THE STATE OF COMPETITION IN THE WIRELESS MARKET: EXAMINING THE IMPACT OF THE PROPOSED MERGER OF T-MOBILE AND SPRINT ON CONSUMERS, WORKERS, AND THE INTERNET

HEARING

BEFORE THE

SUBCOMMITTEE ON ANTITRUST, COMMERCIAL AND ADMINISTRATIVE LAW

OF THE

COMMITTEE ON THE JUDICIARY
HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

TUESDAY, MARCH 12, 2019

Serial No. 116–10

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THE STATE OF COMPETITION IN THE WIRELESS MARKET: EXAMINING THE IMPACT OF THE PROPOSED MERGER OF T-MOBILE AND SPRINT ON CONSUMERS, WORKERS, AND THE INTERNET

Wednesday, March 12, 2019

HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON ANTITRUST, COMMERCIAL AND ADMINISTRATIVE LAW

COMMITTEE ON THE JUDICIARY
Washington, DC

The Subcommittee met, pursuant to call, at 2:00 p.m., in Room 2141, Rayburn Office Building, Hon. David Cicilline [chairman of the subcommittee] presiding.

Present: Representatives Cicilline, Johnson of Georgia, Raskin, Jayapal, Demings, Scanlon, Neguse, McBath, Sensenbrenner, Nadler, Gaetz, Buck, and Armstrong.

Staff Present: David Greengrass, Counsel; Lisette Morton, Director, Policy Planning, and Member Services; Madeline Strasser, Chief Clerk; Moh Sharma, Member Services and Outreach Member; Susan Jensen, Parliamentarian/Senior Counsel; Amanda Lewis, Counsel; Joseph Van Wye, Professional Staff Member; Slade Bond, Chief Counsel; Lina Khan, Counsel; Daniel Flores, Minority Chief Counsel and Andrea Woodard, Minority Professional Staff. Mr. Cicilline. The Subcommittee will come to order.

Without objection, the Chair is authorized to declare recesses of the Committee at any time.

We welcome everyone to today's hearing on the State of Competition in the Wireless Market: Examining Impact of the Proposed Merger of T-Mobile and Sprint on Consumers, Workers, and the Internet.

Mr. CICILLINE. I now recognize myself for an opening statement. Today's hearing is an important opportunity to examine the State of competition in the wireless industry and the competitive effects of the proposed merger of T-Mobile and Sprint.

Over the past century, the telecommunications industry in the United States has demonstrated the harms that result from monopoly power. By 1948, AT&T's dominance was so entrenched that it was widely considered to be a lawful monopoly. Over the next 40 years, it grew to become the largest corporation in the world, controlling more than 80 percent of the market. It earned more than $53 billion in annual revenue and was the second largest employer in the United States, behind only the Federal Government.

In 1982, the Justice Department successfully concluded its landmark anti-monopoly case against AT&T for blocking competition in the telephone service and equipment market. As a result, the Bell System was broken into separate telephone companies while AT&T's long-distance services were structured separately from its device manufacturing services.

The importance of the breakup of the Bell System cannot be overstated. It facilitated an explosion of competition in long distance markets, significantly lower prices for consumers, improved products, and services, and spurred the creation of new jobs.

Perhaps most importantly for the purposes of today's hearing, the competitive pressure resulting from robust enforcement also led to the deployment of fiber optic across the country, particularly much of the Internet's infrastructure.

Anne Bingaman, the Assistant Attorney General of the Antitrust Division, testified before the Subcommittee in 1994 that AT&T had copper wires across the country until competition entered that market, and when it did, Sprint and MCI laid fiber optic coast to coast and AT&T, spurred by competition, followed them.

She noted then that there was no question that the speed of building the infrastructure for nationwide internet was years and years ahead of where it would have been in the absence of the breakup of AT&T.

When coupled with some of the pro-competitive reforms in the Telecommunications Act of 1996, such as phone number portability, consumers and small businesses saved billions of dollars each year while maverick competitors were incentivized to enter the market to offer better services and more choice.

Due largely to a retreat from aggressive antitrust enforcement over the past several decades, there are only four national carriers today. The proposed merger of T-Mobile and Sprint would shrink this market to just three national wireless carriers, resulting in the combined company controlling nearly a third of the wireless market.

The merging parties claim that the transaction is necessary to deploy the next generation of broadband internet across the country and to compete more vigorously with the two largest carriers, AT&T and Verizon.

To their credit, both Sprint and T-Mobile have aggressively competed with the larger carriers over the past decade, resulting in lower prices and better policies for consumers. But, I am deeply skeptical that consolidation is the path forward to lowering prices, increasing opportunity, or unleashing competition in places around the country where there is none today.

First, the competition that has been driven by Sprint and T-Mobile over the past decade has occurred in the absence of consolidation, not because of it. Second, nearly a century of experience with telephone monopolies has taught us that the pressure of competition is critical to building out the nation's internet infrastructure and improving quality for consumers. Finally, there is mounting evidence that additional consolidation in this market would likely give the combined company the incentive and ability to raise prices, lower wages, and abandon the policies that have benefited consumers over the past decade.

Under both longstanding Supreme Court precedent and the horizontal merger guidelines, mergers that significantly increase concentration in highly concentrated markets are presumed to be illegal.

It is beyond dispute that this transaction will significantly increase concentration in the wireless market far beyond the level that the antitrust agencies consider to be likely to enhance market power, and because of this reality, the only thing preventing the merging parties from raising prices, lowering quality, and depressing wages are promises for a limited period of time.

Today's hearing is also an opportunity to examine concerns related to the current State of merger enforcement. It has been nearly a year since the Federal Trade Commission last challenged a merger in court, and since the beginning of the Trump Administration the Justice Department's Antitrust Division has only challenged one significant merger, AT&T's acquisition of Time-Warner.

Not only did the Antitrust Division lose this challenge, but this case has been mired in controversy from day one due to the President's shameful attempts to interfere in antitrust enforcement.

Last week, Jane Mayer of *The New Yorker* reported that the President instructed senior White House officials to, and I quote, "get this lawsuit filed" against the AT&T and Time-Warner merger following a series of reports suggesting that the President seeks to wield the antitrust laws as a political weapon to reward friends and punish perceived enemies.

In response to this explosive report, Chair Nadler and I are seeking the production of every communication and document related to this case. We must get to the bottom of whether the White House has weaponized our antitrust laws to punish enemies or reward friends, and we will.

Most importantly for the purposes of today's hearing, the proposed merger of T-Mobile and Sprint is really a critical test. Is the Antitrust Division genuinely dedicated to promoting competition or does it only oppose mergers when the White House tells it to do so?

Finally, this proposed merger does not occur in a vacuum. Working families across the country are struggling to make ends meet. Parents lie awake at night wondering how they will be able to afford their child's insulin. People work double and triple shifts just to afford their health insurance deductibles and co-pays for prescription drugs, and for too many families having as much as an extra $50 in the bank can be the difference between scraping by to the next paycheck or having the heat turned off in the middle of a cold winter.

Decades of consolidation throughout the economy have wiped out countless small businesses and hollowed out the middle class, resulting in record levels of inequality that have undermined social mobility in our country significantly.

During this period, corporations have converted monopoly rents into higher compensation for executives, and in the process, driven down wages and made life unaffordable for many people.

As Nobel Prize-winning economist Joseph Stiglitz has warned, and I quote, “We have become a rent-seeking society, dominated by market power of large corporations, unchecked by countervailing powers, and the power of workers has been weakened, if not eviscerated.”

It is every stagnant paycheck, every surprise medical bill, every overpriced and overcrowded flight with hidden fees, every trip to the hospital where patients are forced to wait for hours and risk personal bankruptcy to receive medical care, and every astronomical telephone and cable bill that is accompanied by a forced arbitration clause and horrible customer service.

These are all reminders that America’s monopoly problem has fundamentally broken our economy and destroyed the American dream. We read stories of billionaires buying yachts that are furnished like palaces and as large as some elementary schools while the brave men and women in uniform who fought for our country do not have access to affordable healthcare.

This economic nightmare is exactly why Democrats promised Americans that we would crack down on corporate monopolies through a better deal on competition. Ending this moral crisis is a top priority for me as Chair of the Antitrust Subcommittee and a top priority for House Democrats to keep our promise to work for the people, to prevent big mergers that would harm consumers, workers, and competition.

In closing, I thank our esteemed panel of witnesses for appearing before us today, and I very much look forward to all your testimony.

I now have the privilege of recognizing the distinguished gentleman from Wisconsin, the Ranking Member, Mr. Sensenbrenner, for his opening statement.

Mr. SENSENBRENNER. Thank you very much, Mr. Chair, and I welcome the witnesses to today’s hearing, which will examine the Proposed T-Mobile–Sprint Merger and its Impact on the Market and Consumers.

Let me say at the beginning that I am disappointed to hear Chair quote a partisan spin on this proposal even before we hear the testimony from the witnesses.

You know, I certainly have not made up my mind on whether this proposed merger is in the public interest or not, this hearing will shed some light on it, but I do want to say that I don’t think that antitrust questions should be partisan in nature whatsoever.

I have been on this Committee for 40 years and there are very few of these proposals that the Committee has examined where Republicans and Democrats have been divided from the get-go.

On March 29th, 2018, T-Mobile and Sprint announced a merger agreement that undoubtedly will change the telecommunications landscape. If approved, this $26.5 billion deal would combine the third and fourth largest wireless providers.

While eliminating a competitor, the merger could put companies in a much stronger position to take on AT&T and Verizon, which have dominated the marketplace. If combined, T-Mobile and Sprint hope to improve service, innovate and expand their network into underserved and rural areas.

I look forward to hearing from both CEOs on the implication of this merger as on the deployment of 5G. 5G is key to improving service with greater coverage, higher speeds, and increased added capacity.

Ensuring that we are at the forefront of this technology will provide untold benefits to American consumers and the American economy and is important to many Members of the committee.

We will hear today from witnesses who will outline a very different picture, one that paints this merger as negatively impacting low-income consumers and rural communities. Many wireless competitors and consumer advocates believe a more concentrated wireless industry will reduce competition, raise prices, and result in job losses.

Under the Communications Act of 1934, the Federal Communications Commission is reviewing the merger to ensure that it promotes the public interest, convenience, and necessity. U.S. Department of Justice and State Attorneys General are also reviewing the transaction pursuant to their respective authorities.

While Congress has no formal role in the DOJ or FTC's merger review process, hearings like this provide an opportunity to ask and debate questions of great importance to American consumers, and I look forward to the testimony of the witnesses and debate among Members of the committee, and in the end wise decisions by DOJ and the FTC that ensure competitive future for wireless communications in America.

I yield back the remainder of my time.

Mr. CICILLINE. Thank you, Ranking Member Sensenbrenner.

The Chair now recognizes the Chair of the Full Committee, the gentleman from New York, Mr. Nadler, for his opening statement.

Mr. NADLER. Thank you, Mr. Chair.

I appreciate this opportunity to carefully consider the impact of the proposed merger of Sprint and T-Mobile on competition, consumers, and workers.

While I do not prejudge the merits of any proposed merger, it is clear that this transaction, if approved by regulators, would usher in significant changes to the market for mobile wireless services.

Given the fact that 95 percent of American adults own a cell phone and 20 percent use a mobile device as their primary means of accessing the internet, it is critical that we closely analyze any proposed merger with such a wide-ranging impact.

As independent companies, Sprint and T-Mobile have each brought competitive and innovative products to market. These products have not only benefited their customers but have also benefited the customers of other wireless carriers whose own carriers have had to compete with both companies.

For example, Sprint and T-Mobile's reintroduction of unlimited data plans in 2016 resulted in lower monthly bills and better internet access for millions of consumers. These companies have also provided important services, such as competitive prepaid mobile wireless plans, to some of our most underserved communities. These prepaid plans offer certain customers the ability to purchase wireless broadband and wireless cellular services without passing a credit check.

I applaud both companies for their competitive efforts, for their ingenuity, and for serving consumers in every market.

In considering their proposed merger, however, we must determine whether this proposed new combined company with the largest share of the marketplace would have less incentive to innovate and to compete with other companies.

I am concerned about any merger that would significantly increase concentration in a market that is already highly concentrated. There are only four national wireless carriers today, AT&T, Verizon, T-Mobile, and Sprint.

As a result of this transaction, there would be only three, each of which would control about a third of the marketplace, thereby dramatically altering the competitive landscape.

Consequently, the combined Sprint and T-Mobile may no longer have any market-based incentive to lower prices and to offer proconsumer policies once it becomes as large as the other two carriers. This in turn could harm other carriers' customers who have indirectly benefited from Sprint and T-Mobile's competition over the past decade.

Concerns have been raised about the merger's impact on low-income consumers who often must rely on cheaper prepaid phones for their wireless service. Because the proposed transaction would also consolidate the market for these services, it may have disproportionately negative effects on low-income households.

This would be particularly harmful in major cities with large populations of middle- and low-income people, such as New York, which may experience even higher levels of concentration in the market for prepaid phones than in other regions.

For their part, Sprint and T-Mobile offer a variety of justifications in support of this merger. They argue that the transaction would enable New T-Mobile, as the company would be called, to supercharge the market for wireless competition. Its increased scale, they argue, would lead to better quality of its network and would enable the development of innovative new products at dramatically faster speeds.

Moreover, they believe that the merged company would be in a better position to compete with the other wireless giants and would push the other companies to offer better services to their customers.

They also anticipate that the new company would expand its workforce and would invest up to $40 billion in the first three years after the merger. This may lead to the creation of more jobs, better policies for consumers, and new competition in the broadband marketplace, thanks to faster deployment of a nationwide Fifth Generation or 5G wireless network.

These claimed benefits of the merger would be welcome developments for millions of employees and consumers. They should be viewed with healthy skepticism, however, in light of numerous mergers we have seen in recent years that have made economic promises that were ultimately not borne out.

That is one reason why I introduced the Restoring and Improving Merger Enforcement Act, legislation designed to prohibit the consideration of spurious unverifiable economic efficiencies to justify anticompetitive mergers.

Merging parties routinely justify anticompetitive mergers under the guise of corporate restructuring and other so-called efficiencies which are generally code words for widespread layoffs and reduced wages and benefits for employees.

Rather than create more efficient markets, waves of consolidation throughout the economy over the past several decades have imperiled the financial security of American workers and consumers. As a result, employers have immense power to reduce the wages, benefits, and economic mobility of workers while consumers routinely pay higher prices for goods and services than they would in a more competitive economy.

When combined with the precipitous decline of collective bargaining, this massive consolidation has shrunk the middle class and has increased income inequality through stagnant wages and less economic opportunity.

Needless to say, I am pleased that State and federal regulators are closely scrutinizing this transaction to determine what impact it may have on consumers and employees, and I appreciate Chair Cicilline holding this hearing today so that Members of this Subcommittee may also examine the important questions the proposed merger raises.

I look forward to hearing from our large panel of expert witnesses, including the CEOs of both Sprint and T-Mobile, and I thank them for their participation, in particular those who have rearranged their schedules on several occasions to accommodate congressional conflicts that have arisen.

I yield back the balance of my time.

Mr. CICILLINE. I thank the gentleman.

I now recognize the Ranking Member for unanimous consent.

Mr. SENSENBRENNER. Mr. Chair, I ask unanimous consent to put in the record the statement by the Ranking Member of the Full Committee, the gentleman from Georgia, Mr. Collins.

Mr. CICILLINE. Without objection.

[The information follows:]

MR. SENSENBRENNER FOR THE RECORD

STATEMENT OF DOUG COLLINS

Thank you, Chairman Cicilline and Ranking Member Sensenbrenner for holding this hearing.

This nation's communications infrastructure is of paramount importance. It helps to bind together America's families and communities, it's critical to our economy and it's vital to our national security.

The proposed merger of T-Mobile and Sprint raises significant issues for the future of our communications system. America is rapidly continuing its shift to primary reliance on wireless and fiber-optic infrastructure for its communications needs, and T-Mobile and Sprint are two of just four nationwide wireless companies serving those needs.

The proposed merger, moreover, comes precisely as markets in the U.S. and abroad begin the transition to the next wave of wireless technology—5G. Whether the merger, if approved, will help or hinder the fastest, strongest transition to 5G has far-reaching implications for families, students, small business owners, major companies and everyone beyond and in between. It is no understatement to say that the proposed merger has serious implications including whether the U.S. will continue to lead the world in communications innovation and the advanced goods and services that depend upon it.

I expect the Department of Justice's Antitrust Division and the Federal Communications Commission to resolve with the fullest application of their expertise whether the proposed merger meets legal standards for approval. My concern at this hearing is that Congress help to elevate the profile of issues and explore for the benefit of American families what the future consequences of approval or disapproval would be.

One area I greatly look forward to hearing about is the potential this merger could have to help fmprove communications across rural America, like in northeast Georgia. Of the four national carriers, including T-Mobile and Sprint none are serving rural districts like mine well enough. If the merger will not improve access, rural America will only suffer more. If it will improve access, then welcome relief may be on its way.

Another question is whether Sprint will disappear no matter what happens with the merger. There are those who claim that, for financial reasons, Sprint will soon no longer be a viable national competitor. If that's true, the question could simply be whether we go from four to three national competitors because of the merger or because Sprint goes into bankruptcy. The question may even be whether we go from four to two, because eventually, if T-Mobile is left alone in competition with AT&T and Verizon, it too will ultimately go under.

But there are also those who claim that Sprint will be financially viable going forward. They assert that, if Sprint remains independent, scores of regional competitors who rely on its market-leading support of roaming services will help to build out a 5G network even faster than the merged T-Mobile and Sprint could. They also claim that will be especially true in rural areas.

For the benefit of my constituents, I want to hear everything I can today about the potential this merger has for positive or negative impact on rural communities.

I commend the Subcommittee for holding this hearing on the proposed merger. I am also delighted that the Subcommittee is beginning this term of Congress with two consecutive antitrust hearings. Our antitrust jurisdiction is critical and I am eager to continue its reinvigoration this term.

I look forward to each of the witnesses' testimonies and yield back the balance of my time.

Mr. CICILLINE. It is now my pleasure to introduce today's witnesses.

Our first witness is John Legere, the Chief Executive Officer of T-Mobile. He has been named a Top CEO by Glassdoor and was granted the Maverick and Leadership Award by Yale's Chief Executive Leadership Institute.

Before his time at T-Mobile, Mr. Legere served as CEO of both Global Crossing and Asia Global Crossing as well as Head of Global Corporate Strategy and Business Development at AT&T.

Mr. Legere received a Bachelor's Degree in Business Administration from the University of Massachusetts, a Master's Degree in Science as an Alford P. Sloan Fellow at the Massachusetts Institute of Technology, and, additionally, he received his Master's of Business Administration degree from Fairleigh Dickinson University and completed Harvard Business School's Management Development Program.

Our second witness is Marcelo Claure, the Executive Chair of the Board of Sprint Corporation.

Previously, Mr. Claure served as Sprint's Chief Executive Officer. He is also currently the Chief Operating Officer at SoftBank Group and CEO of SoftBank Group International.

Mr. Claure was named a Young Global Leader by the World Economic Forum as well as one of 42 individuals selected by the Carnegie Corporation as part of the Great Immigrants: The Pride of America Initiative.

He received his B.S. in Finance from Bentley University.

Our third witness is the President of the Communication Workers of America, Christopher Shelton.

He has worked with CWA since 1968, when he was elected a shop steward while working for New York Telecom. A native of the Bronx, New York, Mr. Shelton joined CWA's National Staff in 1988 and has served in multiple positions representing locals throughout New York, New Jersey, and New England.

Mr. Shelton was elected the President of CWA at their 75th Convention in 2015.

The fourth witness on our panel is Gigi Sohn, a Distinguished Scholar with the Georgetown Law Institute for Technology, Law, and Policy, and a Benton Senior Fellow at Public Advocate.

For 30 years, Ms. Sohn has worked to protect and promote competition policies that have made the Internet more open, competitive, and affordable.

Ms. Sohn previously served as counsel to Tom Wheeler during his tenure as Chair of the Federal Communications Commission.

She received her B.S. from Boston University and her JD from the University of Pennsylvania Law School.

Our fifth witness is Carmen Scurato, Senior Policy Counsel with Free Press.

Before working with Free Press, Ms. Scurato served as Vice President of Policy as well as General Counsel at the National Hispanic Media Coalition and as a Project Supervisor with the Office of Legislative Affairs at the Department of Justice.

She received her B.A. from New York University and her JD from the Villanova University School of Law.

Our sixth witness is Carrie Bennet, General Counsel at the Rural Wireless Association.

Since 1987, she has represented primarily rural wireless carriers, telephone companies, and cellular carriers before the FCC, the courts, and in Congress.

She is a member of both the Federal Communications Bar Association and the American Bar Association and has published numerous articles on wireless and rural communications issues.

She received her B.A. from North Carolina State University and her JD from the Columbus School of Law at Catholic University.

Scott Wallsten, the President and Senior Fellow at the Georgetown Technology Policy Institute, is our seventh witness.

An economist with an expertise in industrial organization and public policy, his research focuses on competition, regulation, telecommunications, and technology policy.

Mr. Wallsten is also a Senior Fellow at the Georgetown Center for Business and Public Policy.

He received his B.A. in Economics from Washington University and his Ph.D. in Economics from Stanford University.

Our final witness is Professor Christopher Yoo. Professor Yoo is a Director at the Center for Technology, Innovation, and Competition as well as the John Chestnut Professor of Law, Communication, and Computer and Information Science at the University of Pennsylvania Law School.

His research focuses on administrative and regulatory law, especially in relation to technology, innovation, and the Internet.

He has also taught at Vanderbilt University School of Law where he serves as the Founding Director of the Technology and Entertainment Law Program.

Mr. Yoo received his A.B. from Harvard University and his J.D. from Northwestern University.

We welcome all our incredibly distinguished witnesses and thank you for participating in today's hearing.

Now if you would please rise, I will begin by swearing you in. Please raise your right hands.

Do you swear or affirm under penalty of perjury that the testimony you are about to give is true and accurate to the best of your knowledge, information, and belief, so help you God?

[A chorus of ayes.]

Mr. CICILLINE. Let the record show the witnesses answer in the affirmative. Thank you. You may be seated.

Please note that each of your written statements will be entered in the record in its entirety. Accordingly, I ask that you summarize your testimony in five minutes. To help you stay within that time, there is a time light on your table. When the light switches from green to yellow, you have about a minute to conclude your testimony and when the light turns red, it signals that your five minutes have expired. So please keep that in mind.

We will begin with Mr. Legere.

TESTIMONY OF JOHN LEGERE

Mr. LEGERE. Thank you, Chair Nadler, Chair Cicilline, Ranking Member Sensenbrenner, and other Members of the Subcommittee, for inviting Marcelo, me, and the rest of the panel here today.

I appreciate the opportunity to tell you about the tremendous benefits of the proposed T-Mobile/Sprint merger and the progress we are making towards making it a reality.

So, first, what will the merger deliver? It will deliver a supercharged un-carrier which can ensure U.S. leadership in 5G, increase competition, and create American jobs.

First and foremost, the New T-Mobile will make sure America wins the global 5G race. This is so important because 5G will unlock new capabilities that will fuel innovation and job creation well beyond anything we have seen so far.

5G will completely transform the way Americans live, work, travel, and play. 5G means real-time navigation, downloading a movie in seconds, instant language translation, and much more. Nearly every American business will be able to use 5G to revolutionize how they create and deliver goods and services.

Best of all, with this transaction, the benefits of 5G won't just flow to big cities. Combining Sprint and T-Mobile will produce a faster, broader, and deeper network that is truly nationwide. It will benefit consumers and businesses everywhere, including in rural America. Neither company could do this on its own.

Second, the New T-Mobile will have the capital, scale, and network to super-charge competition, unleashing significant benefits for all consumers, including keeping prices low. The combined company will continue the T-Mobile tradition of disrupting the wireless space, and we will disrupt in-home broadband with the new wireless mobile and in-home broadband options, offering average download speeds of a hundred megabits or greater to 90 percent of the United States population by 2024 and, thus creating a new broadband option for millions of Americans who have none and freeing millions from the stranglehold of big cable.

Budget-conscious customers use the most data, as many of them rely on their phones as their main point of access to the internet. That means they have the most to gain when data costs less. New T-Mobile will offer a much-needed new bridge across the digital divide.

Our opponents are wrong when they claim the merger will lead to higher prices. In fact, the opposite is true. The massive increase in our network capacity and huge reductions in our costs to deliver our services will enable the New T-Mobile to win customers through lower prices and better services, and it is in my business plan to do just that.

I am so confident that this merger will lower prices that we have committed in writing to the regulators that we will make available the same or better rate plans as those currently offered by T-Mobile and Sprint for the next three years.

Third, this merger will be a tremendous jobs creator at New T-Mobile and across our country. Our merger will be jobs positive from day one and going forward. In the first year, we will have thousands more employees than the stand-alone companies combined. By 2024, we will have 11,000 more employees.

Our critics are wrong about the impacts on jobs.

I have looked at their arguments and supposed analysis and they do not make sense. They ignore the facts. They don't account for any areas where jobs will grow, like new customer experience centers, enterprise services, broadband and media, and network build and integration.

We have heard this story before. They said we would cut 10,000 jobs when T-Mobile merged with Metro–PCS. In fact, we expanded jobs by tens of thousands.

Let me say this to every T-Mobile and Sprint employee working at one of our stores today: Each of you will be offered a job with the New T-Mobile. Make no mistake. Opponents of the transaction are fear-mongering about job losses and price increases in a desperate effort to maintain the status quo. They know that blocking this transaction will only entrench the incumbent Big 2 wireless carriers and big cable, and that is their goal. Opponents and their backers are terrified of the competition that a super-charged un-carrier will bring.

On the other hand, many have already recognized the tremendous benefits of this merger. CFIUS and Team Telecom have completed their national security review and approved the transaction. Sixteen of 19 State regulatory commissions have completed their reviews and found the transaction to be in the public interest, and over 200 organizations, companies, government officials, and community leaders publicly support the transaction.

I am particularly honored that Congressman Eshoo, Congressman Long, and 11 other Members have signed a bipartisan letter of support.

To those that doubt us, I would simply say this: We are the un-carrier. My management team and I believe in delivering on our promises, and we know if we do not, we will lose the credibility and trust of our customers and employees.

I can promise to you the New T-Mobile will deliver for consumers, American workers, and for our country.

Thank you, and I look forward to answering your questions.

[The statement of Mr. Legere follows:]

STATEMENT OF MR. LEGERE

Introduction

Thank you, Chairman Cicilline, Ranking Member Sensenbrenner, and Members of the Committee.

My name is John Legere. I have been Chief Executive Officer of T-Mobile U.S., Inc. since September of 2012. Since becoming CEO almost seven years ago, I've been privileged to lead T-Mobile on its mission to fix a stupid, broken, arrogant industry and to redefine how the American consumer views and experiences "wireless." As the "Un-carrier," T-Mobile has worked to attract customers by fixing a wide range of their pain points while ultimately providing consumers better value for lower prices. If the merger is approved, I will proudly serve as the CEO of New T-Mobile.

I appreciate the opportunity to be here today alongside Marcelo Claure of Sprint to discuss the proposed merger of our two companies. New T-Mobile will enable U.S. leadership in 5G, deliver significant value and benefits to consumers in all corners of the nation, increase competition in wireless and in-home broadband, and create American jobs. New T-Mobile will be able to leverage a unique combination of complementary assets to unlock massive synergies to build a world-leading 5G network that will deliver unprecedented services and value to all consumers, increasingly disrupt multiple industries, and enhance the American economy and national security.

Our proposed merger with Sprint will provide New T-Mobile with the added scale and critical spectrum and network assets to supercharge our Un-carrier strategy. As a result, we can take competition to new levels. We will offer a much faster, broader, and deeper network and new services at lower prices than either T-Mobile or Sprint could achieve alone. This will force our rivals—AT&T, Verizon, and the cable monopolies—to improve their services, increase their own capacity, and lower prices even further. All American customers will win with lower prices and better services!

When we build our world-class 5G network, we are not only going to benefit wireless customers, but also finally bring real competition for in-home broadband consumers, including rural customers, who are typically stuck with no choices for in-home broadband service today. We will bring new competition to Big Cable in two ways. Our 5G network gives us the speed and capacity to offer an affordable in-home high-speed broadband service to millions of American households. And with fiber-like speeds across our mobile network, many more Americans will be able to "cut the cord" entirely and eliminate a separate broadband charge—saving hundreds of dollars a year! The industry will have to respond, and prices will drop even more!

