CRANDALL. Yes.

Chairman TAUZIN. I mean, the idea was that they were going to have their own taxicabs eventually, their own facilities at some point, right?

Mr. CRANDALL. Right. How the UNE-P is being used is not for getting a toehold and building their own facilities, but, rather, for bundling voice services.

Chairman TAUZIN. Yes, but let us not talk about that.

Mr. CRANDALL. In places like New York, in order to compete with the Bell companies. The only thing they are doing is they are getting huge discounts, huge resell discounts.

Chairman TAUZIN. They are getting a resell discount is all they are getting. They are serving the same customers over the same facilities.

Mr. CRANDALL. Let me point out——

Chairman TAUZIN. But I have got to move quickly.

Mr. Strumingher, you point out the—I think in awfully good language the absurdity of this kind of thing. You point out that the very notion that a shareholder-owned corporation, which is what we are talking about here—the ILECs—that a shareholder-owned corporation is subject to mandates requiring it to lease its primary assets to its competitors at a rate dictated by government is a pretty atypical situation in a capital market.

But you also point out that that isn't true for cable. It is true for telephones but not for cable. And no one has yet said that government ought to tell the cable company that it has to lease out its facilities to competitors at a rate set by government.

What do you think would happen to cable investment in these new broadband services if we decided in fairness to subject the cable companies to the same rules the FCC has subjected the telephone companies to?

Mr. STRUMINGHER. I think that it would be pretty destructive.

Chairman TAUZIN. Pretty destructive?

Mr. STRUMINGHER. Yes, very destructive.

Chairman TAUZIN. In what way?

Mr. STRUMINGHER. Well, this is perhaps for the cable industry its best growth opportunity. And if you all of a sudden cast doubt upon the industry's ability to earn a return on this investment because there are unclear rules or onerous rules on reselling this asset to their competitors, you increase dramatically their cost of capital.

Chairman TAUZIN. But, you see, what we have done—you really put it to us pretty good here in this statement. What we have done is we have decided to tell the cable companies, "We are not going to do that to you. We want you to go out and make these investments and earn capital—earn, you know, profits on your capital investments. But we are going to do it to the telephone company, your competitor in this broadband area."

So, therefore, we decided to make cable the winner and telephones the loser. That is essentially what you said. The only—this is your quote. "The only legitimate reason I can see for the current asymmetry that exists in broadband regulations among the cable and the local telephone industry is that the Federal Government feels that public policy has advanced by choosing winners here."

Now, simply read, that is telling us that we decided to make cable companies winners over telephone companies. Is that right?

Mr. STRUMINGHER. Yes. I can't really see the policy objective in so doing, but that is the way it appears to me. And it is kind of perplexing.

Chairman TAUZIN. Well, it certainly is to me. It is perplexing to me that we would want to have competition in broadband services and only make cable the winner. If we really want competition, we should have a really level playing field.

Now, if you had to choose—if you were advising me and the FCC today on whether we ought to subject cable companies and telephone companies to all of these rules similarly, so we are not picking a winner, or to take these rules off of both of them—and everybody else by the way, wireless and satellite, anybody else who wants to compete—which direction would you recommend we go?

Mr. STRUMINGHER. Well, I don't want to hold myself out as an expert on public policy. I hope that I can hold myself out as an expert on investing. And I will tell you this——

Chairman TAUZIN. Well, which direction would take us into more investments and more services and real competition, Mr. Crandall, instead of fake or phony competition? Can you help us here?

Mr. CRANDALL. Well, surely taking the same view of both sectors, not regulating new services that are delivered over new facilities is the right approach.

Chairman TAUZIN. Absolutely it is the right approach.

I yield back, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Wynn?

Mr. WYNN. Thank you, Mr. Chairman.

Mr. UPTON. You are recognized for 8 minutes.

Mr. WYNN. Thank you.

Is there anyone on the panel that believes that the primary unbundling rules to newly deployed infrastructure by ILECs or CLECs makes sense? Guess not.

Mr. CRANDALL. Could I answer that in one way, Mr. Wynn?

Mr. WYNN. Yes.

Mr. CRANDALL. We had a conference at The Brookings Institution a little over a year ago, and the book is out on broadband regulations. It just came out a couple of weeks ago. Everyone there, regardless of their views on unbundling, seemed to take the same

view. That is, for new facilities, there is no basis or no justification for requiring unbundling.

Mr. WYNN. Thank you.

With regard to State rate-setting, is the primary issue the uncertainty or the unfairness? I have heard both allegations. What is your sense? If someone on the panel would respond to that.

Mr. ATKINSON. I think the allegation is that the TELRIC rates set by the States are—have been too low. At least that is certainly the allegation of the Bell companies. Of course, the consumers of those services think the rates are good or not low enough. The difficulty is the States are—to get it right, you have to keep trying to get it right. I mean, it is Goldilocks pricing, not too high, not too low, you have got to get it just right.

And so the States I think are going to go back and take a second look and a third——

Mr. WYNN. If I could just jump in, is that a result of some sort of regional differences, or is it just the quirks of the individuals States?

Mr. ATKINSON. You know, the price or the cost of providing the service varies typically by density more than just by States. Rural areas are more expensive to serve than urban, typically, and some companies do better or worse than other companies, even for the same kind of geographic area. So it varies sometimes by Bell company versus non-Bell company, or you can just—it just differs. But the formula is a formula, and they apply it differently, and they are going to change it.

Mr. WYNN. I see Mr. Bath kind of itching to get in on that.

Mr. BATH. Well, yes, I think the issue from the investors that I talked to is that, certainly, as you think about the States' incentives—as Mr. Markey noted, the incentive for the States is to continue to lower prices to consumers, lower prices for the traditional voice services. And so as long as the TELRIC/UNE-P requirements are out there, there is certainly an investor concern that the States will continue to have a motivation to ratchet the rates lower and lower.