Importantly, we will bring these benefits to parts of the United States that other larger wireless carriers and cable companies often ignore—such as rural America and lower income communities. Our 5G network will be nationwide and connect the whole country. We will back our commitment to these areas with at least 600 new retail stores, five new customer experience centers, and 12,000 new employees on the ground in rural areas and small towns—communities that need them the most. Our lower income customers use the most data because they disproportionately rely on their phones to access the internet. They have the most to gain when the price of data drops! Urban or rural, the merger will build a much-needed bridge across the digital divide.

We aren't stopping there, as our plans include breaking into new and emerging lines of business such as enterprise, Internet of Things ("IoT"), and video.

This merger will be a tremendous jobs creator at New T-Mobile and across the country.

Certain opponents of our merger with vested interests in maintaining the status quo have falsely characterized this merger as a job killer. But they have it all wrong: Our merger will be jobs positive from day one—and going forward. The build-out of our 5G network, investment in new customer experience centers, and expansion into new businesses like broadband, video distribution, and enterprise services means thousands more jobs than the two standalone companies would have needed. New T-Mobile will need approximately 3,600 more employees in its first year and more than 11,000 more employees by 2024 than the standalone companies combined without the merger. We recently announced the locations for three of five new technologically advanced customer experience centers that New T-Mobile will build—one in Sprint's hometown of Overland Park, Kansas, one in the greater Rochester area of New York, and one in California's Central Valley—each with over one thousand new employees.

On top of increasing competition and adding jobs, this merger will also help ensure that the tremendous benefits of 5G leadership are realized here in America. The United States led the world in 4G and the monumental ecosystem that was built around it, spawning companies such as Uber, Snap, and Venmo. Our merger creates the opportunity to continue that leadership in the 5G world. Nothing short of our global technology leadership is on the line.

New T-Mobile will build the robust, nationwide, secure 5G network that will win the race to 5G.

Neither Sprint nor T-Mobile could do anything close to this on their own. And no one else will do it on our accelerated time frame if we don't do it together. The benefits of the transaction have always been obvious to us. Since we announced the merger last April, the evidence is even more powerful today than it was then. In the meantime, I have heard what our opponents have to say, and I am here today to address those concerns directly and explain why they're wrong. We are confident that a T-Mobile/Sprint merger will benefit the U.S. economy for American workers and consumers and promote U.S. technological leadership and our national security.

Make no mistake, opponents of the transaction are fear-mongering about job losses and price increases in a desperate effort to maintain the status quo. They know that blocking this transaction will only entrench the incumbent Big Two wireless carriers AND Big Cable—and that's their goal. Opponents and their backers are terrified of the competition that a supercharged Un-carrier will bring!

T-Mobile welcomes this Committee's role in providing oversight, and I am pleased to answer your questions. First, I will provide some further details on the transaction and topics of interest.

Excitement Over the Benefits of the Transaction

Together with Sprint, we have been working since the deal announcement in April to share the tremendous benefits of the transaction in every corner of the country. We have also provided the evidence to back up our claims so that consumers, employees, policymakers, and regulators could make up their own minds. We have provided over 25 million pages of T-Mobile documents to the U.S. Department of Justice and Federal Communications Commission and have had many meetings with the staff of both agencies to answer their questions. We've made filings on the transaction in 19 states and met with a number of State Attorneys General and their staffs. I've also had the honor to meet with several Members of this Subcommittee one-on-one to discuss the transaction's benefits directly. We engaged from the beginning with U.S. national security agencies with whom both T-Mobile and Sprint have had longstanding partnerships. And we've connected with many consumer groups, small business organizations, civil rights groups, and other important stakeholders in the wireless economy to understand their needs and explain the benefits of this transaction.

It has been a long road, but what we've learned is that when workers, consumers, regulators, and policymakers understand the facts about the transaction—the details I will share with you today—they can understand that together T-Mobile and

Sprint will protect and enhance technological leadership in the world, improve the consumer experience and consumer welfare, supercharge competition in wireless and beyond, and create a jobs engine for the U.S. economy.

I'll mention just a few important milestones in our journey. The Committee on Foreign Investment in the United States ("CFIUS") and Team Telecom completed their national security review and approved the transaction. Sixteen of nineteen State regulatory commissions (including the District of Columbia) have approved the transaction, including most recently the New York Public Service Commission, which concluded that the transaction is in the public interest. Attorneys General Sean Reyes (R–UT) and Hector Balderas (D–NM) have written in support, highlighting benefits to rural America. Governor Laura Kelly (D–KS) and numerous other State officials have expressed support for the transaction. We are particularly honored that Congresswoman Anna Eshoo (D–CA) and Congressman Billy Long (R–MO) spearheaded a bipartisan letter of support.

Over 200 national and local civil rights, economic development, community and business organizations, companies, government officials, and community leaders have provided public support for the transaction, including: The U.S. Hispanic Chamber of Commerce; the U.S. Black Chamber of Commerce; the National Hispanic Caucus of State Legislators; the National Rural Education Association; the National Puerto Rico Chamber of Commerce; and Silicon Harlem, among many others. At three public interest hearings in Fresno, Los Angeles, and San Diego, California, at least 60 private individuals and Members of local community groups came out to voice support. And a number of MVNOs—so-called "virtual" carriers that utilize the T-Mobile, AT&T, Verizon, or Sprint networks to offer service—such as TracFone, Ultra Mobile/Mint Mobile, Prepaid Wireless Group, and Republic Wireless, support the merger because it gives them access to a super 5G network that will expand their business opportunities and enable them to compete and better serve their customers.

Several well-respected academics and think tanks have published papers that support and extol the transaction, including papers on the competitiveness and dynamism of wireless markets, the convergence of wireless and wired broadband, the importance of 5G for rural economic development, and how U.S. leadership in 5G can help close the digital divide for the benefit of communities of color.

I have been encouraged by this tremendous support and excited by the opportunity to share our story with all of you.

U.S. Leadership in 5G is Critical to American Innovation and National Security

I will start with the amazing 5G network that New T-Mobile will build by combining T-Mobile and Sprint. This merger will help ensure that the tremendous benefits of 5G leadership are realized here in America. The stakes are high—nothing less than preserving our edge in innovation and maintaining our security.

Just look at 4G. The U.S. started rolling it out nationwide before almost any other nation, getting the technology into hands of innovators and entrepreneurs, and today 99.7% of Americans are covered by 4G LTE. The result: America and our innovators led the global mobile economy for the last decade. Uber, Snap, Venmo, and Instagram are all products and businesses built largely or entirely on the 4G mobile web. Furthermore, many of today's global internet leaders like Google, Facebook, and Amazon rose to prominence by leveraging the transition to mobile here in the U.S. first. Analysts estimate this early leadership generated billions in economic value and millions of new jobs here in America.

As the next generation of wireless technology, 5G is a game changer. The capacity, speed, and latency of 5G are truly revolutionary and far beyond what the most advanced 4G network can support today. 5G will enable superior capacity, faster data rates, and much lower latency, as well as energy efficiency leading to longer battery life and the capability to connect a greater number of devices. Our 5G network will deliver fiber-like data speeds, low latency for real-time interactivity, more consistent performance and user experience, and massive capacity for unlimited data to support things like 4K video streaming, smart cities, real time translation, online gaming, and other exciting applications that cannot be served across a substantial number of users by 4G. This will transform the way Americans live, work, travel, and play. Nearly every business in America will use 5G to revolutionize how they create and deliver goods and services. New T-Mobile's 5G network will serve as a platform for ensuring that the 5G ecosystem of innovation and technological development occurs in the United States.

Just as we experienced with 4G, the countries who are first to deploy broad, robust 5G will enjoy a critical global edge in innovation, development, and deployment of related technologies and products, such as the IoT, autonomous vehicles, advanced telemedicine, and entertainment.

The United States is not alone in pursuing this goal. The United States must win the 5G race against China and do so in a way that protects our national security. 5G will be the means to connect and control phones, computers, cars, and appliances—nearly every device you can imagine. It is therefore imperative that U.S. 5G networks are secure. Winning the 5G deployment race is critical to assuring this security. It will give U.S. companies more influence as the standards that define 5G technology continue to develop. It will also bolster trusted network equipment suppliers who must compete against Chinese companies such as Huawei and ZTE. And it also ensures that cutting-edge U.S. innovation around 5G occurs in the United States, which is as critical for our security as it is for our economy. The flood of innovation that 5G will unleash must occur in our country.

Although 5G leadership is critical to America's future, the United States is falling behind in the 5G race. Other countries have shown that they will do whatever it takes to win the race to 5G and are making substantial commitments to support this goal. China has taken a global lead in the race, thanks to industry momentum and government support. China's 5-year economic plan specifies $400 billion in 5G-related investment, and China Tower alone has added nearly ten times the number of 5G sites than all U.S. companies combined. Since 2015, the U.S. has underspent China in wireless infrastructure by $8 to $10 billion. It is critically important that we turn the tide and recommit to American leadership in 5G.

The Combination of T-Mobile and Sprint Ensures U.S. 5G Leadership

Time is of the essence. Only accelerated deployment of robust, nationwide 5G will preserve our edge. Only New T-Mobile's 5G network will do it!

This transaction ensures that America secures 5G leadership today and in the future. The combination of T-Mobile and Sprint accelerates deployment of a world-leading, national, broad and deep 5G network in the United States, built upon a set of perfectly complementary assets of the two companies. T-Mobile possesses low-band (600 MHz) spectrum, which is particularly useful for providing coverage across broad geographic areas, but has limited capacity, and high-band (mmWave) spectrum, which is useful primarily for outdoor applications and in targeted densely populated areas. By contrast, Sprint lacks low and high-band spectrum, but possesses substantial mid-band (2.5 GHz) spectrum, which has more limited coverage capabilities than low-band spectrum but provides deep network capacity. Combining T-Mobile's low-band and high-band wireless spectrum with Sprint's mid-band spectrum will allow for both extremely broad coverage and deep network capacity, providing the optimum scenario for a robust, nationwide 5G network. New T-Mobile will have the complete portfolio of spectrum necessary to offer top speeds and massive capacity to dense urban areas. At the same time, New T-Mobile will also bring robust 5G service to rural areas that will otherwise lag far behind. No other U.S. company currently has the available spectrum necessary to deploy 5G both broadly—truly nationwide coverage to nearly all Americans—and deeply—with the high speeds and massive capacity that 5G applications will require. Only this merger brings these assets together to enable a supercharged, nationwide 5G network!

New T-Mobile will be able to invest significantly more in its 5G network than either company could standing alone. Through cost savings and efficiencies largely derived from combining the two networks and the scale we will achieve, New T-Mobile will be able to invest nearly $40 billion over the next three years to build out and enhance its network and bring the company into the 5G future. How? Combining with Sprint will give us the resources to enhance and build the vast, dense network of cellular towers and high-capacity antennas that will make full use of these assets for 5G. Today, T-Mobile has 64,000 macro sites across the Nation and Sprint has 46,000. Of the combined 110,000 towers, New T-Mobile will integrate approximately 11,000 sites from the Sprint network into the T-Mobile network and add 10,000 new sites, creating a much denser, higher capacity network that can carry substantially more traffic at the same time than either company could on its own. The breadth of the new cell site infrastructure, with approximately 84,000 macro cell sites blanketing the country, will allow New T-Mobile to provide reliable signal strength levels to far more areas than either standalone company.

When compared to the standalone networks in 2021 and 2024, New T-Mobile will more than double 5G capacity by 2021, and nearly triple 5G capacity by 2024—more than eight times the capacity of T-Mobile and Sprint's networks combined today. This increase in capacity will dramatically decrease our cost of delivering each gigabyte of data, which will be translated into lower prices for customers. Indeed, our business plan anticipates that prices will continue to decline over the next six years, and an analysis of our merger by a leading economist concluded that building the nationwide 5G network will also provoke competitive responses from Verizon and AT&T and result in as much as a 55 percent decrease in price per gigabyte and a 120 percent increase in data supply for all wireless customers across the industry than would happen without this merger.

In terms of speed, within two years of closing, the New T-Mobile network will be able to offer data speeds five times the speed of what the standalone T-Mobile 5G network would be able to offer. By 2024, the speeds will reach a point of fiber-like capabilities, averaging over 450 Mbps—that's 15 times the speed of today's T-Mobile network—and the New T-Mobile network will virtually eliminate the constraints consumers currently experience in congested environments, allowing for near instantaneous sharing and downloading of content from almost any location. This will transform the way Americans live, work, travel, and play by facilitating an enormous variety of IoT applications, as well as the full spectrum of connected devices. In sum, compared to today's T-Mobile network, New T-Mobile will have 8 times the capacity and 15 times the speed by 2024.

In terms of coverage, New T-Mobile's 5G network will be truly nationwide. In fact, by 2024, over 290 million Americans (90 percent) will have access to average data speeds over 100 Mbps through New T-Mobile—higher speeds than many homes have through wired broadband service today. Neither Sprint nor T-Mobile on their own would be able to offer anything like that coverage. Even more incredibly, two-thirds of the country will have lightning fast 500 Mbps average data speeds by 2024—data speeds that neither Sprint nor T-Mobile will be able to offer any consumers on their standalone 5G networks for the foreseeable future.

Even better, the broad geographic reach of New T-Mobile's 5G network will finally bring rural communities into the mobile broadband era. Rural communities that lack access to quality broadband can stagnate economically, as skilled workers take their talents to urban centers to fully participate in today's digital economy. Combining T-Mobile's and Sprint's spectrum allows us to close the gaps in rural broadband access and increase outdoor wireless coverage to reach 59.4 million rural residents, or 95.8 percent of the estimated 62 million rural residents.

Opponents of the transaction have claimed that T-Mobile and Sprint do not need to merge to roll out 5G. That misses the point. To be clear, we are not saying we cannot get to 5G without Sprint. What we are saying is that together, we can build a world class 5G network with breadth and depth well beyond anything we could do alone. So, while it is true that T-Mobile and Sprint have already announced 5G plans, the standalone plans to deploy 5G are not even close to comparable to the network New T-Mobile can and will build.

The Combination of T-Mobile and Sprint Safeguards U.S. National Security for 5G

This transaction will also empower New T-Mobile with the network, resources, and spectrum to drive U.S. leadership in 5G, safeguarding our networks. New T-Mobile's incredible, industry-leading 5G network will be built and operated right here in the United States by an American company with American management. Our New T-Mobile 5G network will not only be the most robust, but it will also be the most secure.

T-Mobile and Sprint have engaged extensively in partnership with the U.S. Government for many years. This partnership will continue with New T-Mobile into 5G, setting us apart from other U.S. wireless carriers in providing visibility into our 5G suppliers and ensuring our network remains safe and secure. As the global 5G deployment leader, New T-Mobile will have the most recent and up-to-date security framework with the U.S. Government of any wireless carrier. And as I mentioned at the outset, CFIUS and Team Telecom have approved this transaction after an extensive national security review.

Opponents of the transaction have set up a shadowy group that refuses to disclose its donors and lobs allegations that this transaction will allow Huawei and ZTE into U.S. networks. That's false, and they know it is. Let me be clear—we do not use Huawei or ZTE network equipment in any area of our network. Period. And we will never use it in our 5G network.

New T-Mobile will buy network equipment only from trusted network equipment suppliers with a strong security track record in the United States. By accelerating deployment of true, robust nationwide 5G, New T-Mobile will provide a critical lift to these trusted network equipment vendors—Huawei's competitors—protecting the 5G supply chain for the United States and our allies.

Combining T-Mobile and Sprint will create a world-leading robust, broad, and deep nationwide 5G wireless network unlike anything either company could do alone and well before anyone else can do it. The United States will have 5G with or without this merger. The question is whether America will lead or follow. As the Un-carrier, we want to lead! Our merger with Sprint will be the catalyst to do that.

The Creation of New T-Mobile Will Be Better for Consumers

New T-Mobile will have the capital, scale, and network to supercharge competition and drive a full-on competitive response from AT&T and Verizon as well as newer players. The competition will still be far, far larger than us, but the merger will allow us to upend their lock on the market like never before. The combined company will continue the T-Mobile tradition of disrupting the wireless space, but we won't stop there. We will disrupt broadband, enterprise, and video as well. This increased competition in wireless and other areas will also lead to more innovation. This deal is exciting and transformative for American consumers!

At T-Mobile, we are serious about the potential to grow, disrupt, and deliver new solutions and alternatives to consumers from one end of the country to the other. Being a maverick is in my DNA and T-Mobile's DNA, but it is also central to our successful business strategy and to the business plan of the combined company. As we build out our 5G network and expand into new services, we will need to grow our customer base. That means keeping the customers we've fought hard to win and attracting new customers with great quality and prices, and more innovative offerings. That's why two core assumptions of our business plan for the New T-Mobile are that prices will go down and output—data usage by customers—will increase. That's what makes this merger fundamentally different from one designed to restrict consumers' choices, reduce supply, and raise prices. Business success is based on increasing competition, not reducing it!

First and foremost, the merger will increase competition in wireless. Our opponents claim that the merger will lead to higher prices, but this couldn't be further from the truth. I want to reiterate, unequivocally, that New T-Mobile rates will NOT go up. Rather, our merger will ensure that American consumers will pay less and get more.

Greater capacity means our network can handle many more devices with greater capabilities at the same time everywhere in the country. It's like building a new stadium with three times as many seats—we will have the incentive and ability to bring more people in the door than ever before to fill up the seats. Our existing customers won't be enough to use all that extra capacity. We will have enormous economic incentives to bring new customers in to fill up the network. How will we do that? By lowering our prices, improving our products, and offering better service. Indeed, as capacity goes up, the price per gigabyte goes down, so we will not only be incentivized to add customers, but to do so at lower prices. The business plan for New T-Mobile calls for lower prices to win more customers. This isn't just for any segment of customers—this capacity dividend will be passed along to all customers, including our wholesale and prepaid customers. All American customers will win with lower prices and better services!

In fact, we are so confident that this merger will give consumers more for their money that we are willing to put our money where our mouth is. Last month T-Mobile made a commitment that I stand behind: New T-Mobile will make available the same or better rate plans as those offered by T-Mobile or Sprint for three years following the merger. Let me be clear: We are committed to making the same or better plans available at current or lower prices. We will not raise prices, and we are happy to put it in writing!

But that is only part of the story—that's just what New T-Mobile will do. AT&T, Verizon, Comcast, Charter, and the other players won't stand still as they will be forced to react fast or lose even more customers to New T-Mobile! When we lower our prices, they will have to lower their prices. When we improve quality, they will have to improve quality. The standalone

T-Mobile has shaken up the industry and caused the big players to take notice, but the competitive response that we can force from them will be nothing like what we can do as the New T-Mobile. When we innovate to offer new products and services, they will have to do the same. This competitive response will be game changing, and we can't wait to see the kind of ecosystem of innovation and technological development that will occur right here in the United States. When we force Verizon and AT&T to respond, we're helping more than just our customers, we're helping all wireless customers across the country. We've submitted economic analysis to the FCC and DOJ demonstrating that American consumers will pay roughly 55 percent less per gigabyte of data in 2024 as a result of the transaction. All consumers, including lower-income and our diverse customer base, will benefit from increased competition and lower prices.

One thing I am particularly excited about is that New-T-Mobile will bring new competition beyond wireless to in-home broadband—a market where tens of millions of consumers have few if any choices. Consumers hate their cable and wireline broadband choices, but today, they rarely have somewhere else to turn. With the spectrum and infrastructure assets of the combined companies, New T-Mobile's 5G network will give them a better option and a reason to "cut the cord." By 2024, we will be able to deliver mobile wireless data speeds averaging over 100 Mbps, speeds that will equal or exceed wireline broadband to nearly 90 percent of the U.S. population, giving tens of millions of consumers a new mobile wireless alternative to their current fixed and wired broadband provider, allowing them to cut the broadband cord. Cutting the cord will offer enormous savings to consumers. Today, a consumer will typically pay around $80 a month for wired in-home broadband service. Cutting the cord will lead to $960 in annual savings for consumers.

Further, the merger enables New T-Mobile to offer its own in-home wireless broadband solution (New T-Mobile Home Internet), and we project that we will sign up 9.5 million households nationwide for in-home broadband service by 2024—New T-Mobile will be the fourth largest in-home internet service provider in the country based upon current subscriber shares, and a real competitive force in that market segment. Our economic analysis shows that by 2024 American consumers will save as much as $7 to $13 billion *annually* in lower broadband prices from the new alternatives and competition this merger will create.

While some opponents of the merger have argued that this merger will hurt lower-income or budget-conscious consumers, that is 180 degrees wrong! Budget conscious consumers have the most to gain from the combination of T-Mobile and Sprint! Remember, the whole point of this transaction is to give consumers more for less—that is exactly what budget-conscious consumers want. That's why we love those customers at T-Mobile. They demand the best product at the lowest prices possible. They keep us sharp, so we keep the competition sharp. That's what we do, and what we will continue to do under the merger—only bigger and better. All customers of New T-Mobile will benefit from the transaction because they will all be on the same great network and benefit from the same massive increases in capacity and dramatic decreases in the costs of delivering our service.

Budget-conscious customers, including those on prepaid plans, will benefit the most from increased capacity and improved quality of the network. Those customers rely far more on mobile data than our other customers. They often lack a fixed broadband connection and use their phones as their primary or sole connection to the internet. Prepaid customers, like all of New T-Mobile's customers, will benefit from New T-Mobile's LTE and 5G improvements at no added cost. A faster, deeper, and broader network from New T-Mobile is exactly what they need! And for those that do have broadband today, $960 in annual savings from cutting the cord is a massive dividend that we will deliver. New T-Mobile is going to keep all of the great prepaid brands our customers love from both T-Mobile and Sprint—great choices like Metro, Boost, and Virgin will remain, in addition to those our competitors offer.

We will also continue to offer Lifeline services, which is a program that helps low-income consumers afford phone and broadband service. You have my commitment on this: Barring material changes to today's Lifeline program, New T-Mobile is committed to continuing to offer Lifeline service indefinitely. But it gets even better: New T-Mobile's expansive 5G network will allow Lifeline services to be offered in many places where Sprint had no coverage. And all Lifeline subscribers will be able to take advantage of the same incredible New T-Mobile network as other subscribers.

New T-Mobile will also be able to compete in wireless market segments that T-Mobile and Sprint rarely serve today. For example, AT&T and Verizon currently dominate enterprise services, or wireless services for business and government customers. Despite best efforts, neither Sprint nor T-Mobile has been able to make inroads into AT&T and Verizon's nearly 90 percent share of the enterprise space. T-Mobile has only a very small share of the business market segment (including small businesses) today, and only an estimated 4 percent share of the large enterprise and government portion of the segment. Going forward, New T-Mobile will have the capacity and resources to be a disruptor in the enterprise space, and we will have every reason to compete hard for that business by innovating, offering better service, and lowering prices. Right now, AT&T and Verizon dominate that market. Armed with more scale and network capability, New T-Mobile will inject more competition and innovation into the Enterprise market.

Better for American Workers

T-Mobile is an amazing company to work for. I am proud that we are rated a top place to work by many organizations, including among many other accolades being recognized among the "Best Places to Work" by employee crowd-sourced website Glassdoor.com and for the eleventh consecutive year, being named one of the World's Most Ethical Companies by Ethisphere Institute.

Our employees are motivated and energized by the success of the company. They are proud Magenta heroes, all of whom are owners and invested in the company. Our employees are also diverse, reflecting who we are and who our customers are. We have won many kudos for our leadership in the area of diversity and inclusion. In 2018 alone, Forbes named T-Mobile a "Best Employer for Diversity"; we were honored as one of the "Best Places to Work for Disability Inclusion" by the U.S. Department of Labor's Disability Employment Initiative; and we were named the "Best-of-the-Best Corporation for Inclusion" by the National LGBT Chamber of Commerce. We were also honored by Military Friendly as one of the "Nation's Top Military Friendly Employers"; we were named the "Top 30 Best Employers for Latinos" by Latino Leaders Magazine; and we received a perfect score on the Human Rights Campaign Corporate Equality Index.

I am proud that this transaction will grow the number of T-Mobile employees so even more people will experience our terrific teams and culture. Unlike many transactions, our merger will be jobs positive from Day One and in the future. From 2019 forward there will be more employees at the New T-Mobile than the standalone companies combined. This is because New T-Mobile will spend nearly $40 billion to combine spectrum, sites, and assets and to develop its business over the next three years. We will need to hire thousands of employees to combine the networks and deploy 5G, to extend the Un-carrier customer care model to a wider subscriber base, and to support growing services like in-home broadband.

New T-Mobile's business plan shows that New T-Mobile will employ 3,600 more employees after year one, and over 11,000 more employees by 2024, than the standalone companies combined. This is a result of approximately 600 new stores located to serve rural customers and small communities and five new technologically advanced customer experience centers that will implement the company's innovative "Team of Experts" customer care model. These stores and customer experience centers will create over 10,000 new American jobs. In fact, we will offer a job with the New T-Mobile to every single employee of T-Mobile and Sprint working in one of our retail stores.

T-Mobile's history shows that we may end up hiring even more people than we expect. When we acquired MetroPCS in 2013, we expected that MetroPCS's employee count would stay about the same. Flashing forward to today, over 20,000 more people work in support of the MetroPCS brand than when the transaction closed. The same team that integrated MetroPCS into T-Mobile will lead the effort to seamlessly integrate T-Mobile and Sprint, and we can expect a similarly successful transition. We know we will grow jobs, not reduce them. We will need every hand on deck to build a world-leading 5G network and bring new competition to AT&T, Verizon, and the Cable giants.

Communications Workers of America ("CWA") has said that this transaction will lead to nearly 30,000 job losses across the United States—more than the total number of Sprint employees today! Well, I've looked at their study. With all due respect, it's pure hogwash. The merger does the opposite of what CWA claims—it grows jobs, not eliminates them. How does CWA come up with a different answer? Well, it's easy if you ignore the facts. For example, their analysis doesn't account for any areas where jobs will grow—like in new customer experience centers, enterprise services, broadband and media, and network build and integration. And we've heard this story before: CWA predicted that T-Mobile would cut 10,000 jobs when we merged with MetroPCS. Today, over 20,000 more people have jobs working under the Metro banner than before that merger! CWA was completely wrong then, and they are wrong now.

Beyond T-Mobile, the innovation and growth fostered by the acceleration of broadly deployed 5G networks, which the transaction will instigate, will add hundreds of thousands of jobs to the U.S. economy. A study we have submitted to the FCC shows that New T-Mobile will stimulate economic growth contributing to more than 33,700 additional jobs over the five-year study period. CTIA predicts that the United States will add millions of new jobs if we win the race to 5G, and this transaction will put America in the pole position. We are excited to be a part of that growth, spurring our suppliers to hire more workers as we rely on them to turn our investments into a better, faster 5G network.

New T-Mobile Must and Will Deliver on Its Commitments

No one except a few self-interested critics disagrees that the United States has to lead in 5G and that creating a more effective competitor for Verizon and AT&T is better for consumers and the economy. But some have argued that this merger will not deliver on what we are promising. I could not disagree more. We are the Un-carrier. If we broke faith we would lose our loyal customers and destroy the future of our brand. I want to assure you that we would never do this. My management team and I believe in delivering on our promises, and we know if we do not, we will lose credibility and the trust of our customers.

Everyone at T-Mobile has put too much blood, sweat, and tears into this brand and philosophy to abandon our Un-carrier ways, and our customers are committed to us for it. It matters to us, it matters to consumers, and it works for our shareholders. We fully understand that being successful in the evolving telecommunications marketplace requires that New T-Mobile continue being an aggressive disruptor that challenges the status quo. If we changed, we'd run the risk of losing the confidence of our customers and losing our position of brand strength in the marketplace—and it would clearly cost us paying customers. These people came to us because we offered something different from the other guys. They would abandon us—and I wouldn't blame them—if we started acting like AT&T, Verizon, or a hated cable company.

Our business plan and our future success are centered around building a world class 5G network for everyone and delivering more to consumers for less. We have a history of delivering on our promises, and we have no plans of changing that now. New T-Mobile will deliver on the benefits—a robust, deep 5G network, increased competition, lower prices for higher quality, and increased jobs! We will keep true to who we are and deliver for consumers and for our country.

It's who we are at T-Mobile—but delivering more for less is also great business! Accelerated, industry-leading, robust, nationwide 5G deployment is the foundation of New T-Mobile's business plan. New T-Mobile's business plan also projects aggressive share increases—taken from the industry leaders AT&T and Verizon—through its accelerated, enhanced 5G deployment. New T-Mobile will be able to attract new customers by delivering more data for the same or less dollars on a world-class 5G network and bringing new competition to broadband, enterprise, and video. New T-Mobile's success depends on being a stronger, more aggressive competitor! T-Mobile has committed to shareholders that it will rapidly integrate the networks and deploy industry-leading 5G, and they have staked billions of dollars on this happening.

That's why we are happy to put our money where our mouth is and make clear commitments on prices and jobs. We know we can deliver, as New T-Mobile planned to do it anyway!

Conclusion

The New T-Mobile will enable U.S. leadership in 5G and bring tremendous benefits for consumers, American workers, and the economy as a whole. Only this merger, combined with our winning Un-carrier strategy, can get us there. As we build out our 5G network and expand into new services our plan is simple: Keep the customers we've fought hard to win and win new customers with great quality, lower prices, and more innovative offerings. Only the New T-Mobile, with the track record and DNA of the Un-carrier, can actually make that a reality.

Thank you for the opportunity to speak today. I look forward to your questions.

Mr. CICILLINE. Thank you, Mr. Legere.

Mr. Claure is now recognized for five minutes.

TESTIMONY OF MARCELO CLAURE

Mr. CLAURE. Thank you.

Chair Cicilline, Ranking Member Sensenbrenner, and Members of the Subcommittee, it is truly an honor to be here, and I am grateful for the opportunity to speak to you.

I would like to take this opportunity to explain why Sprint's proposed merger with T-Mobile will be great for the American consumers, will be great for Sprint employees, and, more importantly, is going to be great for our country.

I will go into details in a moment but before I do so, I want to tell you a little about me. First, I am an immigrant. I immigrated to the United States as a young man from Bolivia. I had very little money. I went to a small but great university in Boston and I received a priceless education.

Second, I am an entrepreneur. After I graduated, I founded a company called Brightstar. I started selling phones out of my car and I gradually grew Brightstar into the largest mobile phone distribution and supply chain company in the world. We worked hard. We grew to over $10 billion in. sales and we had thousands of employees all over the world. I am most proud that we made Brightstar the largest Hispanic-owned company in U.S. history.

In 2014, I sold my business Brightstar to SoftBank. After that, I immediately became Sprint CEO. At that time, Sprint, a proud Kansas company, was near financial ruin. In 2013, the company had lost over $5 billion and in the previous 10 years Sprint had lost over $25 billion, and we had approximately $31 billion in debt. A great company with tens of thousands of jobs across the U.S. was at risk.

Beginning in 2014, we undertook a massive and painful transformation of the company. We worked very hard from the ground up. We reduced our expenses by close to $6 billion through cost reductions, employee layoffs, and some unwanted transfers of jobs overseas. We didn't want to, but we had to do that to save Sprint.

Today, Sprint is no longer in financial dire straits, but we still do face serious challenges. Despite our success, we are unable to fix our remaining challenge, the quality of our network. We cannot fix our network because of our poor financial situation and our lack of low band spectrum.

Because of our network quality issues, Sprint still struggles to attract lots of customers and many customers that we acquire today leave at a faster pace than our competitors. Customers today are not willing to sacrifice quality.

Today, the U.S. wireless market has become a duopoly. Verizon and AT&T has close to 70 percent market share and they control over 93 percent of the cash flow generated in our industry. As a result, there is no way that we can invest and be able to compete at the same level.

Today, America and the world are at a technological inflection point. Over the next few years, 5G, a new standard of connectivity, will completely change the way we connect, but Sprint doesn't have the resources to build a nationwide 5G network to provide the necessary competition against the AT&T and Verizon duopoly.

We estimate ourselves that we need at least $20 to $25 billion just to have 5G in our limited coverage area and because we aren't generating any cash flow, the only way to pay for this will be to raise more debt and to pay for that debt we have to raise our prices. We could no longer be the price leader.

The only company that can build the world's best 5G network is a combination of Sprint and T-Mobile and we can only do this if this merger is approved. As a combined company, we are committed to invest nearly $40 billion over the next three years to build the world's best 5G network with nationwide coverage.

How can we do this together? It is simple. It is a marriage of two necessary and complementary 5G pieces. Sprint has high-capacity spectrum which it acquired over many years. T-Mobile has broad national coverage spectrum. It is capacity plus coverage together that will allow us to build the most advanced network covering every network, every corner of America in urban, suburban, and rural areas.

Sprint cannot do this alone and T-Mobile cannot do it either. We need each other to succeed. We cannot take lightly the fact that America needs to lead the world in 5G. China has made it a priority to win the 5G race. They are investing billions of dollars. When a country has the best network with the latest technology, it brings massive economic stimulus, explosive job growth, and a new wave of entrepreneurs.

America's the land of innovators and disrupters. Let's keep it this way. My story validates this. Letting another country take 5G leadership away from the U.S. is going to cause irreparable damage. This is an opportunity of a lifetime.

In addition, as you heard John, we are committed to lower prices. When we merge our two companies, we are going to create eight times the network capacity that we would have on our own. We will have to beat AT&T and Verizon on prices to fill this new capacity. This makes financial sense. It is good for business but, more importantly, it is our commitment.

Lastly, it is true that most mergers do not create jobs. This merger is the opposite. This is a growth story. This new company will create new jobs, blue-collar and white-collar jobs, jobs in urban, suburban, and rural America. We will need a skilled network of engineers, construction crews, enterprise sales teams, call center jobs that we are going to bring back from overseas, and new sales reps for the new stores we are opening.

I can't thank you enough for allowing me to speak today. As I mentioned, I am grateful to this country. As an American entrepreneur, I hope the merger is approved. I look forward to answering your questions.

Thank you.

[The statement of Mr. Claure follows:]

STATEMENT OF MR. CLAURE

Chairman Cicilline, Ranking Member Sensenbrenner, and Members of the Subcommittee, thank you for the opportunity to appear today to share my perspective on why this merger will be good for American consumers, good for Sprint employees, and good for U.S. technological leadership and the next generation of entrepreneurs.

This is a critical time in the evolution of the wireless industry, and it is a particularly critical time for the customers, employees, and shareholders of Sprint. I have spent my career driving innovation and competition in the wireless industry. I served as Sprint's CEO from August 2014 until May 31, 2018, when I transitioned to my current role as Sprint's Executive Chairman. I am also the Chairman Emeritus of CTIA, a trade association representing the U.S. wireless communications industry, and I am expected to serve on the Board of the New T-Mobile following the completion of the merger.

I know John Legere will be elaborating on his vision for the new company and all that he hopes to achieve. For my part, I would like to focus on why joining with T-Mobile now represents the best opportunity for Sprint to continue to be a force for competitiveness and innovation in the industry. I also want to explain the considerations that led us to this merger.

It is no secret that in recent years, Sprint has had to chart a course through daunting obstacles. Over the last decade, the company had lost over $25 billion. For all the talent and work of our employees, our path was simply not sustainable.

I am proud of what Sprint has done to stabilize itself and to put us in position to seize the important opportunity that we have today to address some of those longstanding challenges. Sprint is currently in the fifth and final year of its "Sprint Now" plan to turn around the company. We made difficult but necessary changes that have enabled us to cut billions of dollars in costs, improve our networks, and do better at attracting and retaining subscribers. In 2017, Sprint became net income positive for the first time in 11 years, and we achieved positive metrics across several other financial performance measures. Today, we are a more stable company financially than we have been in a very long time, and that financial stability has enabled us to embark on new, much- needed investments in our network aimed at trying to catch up with technological innovation in our industry. We have also been able to undertake initiatives such as the 1Million Project, which gives mobile devices and free high-speed internet access to high school students who don't have reliable connectivity at home. I am thrilled that this program will be continued under the New T-Mobile.

Sprint's employees rightly take pride in all that we have accomplished together and are optimistic about the future. But as CEO and now Executive Chairman, I am acutely aware of what it has taken to get us to this point and the challenges that lie ahead. Achieving financial stabilization required us to reduce our network investment to historically low levels and to shrink the size of the company. Sprint's employee headcount fell from 40,000 in 2011 to 30,000 in 2018, a 25 percent decrease that was a painful but necessary step to stabilize our financial position. We also face an extremely high debt burden, with nearly $40 billion in total debt as of the end of calendar year 2018. And we have offered aggressive subscription promotions in an attempt to gain scale, creating challenges for our ability to make additional investments.

Even with all of this effort, we still are unable to spend at parity with Verizon and AT&T, much less catch up to their previous investments. Our scale presents significant challenges. Because AT&T and Verizon have significantly more subscribers than Sprint, they have and can continue to spread network costs over a much larger customer base, resulting in a far lower cost per subscriber for a given level of capital spend. As a result, we continue to face difficult questions about how best to attract additional customers, improve our network, and find ways to challenge the two dominant players in the wireless market, AT&T and Verizon.

There is an urgent need for us to answer the questions about our future because the wireless industry today is at an inflection point. It is poised to deploy the next leap forward in wireless technology—the fifth generation of wireless service—called 5G. Sprint wants to be a leader in this leap forward, but our plan anticipates a limited 5G build over time that will lack broad coverage. Given the characteristics of our mix of spectrum, our comparatively smaller scale, and the size of the capital expenditures involved, Sprint will be able to deliver 5G only in limited areas, focusing on population-dense metropolitan areas. Consequently, Sprint as a standalone company cannot fully seize the tremendous opportunity that 5G creates, much less match what a merged Sprint and T-Mobile could do together as a competitor and innovator.

It is important to understand how our plans for 5G in the absence of a merger will necessarily be limited by our spectrum portfolio, lack of scale, and resource constraints. In particular, our limited low-band spectrum cannot provide a basis for launching a ubiquitous coverage layer for 5G, and building ubiquitous nationwide 5G coverage using only Sprint's 2.5 GHz spectrum would be impractical and economically infeasible. To be sure, Sprint's 2.5 GHz spectrum will deliver very high speeds and support substantial capacity where we are able to deploy it, but due to the propagation characteristics of 2.5 GHz spectrum, it would not provide a blanket of coverage outside of major metropolitan and suburban areas. Moreover, rolling out this more limited 5G network would require Sprint to invest $20–$25 billion in the next four years.

Although subscribers in certain major cities will benefit from this roll-out, others will not, nor will we be able to truly unlock the power of 5G for innovation and entrepreneurship.

Given these difficulties, I believe Sprint can contribute most effectively to the rollout of the next generation of wireless services—with all of the consumer and economic benefits that it entails—by combining our assets and know-how with T-Mobile. That is what makes me so excited about this merger. Through this transaction, the combined company will be able to build a transformative 5G network in America and unlock the promise of 5G faster and for more customers than either company could on a standalone basis. America and the world are racing to be the first to create the next generation of wireless technology, and the advantages of being a first mover cannot be overstated. As you will hear today, this merger will allow the combined company to dramatically accelerate the promise of nationwide 5G in the United States, deliver better performance and value to our customers, and create new jobs and opportunities for American workers.

I. What the Transaction Means for the Race to 5G

U.S. companies are in a race for 5G leadership, and the stakes could not be higher. A robust and ubiquitous 5G network will provide customers with incredibly fast speeds and massive capacity, and will create an ecosystem where the best creative minds can develop applications and uses to benefit consumers. An independent analysis by Accenture concludes that the United States is positioned to invest $275 billion in 5G, creating three million jobs and adding $500 billion to our economy. This merger will accelerate that investment.

This is not just about faster wireless service for our subscribers—it is about ensuring that the United States leads in the next generation of innovation, which will rely on the massive capacity that 5G can unleash. The possible use cases for 5G include wearables, smart buildings, smart cities, smart agriculture, and safer self-driving cars. 5G will also include applications we can only imagine.

The impact of the 4G/LTE deployment helps illustrate how critical it is for the United States to win the race to 5G. That generation of technology ushered in companies such as Uber and Airbnb. Indeed, it helped create the entire "on-demand" economy—new businesses and types of jobs that simply didn't exist before 4G. America led the world in the deployment of 4G. As a result, the United States got the benefit of the jobs and increased economic productivity that it facilitated. Much of the technological innovation enabled by 4G, and many of the companies built using that innovation, were U.S. companies—creating new U.S. jobs. An analysis by Recon Analytics concluded that, by leading when the market evolved to 4G a number of years ago, the United States boosted annual GDP in 2016 by nearly $100 billion and resulted in a stunning 84% increase in wireless-related jobs in just a three-year period (2011–2014).

Winning the race to 5G will require massive new investment and the right combination of spectrum. As John will describe in greater detail, the New T-Mobile has committed to spend nearly $40 billion—far beyond what Sprint has been able to spend in recent years or what it could spend alone—to achieve this world-class network and to increase its retail footprint to market this new technology, creating thousands of U.S. jobs directly and indirectly.

It is important to understand that the promise of 5G lies not just in better and faster performance from mobile devices. The New T-Mobile will have the speed and capacity to substitute in many areas for in-home broadband—that is, the primary high-speed internet connection consumers use at home—including in areas that currently have few or no options for reliable in-home broadband, finally creating real competition in these areas. As a result, the new technology will enable the combined company to increase broadband coverage into more rural areas, along with improved signal quality and increased network capacity in places where neither company can profitably do so on its own. In short, the New T-Mobile will generate significantly improved and expanded services to unserved and underserved rural areas and create real choice for consumers.

The blazing speed and enhanced capacity of the New T-Mobile's 5G network will enable it to offer consumers and businesses more choices and cost savings. This improved performance is especially important to our prepaid consumers and those on a tight budget for whom their mobile wireless connection is increasingly their best and, in some cases, their only reliable connection to the internet. The New T-Mobile's 5G network will also serve as a platform for new video options, including, but not limited to, video programming offered by the New T-Mobile itself.

II. What the Transaction Means for Competition

For years, Sprint has recognized the challenges posed by the fact that it competes in an industry dominated by two main players: Verizon and AT&T. Eight years ago, my predecessor Dan Hesse explained to the Senate and the House Judiciary Committee why a proposed merger between AT&T and T-Mobile would have made our industry less competitive. At that time, AT&T and Verizon together had two-thirds of the market, and the proposed merger would have taken a key disrupter off the field, leaving the market dominated by two behemoths. That merger did not go forward, because the government recognized that it was not in the public interest to let one of the two biggest providers get even bigger.

But despite the substantial competitive efforts of Sprint and T-Mobile over the past eight years, AT&T and Verizon's grip on the market is just as strong today. They still together hold two-thirds of the market. And they have increasingly found ways to use their scale to cement their advantages rather than to compete vigorously with others in the marketplace. A huge and increasingly insurmountable gap remains between Sprint and both AT&T and Verizon. The merger today is critical to disrupting the marketplace and weakening the iron grip these giants have had on our industry. Even after the merger, the New T-Mobile will still be third in market share and will still be dwarfed by AT&T and Verizon in market capitalization. But it will be a much stronger competitor and a truly disruptive threat to the two giants' longstanding dominance. As part of the deal negotiations, executives from Sprint and T-Mobile extensively discussed the future of the combined company, and it became clear we share a common vision.

For both Sprint and T-Mobile, this transaction is about the opportunity to create a better product for consumers than either company could achieve independently, continuing to offer innovative services and consumer value, and ultimately becoming the best wireless carrier in the United States. By joining forces, our two companies will have an opportunity to go head-to-head with the giants and to make the marketplace much more competitive and innovative. In turn, this will force AT&T and Verizon to accelerate and become more ambitious in their own 5G plans.

The network that the New T-Mobile will be able to offer would transform the industry. Combining the complementary assets of both companies will enable a network that will offer unmatched coverage, capacity, and quality—both for current LTE customers and for the future 5G network that the New T-Mobile will be able to deploy. The combined network will surpass the quality of the networks offered by Verizon and AT&T, giving consumers more and better options than they have today.

The transaction provides tremendous synergies, estimated at about $43 billion, and also provides much-needed economies of scale. The synergies and scale will allow the New T-Mobile to make the investments necessary to achieve its vision. Building and maintaining a national wireless network requires billions of dollars in capital expenditures and operating expenses each year. The synergies and scale of the combined company will create economic incentives for the New T-Mobile to build a world-class network, and to expand the geographic reach of its network to more Americans.

In addition, the combined company will be focused on continuing the disruptive "Un-carrier" actions that have become synonymous with the T-Mobile brand. Led by John and T-Mobile's Mike Sievert, and drawing on the best that both T-Mobile and Sprint have to offer, the management team will be second-to-none. John and Mike have a vision for the New T-Mobile as a disruptive player in the industry and a force for innovation. This will be exciting for all the New T-Mobile employees. And as a prospective member of the Board of Directors of the New T-Mobile, I am eager to be part of the combined company and help realize that vision.

Finally, it is important to appreciate that in addition to AT&T and Verizon, the wireless industry is increasingly seeing competition from a growing number of companies from other sectors with different business models, including Comcast, Charter, DISH, TracFone, and Google. These large, well-capitalized competitors are pushing into wireless because, just as we do, they see untapped potential for success if they are able to deliver better results to customers.

III. What the Transaction Means for Americans

Simply put, this transaction will bring benefits all across the country—in urban, suburban, and rural America. The combined company will deliver a far superior network, delivering tremendous value to consumers. Together, the New T-Mobile can supercharge the wireless industry with innovation, disruption, and an obsessive dedication to our customers. These benefits will be felt in several areas:

4G LTE. In the near term, the combined company will offer better 4G LTE services. The combined network will be anchored on the existing T-Mobile 4G LTE network and augmented with contributions from Sprint's network to improve coverage, consistency, speed, and capacity, with low income, black, and Hispanic customers among those who would benefit the most. More than 37 million Sprint devices are compatible with T-Mobile's LTE spectrum and can be migrated to the new network, and the number of customers who can access this improved 4G LTE network will only increase over time.

5G. Together, as I have discussed, Sprint and T-Mobile will be the first to deliver a nationwide 5G network with unmatched breadth and depth. They will be able to do this faster than either could hope to achieve as standalone companies. In particular, Sprint and T-Mobile have complementary spectrum holdings that, when combined, will be perfect for 5G.

As independent entities, both companies would deploy 5G on their available spectrum, and, as a result of the spectrum they hold, each company's 5G network would have deficiencies. Sprint's planned 5G holdings are in mid-band spectrum, specifically the 2.5 GHz band. A rollout of truly nationwide coverage on this spectrum would require too many cellular radios to be economical or practical, and therefore Sprint's independent 5G network would have coverage gaps. T-Mobile's planned 5G spectrum holdings, on the other hand, are primarily in low band spectrum, specifically in the 600 MHz band. Signals sent over this spectrum travel far, making it ideal for extending geographic coverage. However, T-Mobile has a fixed amount of spectrum for 5G, so it will have very limited capacity, and the network will quickly get congested during those times when customers most want to use it.

By bringing these resources together, the merger will create conditions for both nationwide coverage and massive amounts of network capacity, allowing for a 5G user experience that is robust and ubiquitous. While others currently advertise what they claim to be a 5G network, with coverage and capacity deficiencies noted in the fine print, the New T-Mobile will be the first to deliver truly mobile and nationwide coverage. Being faster to develop a "true 5G" network will help ensure that America will lead the development of the 5G ecosystem, which will be a significant boon for the American economy. If America can lead in 5G the way that this country led in 4G, it will benefit not only American consumers, but also all of the American companies that will develop the products, applications, and tools that will bring 5G to consumers across the world.

Lower Prices and Cost Savings. As we have shown in the analyses we have submitted in support of the merger to DOJ, the FCC, and State regulators, the New T-Mobile will have powerful incentives to offer low prices to consumers in order to utilize the huge increase in network capacity that the transaction will make possible. The vision that John and Mike have for the New T-Mobile is that of a "supercharged maverick," with the scale and resources to make a significant impact on the wireless marketplace for the better. This means the combined company will continuously look for ways to offer more for less, so it can grow its subscriber base and improve value propositions for American consumers.

Critically, low income consumers will particularly benefit from these developments. These customers tend to use more mobile data and therefore will especially benefit from the increased capacity and improved service quality the New T-Mobile will provide—as well from the fact that the New T-Mobile's speed and capacity will give more consumers the option to "cut the cord" and rely on their mobile plans for internet access.

Jobs. One of the things that excites me most about this merger is that it will enable us to add employees in the United States and to bring jobs that have moved offshore back home. I appreciate that executives' claims that mergers will create jobs are often met with skepticism. But here, the proposed merger will grow U.S jobs from day one and for the foreseeable future. By joining forces, the combined company will be able to make the investments needed to create a network that neither company could create on its own. The New T-Mobile is committed to spending nearly $40 billion over the next three years to build its 5G network, while also creating thousands of jobs across the country. In fact, we recently announced that the New T-Mobile plans to build five new state-of-the-art Customer Experience Centers around the United States, with each Center creating an average of 1,000 new jobs.

In addition, the merger puts the combined company in a unique position to unlock the growth that will come with 5G. And, as previously mentioned, leading the world in 5G also will create opportunities for other U.S. companies to develop products and applications and to start and grow businesses that will employ thousands and thousands more people. On balance, this deal will create far more jobs than the status quo.

Impact on Prepaid Customers. Sprint has long been proud to offer prepaid plans, and it is important to emphasize that the New T-Mobile's prepaid customers—as with its postpaid customers—will see significant benefits as a result of this transaction. As we have explained in our public filings, following the merger, prepaid customers with compatible handsets will enjoy the same improved network as postpaid customers, and perhaps more so, since many prepaid customers use more data than those on postpaid plans. This improved service also will not come with higher prices. The New T-Mobile will be incentivized to deliver more for the same or less due to having substantially more capacity and lower costs—and will face continued and likely intensified competition from Verizon, AT&T, and others.

Impact on Rural Customers. A key benefit of the transaction, particularly for Sprint subscribers, will be the dramatic increase in rural 5G coverage due to the combined company's 600 MHz spectrum and the strong incentives to add customers created by the enormous capacity of the combined company's network. Because of the current geographic footprint of Sprint's network, our customers are too often forced to rely on roaming agreements for service coverage in rural areas where they cannot access our network, which are often extremely expensive and often lead to an inferior customer experience. But by adding Sprint's 2.5 GHz spectrum to T-Mobile's current spectrum portfolio, the New T-Mobile will be able to reach more rural customers and to provide rural customers with mobile and in-home broadband service at greater speeds and more consistent signal levels.

The more favorable economics are not limited to wireless telephony. The new combined 5G network will have the speeds and capacity to effectively compete with in-home broadband in many areas. Rural consumers typically have only one or at most two choices for in-home broadband today. The New T-Mobile would provide another option and inject competition for the benefit of these relatively underserved rural customers.

* * *

In short, I truly believe that the New T-Mobile will build the best wireless network this country has ever seen, far faster than what either Sprint or T-Mobile could do on its own. To fill that new network, the New T-Mobile will have strong incentives to offer a tremendous new product at a great price. By having the best-in-class network, the new company will be able to compete for customers who have been reluctant to use Sprint or T-Mobile because of concerns that the quality of their individual networks is not as good as those offered by Verizon or AT&T. The transaction will give these customers more and better options. AT&T and Verizon have long prided themselves, and promoted themselves, as having the best network quality. With the New T-Mobile offering an unrivaled network experience, Verizon and AT&T will be forced to compete harder and invest more—and sooner—than they would absent the competitive spur of this transaction. Their increased investment will lead to more competition, better service, and more jobs, all to the benefit of American consumers.

I thank the Subcommittee again for giving me the opportunity to share my perspective, and Sprint's perspective, on what will be a procompetitive merger that will benefit American consumers, American workers, and the American economy.

Mr. CICILLINE. Thank you, Mr. Claure.

Mr. Shelton is now recognized for five minutes.

TESTIMONY OF CHRISTOPHER SHELTON

Mr. SHELTON. Chair Cicilline, Ranking Member Sensenbrenner, Chair Nadler, Ranking Member Collins, Members of the Committee. My name is Chris Shelton. I am the President of the Communications Workers of America. We represent 700,000 employees in telecommunications and other industries, including more than 45,000 in the wireless industry.

Let's tell it like it is. This merger would kill American jobs, depress wages, and raise prices on American consumers to enrich two foreign companies, Deutsche Telekom from Germany and SoftBank from Japan.

Members of the Committee—that is economic treason. These are two of the worst companies in the United States when it comes to the treatment of workers. They ship jobs overseas and in recent years T-Mobile has been charged with more labor law violations per worker than even Walmart.

Let's talk numbers. This merger would kill American jobs. We estimate that 30,000 Americans would lose their job if this merger is approved. The Wall Street firm MoffettNathanson estimates this merger would kill 20,000 jobs.

Whether you take their number or ours, you should understand that T-Mobile's job creation promises are sheer fantasy.

Sprint and T-Mobile compete for the same type of customers, often low-income households, which is why their stores are located near each other, sometimes right across the street. So, if the companies merge, chances are they would shut down one of the two neighboring stores and most of those workers would be out of a job.

What about the people lucky enough to stay employed? The merger would drive down wages for all wireless retail workers in some cases by as much as $3,000 per year.

Employers compete for skilled labor with wages and benefits. Take away competition and the remaining companies can throttle down employee's compensation while jacking up prices on consumers. Both are symptoms of the same disease, too much market power.

That leads me to something I hope this Subcommittee and antitrust enforcement agencies will support. We need to include the wage and job impacts when analyzing whether a merger is anticompetitive, and we need to consider the impact of collective bargaining on jobs and wages.

The last 40 years, we have seen more and more mega-mergers. Corporate profits keep climbing, productivity is going up, and executive compensation has skyrocketed, but workers' wages have not kept up. They have stagnated. Highly-concentrated markets and lack of competition are part of the reason.

The weakening of unions as a powerful force to protect workers' jobs and wages is another reason for wage stagnation. As companies have gained market power through consolidation, workers have gotten weaker as a result of the war on labor. In antitrust terms, workers have lost countervailing power.

Together, these two factors go far to explain why wages and living standards have stagnated for U.S. workers. They help explain the dramatic increase in income inequality in the U.S., where the top five percent of Americans control two-thirds of our nation's wealth.

The good news is that America can do something about it. First, we can say no to mergers like the T-Mobile/Sprint transaction and preserve competition in consumer and labor markets. Second, we can bring back collective bargaining to protect workers, not just union Members but all workers.

I have yet to hear either of these two corporate CEOs say they would remain neutral to allow their employees to decide whether to unionize, free from T-Mobile and Sprint's usual bullying tactics, intimidation, and antiunion propaganda. They simply don't want workers to have a say.

If antitrust enforcement agencies and the courts can consider the consumer price impacts of a merger, they should be able to consider the impact of collective bargaining as a way to address anticompetitive effects in relevant labor markets.

Finally, this merger is not only bad for workers, but it also is a disaster for consumers. T-Mobile and Sprint are each other's closest rivals, competing aggressively in particular for lower-income customers and persons of color.

By eliminating this competition, economists estimate price will go up by as much as 15 percent and while these companies trumpet the alleged benefits for rural America, their own FCC filing shows that even six years after the merger, 46 million Americans, largely in rural areas, would not receive the benefits of its 5G network.

Thank you, and I look forward to answering your questions.

[The statement of Mr. Shelton follows:]

STATEMENT OF MR. SHELTON

Chairman Cicilline, Ranking Member Sensenbrenner, Chairman Nadler, Ranking Member Collins, Members of the Committee: Thank you for the opportunity to testify today.

My name is Chris Shelton. I am President of the Communications Workers of America (CWA). CWA represents approximately 700,000 men and women who work in telecommunications, media, airlines, public service, and manufacturing. CWA represents more than 45,000 employees in the wireless industry.[1]

My own experience in this industry goes back to 1968, when I was hired by New York Telephone as a technician. I've worked in telecommunications and represented telecommunications employees my entire adult life. So I know a little something about this industry.

From the outset, let me be clear: This merger as currently structured would kill American jobs, lower wages, and raise prices to enrich two foreign companies, Deutsche Telekom from Germany and SoftBank from Japan. These are two companies with long histories of violating workers' rights.

I will cover four areas in my testimony today: (1) Job losses from the proposed merger; (2) T-Mobile's and Sprint's long history of labor law and employment law violations; (3) the merger's likely impact on wages; and (4) the reasons consumers would be worse off if the merger takes place.

JOB LOSS. The merger of T-Mobile and Sprint will eliminate an estimated 30,000 jobs across the county. Twenty-five thousand five hundred of those jobs would be in retail stores, some owned directly by Sprint and T-Mobile and others owned by independent retailers. The other job cuts would be in headquarters, eliminating duplicative functions.[2]

Sprint and T-Mobile compete with each other for the same type of customers, often low- and moderate-income households, which is why their stores are located near each other, sometimes right across the street.[3] I attach maps of retail store locations of T-Mobile, Sprint, and their pre-paid brands Metro (T-Mobile) and Boost (Sprint) in Appendix A.

It would make no sense for the merged company to keep all these stores open after the merger. That's not how businesses operate. Even before this merger was announced, Wall Street analysts were projecting store closures and job losses from this merger.[4]

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[1] CWA has collective bargaining agreements covering more than 45,000 AT&T Mobility employees and several Verizon Wireless units. T-Mobile employees, with CWA support, have joined together to form T-Mobile Workers United, an organization of T-Mobile and MetroPCS call center and retail employees and technicians working to improve conditions at work. As I discuss below, both T-Mobile and Sprint have a long history of violating workers' rights to form a union.