Mr. WYNN. Unfairly low, not just lower but——

Mr. BATH. Well, I mean, as——

Mr. WYNN. In relation to the value of the investment.

Mr. BATH. As low as they can to continue to promote competition. Again, from their perspective, they are doing what their constituents would ask them to do, which is drive lower prices through more competition.

Mr. WYNN. Okay. I am curious. Everyone talks about clarity, consistency, and predictability, most definitely what the industry wants. I would submit that that is probably the same thing that the consumer wants, and that one of the biggest consumer concerns is dropped calls and the lack of consistency in terms of their research.

Has anyone seen a market survey of really what the consumer demand is? Is it for the next generation, or is it for this generation to work better? What is it that consumers want? What drives this market?

Mr. ATKINSON. I think it is all of the above. I mean, it is—consumers are very glandular. There are some who want just low cost,

some who want all of the latest bells and whistles. And, you know, they will go to the carrier which gives them the best value proposition for what they want. But there is clearly a market for cheap and cheerful, and there is clearly a market for the most, you know——

Mr. WYNN. Is there any segment that is larger than the others, or is it fairly equally disbursed?

Mr. ATKINSON. I don't know.

Mr. CRANDALL. Can I answer that?

Mr. WYNN. Yes, sir.

Mr. CRANDALL. Well, still to this day, the traditional services constitute the overwhelming share of consumer expenditures. But wireless is growing, as is broadband. But to ask a household, what does he want when his choice is among services that are—have not yet been perfected?

My DSL service here in the city of Washington, D.C. delivers me 600 kilobits per second. In Japan, if I had the choice, it would be between eight and 12 megabits per second. So consumers don't even know what the choices could be once technology gets rolled out.

Mr. WYNN. Yes?

Mr. BRODEUR. And then I think the—I would agree that the—clearly, quality is an issue. The consumer will want good quality services, no dropped calls and the like, and they clearly want decent pricing or low pricing. But there is also a big desire on the part of consumers to see the bundling of services, local and long distance together, to see local, long distance, and wireless, and broadband all being provided as a package to the home or to the business.

Mr. WYNN. Thank you.

It seems to me that there is a pretty good consensus that this unbundling rule is not working or is inhibiting investment. Is it your sense that it is also costing us jobs that may be going overseas or other places?

Mr. BATH. I mean, the unbundling rules are largely being used by AT&T and MCI to hold on to the current customers that they now have. And as you think about the kind of jobs that they are creating, there are certainly creating jobs in the advertising community, telemarketing, and customer service, etcetera.

Mr. WYNN. What would happen to those jobs if you didn't have the unbundling rules?

Mr. BRODEUR. I would just say that, clearly, unbundling does create a disincentive for new investment, particularly fiber loop facilities. When you consider the number of jobs lost primarily in the manufacturing industry as well as the service industry, but primarily the manufacturing industry, but if you think about investment in fiber facilities it is not just switches and fiber, it is also construction workers that build the ditches that the fiber is put into. That is a huge component of it. So there is a lot of jobs to be gained there.

Mr. WYNN. Okay. I think you used the Corning example in your testimony?

Mr. BRODEUR. Yes.

Mr. WYNN. As an example of where you, absent these unbundling rules, you could get more investment?

Mr. BRODEUR. There is a much greater incentive for incumbent operators to invest in broadband—new broadband infrastructure without unbundling today, and that will help both Corning and many other equipment manufacturers.

Mr. WYNN. I think—Mr. Crandall, did you want to say——

Mr. CRANDALL. Yes. I wanted to say that UNE-P and unbundling new facilities for broadband—the UNE-P probably has some unfavorable effects on investment, in terms of maintenance of existing plant. But requiring the unbundling of new facilities in uncertain ways implemented by the States does certainly chill investment in new facilities.

And to address Mr. Markey's question earlier, there is no one who thinks that this unbundling for broadband is going to generate much in the way of competitive supply of DSL. And the forecasts are that the competitive DSL supplies are going to be very small. Today there may be half a million out of, what, 15, 17 million total broadband subscribes.

Mr. WYNN. Is it true that there is no real impediment to the ILECs or CLECs investing in the new infrastructure?

Mr. CRANDALL. Well, I mean, the impediment is demand and cost. If you want that, I mean, it is the regulatory impediments we are talking about.

Mr. WYNN. Okay.

Mr. ATKINSON. Really, there is a very good role for UNEs to consolidate demand to lower the risk for new investment, particularly for startup companies, for competitive companies. So, you know, in the right circumstances, UNEs are going to create jobs, create new——

Mr. WYNN. My time is almost up. What do you mean when you say consolidate demand? Why does it have to be consolidated?

Mr. ATKINSON. No, to concentrate demand and to test it—to build demand to now justify the investment in your own facilities. The proper role for——

Mr. WYNN. And that argument is that you can only do that if you have the current unbundling rules. Is that——

Mr. ATKINSON. Not necessarily the precise current unbundling rules, but the statute requires unbundling, and I think it was intended to provide the ability to aggregate demand so investment would be lower risk by the newcomers. The newcomers would then, after aggregating the demand, move it to their own facility.

Mr. WYNN. But no incentive for investment for the incumbents.

Mr. ATKINSON. There is a—not for the incumbent. Clearly not.

Mr. WYNN. All right. Thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Shimkus?

Mr. SHIMKUS. Thank you, Mr. Chairman. It is great to have the panel here, and I apologize for stepping out. That is part of our challenge as a Congressman.

All of us have been concerned about the economy as a whole, and a lot of us lived through the good days of the expansive telecommunication age and all of the great things that occurred, and

then we have also, with the economic slowdowns, are putting up and surviving with the way the economy is today at the time.