[2] *See* Fact Sheet: How The T-Mobile/Sprint Merger Will Impact Jobs, *https://cwa-union.org/sites/default/files/t-mobile__sprint__merger__jobs__fact__sheet__20181126.pdf*; Reply Comments of Communications Workers of America (October 31, 2018) at 5, *https://ecfsapi.fcc.gov/file/1031880128823/REDACTED%20-%20CWA%20T-Mobile-Sprint%20Reply%20Comments%2010-31-18.pdf* ("CWA Reply Comments"); Comments of Communications Workers of America (August 27, 2018) Appendix D (describing methodology), *https://ecfsapi.fcc.gov/file/10827275801503/CWA%20T-Mobile-Sprint%20Comments%208-27-2018.pdf* ("CWA Comments").

[3] *See* CWA Presentation to Federal Communications Commission on Proposed Sprint/T-Mobile Merger (November 28, 2018) at 27, *https://ecfsapi.fcc.gov/file/113007585462/Redacted%2011-30%20CWA%20Ex%20Parte%20Notice%20WT%2018-197.pdf* (maps showing retail footprint overlaps in New York City and Los Angeles South).

[4] *"Could a Sprint merger with T-Mobile kill more jobs than Sprint has?" Chicago Tribune (October 10, 2017), https://www.chicagotribune.com/business/ct-biz-sprint-t-mobile-merger-jobs-20171010-story.html.*

CWA did a study, based on T-Mobile's own history and methodology, which showed the merger would result in a net job loss of:

- 13,700 retail workers in T-Mobile and Sprint stores;
- 11,800 workers in Boost and MetroPCS stores (the companies' prepaid brands);
- 4,500 headquarters employees.[5]

T-Mobile's and Sprint's track record with call center jobs is also telling. Both send a significant portion of call center work to the Philippines, Guatemala, Honduras, India, Mexico, Panama, the Dominican Republic, Costa Rica, and Canada.[6]

T-Mobile points to its 2012 acquisition of MetroPCS, and says look how many jobs that deal created. But MetroPCS was not a significant competitor. It was in a line of business that T-Mobile wanted to get into, prepaid wireless retail, and at the time of acquisition, located in only 15 markets. After the acquisition, T-Mobile grew the MetroPCS business by expanding nationwide. The job growth came from that fact, and that fact alone. More than 95 percent of MetroPCS locations are operated by authorized dealers, so when T-Mobile is claiming job growth here, almost none of that is on its direct payroll.[7]

T-Mobile's 2018 acquisition of iWireless, a regional carrier in Iowa, shows what happens to jobs when T-Mobile takes over a company that directly competes with it in the same geographic territory. The results aren't pretty. T-Mobile closed more than 72 percent of iWireless corporate stores and more than 93 percent of authorized dealer stores. T-Mobile also shuttered iWireless customer call centers in Des Moines and Cedar Rapids, Iowa. After the closures, T-Mobile left virtually no stores in rural Iowa. People would have to drive an average of 68 miles or more to get help from a retail employee.[8]

I attach a copy of CWA's report *Disrupting Rural Wireless* to my testimony as Appendix B.

So what is the company's response now? Under pressure, T-Mobile CEO John Legere offers vague promises that the "New T-Mobile" won't close any of the Boost and MetroPCS prepaid stores and that it will retain current T-Mobile employees.

I can tell you that a promise to keep stores open is meaningless. A vague promise to keep employees is meaningless. Without binding and enforceable commitments—and I mean commitments that have no loopholes—such promises are just cheap sales talk and are easily broken. If it is more profitable to close stores, the "New T-Mobile" will close them. If it is more profitable to squeeze employees through lower wages and commissions or to lay off employees, the "New T-Mobile" will do so.

T-Mobile and Sprint have a long history of violation of workers' rights. Both of these companies, and T-Mobile in particular, have long histories of ignoring workers' rights and violating federal labor laws. This history speaks volumes about the trustworthiness and corporate character of these companies.

T-Mobile has an aggressive policy to deny employees their legal right to form a union. It has been found guilty of violating U.S. labor law six times since 2015 and has been subject to approximately 40 unfair labor practice charges since 2011. Findings of illegal activity by the federal courts, the National Labor Relations Board (NLRB), and an Administrative Law Judge include, among other things:

- Maintaining unlawful rules forbidding workers from speaking to each other and others about wages and working conditions (nationwide violation; U.S. Court of Appeals for the 5th Circuit affirmed the Board's order).[9]
- Creating, maintaining, dominating and assisting an internal organization called T-Voice to try to discourage workers from forming, joining, or supporting an independent union (nationwide violation).[10]
- Surveilling and interrogating employees about union activity, restricting discussions about working conditions over social media, and prohibiting employees from sending union-related emails.[11]

[5] *See* Fact Sheet: How The T-Mobile/Sprint Merger Will Impact Jobs; CWA Reply Comments at 5; CWA Comments Appendix D (describing methodology).

[6] Fact Sheet: How The T-Mobile/Sprint Merger Will Impact Jobs; CWA Comments at 60–61.

[7] CWA Comments at 57.

[8] CWA, "Disrupting Rural Wireless: How a T-Mobile Takeover Harmed Consumers and Small Businesses in Iowa" (Feb. 2019), *https://www.tmobilesprintfacts.org/system/files/disrupting-rural-wireless-201902.pdf*.

[9] T-Mobile USA, Inc., 363 NLRB No. 171 (Apr. 29, 2016), *enf'd in relevant part T-Mobile USA, Inc.* v. *Nat'l Labor Relations Bd.*, 865 F.3d 265 (5th Cir. 2017).

[10] T-Mobile USA, Inc., JD–23–17, 2017 WL 1230099 (Apr. 3, 2017).

[11] T-Mobile USA, Inc., JD–57–16, 2016 WL 3537770 (June 28, 2016).

- Unlawfully prohibiting employees from talking about the union during work time.[12]
- Requiring employees, including one who filed a sexual harassment complaint, to sign an unlawful confidentiality notice prohibiting them from discussing with one another information from employer-led investigations, and threatening discipline, up to and including discharge, if they engaged in those discussions.[13]

In recent years, T-Mobile has been the subject of more unfair labor practice charges per employee than any other big business in the United States, including Walmart.

Sprint's violation of workers' rights dates back to the landmark *La Conexion Familiar* case in which Sprint fired 226 employees and closed its Spanish-language telemarketing center in San Francisco to avoid a union election.[14] Sprint current and former workers have sued the company multiple times for alleged wage and hour violations affecting thousands of workers.[15]

No matter how many online "Town Hall" pep rallies Mr. Legere stages, the facts are clear that T-Mobile does not respect the rights of its employees that are guaranteed by law.

The merger will reduce wages and benefits for retail wireless workers. Permitting this merger to go through as proposed would drive down wages for all Americans who work in the wireless retail market, in some cases by as much as $3,000 per year.

In recent years, economists have puzzled over a central question. Over the past three decades, productivity has gone up, corporate profits have increased, and executive compensation has skyrocketed. But workers' wages have stagnated. Wages have become detached from productivity gains.[16]

The lack of wage growth is a persistent problem that, without question, has led to the hollowing out of the American middle class and increased income inequality. A central reason for wage stagnation is the decline in collective bargaining coverage in this country. Simply put, unions raise wages.[17] Another reason for wage stagnation, and one that is particularly relevant to this Subcommittee, is the consolidation that has been brought about through mergers between non-union firms. Since 2008, American firms have engaged in one of the largest rounds of mergers in history.[18] By most accounts, industries in America have become increasingly concentrated.[19] And as industries have consolidated, labor markets have also consolidated. As the Council of Economic Advisors explained at the end of the Obama Administration:

> The presence of a limited number of firms in the market for a particular type of labor may give each of these firms some power in setting wages. For example, factory line workers have fewer opportunities to "vote with their feet" in a town with one manufacturing plant relative to one with many. Holding other factors equal, higher concentration in a labor market may lead to lower wages just as higher concentration in a product market often leads to higher prices.[20]

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[12] T-Mobile USA, Inc., 365 NLRB No. 15 (Jan. 23, 2017).

[13] T-Mobile USA, Inc., JD (NY)–34–15, 2015 WL 4624356 (Aug. 3, 2015), adopted by NLRB on Sept. 14, 2015.

[14] CWA Comments at 67–70 (citing La Conexion Familiar and Sprint Corp., 322 NLRB No. 137 (1996)).

[15] *See* Cara Bayles, *Sprint Inks $1.2M Deal To End Workers' Wage And Hour Suit*, LAW360 (Oct. 4, 2017), *https://www.law360.com/articles/970869/sprint-inks-1-2m-deal-to-end-workers-wage-and-hour-suit*; David McAfee, *$4.85M Settlement for Sprint Workers Gets First OK*, BLOOMBERG (Feb. 29, 2016), *https://www.bna.com/485m-settlement-sprint-n57982067900/*; *Sprint settles overtime pay suits for $8.8M*, KANSAS CITY BUSINESS JOURNAL (Jan. 15, 2009), *https://www.bizjournals.com/kansascity/stories/2009/01/12/daily40.html*; *See* Erin Marie Daly, *Sprint Call Center Workers Win Back Wages*, LAW360 (May 21, 2009), *https://www.law360.com/texas/articles/102852/sprint-call-center-workers-win-back-wages*.

[16] *See* Economic Policy Institute, "The Productivity-Pay Gap" (updated August 2018), *https://www.epi.org/productivity-pay-gap/*.

[17] *See* Economic Policy Institute, "How Today's Union's Help Working People," (August 24, 2017), *https://www.epi.org/publication/how-todays-unions-help-working-people-giving-workers-the-power-to-improve-their-jobs-and-unrig-the-economy/*.

[18] *See* "Too Much of a Good Thing," THE ECONOMIST, March 26, 2016, *https://www.economist.com/briefing/2016/03/26/too-much-of-a-good-thing*.

[19] *See generally* "Is there a Concentration Problem in America?" Stigler Center for the Study of the Economy and the State, University of Chicago Booth School of Business, *https://promarket.org/wp-content/uploads/2018/04/Is-There-a-Concentration-Problem-in-America.pdf*.

[20] Counsel of Economic Advisors Issue Brief (October 2016), Labor Market Monopsony: Trends, Consequences, and Policy Responses, *https://obamawhitehouse.archives.gov/sites/default/files/page/files/20161025_monopsony_labor_mrkt_cea.pdf*, at 4.

Recently, a number of economists have been measuring the impact that mergers have on wages, particularly as more industries become highly concentrated.[21] Professor Eric Posner of the University of Chicago has observed that "[c]oncentration is far more serious in labor markets than in product markets; wage suppression is much more significant than price inflation."[22]

The antitrust agencies, under both Democratic and Republican leadership, have begun to focus on the problem of labor market power.[23]

Collective bargaining can mitigate this effect.[24] Indeed, the preamble to the National Labor Relations Act recognizes that "protection by law of the right of employees to organize and bargain collectively" may restore "equality of bargaining power between employers and employees."[25] In antitrust terms, collective bargaining can create countervailing power. As I have already discussed, both T-Mobile and Sprint have long histories of violating workers' rights.

The Economic Policy Institute and the Roosevelt Institute did a study of the proposed T-Mobile and Sprint merger in order to see what impact it is likely to have on the wages of retail wireless workers.[26] After the merger, those workers will lose one option that is available to them today about where to work. The results are instructive. According to the authors,

> We find that the merger would reduce earnings in the affected labor markets. Specifically, in the 50 most affected labor markets, we predict that weekly earnings will decline by $63 on average (across markets) using the specification with the largest magnitude, and $10 on average using the smallest magnitude specification. These weekly earnings declines correspond to annual earnings declines of as high as $3,276 (or $520 under the smallest-magnitude specification).[27]

To put this finding in context, it means that the proposed merger could lead to an aggregate annual earnings reduction of between $82.8 million and $543.6 million for the roughly 220,000 retail wireless workers in the United States.[28] This would be nothing other than a transfer of wealth from workers to corporate owners, pure

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[21] *See* Ioana Elena Marinescu and Herbert J. Hovenkamp, Anticompetitive Mergers in Labor Markets (2018), Faculty Scholarship at Penn Law, *https://scholarship.law.upenn.edu/faculty_scholarship/1965* at 9 ("Until recently, imperfect competition in the labor market has not received much attention in antitrust enforcement. One possible reason is the belief that there are many jobs out there, so a merger is unlikely to lead to a monopsony and tosubstantially affect workers' opportunities in the labor market. However, a growing body of empirical evidence indicates that labor market monopsony is a real issue."); *See* also Jose Azar, Ioana Marinescu, and Marshall Steinbaum "Labor Market Concentration," National Bureau of Economic Research Working Paper No. 24147 (December 2017), National Bureau of Economic Research Working Paper No. 24147; Kevin Rinz, "Labor Market Concentration, Earnings Inequality, and Earnings Mobility," CARRA Working Paper No. 2018–10 (2018), *https://www.census.gov/library/working-papers/2018/adrm/carra-wp-2018-10.html*.

[22] *See* Eric A. Posner, "Why the FTC Should Focus on Labor Monopsony," *https://promarket.org/ftc-should-focus-labor-monopsony/*.

[23] The head of the Antitrust Division under former President Obama stated that antitrust enforcement efforts must benefit not only consumers, but "also benefit workers, whose wages won't be driven down by dominant employers with the power to dictate terms of employment." Acting Assistant Attorney General Renata Hesse of the Antitrust Division Delivers Opening Remarks at 2016 Global Antitrust Enforcement Symposium (September 20, 2016), *https://www.justice.gov/opa/speech/acting-assistant-attorney-general-renata-hesse-antitrust-division-delivers-opening*. The current Chair of the Federal Trade Commission has directed FTC staff to include effects on the labor market in their merger investigations. *See* Pallavi Guniganti, "FTC will look at labour monopsony, Hoffman says," Glob. Competition Review, June 8, 2018, *https://globalcompetitionreview.com/article/usa/1170360/ftc-will-look-at-labour-monopsony-hoffman-says*. The current head of the Antitrust Division has increased enforcement efforts directed at so-called "no poaching" agreements among employers. *See* "US: DOJ Antitrust Division announced criminal prosecution for No Poaching agreements," Competition Policy International (Feb. 7, 2018), *https://www.competitionpolicyinternational.com/us-doj-antitrust-division-announced-criminal-prosecution-for-no-poaching-agreements/*.

[24] Efraim Benmelech, Nittai Bergman, Hyunseob Kim, "Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?" National Bureau of Economic Research Working Paper No. 24307 (February 2018), *https://www.nber.org/papers/w24307*.

[25] *See* 29 U.S.C. 151.

[26] "Labor market impact of the proposed Sprint–T-Mobile merger" (December 17, 2018), *https://www.epi.org/files/pdf/159194.pdf*.

[27] *Id.* at 1.

[28] *See* CWA Notice of Ex Parte Meeting, March 1, 2019, *https://ecfsapi.fcc.gov/file/1030225339358/CWA%20Ex%20Parte%20%202-27-19.pdf*, at 4.

and simple. Importantly, these and other researchers have also found that unionization mitigates the earnings-reducing effect of concentration.[29]

I attach a copy of the EPI/Roosevelt Institute study entitled "Labor market impact of the proposed Sprint-T-Mobile merger" to my testimony as Appendix C.

The Merger Would Harm Consumers with Higher Prices. Finally, I want to spend just a small amount of time on how and why the proposed merger would be bad for consumers.

A few years ago, SoftBank (the parent company of Sprint) approached Assistant Attorney General William Baer of the U.S. Department of Justice Antitrust Division and Chairman Tom Wheeler of the Federal Communications Commission about a possible deal with T-Mobile. Both of these officials made it crystal clear to Sprint's owners not to push ahead with it. As Baer and Wheeler put it, "The idea of eliminating a pesky rival may have made sense for Sprint. But not for the American consumer." Sprint reluctantly ditched the idea.[30]

Sprint and T-Mobile are each other's closest competitors. Their prepaid brands, in particular, compete aggressively for lower-income customers and persons of color in large, urban U.S. markets.[31]

While these companies trumpet the alleged benefits of this merger for rural America, data in their own FCC filings show the contrary. Even six years after a T-Mobile/Sprint merger, 46 million Americans—which include most of the merged company's rural customers—would not receive the benefits of its next-generation 5G network. Rather, they would be forced to settle for a service that has significantly lower performance than the urban and suburban parts of the network. The "digital divide" between urban and rural America is likely to get worse, not better.[32]

I attach a copy of the Declaration of Dr. Andrew Afflerbach analyzing the impact of the proposed T-Mobile/Sprint merger on rural America to my testimony as Appendix D.

Last time I checked, the antitrust laws and the requirements under the Communications Act have not changed. Congress has not repealed them. And keep in mind, the antitrust laws are laws, they are not just recommendations or suggestions. A merger that was presumptively unlawful in 2015 or 2016 is presumptively unlawful today.

Our economy is at a crossroads. We as a Nation must decide whether we will permit the inexorable drive towards corporate consolidation and concentrated power at the expense of employees, customers, communities, and our economy.

This bad deal is not saved by 5G, 6G or 7G. It is not saved because the next technological development is on the horizon. It is not saved by speculating about competition with cable companies.

This deal, if it goes ahead, will destroy 30,000 American jobs and hurt consumers. The harms are real. The alleged benefits are pure sales talk. This merger would kill American jobs and raise prices for consumers to benefit two foreign companies, Deutsche Telekom from Germany and SoftBank from Japan.

Thank you for giving me the opportunity to testify.

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[29] Efraim Benmelech, Nittai Bergman, Hyunseob Kim, "Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?" National Bureau of Economic Research Working Paper No. 24307 (February 2018), *https://www.nber.org/papers/w24307*.

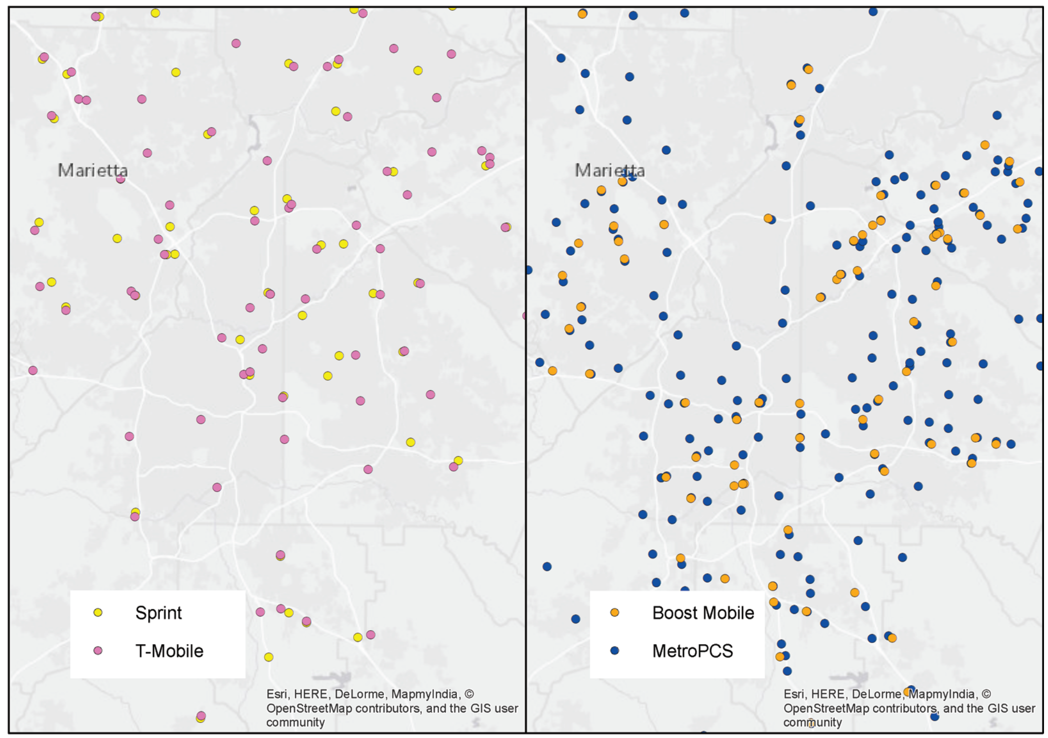
[30] Bill Baer and Tom Wheeler, "Here's who loses big time if Sprint and T-Mobile are allowed to merge," CNBC (May 19, 2017), *https://www.cnbc.com/2017/05/19/heres-who-loses-big-time-if-sprint-and-t-mobile-are-allowed-to-merge-commentary.html*.

[31] *See* Reply to Opposition by Free Press (October 31, 2018), at 2, 14–18, *https://www.freepress.net/sites/default/files/2018-11/redacted_mobile_sprint_reply_comments_free_press.pdf*.

[32] CWA Comments at 47–52 and Appendix A: Declaration of Andrew Afflerbach, Ph.D., P.E. ("[B]ased on my review of the information presented in the Applicant's [Public Interest] Statement, the merged New T-Mobile would only provide marginally better broadband options than stand-alone T-Mobile in much of rural America.").

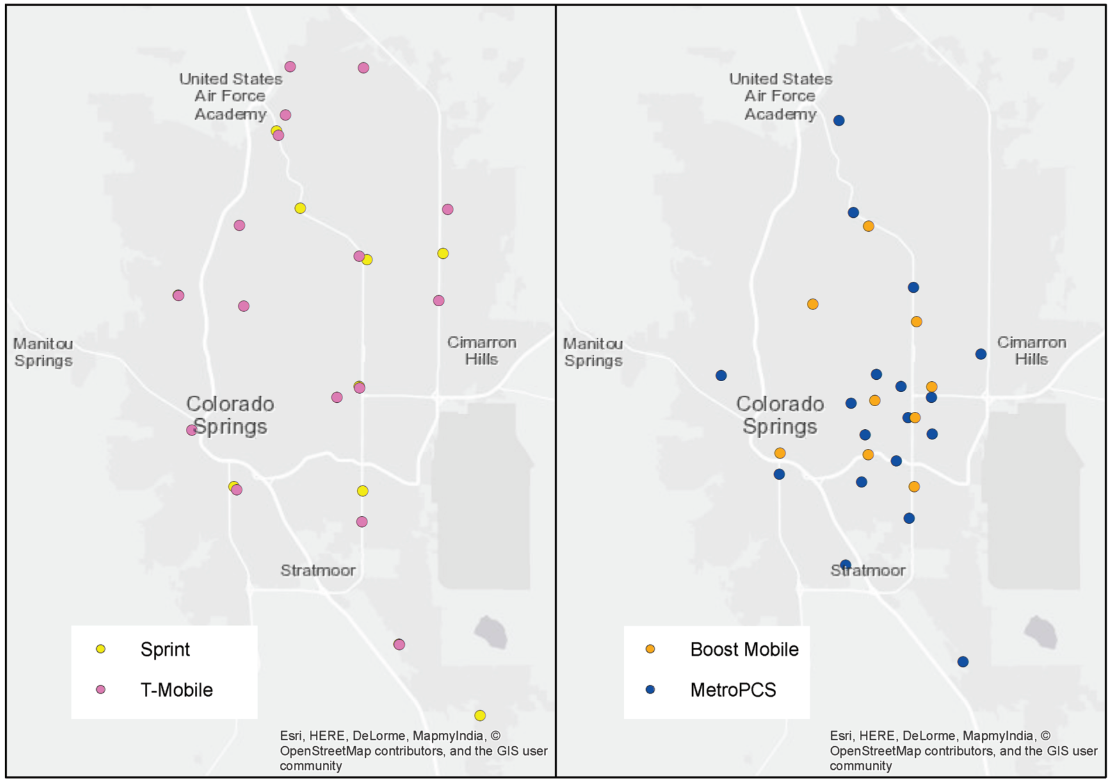
Appendix A

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Atlanta, GA



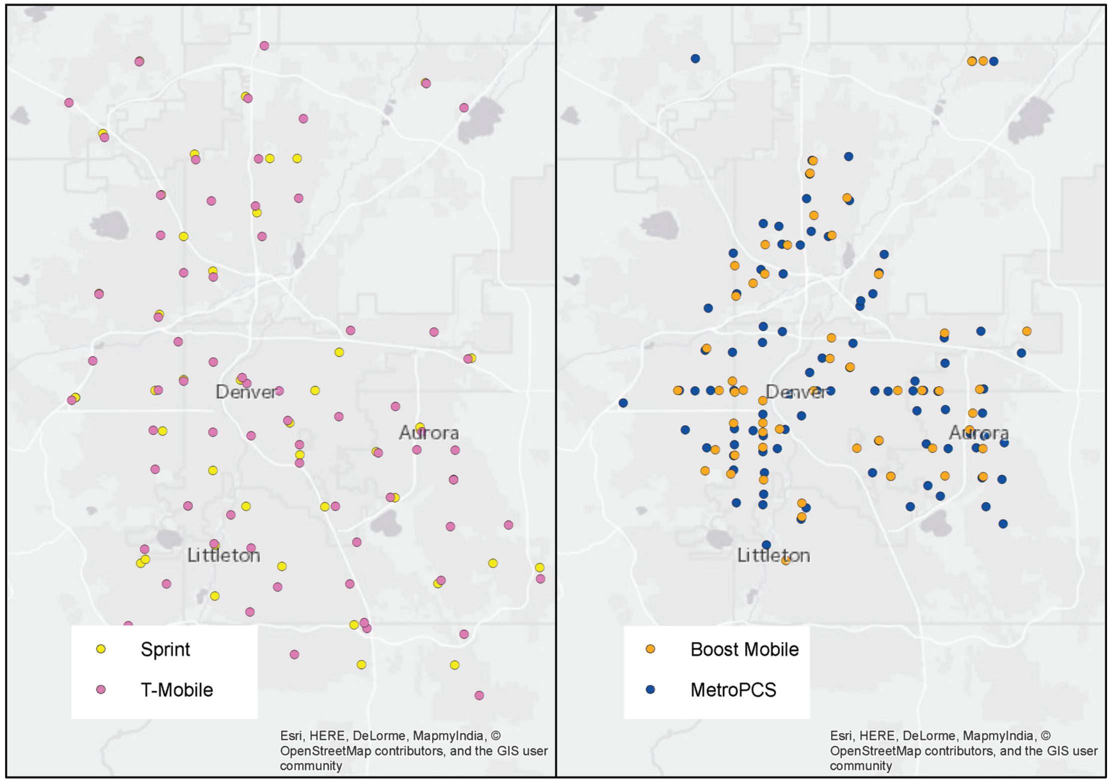
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Colorado Springs



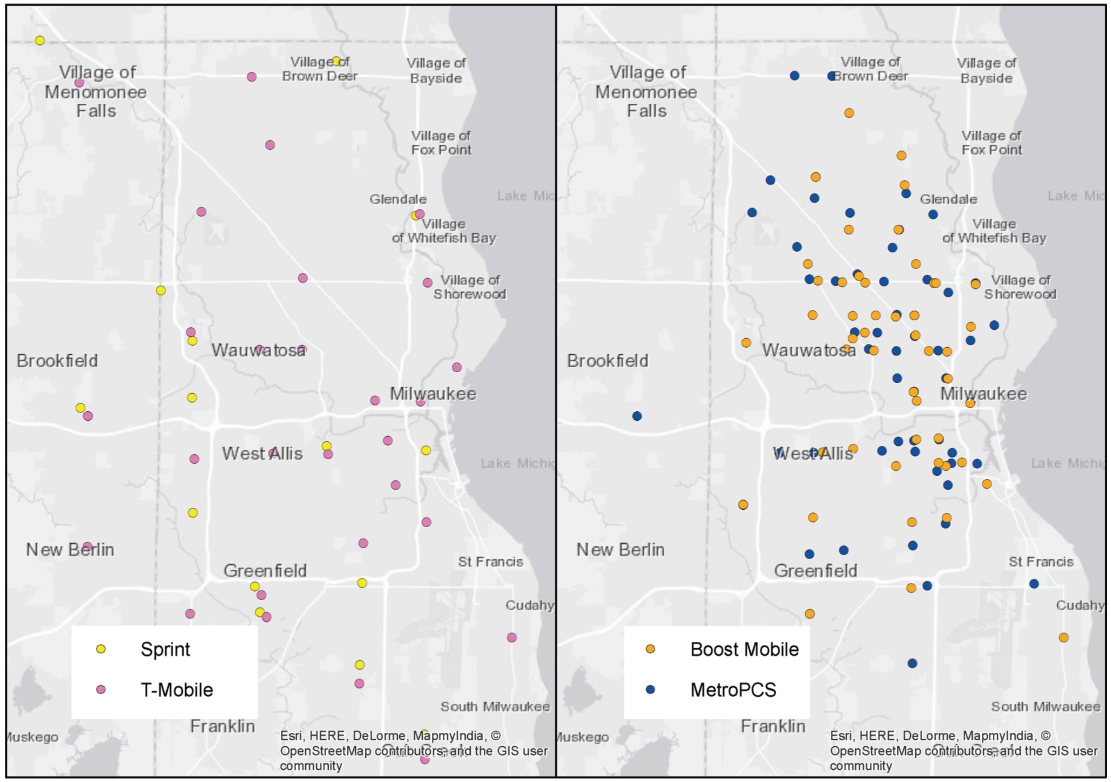
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Denver, CO



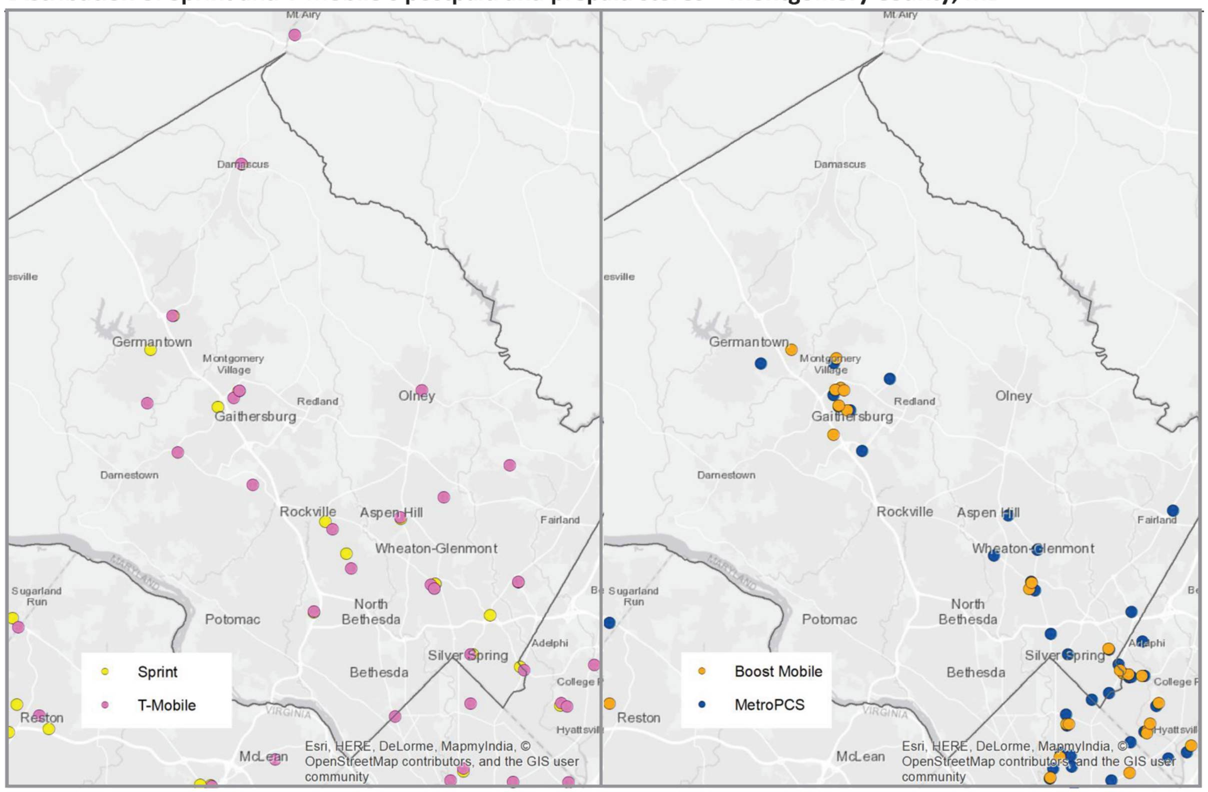
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Milwaukee, WI



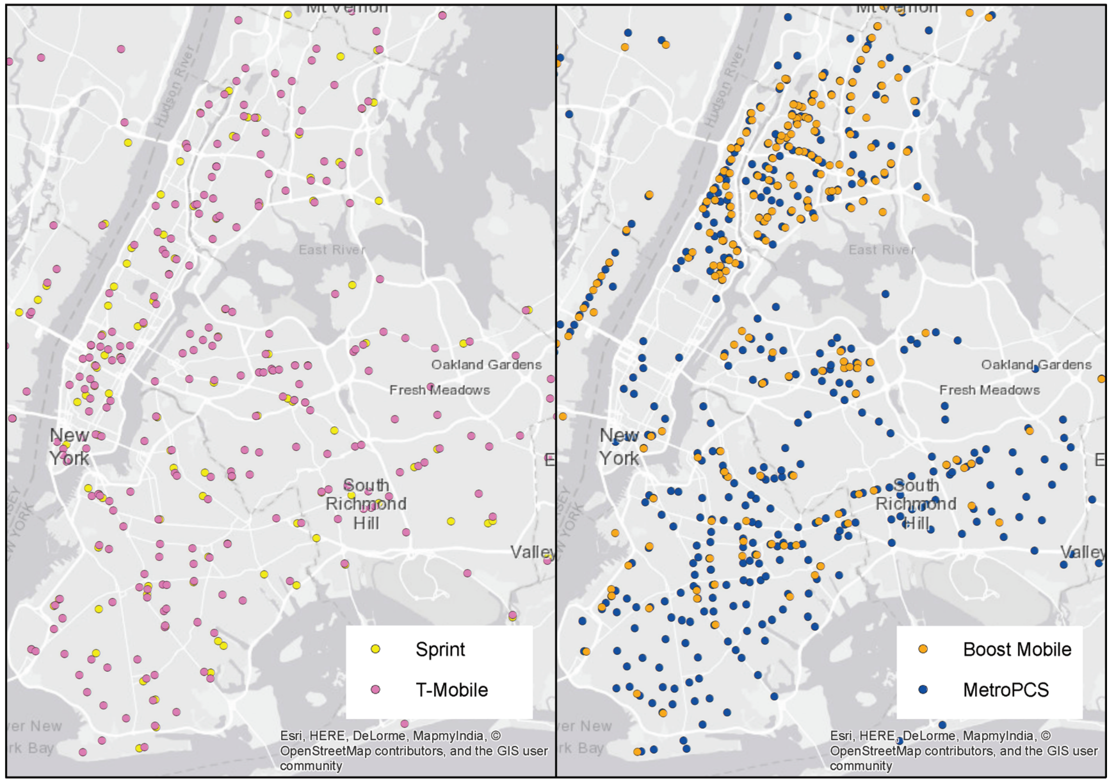
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores – Montgomery County, MD



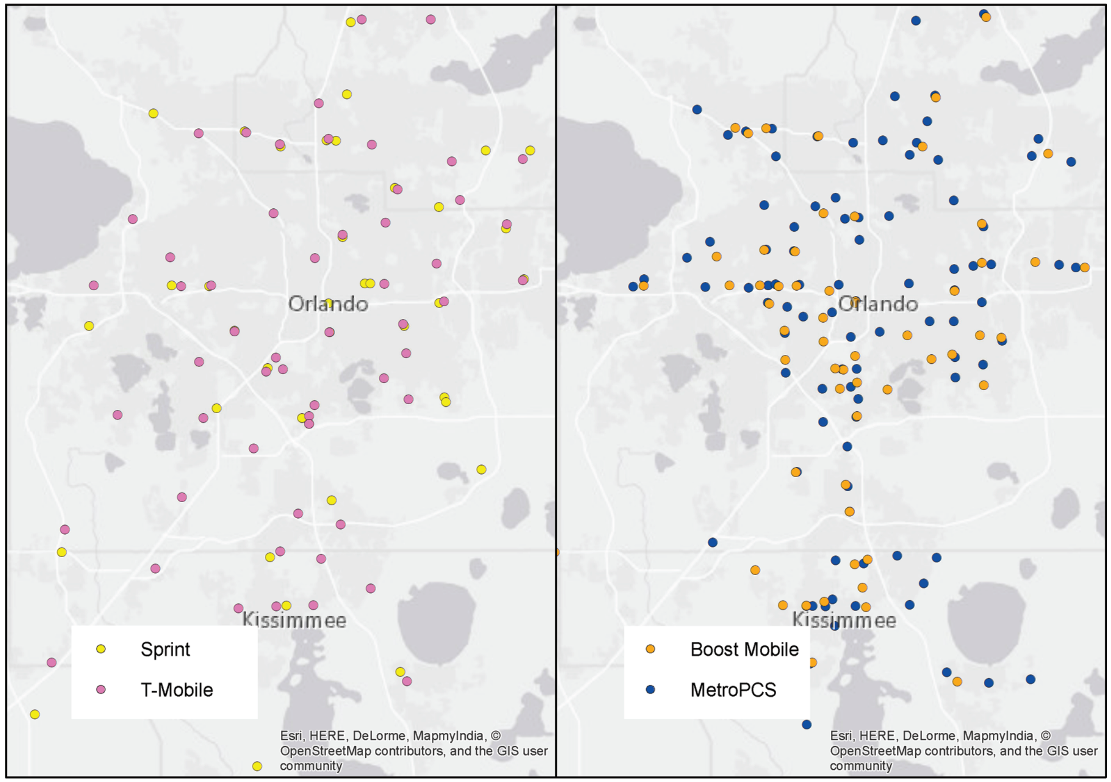
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - New York City



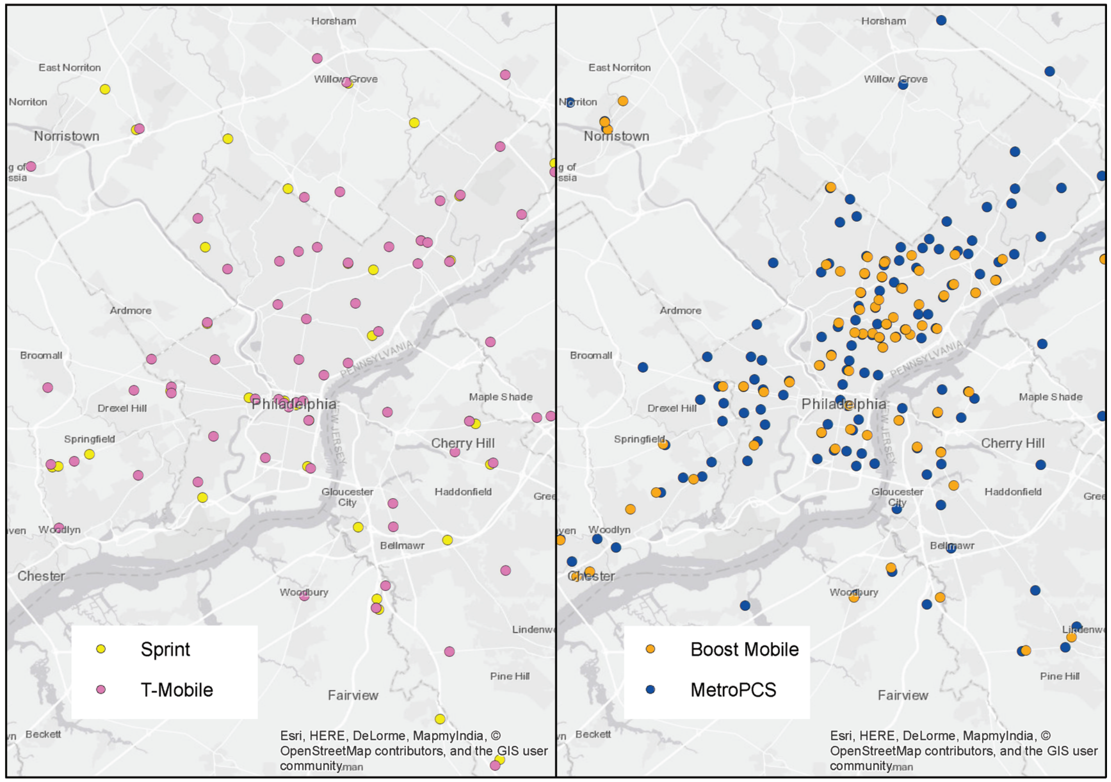
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Orlando, FL



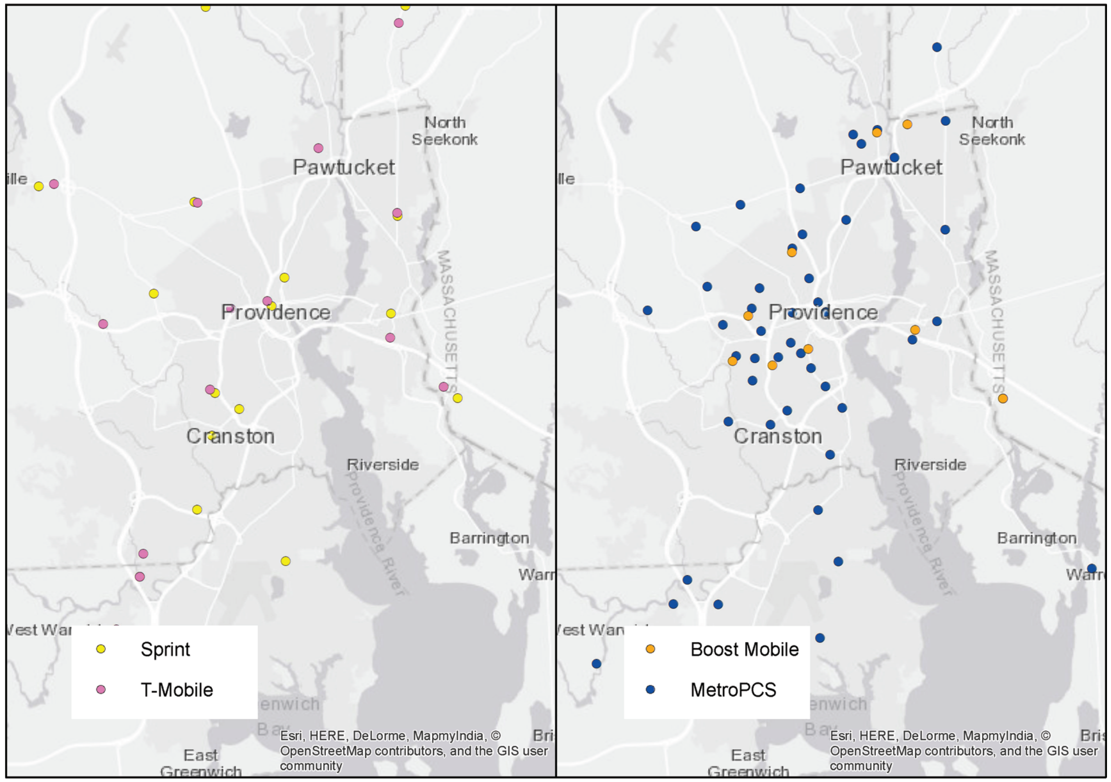
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Philadelphia



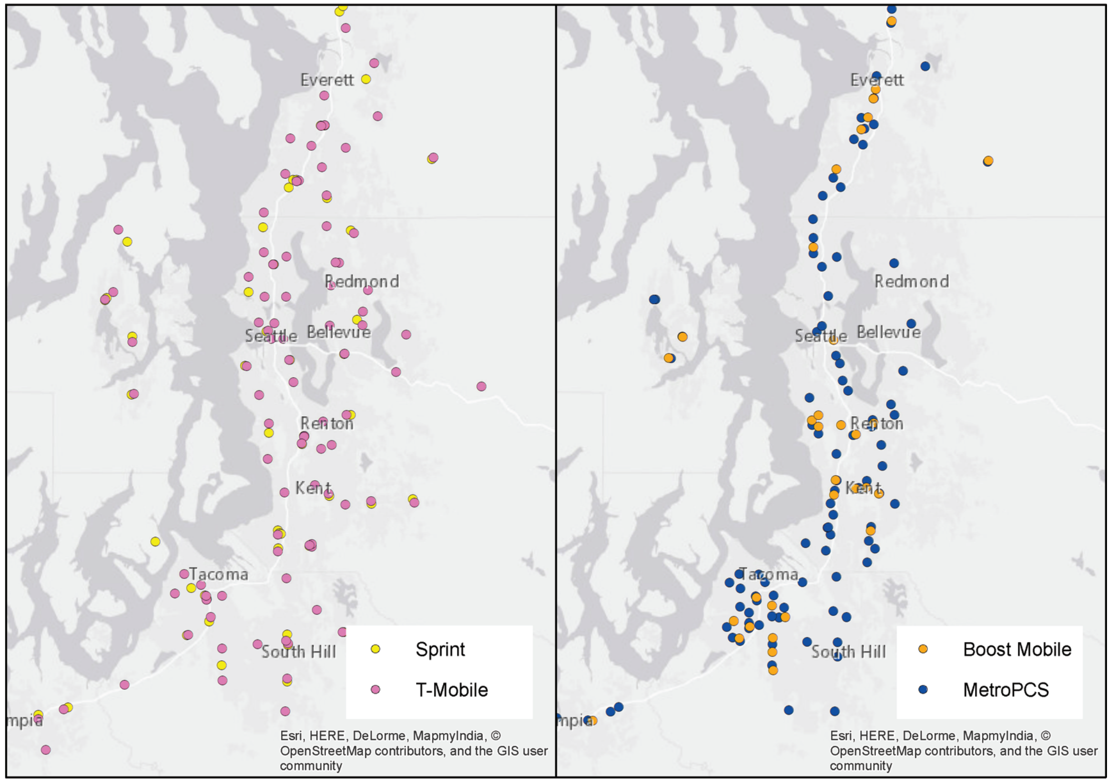
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Providence, RI



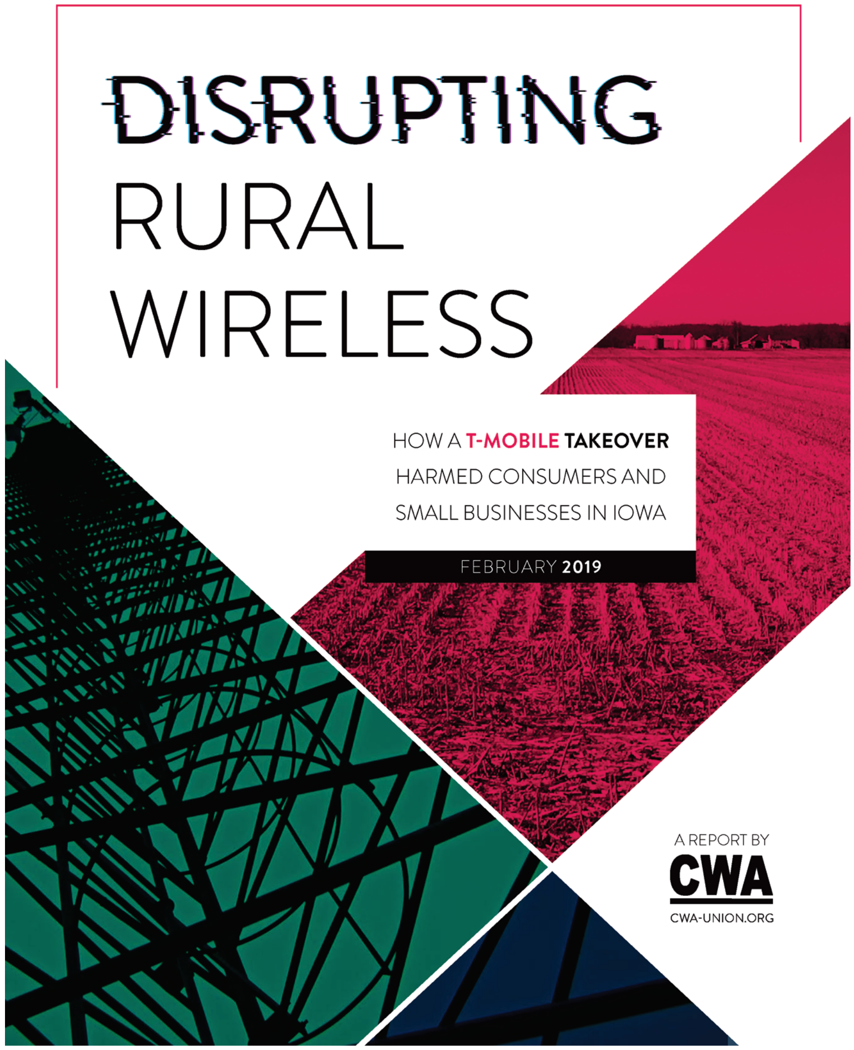
Source: Data retrieved from each company's websites in April and May 2018.

Distribution of Sprint and T-Mobile's postpaid and prepaid stores - Seattle, WA



Source: Data retrieved from each company's websites in April and May 2018.

Appendix B


DISRUPTING
RURAL
WIRELESS
HOW A T-MOBILE TAKEOVER
HARMED CONSUMERS AND
SMALL BUSINESSES IN IOWA
FEBRUARY 2019
A REPORT BY
CWA
CWA-UNION.ORG

Executive Summary

IN JANUARY 2018, T-MOBILE ACQUIRED IOWA Wireless Services (iWireless), a regional carrier that provided postpaid and prepaid wireless service to approximately 75,000 customers in Iowa, western Illinois, and eastern Nebraska.[1] Prior to the acquisition, iWireless had one of the largest retail footprints of any wireless carrier in Iowa, with 129 corporate and authorized dealer locations.[2] iWireless was notable for its rural presence and for its affordable and flexible prepaid plans. Following the acquisition, T-Mobile retired the iWireless brand and discontinued the iWireless network in October 2018.[3] T-Mobile also closed iWireless' two customer service call centers and 86 percent of iWireless' retail locations.[4]

Understanding T-Mobile's takeover of iWireless is especially important given its proposed merger with Sprint. T-Mobile and Sprint claim the proposed merger will benefit rural communities and argue that this is a key reason for regulators to approve the deal.[5] In this context, the iWireless case provides a recent natural experiment that demonstrates T-Mobile's strategy with regard to rural business partners and customers. CWA conducted an in-depth analysis of the iWireless acquisition, including interviews with people who experienced its effects directly. Our conclusion is that T-Mobile's takeover of iWireless had negative effects on small businesses and wireless customers, especially those in rural areas and small towns.

Our analysis found adverse effects for the following key groups of stakeholders:

Rural customers: T-Mobile's decision to close most of iWireless' retail locations impacted rural customers the most. iWireless' rural retail locations provided convenient access to sales and basic technical support to customers who would otherwise have to drive long distances to the nearest wireless store. Physical retail is important in the wireless industry where, as of 2017, close to 90 percent of mobile phones were purchased at brick and mortar stores.[6] Prior to the acquisition, iWireless operated approximately 38 percent of all wireless retail locations in Iowa's FCC Rural Service Areas (RSAs) and 67 percent of locations in places with a population of fewer than 2,500 residents.[7] Despite having a year to prepare for the transition, T-Mobile has yet to open a single T-Mobile-branded store outside of Iowa's urban areas.[8]

Prepaid customers: T-Mobile prioritized the retention of postpaid over prepaid customers. As part of the transition, T-Mobile did not provide any incentives to iWireless' prepaid customers to become T-Mobile or Metro customers.[9] T-Mobile projected that it would retain only 17,000 out of 75,000 iWireless customers, of whom 4,000 would be prepaid.[10] The small number of prepaid subscribers is notable given that several dealers interviewed by CWA reported that prepaid customers made up the majority of their customers.[11] One dealer reported that they were instructed to share information about the transition with postpaid customers only.[12] iWireless' prepaid plans were more flexible than those offered by other prepaid carriers because they allowed customers to purchase plans at 3-, 7-, 15- and 30-day intervals.[13] In contrast, Metro by T-Mobile only offers 30-day prepaid plans.[14]

Small business owners: T-Mobile closed 90 percent of all iWireless locations operated by authorized dealers, who were generally small business owners or local telephone operators.[15] Some of the authorized dealers contacted by CWA reported that they had just a few days' notice before they had to cease sales and surrender their iWireless inventory.[16] Some authorized dealers from rural areas reported that they received no support or compensation for helping iWireless customers transition to T-Mobile services. In one case, T-Mobile representatives asked a former dealer whose store was over 130 miles from the closest T-Mobile store to help some of his customers that transitioned to T-Mobile, which he did without compensation.[17] Most of the iWireless authorized dealers contacted by CWA reported that they would have wanted to remain as a T-Mobile or Metro authorized dealer after the transaction, but T-Mobile did not give them the opportunity to do so.[18]

Postpaid customers: iWireless' postpaid service plans were less expensive and higher quality than T-Mobile's plans. iWireless' least expensive unlimited plan for a single line was approximately 23 percent less expensive than T-Mobile's ONE plans.[19] Unlike T-Mobile, iWireless' unlimited plans did not throttle high-speed data or limit video streaming quality.[20]

As a natural experiment, the iWireless case study suggests that T-Mobile's rhetoric about its commitment to rural communities is in direct contradiction with its handling of the iWireless acquisition.

[T-Mobile] left us out in the cold. I don't like that, I don't like it for myself, and I don't like it for my customers, because they matter. When you rip the carpet out from underneath them and they're freefalling, that's not cool. That's just not the way you do it. They could have just closed one door and immediately opened another one and say, 'Here is T-Mobile now. You're covered just like you would be with iWireless.'

SHELIA HALL
Former iWireless authorized dealer from Iowa Falls.[21]

iWireless Background

iWireless' predecessor was formed in 1997 as a joint venture between Western Wireless Corp. and Iowa Network Services (INS) Inc. to expand wireless personal communications services throughout Iowa.[22] Iowa Network Services was a consortium of 128 independent telephone companies that eventually became part of the INS Family of Companies, a business services company that rebranded itself as Aureon in 2016.[23]

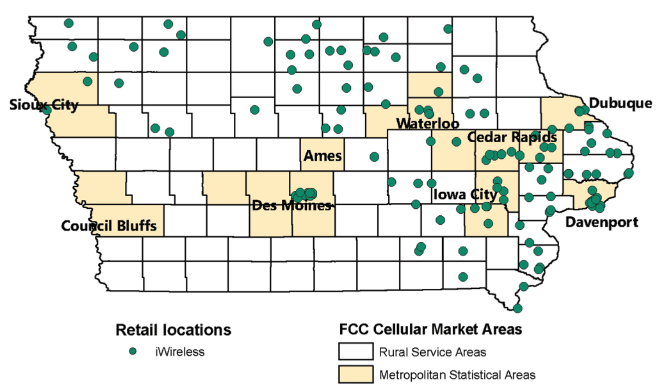
iWireless service was initially marketed under Western Wireless' VoiceStream brand, which Deutsche Telecom acquired and rebranded as T-Mobile in 2001.[24] Due to the partnership with INS, Deutsche Telecom and INS rebranded VoiceStream Iowa as Iowa Wireless.[25] As part of the partnership, T-Mobile provided service to iWireless customers who roamed outside of iWireless' network and iWireless provided service to T-Mobile customers in Iowa.[26] T-Mobile announced the iWireless acquisition in September 2017 and completed the acquisition in January 2018.[27] Prior to the transaction, T-Mobile held a 54 percent equity interest in iWireless that gave it "significant influence, but not control" over the smaller company. iWireless operated as an independent affiliate with its own services and features that were distinct from those offered by T-Mobile.[28] Following the transaction, T-Mobile recorded the value of iWireless' assets at $106 million.[29]

iWireless in rural Iowa

Prior to its integration with T-Mobile, iWireless had a strong retail presence in rural communities in the eastern and northern parts of the state. At the time of the transaction, iWireless operated approximately 38 percent of wireless retail locations in Iowa's FCC Rural Service Areas (RSAs), the most of any wireless carrier. In contrast to other carriers, whose rural stores are predominantly located in larger rural towns, iWireless operated two-thirds of wireless retail locations in places with a population of fewer than 2,500 residents.[30]

FIGURE 1

Map of **iWireless locations** as of October 2017.[31]

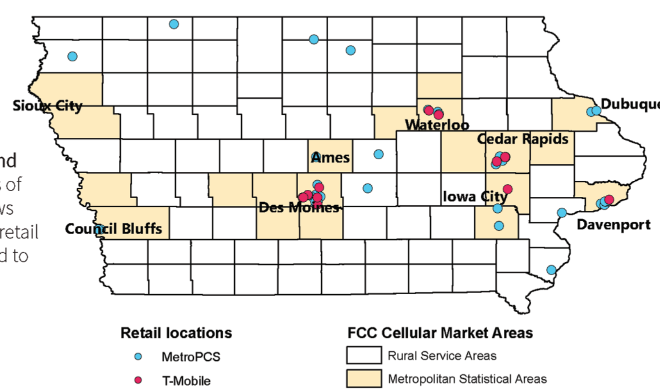


iWireless authorized dealers began shutting down in late 2017, prior to the completion of T-Mobile's acquisition.[32] After the transaction, approximately 27 dealers remained open until August 2018, when all iWireless locations and authorized dealers ceased operations.[33] Of the 129 iWireless retail locations at the time of the transaction, T-Mobile converted 18 stores to its retail brands (6 T-Mobile and 12 Metro) and closed 111 locations, approximately 86 percent of former stores and authorized dealers.[34] In addition to the retail location closures, T-Mobile also closed iWireless' call centers in Des Moines and Cedar Rapids on September 30, 2018 and laid off at least 27 workers.[35]

Despite having a year to prepare for the transition, T-Mobile's network of T-Mobile and Metro-branded stores is only about half the size of iWireless' retail footprint prior to the transaction. As of January 2019, T-Mobile operated 50 stores and authorized dealers, 12 T-Mobile stores and 38 Metro stores in Iowa.[36] Unlike iWireless, T-Mobile's retail operations are concentrated almost exclusively in the state's urban areas. As of January 2019, there are no T-Mobile-branded stores in Rural Service Areas and only eight of Metro's 38 stores are located in RSAs. As of January 2019, there are an estimated 550,000 Iowans living in RSA counties that were previously served by at least one iWireless location and now have zero T-Mobile or Metro stores.[37] On average, former iWireless locations in rural areas are approximately 30 miles or a 36-minute drive from the closest Metro store, and 64 miles or a 68-minute drive from the closest T-Mobile store.[38] Approximately one-third, 32 percent, of former iWireless locations in rural areas are more than 75 miles, nearly a two-hour drive from the closest T-Mobile store.[39]

FIGURE 2

Map of **T-Mobile and Metro locations** as of January 2019 shows T-Mobile's smaller retail footprint compared to iWireless.