I wasn't a member during the 1996 Telecom Act. I was back home in Illinois, and I have been trying to follow this as we move forward. But I have been a consumer and have tried different types of technologies to do my job. You know, many people do it now at home. And I have gone from dial-up to recently switching to cable broadband at home and cable broadband in my townhouse here, because of the bundling aspects and what they have been able to provide me. And they are marketing a good price.

And so the question is: if I, as just a consumer, have made a decision, based upon looking at what is out there in the market right now, and I have said for me it is worth my money to switch—an ISP, I switched really, in essence, from the dial-up, changed my ISP, went to cable.

What has to be done to the other modes of delivery of high-speed internet connectivity to encourage anyone else to jump into the competitive market, whether it be high-speed cellular, whether it be direct satellite, whether it be, you know, through the telephone lines, because that is really our—if we want the economy to recover, how are we going to—what barriers do we lift—and that has been part of the discussion—that may have been in place either through the 1996 Telecom Act or through FCC ruling, or what do we lift or do we have to put in place?

And, of course, there is a difference in the investment community based upon—even here on the panel—of more government regulation or less. I would like just to start from—to my left and go down and see if you can just address that question for me in the generic arena.

Mr. ATKINSON. There is nothing that a big dose of new revenue wouldn't cure for the telecommunications industry and the suppliers and everybody. I think it was pointed out earlier by one of the other witnesses that, you know, new applications are the only thing that is going to bring in new revenue in any great quantities.

I don't know that regulation is going to—of telecom by the FCC, for example, is going to make a great deal of difference to the kind of applications. Clearly, if there are applications that are being held back by FCC regulation, those should be definitely eliminated. But it is the content, it is what is that, you know, proverbial killer app?

I think it is somewhat generational, too. You know, people with gray hairs may not be the great consumers of some of these new applications, but the younger generations are avid, huge users of these new services. And as they sort of move into the telecommunications buying worlds, they get into their twenties and thirties, form households, things like that, there may be just a huge, very natural, new demand coming into the system. And hopefully we could accelerate that, but it is—new applications are going to be new revenue, and that is what we need.

Mr. SHIMKUS. Mr. Bath?

Mr. BATH. Yes. I think, if I get at your question properly, you know, what you are interested in is how can you get from other providers the kinds of high-speed data and internet services you get from the cable company. I think the clearest path is to lower

the cost of capital and create the incentives for the telephone companies to deploy those networks more aggressively.

Clearly, eliminating the network unbundling requirements on those networks would help. I think, in addition, more spectrum, which I know the FCC has worked hard, and, as Mr. Markey pointed out, I think the FCC has done a superb job in getting as much spectrum out as they can. And then, finally, on the satellite side, you know, talk about a sector that has had tremendous technological evolution here over the last decade in terms of what it can deliver. And recently the FCC has taken some action to improve the satellite companies' abilities to do that.

So I do think it is coming. Less regulation, you know, certainly, again, lowers the cost of capital and creates the proper incentives.

Mr. SHIMKUS. And part of that answer is certainty.

Mr. BATH. Certainty helps. I mean, uncertainty is killing the telecom investors', you know, view of the world right now, as I said in my written remarks.

Mr. SHIMKUS. Yes, great. Thank you.

Mr. BRODEUR. I would add the industry is evolving. I think the Telecom Act of 1996 and previous regulatory initiatives certainly are all part of the process of this industry and improvement of the services that are provided to customers. I think the objective should be facilities-based competition all the way to the home or to the business. That should be the objective.

Time and time again we have seen, you know, in the—if I were in front of you 7 or 8 years ago, there is no way I could have ever told you that there would be sets of services now in the wireless zone where, you know, effectively you have free minutes of long distance usage at the marginal rates on the weekends and even in the peak periods. That is because we have facilities-based competition.

I would also note that there have been roughly 150 competitors that were started in the 1999 through 2001 period. Almost three-quarters of them were UNE-based competitors. Because the risk for financial investors to make investments in those companies was less, there is an incentive not to invest in facilities all the way to the home or to the business, and that is because of the UNE.

And that is why I think, as our study indicated for Corning, how there is a disincentive especially when it comes to incumbents providing fiber facilities. But the overriding objective of public policy, I would believe, would be for facilities-based competition.

Mr. SHIMKUS. Great.

Mr. Crandall?

Mr. CRANDALL. I will echo that and leave Mr. Strumingher some time. But let me, in addition, add the fact that regulatory uncertainty is probably keeping the cable companies from allocating more of their spectrum to broadband services for fear that they might be subject to some of the sharing requirements that the telephone companies are subject to.

Mr. SHIMKUS. Very good.

Mr. Strumingher?

Mr. STRUMINGHER. I guess I would just answer by saying we should focus not on putting a little tweak here or a little tweak here to regulations which might, you know, all of a sudden create

some huge boom in revenue. I mean, the nature of this industry is it is technology-driven, and we don't really know what the next great source of revenue is going to be.

But these opportunities are going to come up. And if there is a clear deregulatory bias, if there are clear rules, then capital is going to flow toward funding those ideas, which they, you know, are at this stage. And, you know, who knows what the next great thing is going to be? But when it comes, it can get funded.

Mr. SHIMKUS. I appreciate the answers.

Mr. Chairman, I yield back.

Mr. UPTON. Thank you.

Mr. Dingell?

Mr. DINGELL. Mr. Atkinson, I want to thank you for your very helpful testimony. I was reading at page 3, you have a very interesting statement in which you said as follows, "That it might make it too easy for new entrants to get into the space being occupied by established CLECs, such as TCG and MFS, and whether unbundling would undercut the value of our existing investments."