Impact of T-Mobile's acquisition of iWireless

Rural Customers

T-Mobile's decision to terminate most of iWireless' authorized dealers left many communities without convenient access to wireless stores where customers could purchase or upgrade devices, seek advice on service plans, and get basic technical support. Despite the growth of e-commerce and online shopping, brick and mortar retail continues to play an important role in wireless, with U.S. consumers purchasing nearly 90 percent of mobile phones at physical stores in 2017.[40] Physical retail is especially important to elderly citizens, who generally prefer to purchase items in-store rather than online, and to low-income customers, who generally have a higher propensity to shop in-store compared to higher-income consumers.[41] The residents of rural counties tend to be older and poorer than in urban counties, making physical stores an important element of rural access to wireless telephone and internet services.[42]

Prior to the transaction, iWireless had stores in 48 different rural communities across Iowa where no other wireless carrier had a retail location.[43] While residents of some of those communities may be able to purchase wireless services from big-box retailers such as Walmart, the closure of those iWireless authorized dealers left a void that big-box retailers cannot fill. Local dealers provide more personal and higher-quality service than big-box re-sellers.[44] The importance of carrier stores over big-box stores was acknowledged by Sprint's former chief service officer, Bob Johnson: "When customers really want hands-on, quality service, they're going to look for the Sprint shingle."[45]

Sarah Crock, a former iWireless authorized dealer from Tipton, a rural community of about 3,200 residents in eastern Iowa, exemplifies the value that local authorized dealers provided to rural communities.[46] Ms. Crock ran her iWireless dealership out of the office where she and her husband operate an insurance agency and a real estate agency. Ms. Crock stated that although iWireless was not a significant source of revenue for her business, her iWireless dealership was "much-needed" in the community.

According to Ms. Crock, her clients were very upset over the loss of iWireless. Once she stopped selling iWireless services, the only choice for customers that did not want to travel out of town was Walmart. "Some of [my former customers] that I've talked to have been forced get smartphones at Walmart, where they have no customer service locally. There's no way to go in and get help with the phone or nothing. That's forced [my former customers] to drive out of town to wherever to take up a different company."[47] The closest T-Mobile store to Tipton is located in Iowa City, about 32 miles away.[48]

Ms. Crock also reported that there are group homes in Tipton that support adults with developmental disabilities and the transition was "a nightmare" for some of them, due to lack of transportation. Ms. Crock stated that after she stopped selling iWireless services, some of her former customers from the group homes were unable to go to other wireless retail locations because they didn't have transportation. "It's things like that that made somebody local so vital for people with disabilities that needed something right here," Ms. Crock added.

TIPTON, IA

Heath Heimer, a former iWireless authorized dealer from Garner, told CWA about the value that local authorized dealerships like his provided: "a lot of people don't like the fact that they have to drive out of town to get support or help. They like the small local guys like me, where they knew me, and they knew who they were dealing with, and what type of service they were going to get. So, me being independent and self-employed, you kind of care more than when you're working for somebody else and I always kind of helped them out and made sure they were treated well."[49] Mr. Heimer used to operate his iWireless dealership out of his computer repair shop in Garner, a rural community with about 3,000 residents located in northern Iowa.[50]

Rural customers transitioning to T-Mobile

T-Mobile's decision not to re-open stores in rural areas was especially challenging for former iWireless customers that transitioned to T-Mobile's postpaid services. To incentivize iWireless postpaid customers to sign up for T-Mobile's postpaid services, the company offered 20 percent off its T-Mobile ONE plans and equipment installment plan balance forgiveness for customers that ported their accounts to T-Mobile.[51] In order to take advantage of the offer, customers had to go to a store or call a toll-free number.[52] However, going to a physical store was impractical for most rural customers as there are no T-Mobile-branded stores outside the state's urban areas. The average distance between former rural iWireless locations and T-Mobile-branded stores is approximately 64 miles or a 68-minute drive, though some locations are over 100 miles from the nearest T-Mobile store.[53]

Jason Chase, a former iWireless authorized dealer and mayor of Rock Rapids, a rural community in northwest Iowa, told CWA that the lack of local stores forced many of his former iWireless customers to come to him for help with switching to T-Mobile service. "You're handing an older person a piece of paper and telling them to call a number and order a new SIM card to put in a phone. They don't even know what a SIM card is. They don't know how to take the battery off," stated Mr. Chase. "So the fact that they think that those customers could handle it was not cool, especially when there was no [local] store for support."[54]

The closest T-Mobile-branded store to Rock Rapids is located in Mankato, Minnesota, approximately 137 miles from Rock Rapids; the closest T-Mobile store in Iowa is located in the Des Moines area, approximately 250 miles from Rock Rapids.[55] Mr. Chase contacted T-Mobile to inquire about becoming a dealer and told the company about his concerns regarding the lack of local stores. "The best they can say is they're opening stores in the Cedar Rapids and Des Moines areas. When we expressed our concern with that, being that it's five hours each way to get to a store, they didn't have an answer for us," said Mr. Chase.[56]

Mr. Chase also told CWA that due to the lack of local stores, T-Mobile representatives asked him to help some of his former iWireless customers with SIM card installation or setting up phones. "There was no [local] store for support. After we were no longer an [iWireless] agent, T-Mobile actually sent customers in to have us help them put SIM cards in or get things set up. When I talked to them, they said 'Would you do this?' and I'm like, 'I'll do it because it's my customer, but I'm not happy that you're asking me to do it, when you wouldn't ask us to be an agent location,'" stated Mr. Chase. "We did help our customers because that's what you do in a small town, but it's just really frustrating that you're helping them, but not getting any reimbursement on it."[57] Like Mr. Chase, other former iWireless authorized dealers from rural areas also reported that they helped some of their iWireless customers transition to T-Mobile without any compensation from the carrier.[58]

Customers with technical issues that were more complicated than switching a SIM card or setting up a phone had no option but to drive the long distances to go to a T-Mobile store. Shelia Hall, a former iWireless authorized dealer from Iowa Falls, switched her personal and business phone lines to T-Mobile. Ms. Hall told CWA that her husband's phone started calling and texting random numbers after switching from iWireless to T-Mobile service; the phone's double-SIM feature also stopped working after they switched their service. Ms. Hall, who reported "loving" iWireless services before the transaction, said that she twice made the 100-mile round-trip to Waterloo to get customer support at a T-Mobile store.[59]

Prepaid customers

The loss of iWireless had a disproportionate impact on prepaid customers. iWireless' prepaid plans offered flexibility not offered by other prepaid carriers. Most notably, iWireless allowed prepaid customers to buy service at 3-, 7-, 15- and 30-day intervals, which provided flexibility to low-income customers who may not have been able to afford to purchase service at 30-day intervals. As of January 2019, none of the major carriers in Iowa make this option available to customers.[60]

"They could get three days, they could get seven days, they could choose how many days they wanted to pay for," stated a store manager at a former iWireless authorized dealer in Muscatine.

"They didn't have to pay for 30 days or a certain amount of minutes. Most places require you to do a 30-day on prepaid. iWireless didn't. And a lot of our customers who live paycheck to paycheck, even though it costs them more to go weekly or biweekly, that's how they had to make it work, and that's what they really enjoyed about the service that they were getting from us."[61]

Kyari Shipp, a store manager at a former iWireless authorized dealer in Waterloo that now sells Boost Mobile products, expressed a similar sentiment. "A lot of our customers didn't have very much money," said Ms. Shipp. "Even now that we don't carry iWireless, and we haven't carried them for almost six months, people still come in and they're like, 'I want to put a couple days on my phone.' And I can't do that anymore for them."[62]

In addition to less choice, consolidation of T-Mobile's and Sprint's prepaid brands could impact prepaid consumers more broadly. Christopher Shumaker, a former iWireless authorized dealer who currently runs a Boost Mobile authorized dealer out of his pawnshop in Davenport, told CWA that he believes consolidation in the prepaid market could reduce the pressure on prepaid carriers to offer port-in specials, which allow customers to get equipment at discounted prices or get other perks. According to Mr. Shumaker, "all three of the majors are doing those specials. If three of them become two, now there's less competition, there's less requirement for them to run those sorts of specials."

Mr. Shumaker added that he thinks consumers will probably see a pretty significant increase in the cost of purchasing new phones if those port-in promotions dry up.[63]

T-Mobile's handling of the iWireless acquisition suggests that T-Mobile prioritized the retention of postpaid customers over prepaid customers. T-Mobile did not offer any special incentives for prepaid subscribers to switch to Metro or T-Mobile's prepaid plans.[64] Moreover, multiple iWireless authorized dealers expressed frustration with T-Mobile's lack of support and communication to iWireless' prepaid customers during the transition. "It was really hard for me to communicate to the customer what they were supposed to be doing, or how I could help them. At many times, it was really frustrating for me to the point I wanted to quit my job," said Ms. Shipp. "It was just customers yelling at me, and I didn't have any answers for them because T-Mobile or iWireless, neither one of them had provided me with the answers."[65]

The employee at the authorized dealer in Muscatine told CWA that while they did receive some flyers to pass to customers, their iWireless agent instructed them to share them with their postpaid customers only.[66] "Our representative had told us over the phone that the flyers were only to go to postpaid customers, and only them. We weren't to give the information to prepaid customers," said the employee.[67]

T-Mobile's filings with the Security and Exchange Commission suggest that the company only expected to retain about 22 percent of iWireless customers, 13,000 postpaid and 4,000 prepaid.[68]

Although neither T-Mobile nor iWireless previously disclosed the number of iWireless' prepaid subscribers, most of the authorized dealers contacted by CWA reported that prepaid made the majority of their clients.[69] In general, postpaid customers are more valuable to wireless carriers because they have higher levels of usage, higher data usage and lower attrition rates, which all lead to higher levels of average revenue per user.[70]

Small business owners

T-Mobile closed 90 percent of iWireless' authorized dealer stores.[71] iWireless and T-Mobile started closing authorized dealers in late 2017, weeks before T-Mobile completed the transaction.[72] Authorized dealers that remained in business after the start of 2018 could only sell prepaid time or equipment that they had prior to the acquisition.[73] In late June 2018, the remaining authorized dealers received a 60-day termination notice from T-Mobile notifying them of their closure on August 24.

T-Mobile has previously dismissed the impact that losing iWireless had on authorized dealers because the majority of the dealers that it terminated in August 2018 remained in business as independent retailers following the acquisition.[74] However, T-Mobile's claims hide the true impact on former iWireless authorized dealers, as the majority of iWireless dealers closed at the end of 2017 and early 2018.[75] The company's statements also dismiss the fact that the loss of their iWireless dealerships forced some of those independent businesses that remained open to lay off workers.[76]

"I think it was the worst transition I've ever been a part of. There was no support on the side that built the business. The agent locations are what grew Iowa Wireless to where it was. I realize in order for it to grow, and T-Mobile would have been a good partner, but there was no thought put into maintaining the distribution channel that was there. They were just buying it solely for the footprint and really felt that they didn't have any cares for [iWireless'] distribution network."

JASON CHASE
Former iWireless authorized dealer and mayor of Rock Rapids

The entire time I was still reaching out, trying to find answers, trying to figure out what the transition was going to look like; how do we become Metro? How do we stay in business? How do we maintain our customer base? My Moline location had been open for four years. I've been an iWireless dealer [at the Davenport location] for seven years. And so, we've got a customer base built up that we want to maintain. We want to take care of our customers as best we can. In the meantime, they're not telling us anything. Finally, in June, I closed the location in Moline, just had to shutter it; just wasn't making money anymore, and it was just too uncertain. My lease was also expiring and before I was willing to sign a new lease on that location or another location. I needed some reassurances; they had none to offer.

CHRISTOPHER SHUMAKER
Former owner of authorized dealers in Davenport, IA, and Moline, IL[78]

"iWireless was an important revenue stream for my small business," reported Mr. Heimer, who used to run his iWireless dealership out of his computer repair shop. "Direct sales from iWireless products and phone accessories, along with the foot traffic generated from iWireless customers accounted for about half of my business' revenue. Losing iWireless business forced me to lay off an employee, reduce the hours that I worked at my business to part-time, and get a second job. On top of the lost revenue, I was also left with hundreds of dollars of phone accessories that I cannot sell."

All of the iWireless dealers interviewed by CWA complained about the lack of communication and support from T-Mobile during the transition. Multiple dealers reported that they asked T-Mobile for information about becoming a Metro or T-Mobile dealer, but they never heard back from the company, or were told they would hear back from the company at some future, unspecified date. In some cases, rather than asking former iWireless dealers to become Metro or T-Mobile dealers, T-Mobile opened up new stores within close proximity to former iWireless authorized dealers.[77]

Kyari Shipp, store manager at Stratus Communications, a former iWireless dealer in Waterloo, told CWA that prior to the transaction, her location was one of the best-performing iWireless retailers in their region and at one point employed about five workers. Ms. Shipp said they first found out about T-Mobile's acquisition of iWireless in December 2017.

"We're closing the doors to our store. **That's the bottom line.** We can't afford to be open anymore without iWireless."

KYARI SHIPP

Store manager at a former iWireless authorized dealer in Waterloo

Ms. Shipp said "Our [iWireless] representative told us nothing will probably happen, you will probably become a Metro PCS store. So we kind of felt like it really wouldn't affect us very much. And then, we didn't hear anything else about it until June or July," when T-Mobile notified them of the iWireless termination at the end of August. Ms. Shipp told CWA that Stratus Communications applied to become a Metro authorized dealer but the company never responded.

In 2018, Stratus Communications became a Boost Mobile dealer to remain in business after losing the iWireless authorized dealer, but has not been as successful as when they offered iWireless and plans to close at the end of January. "We're closing the doors to our store. That's the bottom line. We can't afford to be open anymore without iWireless," stated Ms. Shipp.[79] T-Mobile eventually opened a Metro store three blocks from the Stratus Communications store.[80]

Christopher Shumaker contacted T-Mobile multiple times because he wanted to convert his Moline store to a Metro or T-Mobile dealer, but his inquiries went unanswered. "After spending the better part of two or three months towards the end reaching out to our iWireless representative, trying to figure out if we could become Metro PCS dealers and, potentially, even T-Mobile dealers, we got no word back and finally had to decide just to close the business. After I closed the business, within 60 days, maybe 75 days, suddenly there was a Metro PCS location that popped up in the exact same location as the store that I had just closed."[81] Mr. Shumaker was forced to lay off one employee and transfer another employee to his pawnshop in Davenport.

Postpaid customers

By shutting down iWireless, T-Mobile eliminated a carrier whose products and services were distinct and, for the lowest-cost plans, more competitively priced than those offered by T-Mobile. This impacted not only iWireless customers who may have been forced to sign up for plans that were either more expensive or provided fewer features than their iWireless plans, but also Iowa consumers in general, as they no longer have the option to purchase iWireless services.

Since at least March 2016, iWireless ran promotional pricing in most months on its unlimited plans, and customers could typically get single-line unlimited plans for $50 per month.[82] Consumers in Iowa no longer have the option of signing up for iWireless' less expensive plans, which were 23 percent cheaper and operated on the same network as T-Mobile.[83] Unlike T-Mobile's plans, iWireless' unlimited plans did not throttle data or limit video streaming quality.[84]

As part of the takeover, T-Mobile did not allow customers to be grandfathered into their iWireless plans. iWireless customers that wanted to continue service had to sign up for T-Mobile or Metro service by October 1, 2018. To incentivize customers to switch, T-Mobile offered iWireless customers 20 percent off T-Mobile One plans and equipment installment plan balance forgiveness.[86] T-Mobile only made those incentives available to iWireless' postpaid customers.[87] The 20 percent discount available to former iWireless customers leaves the T-Mobile ONE plan at $60 dollars, which is $3 more than iWireless customers would have paid for a single line without mobile hotspot.[88]

Moreover, even if customers took advantage of the incentive, former iWireless customers are likely to lose their discounts as they upgrade phones or change plans, exposing them to significant price increases.

	iWireless Unlimited LTE (promotional pricing)	T-Mobile ONE
Cost per month	$50	$75
Taxes and fees[85]	$7.90	Included in price
Average monthly cost	$57.90	$75
Unlimited text and calls	Yes	Yes
Unlimited high-speed data	Yes	Up to 50 GB per month
Video streaming	Did not limit video streaming quality	Limits video streaming to 480p
Mobile hotspot	No	Yes, limited to 3G speeds

Conclusion

When T-Mobile announced the iWireless acquisition, T-Mobile's CEO John Legere stated: "We've been disrupting the wireless industry for the benefit of consumers for the last five years now and customers in Iowa will be able to experience the benefits firsthand."[89] However, T-Mobile's handling of iWireless' acquisition ended up hurting former iWireless authorized dealers and thousands of customers.

This is especially true for rural customers who no longer have access to a local authorized dealer where they could conveniently pay for wireless services and receive basic customer support. Prepaid customers lost access to an affordable service that provided flexibility not offered by any major prepaid carrier. Postpaid customers lost access to lower-cost unlimited service plans. Lastly, dozens of iWireless dealers lost an important revenue stream and source of foot traffic, which in some cases forced them to lay off workers or close their business entirely.

The iWireless case study should serve as a cautionary tale for regulators currently reviewing the T-Mobile and Sprint merger. T-Mobile's acquisition and subsequent integration of iWireless is especially alarming given T-Mobile and Sprint's claims that rural America will benefit from their proposed merger. T-Mobile's handling of the iWireless acquisition appears to have had the opposite effect, as the company gutted a carrier that previously provided convenience and choice to thousands of rural customers. ■

Notes

1 See "Acquisition of Iowa Wireless" in T-Mobile Q1-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/data/1283699/000128369918000026/tmus03312018form10-q.htm
Press Release. "T-Mobile to Acquire Remaining Interest in Iowa Wireless from Aureon." September 26, 2017. Available at: https://www.t-mobile.com/news/t-mobile-iowa-wireless-aureon.

2 In its press release on the acquisition, T-Mobile stated that iWireless had 103 corporate stores and authorized dealers. The data in this report comes from a list of 129 corporate stores and authorized dealers retrieved by data aggregator AggData from iWireless' website on October 1, 2017. We believe that this discrepancy might be due to iWireless' structure, which allowed some local telephone companies to contract their own authorized dealers. Former iWireless dealers from Tipton, Iowa Falls, and Garner told CWA that they were sub-agents to local telephone companies.
iWireless' retail footprint rivaled that of US Cellular and Verizon, which operated 121 and 103 stores respectively. Our analysis excludes authorized dealers at big box stores and supermarkets, such as Walmart or Hy-Vee, because small authorized dealers and carrier stores provide customer-focused approach, with a stronger emphasis on efficiency and quality than big box stores. See: https://www.fiercewireless.com/special-report/-mobile-retailing-flux-carriers-vs-big-box-retailers

3 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

4 Call center closures based on phone conversation with iWireless Call Center Representative in iWireless' Cedar Rapids Call Center, August 18, 2018 via iWireless' customer service number at (888)-550-4497. T-Mobile and iWireless filed a Worker Adjustment and Retraining Notification Act filing on July 7, 2018 for the closure of the Cedar Rapids Call Center. Accessed January 14, 2019. Available at: https://www.iowaworkforcedevelopment.gov/worker-adjustment-and-retraining-notification-act
CWA analysis of store closures. This figure accounts for any former iWireless locations rebranded as T-Mobile or Metro stores as of January 14, 2019.

5 T-Mobile and Sprint's Public Interest Statement provided to the FCC. June 18, 2018. Available at: https://ecfsapi.fcc.gov/file/10618281006240/Public%20Interest%20Statement%20and%20Appendices%20A-J%20(Public%20Redacted)%20.pdf

6 Euromonitor International. Retrieved September 18, 2017.

7 CWA analysis of iWireless, AT&T, Boost Mobile, Cricket, MetroPCS, T-Mobile, US Cellular, and Verizon store data. iWireless store data acquired from AggData, which retrieved the data on October 1, 2017. Boost Mobile, MetroPCS, T-Mobile, and Verizon data retrieved from each company's websites in September and October 2017. Cricket data retrieved from Google Places API in October 2017. US Cellular data retrieved in November 2018, though the website's map indicates that the list of US Cellular locations was current as of May 2018.

8 CWA Analysis. T-Mobile retail location data retrieved January 14, 2019.

9 T-Mobile set up an information page for iWireless customers transitioning to T-Mobile's postpaid service, but we did not find a similar page set up for prepaid customers transitioning to Metro or T-Mobile's prepaid services.

10 "As a result of the acquisition of IWS, we included an adjustment of 13,000 branded postpaid phone and 4,000 branded prepaid IWS customers in our reported subscriber base as of January 1, 2018." See T-Mobile Q1-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/-data/1283699/000128369918000026/tmus03312018form10-q.htm

11 Five of seven authorized dealers told CWA that prepaid made up the majority of their customers. CWA interviews with former iWireless dealers, January 8 to January 11, 2019. Phone conversation with Sarah Crock in November 2018.

12 CWA conversation with an employee at a former iWireless authorized dealer from Muscatine on January 10, 2019. The employee gave to CWA permission to quote her on this report but asked to remain anonymous because her employer did not want the business named on this report.

13 Archive of iWireless' No Contract Plans information page. September 29, 2017. Accessed January 11, 2019. Available at: https://web.archive.org/web/20170919210329/http://www.iwireless.com:80/store/PlansNoContract.aspx

14 Metro plans information page. Accessed January 11, 2019. Available at: https://www.metropcs.com/shop/plans?icid=home%7Cmain%7Cshopplans

15 CWA Analysis. January 2019.

16 CWA interviews with Heath Heimer and Shelia Hall, January 8 to January 9, 2019.

17 CWA interview with Jason Chase from Rock Rapids, IA on January 10, 2019. The closest T-Mobile store from Rock Rapids is in Mankato, Minnesota. See: https://www.google.com/maps/dir/T-Mobile,+201+Sioux-+Rd,+Mankato,+MN+56001/Rock+Rapids,+IA+51246/@43.7952934,-96.1850263,8z/data=!3m1!4b1!4m13!4m12!1m5!1m1!1s0x87f43a647bea8919:0x89563efa3b6b4faf!2m2!1d-93.952178!2d44.1691292!1m5!1m1!1s0x878c117053b2563d:0x9bf3cea91b20289!2m2!1d-96.1758598!2d43.4271945

18 All of the dealers interviewed by CWA reported that they would have wanted to become Metro or T-Mobile authorized dealers. Interviews from January 8 to January 11, 2019.

19 Comparison between iWireless' Unlimited LTE plan for a single line at promotional pricing and T-Mobile's ONE plan for a single line without auto-pay discount of $5 per month. We used the promotional pricing for this comparison because we believe that iWireless would have continued to offer its postpaid plans at a discounted rate in order to better compete with national carriers. iWireless' Unlimited LTE plan for a single line cost $50, plus an additional 15.8 percent in taxes and fees paid by Iowa consumers; T-Mobile's ONE cost $75 per month and includes taxes and fees. Iowa wireless taxes and fees from "Wireless Taxes and Fees Climb Again in 2018" report by the Tax Foundation. Available at: https://taxfoundation.org/cell-phone-taxes-2018/

20 iWireless unlimited plans information page. Archived on June 25, 2018. Available at: https://web.archive.org/web/20180625182821/https://www.iwireless.com/store/PlansInstallment.aspx
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21 CWA Interview with Shelia Hall on January 9, 2018.

22 RCR Radio Communications Report. "Iowa team extends VoiceStream PCS." October 13, 1997.

23 RCR Radio Communications Report. "Iowa team extends VoiceStream PCS." October 13, 1997.
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24 "Deutsche Telekom in the USA." Accessed January 11, 2019. Available at: https://www.telekom.com/en/company/worldwide/profile/deutsche-telekom-in-the-usa-355832

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Press Release. "Iowa Wireless Services Changes Name to i wireless; New Name Reflects Growth of Local Wireless Company." Business Wire. January 24, 2004.

26 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

27 Press Release. "T-Mobile to Acquire Remaining Interest in Iowa Wireless from Aureon." T-Mobile. September 26, 2017 (See https://www.t-mobile.com/news/t-mobile-iowa-wireless-aureon). See "Acquisition of Iowa Wireless" in T-Mobile's Q3-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/data/1283699/000128369918000060/tmus09302018form10-q.htm

28 See "Acquisition of Iowa Wireless" in T-Mobile's Q3-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/data/1283699/000128369918000060/tmus09302018form10-q.htm

29 See "Acquisition of Iowa Wireless" in T-Mobile's Q3-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/data/1283699/000128369918000060/tmus09302018form10-q.htm

30 iWireless operated 45 out of 67 wireless retail locations in FCC Rural Service Areas with a population of less than 2,500. Population figures for Urban Areas from U.S. Census Bureau's 2012-2016 American Community Survey 5-Year Estimates Table 01003, American FactFinder, available at https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

31 CWA interviews with Heath Heimer, Sarah Crock and Sheila Hall. Mr. Heimer closed his iWireless business in late 2017 or early 2018. Ms. Crock and Ms. Hall were subagents to other iWireless authorized dealers that closed in late 2017 but became direct iWireless authorized dealers and remained iWireless authorized dealers until August 2018.

32 CWA reviewed AggData's list of iWireless stores listed on iWireless' website as of October 1, 2017 and identified 28 stores that would be closing in August 2018, which coincides with the number of iWireless authorized dealers mentioned by T-Mobile and Sprint in their response to CWA's comment to the New York Public Service Commission: "23 of were 27 iWireless authorized dealers remained in business as independent retailers or transitioned to MetroPCS authorized dealers." See "In the Matter of Joint Application of T-Mobile, USA, Inc. and Sprint Communications Company L.P. Concerning an Indirect Transfer of Control." Case 18-C-0396.

33 CWA reviewed AggData's list of iWireless stores listed on iWireless' website as of October 1, 2017. CWA cross-referenced authorized dealer locations against a list of T-Mobile, Metro, and iWireless stores in operation as of January 2019.

34 Phone conversation with iWireless Call Center Representative in iWireless' Cedar Rapids Call Center, August 18, 2018 via iWireless' customer service number at (888)-550-4497.
Worker Adjustment and Retraining Notification Act filing. July 7, 2018. Accessed January 14, 2019. Available at: https://www.iowaworkforcedevelopment.gov/worker-adjustment-and-retraining-notification-act

35 iWireless store location data acquired from AggData. Data retrieved by AggData on October 1, 2017. Available at: https://www.aggdata.com/aggdata/complete-list-i-wireless-locations
Cellular Market Areas (CMAs) are standard geographic areas used by the FCC when licensing of cellular systems. CMAs comprise Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs). See Federal Register, Vol 79, No 234 at 72151. December 5, 2014. Available at: https://www.govinfo.gov/content/pkg/FR-2014-12-05/pdf/2014-28151.pdf

36 CWA Analysis. T-Mobile and Metro store counts retrieved from each brand's respective websites on January 14, 2019.
CWA Analysis. Population figures from U.S. Census Bureau's 2012-2016 American Community Survey 5-Year Estimates Table 01003, American FactFinder. Available at: https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml.

38 CWA analysis of Metro and T-Mobile stores in Iowa and neighboring states as of January 17, 2019. Driving distance and trip duration estimates calculated using Google's Distance Matrix API on January 23, 2019.

39 The average distance for stores that are more than 75 miles from the nearest T-Mobile store is 1 hour and 47 minutes. CWA analysis of Metro and T-Mobile stores in Iowa and neighboring states as of January 17, 2019. Driving distance and trip duration estimates calculated using Google's Distance Matrix API on January 23, 2019.

40 Euromonitor Passport Data. Retrieved September 2017.

41 Online shopping preferences by age group as of 2017 from BigCommerce, available from Statista. Retrieved January 16, 2019. Available at:
https://www.statista.com/statistics/242512/online-retail-visitors-in-the-us-by-age-group/
Online shopping by income group from "Likelihood of online vs. in-store spend" in "The Great Retail Bifurcation" report by Deloitte. Available at: https://www2.deloitte.com/content/dam/insights/us/articles/4365_The-great-retail-bifurcation/DI_The-great-retail-bifurcation.pdf

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43 CWA analysis of iWireless, AT&T, Boost Mobile, Cricket, MetroPCS, T-Mobile, US Cellular, and Verizon store data. iWireless store data acquired from AggData, which retrieved the data on October 1, 2017. Boost Mobile, MetroPCS, T-Mobile, and Verizon data retrieved from each company's websites in September and October 2017. Cricket data retrieved from Google Places API in October 2017. US Cellular data retrieved in November 2018, though the website's map indicates that the list of US Cellular locations was current as of May 2018.

44 Phil Goldstein. "Mobile retailing in Flux: Carriers vs. big-box retailers." *Fierce Wireless*. Accessed January 14, 2019. Available at: https://www.fiercewireless.com/special-report/mobile-retailing-flux-carriers-vs-big-box-retailers

45 Phil Goldstein. "Mobile retailing in Flux: Carriers vs. big-box retailers." *Fierce Wireless*. Accessed January 14, 2019. https://www.fiercewireless.com/special-report/mobile-retailing-flux-carriers-vs-big-box-retailers

46 Population figure for the Tipton Urban Cluster. See U.S. Census Bureau's 2012-2016 American Community Survey 5-Year Estimates Table 01003, American FactFinder. Available at: https://factfinder.census.gov/-faces/nav/jsf/pages/index.xhtml.

47 CWA interview with Sarah Crock on January 10, 2019.

48 See: https://www.google.com/maps/place/T-Mo-bile/@41.7695814,-91.6908611,9z/data=!4m15!1m9!2m8!1sT-Mobile!3m6!1sT-Mobile!2sTipton,+IA+52772!3s0x87e385e6511ad44f:0x97b7e8ee7010085!4m2!1d-91.1279349!2d41.7697434!3m4!1s0x0:0xfcbfafe4547a4796!8m2!3d41.6850918!4d-91.6012573

49 CWA interview with Heath Heimer on January 8, 2019.

50 Population figure for the Garner Urban Cluster. See U.S. Census Bureau's 2012-2016 American Community Survey 5-Year Estimates Table 01003, American FactFinder. Available at: https://factfinder.census.gov/-faces/nav/jsf/pages/index.xhtml.

51 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

52 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

53 CWA analysis of Metro and T-Mobile stores in Iowa and neighboring states as of January 17, 2019. Driving distance and trip duration estimates calculated using Google's Distance Matrix API on January 23, 2019.

54 CWA interview with Jason Chase on January 11, 2019.

55 The closest T-Mobile carrier store is located in Mankato, Minnesota. The closest T-Mobile store in Iowa is located in Clive, which is located in the Des Moines area. See: https://www.google.com/maps/dir/T-Mo-bile,+201+Sioux+Rd,+Manka-to,+MN+56001/Rock+Rapids,+IA+51246/@43.7952934,-96.1850263,8z/data=!3m1!4b1!4m13!4m12!1m5!1m1!1s0x87f43a647bea8919:0x89563efa3b6b4faf!2m2!1d-93.952178!2d44.1691292!1m5!1m1!1s0x878c117053b2563d:0x9bf3cea91b20289!2m2!1d-96.1758598!2d43.4271945
See: https://www.google.com/maps/dir/T-Mobile,+10201+Universi-ty+Ave,+Clive,+IA+50325/Rock+Rapids,+IA+51246/@42.4574652,-96.184602,8z/data=!4m14!4m13!1m5!1m1!1s0x87ec20bdb49667b7:0x21b671c594d9f26d!2m2!1d-93.757532!2d41.6023999!1m5!1m1!1s0x878c117053b2563d:0x9bf3cea91b20289!2m2!1d-96.1758598!2d43.4271945!5i2

56 CWA interview with Jason Chase on January 11, 2019.

57 CWA interview with Jason Chase on January 11, 2019.

58 CWA interviews with Sarah Crock, Heath Heimer, and Shelia Hall, January 8 to January 10, 2019.

59 CWA interview with Shelia Hall on January 9, 2018. Iowa Falls is approximately 50 miles from Waterloo. See: https://www.google.com/maps/dir/T-Mobile,+University+Ave,+Cedar+Falls,+IA/Iowa+Falls,+IA+50126/@42.5057319,-93.1265996,10z/data=!3m1!4b1!4m13!4m12!1m5!1m1!1s0x87e555592e85e903:0x2e07ffd8f3e055c4!2m2!1d-92.4293441!2d42.5122591!1m5!1m1!1s0x87f1d7e5b8fe1d83:0x8972876d3545919!2m2!1d-93.2645741!2d42.5198868

60 Based on the information on Metro, Boost Mobile and Cricket's websites. Accessed January 15, 2019. Available at:
https://www.cricketwireless.com/cell-phone-plans
https://www.metropcs.com/shop/plans
https://www.boostmobile.com/plans.html

61 CWA conversation with an employee at a former iWireless authorized dealer from Muscatine on January 10, 2019. The employee gave to CWA permission to quote her on this report but asked to remain anonymous because her employer did not want the business named on this report.

62 CWA interview with Kyari Shipp, store manager at Stratus Communications, on January 9, 2019.

63 CWA conversation with Christopher Shumaker on January 10, 2019.

64 T-Mobile set up an information page for iWireless customers transitioning to T-Mobile's postpaid service, but we did not find a similar page set up for prepaid customers transitioning to Metro or T-Mobile's prepaid services.

65 CWA interview with Kyari Shipp, store manager at Stratus Communications, on January 9, 2019.

66 CWA conversation with an employee at a former iWireless authorized dealer from Muscatine on January 10, 2019. The employee gave to CWA permission to quote her on this report but asked to remain anonymous because her employer did not want the business named on this report.

67 CWA conversation with an employee at a former iWireless authorized dealer from Muscatine on January 10, 2019. The employee gave to CWA permission to quote her on this report but asked to remain anonymous because her employer did not want the business named on this report.

68 "As a result of the acquisition of IWS, we included an adjustment of 13,000 branded postpaid phone and 4,000 branded prepaid IWS customers in our reported subscriber base as of January 1, 2018." See T-Mobile Q1-2018 Form 10-Q. Available at: https://www.sec.gov/Archives/edgar/data/1283699/000128369918000026/tmus03312018form10-q.htm

69 Five of the seven authorized dealers told CWA that prepaid made up the majority of their customers. CWA interviews with former iWireless dealers, January 8 to January 11, 2019. Phone conversation with Sarah Crock in November 2018.

70 Trefis. "Sprint's Postpaid vs. Prepaid Customers - Who's More Valuable." December 24, 2010. Available at: https://www.nasdaq.com/article/sprints-postpaid-vs-prepaid-customers-whos-more-valuable-cm50639

71 T-Mobile and iWireless started closing authorized dealers in late 2017, prior to completion of the acquisition.

72 Heath Heimer, Shelia Hall, and Sarah Crock were notified in late 2017 or early 2018 that they would no longer be iWireless authorized dealers. All three of these dealers used to be sub-agents to other iWireless dealers. Mr. Heimer ceased operations in late 2017 or early 2018. Ms. Hall and Ms. Crock became direct iWireless authorized dealers in late 2017 and remained authorized dealers until August 2018.

73 CWA interviews with multiple authorized dealers between January 9 and January 10, 2019.

74 In a response to CWA's comments to the New York Public Service Commission, T-Mobile and Sprint indicate that 23 of 27 authorized dealer stores remain in business as independent retailers or transitioned to MetroPCS dealers. See "In the Matter of Joint Application of T-Mobile, USA, Inc. and Sprint Communications Company L.P. Concerning an Indirect Transfer of Control." Case 18-C-0396.

75 Heath Heimer, Shelia Hall, and Sarah Crock were notified in late 2017 or early 2018 that they would no longer be iWireless authorized dealers. All three of these dealers used to be sub-agents to other iWireless dealers. Mr. Heimer ceased operations in late 2017 or early 2018. Ms. Hall and Ms. Crock became direct iWireless authorized dealers in late 2017 and remained authorized dealers until August 2018.

76 Christopher Shumaker and Heath Heimer reported that they each laid off one employee. Stratus Communications in Waterloo plans to close at the end of September and will result in at least one person losing her job.

77 Based on conversations with authorized dealers from Muscatine and Waterloo.

78 CWA interview with Kyari Shipp on January 10, 2019.

79 See: https://www.google.com/maps/dir/325+Franklin+St,+Waterloo,+IA+50703/Metro+by+T-Mobile,+Sycamore+Street,+Waterloo,+IA/@42.5004929,-92.3383644,17z/data=!3m1!4b1!4m13!4m12!1m5!1m1!1s0x87e552e4241f313b:0x158d06f80545fcce!2m2!1d-92.3352357!2d42.502394!1m5!1m1!1s0x87e553aff022f6a5:0xa2f8b9da07f9a32a!2m2!1d-92.3370706!2d42.4985918

80 CWA interview with Christopher Shumaker on January 10, 2019.

81 CWA interview with Christopher Shumaker on January 10, 2019.

82 Archive.org archived iWireless' pricing information page in 15 out of 22 months from March 2016 and December 2017. All of the pages archived in that period show promotional pricing of $50 per month for individual plans. Although there is a gap between December 2016 and April 2018 with no archives, iWireless most likely offered the promotional pricing during that period, as the company likely continued offering its "Truly Unlimited," which started in August 2016 and continued until December 2017.
2016

2016

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Info page available on Archive.org	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Promotion			Test Drive Offer					Truly Unlimited Offer				

2017

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Info page available on Archive.org	No	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Promotion					Truly Unlimited Offer				Truly Unlimited Offer			

https://web.archive.org/web/*/https://www.iwireless.com/store/PlansInstallment.aspx

83 As part of the partnership, T-Mobile provided service to iWireless customers who roamed outside of iWireless' network and iWireless provided service to T-Mobile customers in Iowa. Comparison between iWireless' Unlimited LTE plan for a single line at promotional pricing and T-Mobile's ONE plan for a single line. We used the promotional pricing for this comparison because we believe that iWireless would have continued to offer its postpaid plans at a discount rate in order to better compete with national carriers. iWireless' Unlimited LTE plan for a single line cost $50, plus an additional 15.8 percent in taxes and fees paid by Iowa consumers; T-Mobile's ONE includes taxes and fees. Iowa wireless taxes and fees from "Wireless Taxes and Fees Climb Again in 2018" report by the Tax Foundation. Available at: https://taxfoundation.org/cell-phone-taxes-2018/

84 From iWireless' website archived May 29, 2017: "Unlimited 4G LTE plans include unlimited high-speed data." Available at: https://web.archive.org/web/20170529152904/http://www.iwireless.com/store/PlansInstallment.aspx
Information on T-Mobile's ONE plans. Available at:
https://www.t-mobile.com/content/dam/t-mobile/assets/pdf/T-Mobile_Rate_Card_August_2018.pdf

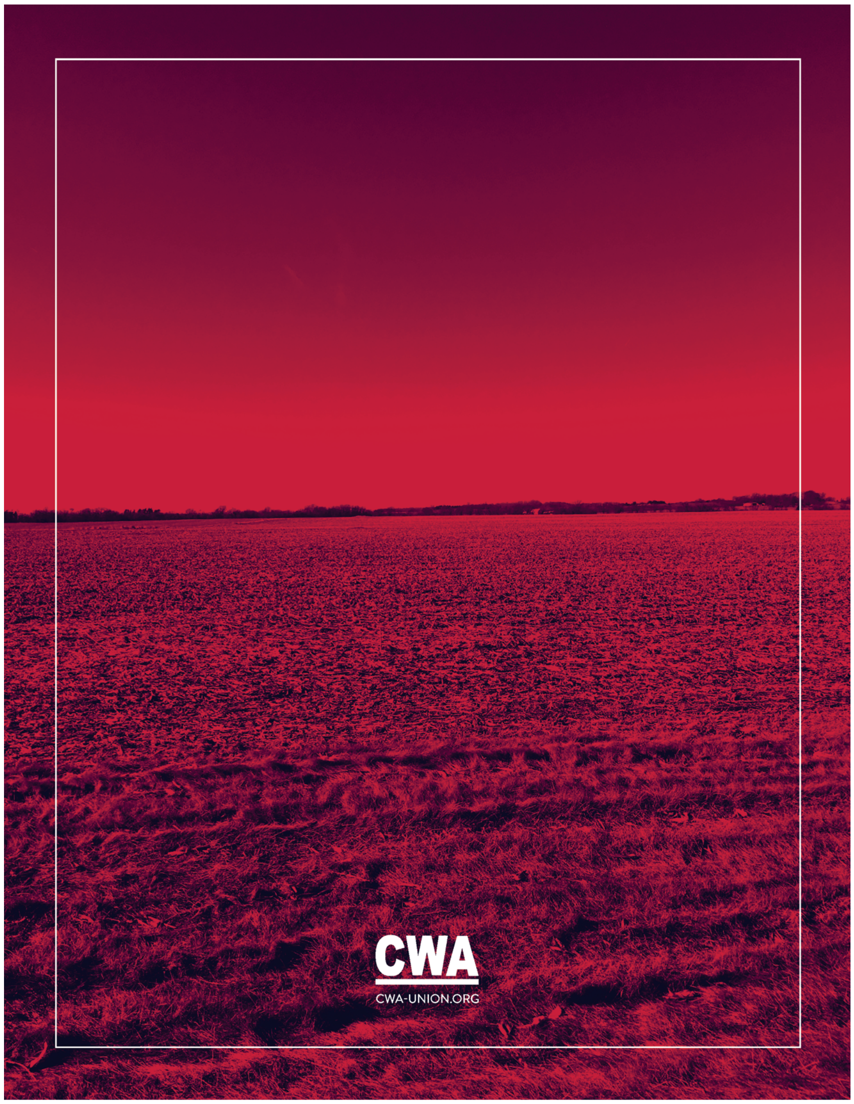
85 On average, Iowans pay 15.8 percent of taxes and fees on their wireless service. See "Wireless Taxes and Fees Climb Again in 2018" report by the Tax Foundation. Available at: https://taxfoundation.org/cell-phone-taxes-2018/

86 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

87 Terms and conditions of promotion offered to iWireless customers: "20% discount on new customers' standard price T-Mobile ONE postpaid consumer or qualifying business voice account; port-in required. Allow 2 bill cycles for discount to appear if port-in is delayed. Not combinable with some offers. Discount may not be sold." Available at: https://www.t-mobile.com/customers/iowa-wireless-service

88 T-Mobile's website for affected iWireless customers. Accessed January 11, 2019. Available at: https://www.t-mobile.com/customers/iowa-wireless-service

89 Press Release. "T-Mobile to Acquire Remaining Interest in Iowa Wireless from Aureon." September 26, 2017. Available at: https://www.t-mobile.com/news/t-mobile-iowa-wireless-aureon.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Appendix C

Economic Policy Institute | ROOSEVELT INSTITUTE REIMAGINE THE RULES

Labor market impact of the proposed Sprint–T-Mobile merger

Report • By Adil Abdela and Marshall Steinbaum • December 17, 2018

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4. The earnings effect of the Sprint–T-Mobile merger • 8
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Summary

Federal and state antitrust enforcers are currently reviewing the proposed merger of Sprint and T-Mobile, which would cut the number of national players in the U.S. wireless industry from four to three. One aspect of the merger that has received little attention is its impact on competition in the local labor markets for retail wireless workers.

In this paper, we draw upon a nascent but fast-growing empirical economics literature on the earnings effect of labor market concentration to estimate how the Sprint–T-Mobile merger would affect earnings of workers at the U.S. stores that sell the wireless services of the merging firms and their competitors.

Our analysis begins with existing research on how much the merger would increase labor market concentration in the U.S. labor markets where both Sprint and T-Mobile are active. That is significant, because concentration of employers is one of the reasons we expect that labor markets are monopsonized as a matter of course. Monopsony power is when employers have power to set wages unilaterally, and workers generally earn less than they are worth. Concentration of employers confers monopsony power because workers lack the job opportunities that would ensure pay would track their productivity.

We then apply estimates of the effect of concentration on earnings from three recent studies. We find that the merger would reduce earnings in the affected labor markets. Specifically, in the 50 most affected labor markets, we predict that weekly earnings would decline by $63 on average (across markets) using the specification with the largest magnitude, and $10 on average using the smallest-magnitude specification. These weekly earnings declines correspond to annual earnings declines of as high as $3,276 (or $520 under the smallest-magnitude specification).

Researchers have found that unionization mitigates the earnings-reducing effect of concentration. Thus, one of the reasons why the economy has become more

monopsonized over time is that worker power has been reduced through declining union coverage. For the retail wireless labor markets we study, Change to Win estimates that the unionization rate is approximately 9 percent.

The earnings decline we predict reflects the fact that in nearly all of the commuting zones where both merging parties are active (the labor market definition we use here), the change in the Herfindahl-Hirschman Index (HHI) measure of concentration due to the merger would exceed 200 HHI, which is the threshold for triggering enforcement concerns under the federal government's Horizontal Merger Guidelines. And literally all of the commuting zones that have wireless store locations would have a post-merger labor market concentration that exceeds the threshold for "highly concentrated"—2,500 HHI under the Horizontal Merger Guidelines.

The idea that labor market impact should be considered in reviewing mergers represents a departure from the antitrust enforcement status quo. But given the reality of monopsony power in labor markets, it is a departure that antitrust enforcers themselves have agreed is necessary. In recent Senate testimony, Federal Trade Commission (FTC) Chairman Joseph Simons said that he had directed FTC staff to consider labor market impact for every merger the agency reviews, and the principles that he said should guide such an analysis align with the approach we take in this paper.

Enforcers with a mandate to preserve competition must take labor markets as well as product markets into account when assessing competitive effects of any merger or conduct they might review. That includes the federal agencies reviewing this merger—the FCC and the Department of Justice Antitrust Division—as well as state attorneys general and public utility commissions. In this paper, we provide a current example of how that could be done.

Finally, antitrust enforcement, and merger review especially, are insufficient policy responses to the problem of monopsony. Unionization has been shown to mitigate the ill effects of employer concentration on wages, presumably because it provides for commensurate countervailing power. Antitrust alone will never be a solution to the crisis of worker power in this country. It must be considered alongside such policies as increasing the minimum wage, ensuring macroeconomic full employment, increasing progressive taxation, improving labor standards and their enforcement, and mitigating shareholder power over companies that comes at the expense of other stakeholders.

Introduction

Government has a legitimate and long-established interest in reviewing the impact of mergers on competition. That interest has, until now, been almost entirely focused on the way in which mergers affect competition in the markets for the goods and services that the merging parties sell. Recent research in labor economics, however, emphasizes that the concentration of employers in labor markets can have a significant negative impact on wages.[1] Some of that research also finds that such wage-setting power on the part of concentrated employers can be counteracted by the unionization of workers.

This new research has profound implications for merger review, because it establishes that profit-maximizing firms in concentrated labor markets would use their market power to harm workers as well as or in addition to harming customers. That possibility necessitates an expansion of antitrust enforcers' mandate to analyze competitive effects in labor markets as well as product markets as a routine part of reviewing mergers.

The proposed merger between Sprint and T-Mobile threatens to reduce competition in wireless telecommunications services by eliminating one of the existing four providers of such services in the United States. An analysis conducted by the Communications Workers of America (Goldman, Grunes, and Stucke 2018) estimates that a standard measure of industry product market concentration, the Herfindahl-Hirschman index (HHI),[2] would increase from 2,811 to 3,243 in wireless as a result of this merger. This increase places HHI in wireless squarely above the thresholds for enforcement action established by the Horizontal Merger Guidelines promulgated by the Antitrust Division of the U.S. Department of Justice and the Federal Trade Commission (FTC) (Goldman, Grunes, and Stucke 2018).[3] We already know that the telecoms sector in the United States suffers from lack of competition, despite—or perhaps, because of—the deregulatory agenda of the Telecommunications Act of 1996 (Hwang and Steinbaum 2017). For that reason, further consolidation would be poor economic and sectoral policy. And simply by virtue of the structural presumption for illegality established by *United States v. Philadelphia National Bank*,[4] the merger would violate the Clayton Act. This is not only problematic for consumers: this merger would diminish competition for workers and lead to a deterioration in wage and employment conditions.

In this paper, we turn to the merger's effect on the labor market for retail workers who sell electronics and related services, specifically the subset who sell wireless equipment and services. Wireless equipment and services, including repairs, are sold to consumers through brick-and-mortar retail locations that are either corporately owned by the service providers or authorized dealers of those suppliers. In addition, the licensees of wireless spectrum sell their telecommunications services on both a prepaid and a postpaid basis, with AT&T, Sprint, and T-Mobile each having a prepaid services affiliate. For the purpose of this analysis, we consider geographic labor markets at the commuting zone level, and we define the "line of business" as retail workers selling wireless services in stores either owned or affiliated with the prepaid or postpaid services of the two merging parties (Sprint and T-Mobile), as well as their competitors Verizon and AT&T.

We report the effect of the merger on concentration in labor markets defined by retail wireless store employment by commuting zone, and we predict how increased concentration would be likely to affect retail wireless workers' earnings in each market. To do that, we use four recent empirical estimates of labor market concentration on earnings. Given that all of the estimates find a negative earnings effect of higher concentration, we predict the same, with variation based on the specification used and the change in concentration in local labor markets as a result of the merger. We find that average weekly earnings for retail wireless workers would decline by as much as 7 percent in the specification with the largest magnitude, while in the bulk of the labor markets affected by the merger, earnings would decline by between 1 and 3 percent. For the 50 most affected labor markets, those percent changes correspond to a decline in weekly earnings of $63 on average for the largest-magnitude specification, and a decline of $10 for the smallest-magnitude specification.

In short, enforcers with a mandate to preserve competition must take labor markets as well as product markets into account when assessing competitive effects of any merger or conduct they might review. In this paper, we provide a current example of how that could be done.

In the first section, we identify broad trends in the labor market for retail workers who sell wireless equipment and services. We also review the recent literature on monopsony power in labor markets. In the second section, we explain how labor markets are defined for the purpose of predicting the impact of the Sprint–T-Mobile merger and present the employment concentration calculations used to make our predictions. We then explain how post-merger counterfactuals are implemented and report our results. In the third section, we summarize our policy recommendation for this merger and for merger review in labor markets in general and as a matter of ongoing competition enforcement.

The labor market for retail workers in electronics and the wireless subsector

The economics literature on industrial organization in retail points to a tug of war between two trends: big-box and chain stores replacing single establishment firms or smaller chains, and the move from brick-and-mortar retail stores to e-commerce (Hortacsu and Syverson 2015). For many years following the rise of Amazon, eBay, and other companies using e-commerce platforms, the former remained the dominant trend, with total employment and output in brick-and-mortar retail growing as commerce moved to establishments with a larger sales volume. The effect was both to increase the revenue product of retail employees (total revenue divided by employment) and to reduce labor's share of value-added in the sector (Ganapati 2018).

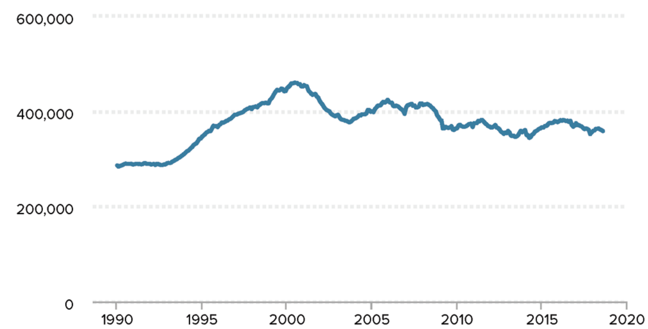
It is only in the last few years that we have seen the "end of retail," or at least the beginning of the end of retail, as e-commerce platforms have made substantial improvements to their logistics networks that provide a greater online shopping convenience than that offered by the prototypical shopping mall or big-box store. Since 2016, employment has flatlined in retail even as jobs have been added in the overall economy (BLS 2018). A number of high-profile bankruptcies, such as those of Toys R Us, RadioShack, and Sears, as well as notable financial difficulties of chains such as Staples and Barnes & Noble, have added to the sense that the era of brick-and-mortar retail is coming to an end. The involvement of private equity funds, which loaded up their portfolio companies with debt to take a quick dividend, seems to be hastening the trend.

For the purpose of this paper, we first report on labor market outcomes for workers in North American Industry Classification System (NAICS) industry 443142, retail establishments selling electronic equipment and related services. This industry includes the wireless retail outlets vending the products and services of the merging parties Sprint

Figure A

Total employment in the retail electronics industry has declined slightly since 2000

Employment in electronics stores, 1990–2018



Source: Authors' analysis of Bureau of Labor Statistics Current Employment Statistics data

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and T-Mobile and their main competitors, AT&T and Verizon, including their prepaid services affiliates. Our aggregate time series data going back to 1990 come from the Bureau of Labor Statistics' Current Employment Statistics program, which reports outcomes for workers by detailed industry classification nationally.

As shown in **Figure A**, employment in the retail electronics industry reached its peak at around 450,000 at the end of the economic boom of the late 1990s, and since then has been declining, probably as commerce moved from smaller establishments specializing in electronics to big-box chain stores like Walmart, Best Buy, and Target with higher revenue per worker and from brick-and-mortar establishments to e-commerce. We see the total employment in this industry declining during recessions and failing to rebound during expansions—and most recently, declining outright since 2016 even during a relatively tight labor market.

The wireless telecoms sector is a significant component of this industry. Researchers at Change to Win (2018) estimate total retail employment among AT&T, Verizon, Sprint, T-Mobile, and their prepaid affiliates (including both corporate stores and authorized dealers) is currently approximately 220,000.

As establishment size has increased, employment has become concentrated among fewer industry players. This is true for the economy overall, for retail overall, and for subsectors of retail. Big-box stores were always a concentrated industry nationally—hence, their ability to underprice the competition by obtaining price concessions from wholesalers—and as big-box stores have gained market share, the sector as a whole has become compositionally more concentrated. Rinz (2018) tracks how much more concentrated the

2-digit NAICS sectors 44–45 (encompassing all retail) have gotten between 1980 and 2015 when measured by employment: their HHI nationally increased from 200 at the start of the period to 1,000 in 2015. In past research, we have linked concentrating employment to declining "business dynamism" and labor mobility: as employers become fewer, workers stay in a given job longer due to the absence of outside job offers that might entice them away (Konczal and Steinbaum 2016).

Recent research confirms that while concentration has increased economywide, including in retail employment, local labor markets have become less concentrated (Rossi-Hansberg, Sarte, and Trachter 2018; Rinz 2018). The reason is that national chains and big-box stores are growing by entering local markets without completely replacing local firms or chains, increasing the number of local competitors. However, the trend in local labor market concentration remains unclear, as other studies (e.g., Ganapati 2018) find that local labor markets are increasingly concentrated, with the discrepancy arising from differing treatment of local markets (defined by industry and geography) in which there is no employment and there are no active firms at a given time.

As shown in **Figure B**, real hourly wages and weekly earnings for retail workers rebounded from the losses the sector experienced during the Great Recession, but since then, they've been stagnant (except for monthly fluctuations). This trend mirrors similar economywide wage stagnation, a puzzle given the low unemployment rate. It is exactly that puzzle that has given rise to the recent academic and policy interest in employer power to set wages—"monopsony power," broadly defined—as an explanation.[5]

There is good reason to believe that monopsony power in the U.S. economy has been on the rise in recent decades. The share of workers who belong to a union or whose terms of employment are collectively bargained has been on the decline since the 1950s. The "bite" of the minimum wage—its value as a share of median earnings—has similarly been declining (Cooper, Mishel, and Schmitt 2015). Both of these trends—declining unionization and the eroding value of the minimum wage—imply that employers have wider discretion to set wages.