"I couldn't answer those questions, because the roadshow was being conducted before the FCC's local competition order of August 1996, although the answer turned out to be yes. After the order was released, TCG's stock struggled for a time."

Wouldn't this appearance tend to lend credibility to the fact that we need to eliminate some of these rules that preclude this—that preclude people from getting relief from this kind of situation?

Mr. ATKINSON. Possibly. I think the bigger issue is probably the pricing of—you know, if we—our concern—this is back in 1996 when I was at Teleport, was that we were very concerned with what has happened, that you UNE prices would be too low and undercut the value of the investments that we had made in the prior 10 years to compete.

So we were concerned not so much with the requirement of the Bell companies to make UNEs available to our—the startups that were coming behind us, but the pricing level. And I think it may well be that the prices are in some cases too low, and, therefore, undercuts.

Mr. DINGELL. And changing back would help this situation.

Mr. ATKINSON. Getting the pricing right is ultimately what has to happen. It is a question—access to the elements is important, and then you need to get the price right. If it is too high, you are not going to get the market aggregation function, which will trigger new investment.

Mr. DINGELL. But the best mechanism for fixing that price is the market. So you do regulate it, let the market fix these prices, get everybody in the business to compete fairly, and you have got the problem solved.

Mr. ATKINSON. That would be the—you know, the Telecom Act set up the prospect of negotiated interconnection agreements precisely where those prices for UNEs would be negotiated. The one that the Act has not fulfilled is the ability for CLECs and ILECs to negotiate those deals and get that whole process completely out of the regulatory process.

Mr. DINGELL. Well, as I read the FCC's order, that is a real possibility and would be a desirable consequence. Right?

Mr. ATKINSON. If you can fix the negotiating process to make that work, and then get rid of—then the FCC can get out of it completely.

Mr. DINGELL. But also address the unbundling problem to which you complained in your statement.

Mr. ATKINSON. It would—if you can get the prices right, then I would have been happy back in 1996. And if I could have negotiated my own interconnection arrangements with the incumbent, I would have even been happier, because I would have negotiated exactly what I wanted, and my competitors hopefully wouldn't have been able to take advantage of my deal. But right now, today, you can't negotiate a deal.

Mr. DINGELL. All right.

Mr. ATKINSON. So we have to go back to this regulatory morass.

Mr. DINGELL. Now, I note that at page 9 you have some other very interesting comments, which I found to be very helpful. "In the guise of promoting competition, the Act and the FCC regulations that followed have created an enormous regulatory apparatus and set of requirements. The Act has created a set of companies and industries whose very survival is dependent on the good grace of the regulators. The dependency relationship is not one that makes for a healthy policy environment or acceptable investment risk."

Essentially, you are again saying the same thing, and this brings us down here again to the fact that we have to address this question in which you complain that the Act has created a set of companies and industries whose very survival is dependent on the decision of Federal regulators.

So if we, again, absolve ourselves of these Federal regulations, the Federal regulators, industry is going to make their own judgments, as you have said, on an acceptable investment risk. And it would seem, therefore, to me at least that the policy would promote, and should promote, facilities-based competition which by its very nature would eliminate this dependency relationship of which you have complained. Am I correct?

Mr. ATKINSON. You certainly don't, as a competitor of the last—as a real competitor, the last thing you want to be is dependent on your big powerful competitor. So that is a big reason to become——

Mr. DINGELL. I mean, we want to get that competition, don't we?

Mr. ATKINSON. You absolutely do. You want to be free and independent.

Mr. DINGELL. Thank you.

Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Dingell.

We will go to Mr. Terry. Mr. Terry is recognized.

Mr. TERRY. Thank you, Mr. Chairman.

Mr. Strumingher, you and the chairman had a nice colloquy, and I want to refer you to the last part of your statement where you put it bluntly. You see two ways for government to skin the cat on this issue, either spell out the rules of the game clearly and allow private investors to evaluate the risk associated with an investment based on these rules, or nationalize the phone system.

What I would appreciate is some clarity from you on how to make the rules clear. I agree with your statement that investors,

shareholder-owned companies, are looking for certainty and clarity before they are willing to risk their money. But what rule—specifically, the rules, what is the seminal holdup in the rules, and how would we clarify those? What would you suggest needs to be clarified in those rules to, you know, release the pent-up dollars out there and reinvest in the telecommunications industry?

Mr. STRUMINGHER. Sure, I will give it a shot. I think from point of departure, I would recommend that we have national rules with local implementation of the rules. But the rules have to be very clearly stated with an affirmative statement and a definition of impairment.

That seems to me to be a critical stumbling block right now for regulation. So the FCC should come up with a prescription, with a detailed statement on what would define impairment, not just for the network as it exists today, but to try to have a forward-looking view, so that if a competitor wanted to make investments today that might change based on technological changes in the future, they might see a path toward being able to do that instead of being just—in a real—I would call it a vicious cycle of guessing.

Mr. TERRY. All right. Well, in a similar question, I will ask Mr. Atkinson—and I think probably in Ranking Member Dingell's question you started to go into this area. But in your statement you had mentioned that the 1996 Act contributed to the bust, and regarding the rules and the gridlock that was created by that.

I am just curious to what could have been removed, what specifically could have been removed by way of the rules or further better defined that—that we wouldn't have had that micromanagement that you mentioned, and we could have prevented or either softened that "bust."

Mr. ATKINSON. I am not sure I have a specific view of what was wrong the last time. My concern is when we get—if we have an upturn, as we are having, that when the next downturn happens we don't have the continuation of the gridlock, we don't have the continuation of the risk.

And so my recommendation at the end of my testimony is we do two things. One is we, first of all, try to get as much of the controversy simply out of the regulatory process completely, and get it away from the possibility of gridlock, and you could do a lot of that if you could get this interconnection agreement process to work. That is going to be a very difficult thing to do, because there is all kinds of problems with bargaining power, respective bargaining power, etcetera.

But if you could pull a ton of the controversy out of the regulatory process altogether, you would eliminate a lot of gridlock. At the same time, if you had the opportunity to do a lot of experiments, you also kind of could make—the can make the regulator, to the extent the regulator has to make a decision, instead of relying on informed speculation, which is, frankly, what a lot of regulators have to do today, they could look at real-world results and say, "What happened over here was a good thing. We will do more of that. What happened over here was a bad thing. We won't let that happen again," and have a dynamic process instead of sitting here today, for example, or the FCC next week saying, okay, here is the new plan, and that is a rigid plan that might work very, very

well for the next few years because it is based on the current situation.

But as time evolved, as time goes on, as new technologies comes in, as the economy either booms again or busts again, the optimal regulatory decision made by the FCC next week may not be at all appropriate. And so you need flexibility and the ability for regulators to kind of get ahead of the problem, or at least keep up with the problem, or they become increasingly irrelevant.

Mr. TERRY. I would assume, as all of you have mentioned in your statements that you need clarity and certainty, if there is a particular bill to "deregulate" similar to the bill that we passed last year, or a similar type of bill, that we must, in order to have clarity and certainty, mandate those—that deregulation or clarity in the rules upon the States.

Would you agree that if we left it up to 50 States that there would be a lack of clarity and certainty, and that perhaps we could exacerbate the problem?

Mr. ATKINSON. I think Mr. Strumingher was correct. What the FCC—the right role for the FCC is to be very clear what the goals are and what the restrictions are. You wouldn't want to just, say, have the 50 States just do whatever they want on a whimsical basis. But the Telecommunications Act or the Communications Act lays out a goal, a vision.

As long as the States are constrained to only act toward that, and the FCC can always step in and say, "No, you got it wrong," and in a sense perhaps act more as an appellate court than as a court of original jurisdiction. So that way you can get the benefit of good ideas of adapting to the changing technology, changing markets, etcetera, and use the FCC to backstop against a disaster.

I think that I would expect from an investor's point of view investors would be able to see what is happening in each of these experiments, start placing their relatively small bets on good things that are looking like they are going to have a favorable outcome. And then, as the experiment matures, you start placing bigger and bigger bets. That reduces risk.

Mr. TERRY. Does anybody else want to comment on the role of the States?

Mr. CRANDALL. Yes. I think people underestimate what the cost of regulation is at the State level. The debates that have taken place over having to unbundle fiber, copper, digital loop, carrier types of systems often take a year or 2 in States like Illinois, Minnesota, which is ongoing right now, and freeze investment on the part of the ILEC, providing some certainty, saying, "You may only have the copper from the subscriber back to the remote terminal," and that all of the rest of the electronics need not be unbundled, would I think move things forward substantially.

Mr. TERRY. Thank you. I asked that latter question because the—we had, obviously, several opponents of deregulation, but one of the opponents that we have had are State PUCs and Governors who want to keep—retain some level of power and control over telephone utility companies, long distance and local.

So, thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Engel?

Mr. ENGEL. Thank you, Mr. Chairman. A lot of people here today have said a lot of what I want to say, but I wanted to, first of all, make it clear that I am certainly not opposed to Federal Government regulating the telecommunications industry. I think that it is necessary in certain instances, but it is clear to me that sometimes there can be unintended consequences.

And I think in this case, in the case of unbundling network elements, we have seen where many competitive local exchange carriers chose not to build their own facilities, but instead, you know, they rented a whole system from a local incumbent. I think the 1996 Act and Congress were clear that we wanted and need facilities-based competition.

So I am especially, as others are, concerned about the industry's ability to access the capital markets, and I want to identify with the chairman, Mr. Tauzin, and his remarks. I am not interested in stifling investment, and I think that that is what this does.

I want to ask Mr. Brodeur, in your testimony you state that we could rationally build fiber loop facilities and completely new broadband infrastructure to roughly 30 percent of U.S. households without regulation, but to only 5 percent of U.S. households if the unbundling regulatory paradigm were extended to these fiber loop facilities. And I would like you to expand on that, please.

Mr. BRODEUR. Sure. I will do my best. Essentially, the decision that all of the ILECs have to make with regard to fiber—and fiber is probably the most—fiber to the home and to the business is probably the most important advancement in the telecommunications industry from the perspective of services for the consumer and the business—is to weigh an incredible set of issues.

As I mentioned in my testimony, you have to make projections of your takeup rates of local voice services, long distance services, broadband internet services, video services, and three of those five are basically things that the ILEC has just recently gotten into.

If the unbundling paradigm is extended to the fiber loop facilities, and there are many CLECs that use those facilities rather than to invest on their own, it is reasonable to expect that the ILEC will have less retail market takeup. That gets tradeoff against what the price point is for the wholesale loop, whatever it negotiated, whether it is FCC or at the State level, whatever it is.

There is a relationship between the price, the wholesale price of that facility that is sold to the CLEC, and the incentive for the ILEC to invest. And right now, if you extend the current paradigm, unbundling paradigm at TELRIC rates, that incentive wouldn't be sufficient for the ILECs to invest fiber broadly. It would only be in those very large and very lucrative central offices.

Mr. ENGEL. Well, thank you. Obviously, it has a negative effect on broadband. What is its effect to traditional voice services now?

Mr. BRODEUR. To traditional voice services today, there would probably be—the implementation of broadband facilities wouldn't necessarily change, you know, long distance as we know it today or local voice services. But it certainly would change how the ILEC or cable company would package those services together with other services, which has the potential for reducing price.

Mr. ENGEL. Thank you. I want to also note that the communication workers have sent a memo, and essentially it is entitled

"Unbundling Policies Discourage Investment and Facilitate Job Loss in the Telecommunications Industry." And their fact sheet notes that the current unbundling policies discourage network investment and facilities-based competition, and they call upon the FCC to revise its unbundling policies.

It seems to me that the FCC should adopt clear national standards, because, again, I think this is stifling investment, and I think the FCC has a good opportunity here to reverse that.

I know my time is up, and I thank you for your indulgence, Mr. Chairman.

Mr. UPTON. Thank you very much.

Mr. Cox?

Mr. COX. Thank you, Mr. Chairman.

I wonder if all of the members of our panel would agree that voice and data will eventually converge into one integrated network. Does anybody disagree with that? Anybody want to embellish on that, or is that just an obvious fact of——

Mr. CRANDALL. The question is when, I think, and, I mean, I am not an engineer, but I would judge there will be convergence at some point. It is a matter of time.

Mr. BATH. Maybe I could expand on it a little bit. You know, we—our firm in New York, it is happening. I mean, we have CISCO phones on people's desks, on our trading floors, etcetera. And I think it really is going to encourage—you know, the larger customers will get it first, and over time you will see a clear convergence of voice and data down to the smallest of customers. I think it will happen over the next, you know, 7 to 10 years, even for very small customers.

Mr. ATKINSON. You are already seeing it in the residential space with voiceover IP, if you have a broadband connection in your home today. So if you have got a cable modem or DSL, you can get your basic telephone service using the existing phones that are in your home today and run them over that DSL or cable broadband. So right now it is not big, but it is working and it seems—consumers seem to like it. They get a good deal on it.

Mr. BRODEUR. And I would add to that that—I would agree with the point that was made by Mr. Markey that paranoia drives a lot of what goes on in the telecom sector and all others for that matter. The paranoia that I think most of the ILECs feel today is about true VOIP voiceover—the IP technology and the likelihood that the cable companies are going to be able to launch that broadly in the next few years.

Mr. COX. I want to tighten the screws on this question a little bit, because it is abundantly clear that there is such a thing as convergence of voice and data already. It is not universal, but it is out there in the marketplace.

And the question is whether this progression toward convergence of an integrated network is inevitable, and whether we can infer from what we are seeing and the destination toward which competition is tending that in the future, at whatever time we might stipulate this convergence is accomplished, in the future competitors, in order to survive, are going to have to offer both voice and data services, essentially over the same platforms. Is that an inference that anybody is willing to make?

Mr. STRUMINGHER. I would answer the question by saying it would be extremely high risk, in my opinion, for someone to fund a business plan that was based on having an uncompetitive cost position in one of those two services. So that may be a somewhat complicated way of saying that it is going to be very difficult.

Mr. COX. Is that the same as saying that you cannot compete if you don't offer both?

Mr. STRUMINGHER. No. It is saying that you have to have a competitive cost structure in both. Otherwise, you expose yourselves to very high risks.

Mr. COX. Yes?

Mr. ATKINSON. My only observation would be the big convergence will happen in—for many consumers in many markets, there will always be probably many thousands, hundreds of thousands, millions of people with single-line telephones. You know, that is what some people want. But I think certainly as, you know, the generation X and Y start moving along, those—they will certainly be big consumers. But you never have one network, one package. It will become, in fact, more and more diverse.

The key will be accessing. This voiceover IP has nothing to do, for example, with the provider of the broadband service. It is—you plug it in, you get your voiceover IP service from someone who isn't affiliated at all with the broadband service provider. So a lot of the things like voice, like entertainment, are simply applications on an underlying broadband network.

Now, and the question really will be whether the broadband network owner is going to restrict access to that network in order to be the sole provider of the package of voice and data and video, etcetera, or will it be more of an open platform. And it will be interesting to see how—and I think we should let it work out and see what happens, whether the network owners, for their own self-interest, have an open or closed approach to these, you know, boxes that people will want to plug into that network.

And history has said, and I think consumers get a better deal when you have an open access, it is probably going to be how it will evolve. But I think we—you know, regulators don't need to step in yet to, you know, kind of tip the scales. I think we should see what happens.

Mr. COX. There were some other initial expressions of interest in response on this point. I don't want to cut anybody off.

Mr. BRODEUR. Well, I would say—I would add that in those cases where competitors have effectively converged voice and data services, their cost positions have been significantly better than the incumbents in some cases. There were many instances where the cable companies have deployed a voiceover IP and an offer of residential households, combined video and data, internet access, and voice.

And in those markets where they do, they have hit—they have reached takeup rates of 40 and 50 percent, and that is because the cost structure of being facilities-based is so good, and it allows them to be very effective competitors.

Mr. COX. When we wrote the—I am sorry?

Mr. UPTON. The gentleman's time has expired.

Mr. COX. We could go on indefinitely. Thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Bass?

Mr. BASS. Thank you, Mr. Chairman.

Thank you all for being here today. I really am amazed at the way that—the ride, if you will, that the telecommunications sector has been on for the last 5 years. And we have—I believe that the issue of slowing economy and overregulation have been discussed with some thoroughness.

I am interested to know what your perspective is on the possibility that part of this whole issue is associated with overinvestment and overspeculation, the development of totally unrealistic expectations for growth, no profits, and so forth and so on, and where we would be—let me make the contention that we might be where we are today had these unreasonable expectations not been circulated and unreasonable investments undertaken, would we not be more or less where we are today without that? Anybody want to address that issue? Go ahead.

Mr. CRANDALL. There has been investment that has been fueled by exaggerated expectations of growth. But a lot of it has just been very bad business plans, such as the CLEC business plans. Nobody would suggest that the investment that has gone into wireless networks has been excessive, though the current consumer reports will detail for you how bad the coverage of some of the major national wireless carriers is still today. They still need more investment.

Normally, I would suggest that my 600 kilobits per second on my DSL in Washington is as good as the telephone company can do without more investment. I mean, they need more investment to get that up. So the excess investment has been directed mostly to fiber optics capacity across the country and into the oceans, and there is no doubt that the owners of that have suffered rather dramatically. We still need substantial amounts of investment in new technologies, both in wireless and in the last mile in the wireline network.

Mr. BRODEUR. I would add that the temptation here with such a meltdown in the telecom sector is to paint everything black. There are many instances of companies that have been created during the Telecom Act—since the Telecom Act in 1996 that are viable companies, many more that aren't viable companies.

The issue going forward is how, you know, as the industry has evolved—because I guarantee what we were talking about in 1996, the lexicon, did not include much about the internet back then. The issue is how to evolve the regulation to meet the market, and I think that is the most important thing that needs to happen now.

Mr. BASS. Okay. Anybody else?

Mr. ATKINSON. My comment would be that, you know, we have to certainly be careful about overstimulating—you know, if it was overstimulated in the 1990's and we created an artificial boom that led to a terrible bust, we certainly have to worry about doing that again. And so artificial stimulation of anything is probably a bad idea, whether it is done by government or just by normal fear.

But, you know, the issue that I brought up in my testimony was, you know, is this a one-time issue, or is it going to happen again and again and again? Boom-bust, boom-bust, boom-bust. If it is

going to go away all by itself back to the nice, steady, normal growth, we can all go home.

The prospect of boom-bust, boom-bust, boom-bust, that is a problem, because eventually investors will give up, and they will never come back if they get burned time after time after time. And that is where we have to be—with a reasonably long-time view of this have to be very concerned about a cycle of booms and busts in the telecom business, which we have never had before.

Mr. BASS. Is it anybody's contention that the major problem behind these—this boom-bust cycle is the regulatory structure?

Mr. ATKINSON. My testimony certainly said it is maybe a minor—it kind of can amplify a boom and a bust, but it is not a root cause.

Mr. BASS. Okay. Mr. Atkinson, one quick follow-up to Congressman Terry's question. You talked about the issue of experimental evidence not being available for FCC ruling, and I think you alluded to the idea that States might be the proper environment or laboratory in which these experiments might occur.

Obviously, one of the problems with that is that you have 50 different experiments going on. To what extent should the FCC provide guidance or help out or do something in order to make this process a little bit more reliable and a little better for—you know, more productive?

Mr. ATKINSON. I think that would be a very good role for the FCC to take, to make sure that the experiments were heading toward the goals set out by Federal policy, by the Telecom Act, etcetera, and to make sure that some State—I would assume a State would correct itself if it was heading for disaster. But by looking at the variety of results or ways to get to those results, the FCC could then periodically decide this is the best way to go.

And that is how we got to local competition the first time around, and a lot of other things, is letting the States do things first, and then the FCC and Congress saying, "Hey, this was a good idea. Let us make this national policy."

And it is a low-risk way to let a dynamic industry thrive instead of, you know, central command and control with some, you know, expectation of perfect foresight, which is, in this kind of a business, I think a very risky kind of position to assume, that anybody has anything close to perfect foresight. There is no evidence of that whatsoever.

Mr. BASS. Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Bass.

I know a number of us have perhaps just a couple of questions left before we adjourn. Mr. Brodeur, what would be the impact on fiber development if the FCC requires that the ILECs give the CLECs a 1.5 megabit data channel on a fiber sub-loop?

Mr. BRODEUR. I haven't specifically studied a 1.5 megabit channel, but I will tell you it ultimately revolves around the price that the ILEC would receive for that channel from whatever CLEC would want to buy it.

If the price point is high enough, there will be an incentive for the ILEC to invest that fiber and provide that service at wholesale. If it is too low, there is no incentive, and, therefore, no development of—deployment of fiber.

Mr. UPTON. So it is a similar argument to the UNE-P, then.

Mr. BRODEUR. Yes.

Mr. UPTON. In essence.

Mr. Atkinson, I know a little bit about TCG, and I am just curious that if it was still independent, not swallowed up by AT&T, do you think that it would still be—if UNE-P was dislodged or no longer in effect, do you think that it would be survivable—that is, be doing fine?

Mr. ATKINSON. I think so. I think so, if we remained in the same—if we had also been owned largely—even though we are a public company, large investors are the cable TV companies, I look at the success that Cox has had in providing residential telephone service over cable plant as an innovative service, and plugged into a Class 5 switch.

Well, the original plan was all of those cable companies would be plugging into teleport switches. We would have filled those switches during the day with business traffic, cable companies would have filled them nights and weekends with residential traffic, and, collectively, been a pretty powerful competitor. You know, so I—if that model had continued, yes, I think we would have done very well.

Mr. UPTON. And it is pretty close to what is known as facility based.

Mr. ATKINSON. At that point, like Cox, Cox is totally facility based. They only use their own cable plant for the loop. They don't even use loops. It would have been a totally facility-based network. However, we would have probably used unbundled loops in markets where the cable plant wasn't upgraded, in markets where we didn't have a cable company affiliate.

So in our long-range plan, we simply said we would prefer to use affiliates, i.e. cable companies' facilities, for the last mile to residential consumers. If that is not available, having a UNE loop of some sort would be a good fill-in.

Mr. UPTON. Thank you.

Mr. BATH. Maybe just to add on to that, Time-Warner Telecom Company I am familiar with has had a very similar business model, reported earnings, strong performance, yesterday actually said demand is accelerating, and, in fact, they are going to be picking up their capital spending plans.

Mr. UPTON. So, in fact, if the UNE-P was again removed, your estimate would be that they would be doing just fine in the future?

Mr. BATH. I think they are doing fine. They do have a facilities-based model. And, clearly, the removal of UNE-P in the backdrop would improve their outlook.

Mr. UPTON. Okay. Thank you.

Mr. Markey?

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

I wanted to begin by demonstrating the bipartisanship that has always characterized this subcommittee by wishing your staffer, Will Nordwind, all the best as this is the last telecommunications hearing before his marriage on February 15. Oay? I just wanted to congratulate Will.

And while I am in the business of congratulating people, I read your testimony, Mr. Atkinson, and I just wanted to congratulate

you on the foresight of getting hired at the Federal Communications Commission. That forced you to divest all of your telecommunications stock.

I thought that, you know——

Mr. ATKINSON. It proves that it is better to be lucky than smart.

Mr. MARKEY. And I would also like to note how fortunate all government employees who were hired between 1998 and 2001 were.

The last point that I would like to make is that in this area, as in just about every other area of telecommunications policy, we are forced to deal with issues in a way that creates a goal and then various paths that we can take in order to accomplish those goals.

So back in 1987 on this committee, it was argued that it was totally unfair to allow companies called CompuServe and AOL, information services, to have this extra boost in the regulatory system. And it went on and on for year after year, because we were trying to encourage it.

Now, there are a lot of incumbents that didn't like the idea, but we had a goal to create an information service sector. And the Reagan FCC wanted to shut it down, but this committee forced them not to. It was just a decision we made.

I think when AOL purchased Time-Warner, 10 years later it kind of seems maybe it was a good idea, maybe not now for Time-Warner, but in terms of the change in our environment. But it was just a policy decision we made.

MCI and Sprint during the 1970's and early 1980's—again, we forced carriage, because we knew they couldn't go down the street building a three-foot telephone pole immediately. It was going to take some time, although there were many that said, "Why don't they just go build their own telephone poles across America?" But it has taken a long time to get the long distance competition which we had.

In the video business, our committee passed a law in 1992—Mr. Tauzin and I are the co-sponsors of it—that mandate that the cable companies have to sell at reasonable prices their programming to the satellite industry.

Now, the cable industry didn't like having to sell CNN and all of the rest of their cable programming to a competitor. But we wanted to encourage a nascent industry, and, by doing so, to revolutionize the video marketplace.

Now, even as late as last—as this year, the Federal Communications Commission is now extending those rules mandating the sale of that programming, and I think everyone on this committee agrees with it, even though it is 11 years later and the satellite industry has 20 million customers now. And I guess some people would argue it is plenty of time for them to come up with their own CNN or their own sports programming or their own movies. But we do it to encourage a policy long term.

So here there, without question, has been unquestioned methods in the deployment of DSL, Verizon and others, are now well over 60 percent of deployment of DSL in their regions when they were at zero in 1996. And that is a good thing. That is a revolution, and it created, to a very large extent, something that we call the NASDAQ.

Now, it turned into a bubble, without question, but the bubble was related to this massive deployment, paranoia-induced, that was out there. And our country still derives a lot of benefits from it. We sprinted out to the lead. We have to now absorb what happened.

But the question that we have on an ongoing basis, whether it be reasonable access to programming for satellite companies, reasonable access compensating the incumbent, compensating the cable companies here, compensating the Bells for access to the lines, for MCI back in the 1970's and early 1980's, for AOL and CompuServe—you know, how long does it go on?

And I would continue that we are nowhere near enjoying the full benefits from the paranoia that was induced, be it, Mr. Atkinson, that much of the problems that they now suffer from are completely unrelated to whether or not they are forced to be compensated for leasing any of these component parts. I read most of the analysts, and they just don't agree with any conclusion that relates the problems of the Bells with that, if the Bells do have problems.

Or that it is going to lead to any massive deployment, since they have already hit the sweet spot for the most part in the first 50, 60, 65 percent deployment, whether or not they go to the most rural parts of the areas. Or in the unlikely prospect that they ever start to try to create programming, create ideas, that is just not what the Bells do. They don't come up with new programming.

You have to find ways where the ISPs, where the library reincarnations of the dot-coms create the ideas that because of the paranoia and lowering the prices, and creating the new product, that millions of people want to subscribe.

But it is highly unlikely that they are going to go any deeper into their territories than they already have, except on an incremental basis, in the absence of some dramatic turnaround in the economy at large, because they have already done what makes the most sense, the first 50, 60 percent, urban and suburban America. But going further than that is unlikely anyway.

So we might be debating here a program of subsidies, and we might want to talk about that. But in terms of removing the pressure that has transformed the lives of all Americans with all of these new technologies that are now available to them in the last 5 or 6 years, you know, and companies—Yahoo and Google that no one ever heard of, those are all products of the 1996 Act.

And I just think that it would be a big mistake for us to remove that pressure in order to satisfy a recovering monopolist's desire to go back to the way the world used to be. I think our job is to ensure that we don't have that recidivism that they so ardently desire replace the new competitive marketplace that has served our country in a way that has revolutionized the economy.

And by the way, most people attribute about 30 percent of all of the growth in the GDP from 1995 to 2000 to the information sector. And if the Bush administration wants to see that extra percentage added on to their plans for improvement in the GDP, I hope they are not deluding themselves into believing that broad-based tax cuts for the upper 2 or 5 percent is going to do it.

You have to have a telecommunications policy as well that is incenting hundreds and thousands of companies to go out into the marketplace. And this policy that is being proposed heads in just the opposite direction.

Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Markey.

Gentlemen, I want to again thank you for your testimony today. It was particularly enlightening, and we look forward to using it as a base as we go to the next train on February 26 with Chairman Powell.

The hearing is adjourned.

[Whereupon, at 3:18 p.m., the subcommittee was adjourned.]