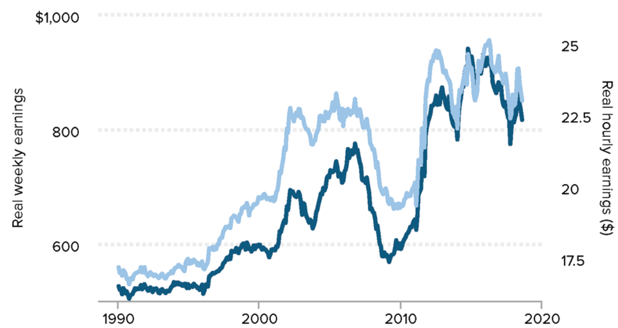
Other evidence of rising monopsony power includes the trends of declining job-to-job mobility, along with the flattening earnings–tenure relationship for workers who remain at a single job, and rising inequality of earnings for workers working in different firms, as low-wage workers are increasingly excluded from high-wage firms as a way of limiting profit-sharing (Hyatt and Spletzer 2016; Molloy et al. 2016; Song et al. 2018). In both experimental and natural settings, employers are observed to face low elasticities of labor supply, meaning that they can vary the wage they pay substantially without fear that their workers will leave for their competitors or exit the labor market entirely (Webber 2015; Dube, Giuliano, and Leonard 2015; Dube et al. 2018). Furthermore, the fact that legislated increases in the minimum wage have been found not to have an adverse impact on employment implies wage indeterminacy in the employment relationship, which is also an implication of monopsonized labor markets as opposed to competitive ones (Cengiz et al. 2018).

Another reason to think that monopsony power is increasing in the economy is that the

Figure B

Worker earnings in the retail electronics industry are highly procyclical, but have been stagnant since 2011 despite the economic expansion

Average real earnings in electronics stores, 1990–2018



Note: Earnings are in August 2018 dollars.

Source: Authors' analysis of Bureau of Labor Statistics Current Employment Statistics data

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"large firm wage premium" has declined—and in fact it has been erased in retail. The large firm wage premium is the earnings advantage that otherwise-similar workers at large firms enjoy relative to their counterparts at small firms. The differential has become negative in retail, meaning that workers at large firms earn less than their counterparts at small ones (Bloom et al. 2018). This is likely due to the prevalence of low-wage, high-turnover business models at dominant chains like Walmart as the value of the minimum wage has eroded along with other labor standards and union coverage has dwindled.

Why is the declining large-firm wage premium evidence of monopsony power? Because it likely arises from the fact that large, economy-leading firms operate in a systematically less egalitarian manner than they once did. In the past, large firms served to compress the earnings distribution among their workers (Weil 2014). One reason that has ceased to be the case is ease of outsourcing, which in turn sharpens the threat that can be wielded against workers who might otherwise make claims on the profitability of leading enterprises by demanding higher wages (Dube and Kaplan 2010).

For all of these reasons, we expect that the labor markets for the retail workers who would be affected by the Sprint–T-Mobile merger are monopsonized. This has profound implications for the competitive impact of such a merger in the relevant labor markets. We would expect that employers who face upward-sloping labor supply curves thanks to their monopsony power would maximize profits by using that power to depress wages. Numerous recent publications point to such an effect as harm to competition within the meaning of the Clayton Act (Ohlhausen 2017; Hemphill and Rose 2018; Marinescu and Hovenkamp 2018; Naidu, Posner, and Weyl 2018). Moreover, the Horizontal Merger Guidelines recognize that harm to competition in upstream markets as a result of a merger is grounds for blocking it, even in the absence of harm to competition downstream.

The reality of monopsony power in input markets contravenes the standard case of merger review in the presence of oligopoly power in output markets: that increased prices due to enhanced market power are to be balanced with merger efficiencies in the form of lower input costs in order to determine whether the merger threatens to reduce consumer surplus. In that standard case, any market power used to reduce the marginal cost of inputs without raising the price of output is considered to add to, rather than detract from, aggregate welfare (Glick 2018). The reality of monopsony power in labor markets implies the contrary: that market power is used to reduce aggregate welfare by restricting employment and lowering wages to increase private profits. That economic intuition establishes the legal relevance of the empirical exercise in the following section because any reduction in wages post-merger likely reflects the monopsony power that the Clayton Act is meant to prevent in its incipiency.

The earnings effect of the Sprint–T-Mobile merger

Three recent working papers estimate the effect of employer concentration in labor markets on earnings: "Labor Market Concentration" (Azar, Marinescu, and Steinbaum 2017); "Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?" (Benmelech, Bergman, and Kim 2018); and "Labor Market Concentration, Earnings Inequality, and Earnings Mobility" (Rinz 2018). Each of these papers defines labor markets slightly differently and each uses many specifications to estimate the effect of concentration on earnings. In this section, we apply estimates from those papers to predicted changes in labor market concentration in wireless retail resulting from the Sprint–T-Mobile merger.

The labor market definition used here is by commuting zones and by retail employment by the merging parties, their prepaid affiliates, and their wireless competitors, including both corporate-owned and authorized-dealer stores. Geographically, the market definition closely matches that of the papers by Azar, Marinescu, and Steinbaum (2017) and Rinz (2018). It is wider than the county-level market definition used by Benmelech, Bergman, and Kim (2018). The "line of business" dimension is probably narrower here than in any of those papers (and narrower than even the six-digit NAICS sector analyzed in the previous section, which included more than just retail establishments selling mobile telecommunications services, equipment, and repairs). The papers we use to estimate earnings effects employ either the 4-digit SIC code definition (Rinz 2018; Benmelech, Bergman, and Kim 2018) or the 6-digit occupations in the Standardized Occupational Classification system (Azar, Marinescu, and Steinbaum 2017). Although we do not use them here, Azar, Marinescu, and Steinbaum (2017) also include a specification at the job title level in their vacancy regressions. And Benmelech, Bergman, and Kim (2018) are able to perform their regressions within firms, using variation in market concentration among the plants where those firms are simultaneously hiring. Both of those specifications narrow the market definition considerably, without finding substantially different results in terms of the magnitude of the estimated earnings elasticity to measured concentration.

The aforementioned studies of firm-level labor supply elasticities imply that narrow market definitions are appropriate in labor markets. So does a now-substantial literature on low worker mobility in labor markets across both geography and occupation (Yagan 2018; Bartik 2018). The typical market definition exercise in antitrust is critical loss analysis, which uses substitution elasticities to investigate the market definition in which it would be profitable for a "hypothetical monopolist" to increase prices. If consumers would switch away, rendering the increase unprofitable, then the market is defined too narrowly and should be broadened to include the alternatives to which they would switch. If it would be profitable for a hypothetical monopolist to raise prices, then the market is defined too broadly and should be narrowed. Recent Congressional testimony by Federal Trade Commission (FTC) Chairman Joseph Simons validates this critical loss analysis approach to antitrust market definition for labor markets (Simons 2018).

Azar, Marinescu, Steinbaum, and Taska (Azar et al. 2018) apply this logic to the labor market with a "hypothetical monopsonist" test, and, given the supply elasticities in Dube et al. 2018 and Webber 2015, conclude that an occupation-by-commuting-zone market definition is probably conservatively large and the right market definition in labor markets, maybe even at the level of a single firm. A similar argument is made by Naidu, Posner, and Weyl (2018). So while it is likely that workers outside the retail wireless sector might apply for jobs in that sector, employers nonetheless have a significant amount of unilateral power to set wages.

Our concentration data set was constructed by researchers at Change to Win as follows.[6] They located retail outlets (by latitude/longitude coordinates) by scraping the websites of Sprint, T-Mobile, Boost Mobile (T-Mobile's prepaid affiliate), Metro PCS (Sprint's prepaid affiliate), and Verizon Wireless during the period from April 27, 2018, to June 10, 2018. AT&T's store location data set was purchased from an aggregator and is current to August 1, 2018. Cricket stores (AT&T's prepaid affiliate) were located via Google's Places API service on May 1, 2018. Change to Win researchers were able to distinguish which of these stores are corporately owned and which are owned by authorized dealers.

They then imputed employment at each store by using average levels by company and store type, as shown in **Table 1**.

They used various sources for these staffing levels, including press releases for store openings, disclosures by some of the authorized dealers, and internal estimates of AT&T's staffing levels by the Communications Workers of America, which represents workers at those stores. For the merging parties Sprint and T-Mobile, the source is a third-party report about the merger written by New Street Research (Chaplin et al. 2018), which is corroborated by the companies' own public interest filings with the Federal Communications Commission (FCC). Given store type and location, they were then able to tabulate employment concentration (measured by HHI) for each commuting zone. The

Table 1

Average number of employees per wireless retail store, by brand

	Average number of employees per store	
Postpaid brands	*Authorized dealers*	*Corporate stores*
AT&T	3.9	10.0
Sprint	8.0	8.0
T-Mobile	8.0	8.0
Verizon	5.6	17.2
Prepaid brands	*Authorized dealers*	
Boost Mobile (Sprint)	3.0	
Cricket (AT&T)	3.0	
MetroPCS (T-Mobile)	3.0	

Source: Change to Win 2018

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predicted change in concentration due to the merger was calculated simply by computing new HHIs by adding the employment shares of Sprint and T-Mobile stores (plus their prepaid affiliates).

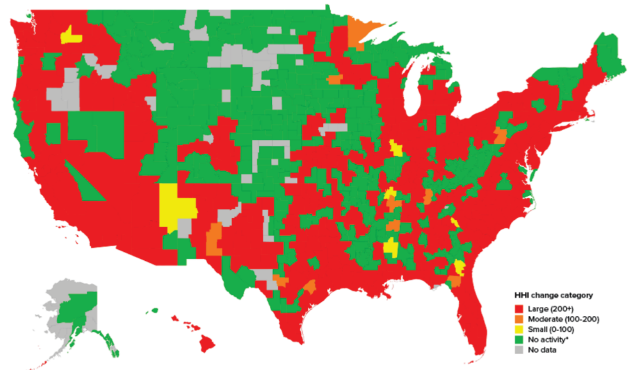
Predicting the change in concentration by combining the ex-ante market shares of the merging firms assumes that the merging parties would not eliminate employment as a result of this merger. If, instead, they eliminate jobs at one or both firms and their competitors maintain the same level of employment, that would reduce the ex-post concentration relative to our prediction. But job losses could also be an anti-competitive effect of the merger, including one way the merging parties could increase bargaining leverage over workers.

We should note that our exercise uses local employment, or, more particularly, store location (since we impute employment from nationwide averages by store type) to calculate labor market concentration. In the Benmelech, Bergman, and Kim 2018 and Rinz 2018 papers, the observable variable used to estimate concentration in the market is observed employment. In the Azar, Marinescu, and Steinbaum 2017 paper, the observable variable is job vacancies posted on a single online matching/recruiting website, CareerBuilder.

The maps in **Figures C** and **D** depict the predicted change in concentration in retail wireless labor markets due to the proposed merger of Sprint and T-Mobile, as well as the average post-merger HHI in these labor markets. According to the labor market definition we use here, literally all of the commuting zones in the United States that have wireless store locations would have a post-merger HHI in excess of the threshold for “highly concentrated”—2,500—under the Horizontal Merger Guidelines. And in nearly all of the

Figure C

Predicted change in concentration of retail wireless labor market if Sprint and T-Mobile merge, by commuting zone



*Commuting zones without both active Sprint and T-Mobile stores

Note: The map shows, for each commuting zone, the change in the Herfindahl-Hirschman Index, a standard measure of market concentration, applied in this context to labor market concentration. A change of more than 200 HHI would trigger enforcement concerns per the Justice Department/Federal Trade Commission Horizontal Merger Guidelines.

Source: Change to Win 2018

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commuting zones where both merging parties are active, the change in HHI due to the merger is in excess of 200, meaning that they would trigger enforcement concerns per the Horizontal Merger Guidelines. It should be emphasized that the labor markets that are *not* predicted to significantly increase concentration as a result of this merger are *already* monopsonized.

The studies we rely on all estimate earnings-concentration regression equations of the form

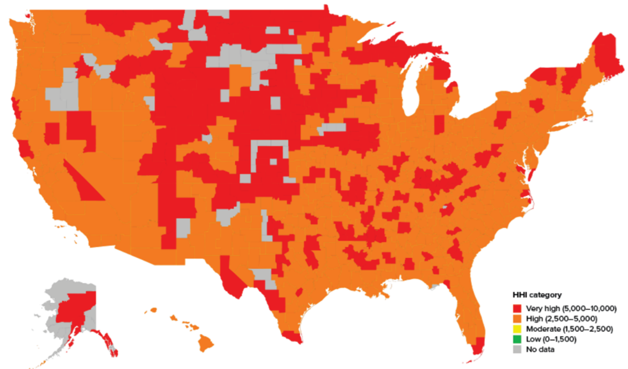
$$log\ w_{it} = \beta logHHI_{it} + \delta X_{it} + \alpha_i + \gamma_t + \epsilon_{it}$$

where w_{it} is the observed earnings in market i at time t, HHI_{it} is market-level concentration, X_{it} are market-level time-varying controls, α_i is a market-level fixed effect, γ_t represents time trends, and ε_{it} is the residual.[7] The controls used in those studies differ depending on the data set: labor market tightness, for example, in the case of Azar, Marinescu, and Steinbaum 2017, is a way of controlling for the state of the within-market business cycle assumed to be caused by demand shocks.[8]

The analysis we conduct here is to ask how earnings would change given a change in

Figure D

Predicted concentration in the retail wireless labor market if Sprint and T-Mobile merge, by commuting zone



Note: The map shows, for each commuting zone, the predicted value of the Herfindahl-Hirschman Index, a standard measure of market concentration, applied in this context to labor market concentration. An HHI of 2,500 or more is considered "highly concentrated" under the Justice Department/Federal Trade Commission Horizontal Merger Guidelines.

Source: Change to Win 2018

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concentration due to the merger, holding everything else constant.[9] For that reason, we take the difference between two versions of the equation above, one for pre-merger and one for post-merger. That leaves us with

$$log\left(\frac{w_{i,post}}{w_{i,pre}}\right) = \hat{\beta} log\left(\frac{HHI_{i,post}}{HHI_{i,pre}}\right)$$

The ratio of HHIs is taken from the Change to Win 2018 estimates and the βs come from the three studies. We use them to return the log earnings ratio. We then exponentiate that to ascertain the percent change in earnings due to the counterfactual increase in concentration.

Specifically, we use a total of four estimates of β. From Azar, Marinescu, and Steinbaum 2017, we take specifications (3) and (6) from Table 2, Panel A. These include labor market tightness as well as fixed effects for commuting zones by occupations and commuting zones by quarter. Column (3) is an ordinary least squares (OLS) specification, and column (6) uses the instrumental variable from national changes in market-level firm counts. From Benmelech, Bergman, and Kim 2018, we use Table II, Panel B, column (6), which has both

Table 2

Earnings elasticity by specification

Study	Earnings elasticity (coefficient)
Azar et al. (OLS)	-0.0378
Azar et al. (IV)	-0.127
Benmelech et al.	-0.054*
Rinz	-0.0324

* Benmelech et al. is a "log-linear" specification, meaning that its magnitude is not comparable to the log–log specification of the other three coefficients.

Sources: Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); Rinz 2018

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industry and year fixed effects, as well as labor productivity and other firm-level observables. From Rinz 2018, we use the specification in Table 7, column (4), which is similar to the instrumental variables one in Azar, Marinescu, and Steinbaum 2017, except that there is no tightness observable and the Rinz 2018 instrument uses concentration in other labor markets rather than the inverse of firm count in other labor markets. In each of these cases, the specification selected (see **Table 2**) is the one that (in our view) most closely matches the market definition used in the Change to Win 2018 concentration data.

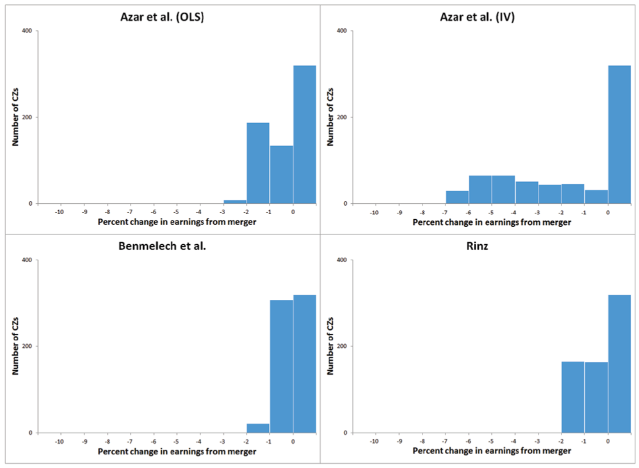
The histograms in **Figure E** illustrate the predicted worker-earnings effect of the proposed Sprint–T-Mobile merger in each of the four specifications we use. In commuting zones where no change in concentration takes place (because either one or both of the merging parties isn't present), there is no change in earnings. The variation among the four specifications that arises in these figures is due to the different estimates of β. In the highest-magnitude specification, Azar, Marinescu, and Steinbaum (2017) IV, the percent change in earning is as large as 7 percent in the labor market with the largest change in concentration. In most labor markets affected by the merger, the change in earnings is between 1 and 3 percent.

In order to calculate dollar values of these earnings reductions, we apply the pre-/post-merger earnings ratios to actual earnings data from the Quarterly Census of Employment and Wages (QCEW) for NAICS Industry 443142. For that level of aggregation, the QCEW reports earnings data at the county level where there are sufficient observations to clear anonymity concerns. From there, we aggregate to commuting zones. For commuting zones with no earnings data from its constituent counties, we use the state-level earnings for that industry.

Given baseline QCEW earnings, we calculate the dollar value of the percent change in average earnings by commuting zone in each of the four specifications. Those are displayed in **Figure F** as scatterplots and in **Figures G** and **H** as commuting-zone-level color-coded maps.

Figure E

Predicted percent change in worker earnings due to the increase in retail wireless labor market concentration if Sprint and T-Mobile merge



Note: "CZs" on y-axis stands for commuting zones. X-axis data labels indicate the lower bound of each bin. The right-most bar on each histogram represents the labor markets that are unaffected by the merger.

Source: Authors' calculations based on data from Change to Win 2018. Individual panels show change in worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018 (see text for details).

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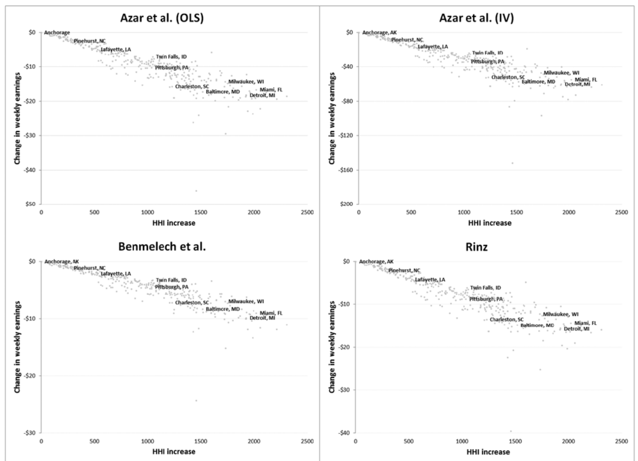
Figure F

Predicted change in retail wireless labor market concentration and in workers' weekly dollar earnings if Sprint and T-Mobile merge



Note: Y-axis scales are different for each scatterplot. The x-axis shows the increase in the Herfindahl-Hirschman Index, a standard measure of market concentration, applied in this context to labor market concentration.

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Individual panels show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018. See text for details.

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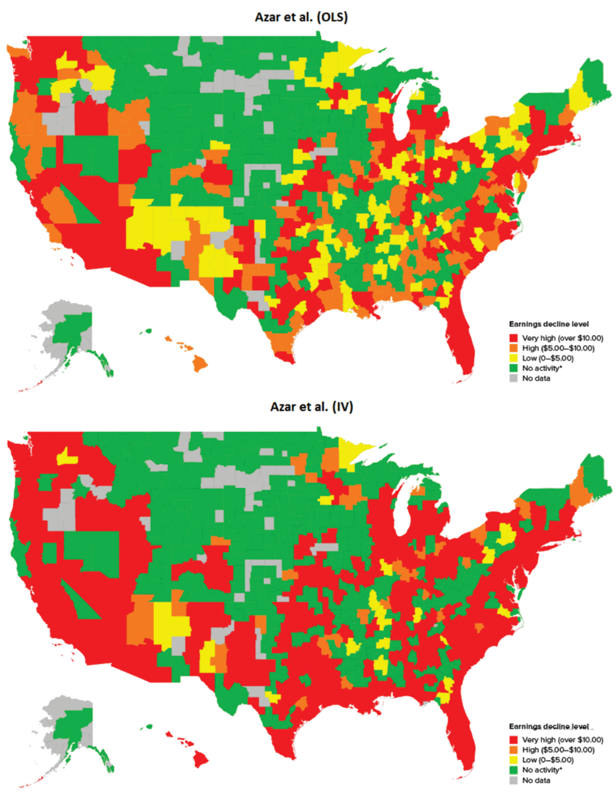
Figure G

Predicted change in workers' weekly dollar earnings if Sprint and T-Mobile merge, by commuting zone (Azar et al. specifications)



* Commuting zones without both active Sprint and T-Mobile stores

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Individual panels show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."). See text for details.

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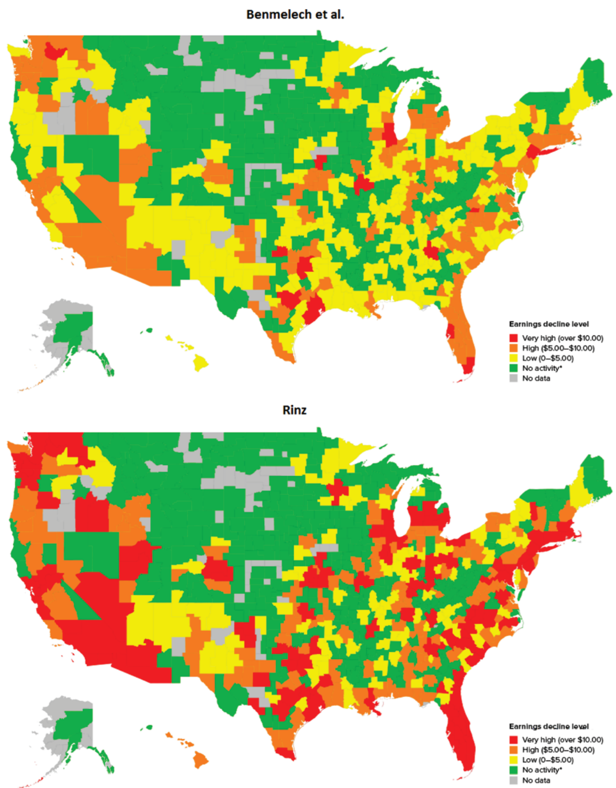
Figure H

Predicted change in workers' weekly dollar earnings if Sprint and T-Mobile merge, by commuting zone (Benmelech et al. and Rinz specifications)



* Commuting zones without both active Sprint and T-Mobile stores

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Individual panels show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018. See text for details.

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Table 3

10 commuting zones with the largest predicted decline in retail wireless worker weekly earnings from a Sprint–T-Mobile merger

Rank	Commuting zone	Azar et al. (OLS)	Azar et al. (IV)	Benmelech et al.	Rinz
1	*Wenatchee, WA*	-$46.03	-$151.95	-$24.33	-$39.49
2	*Atlanta, GA*	-$29.38	-$96.63	-$15.13	-$25.22
3	*Newark, NJ*	-$26.11	-$86.05	-$12.32	-$22.40
4	*Philadelphia, PA*	-$24.01	-$79.14	-$11.74	-$20.61
5	*Dallas, TX*	-$23.64	-$77.65	-$13.31	-$20.29
6	*Chicago, IL*	-$22.77	-$74.71	-$11.89	-$19.54
7	*Witchita Falls, TX*	-$22.14	-$72.56	-$11.58	-$19.01
8	*St. Louis, MO*	-$21.50	-$70.61	-$10.64	-$18.45
9	*Washington, DC*	-$19.73	-$64.90	-$9.63	-$16.93
10	*Kansas City, KS*	-$19.55	-$64.14	-$9.76	-$16.78

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Data columns show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018. See text for details.

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Finally, we report the top 10 commuting zones ranked by the dollar value of the predicted earnings reductions for workers (shown in **Table 3**). The 10 most affected commuting zones in terms of weekly worker-earnings declines are identical across specifications, but the magnitude of the reduction differs. We report this to illustrate the extent of the harm to labor market competition done by the merger at its most severe. (See **Appendix Tables 1** and **2** for the top 50 most affected commuting zones ranked by population and by the dollar value of the earnings decline.)

Discussion

This counterfactual analysis of merger effects potentially suffers from the methodological flaw that it may be economically incoherent to treat market concentration as an independent variable, *even if* estimates of its effect on earnings using the three studies are successful in uncovering exogenous variation in concentration in the data sets examined. This concern would vitiate the ceteris paribus exercise on which these predictions rest: that one can take before-and-after earnings-concentration equations and vary concentration without affecting other elements of market structure that might also affect the wage. The reason why is that concentration may be (and probably is) co-determined with other causes of earnings, or any equilibrium observable. For example, the Azar, Marinescu, and Steinbaum 2017 specifications control for labor market tightness in order to filter out demand shocks to local labor markets that might put some firms out of business, thus increasing concentration, and also lower earnings. Benmelech, Bergman, and Kim (2018) control for plant-level productivity to take into account that employers that are more productive are likely to have both higher market share and pay higher wages. In both cases, the change in concentration would be an effect, rather than a cause, of the same factor that changed wages. The exercise here assumes that you can vary concentration in these markets while leaving tightness or firm productivity unaffected, which may or may not be true in reality, even if the earnings regressions were able to filter out the effect of local labor demand shocks or of productivity.

While we recognize that these studies are not the last word on the effect of labor market concentration on workers' earnings, there are good reasons to believe in their empirical relevance to this merger review. Most importantly, they are able to survive the usual endogeneity critiques of concentration regressions: that concentration is caused by firm-specific productivity that also causes whatever outcome is being investigated, or that some set of shocks (for example, to labor demand) causes both variation in concentration and variation in earnings. As the previous paragraph implies, however, the critique is not simply that the regressions in the studies are endogenous, but also that it is economically incoherent to vary concentration out of sample and consider the effect of doing so on outcomes. Our response to this is simply that taking such a critique to its logical conclusion would make it difficult to perform any economic-policy-relevant counterfactual. Economists recognize that independent variables are co-determined all the time and nonetheless perform counterfactuals on them, hopefully using empirical estimates that most closely mirror the counterfactual exercise being undertaken in an experimental or quasi-experimental setup.

The typical approach to merger review in product markets is to weigh the increased prices due to increased market power deriving from a merger-induced change to market structure against merger "efficiencies" resulting from reductions in suppliers' costs. Since we are concerned exactly with such "efficiencies"—namely, the exercise of anti-competitive monopsony power in labor markets—we eschew the latter consideration, for which there is in any case no obvious counterpart on the seller side of the wireless telecommunications market, and because, as the aforementioned paper by Glick (2018) points out, the "tradeoff" is incoherent in welfare terms in any case. What distinguishes our assessment of earnings reductions from the analysis typically employed by antitrust agencies and courts is our direct analysis of the market in which market power is (potentially) being exercised, versus, for example, making assumptions about the form of competition in that market and deriving a mathematical model from those assumptions, within which the merger can then be simulated—conditional on the correctness of those assumptions. Whether one is willing to make those assumptions depends on what is to be gained from them. Here, we would rather not commit ourselves to specifying *ex ante* how competition in labor markets works. We prefer simply to go to the data.

A further source of concern about the accuracy of our predictions is that if we have defined labor markets incorrectly, then there may be greater elasticity of labor supply in response to increased market concentration (as we measure it) than there was in the samples of markets used by the studies we rely on. Intuitively, if our market definition is narrow relative to those studies, then workers may move more easily to other employers should the merging parties or their competitors seek to reduce wages. Perhaps retail employees in mobile telecoms stores can easily find work in other types of stores, for example.

This concern should be mitigated, however, by the studies of low firm-specific labor supply elasticity cited above (Webber 2015; Dube et al. 2018). What they find is that even where workers could easily find another job—for example, in online labor markets where work is interchangeable and any job can be done from the same place—namely, one's home—the elasticity of labor supply with respect to the wage is extremely low. What appears to outside observers as abundant job opportunities available to workers seems not to be the case for the workers themselves. Strengthening the case that a narrow market definition is appropriate is the fact that Sprint and T-Mobile have been known to use noncompete agreements to constrain the mobility of their workers (PerfectHandle 2015; Nevs0521 2006).

Finally, a more mundane objection to this exercise, but one worth making since it is more grounded in the empirics of prospective and retrospective merger analysis, is that concentration is highly variable even in well-defined antitrust markets, for reasons other than mergers. Ex-post examination of competitive effects of a merger often have trouble even detecting any merger effect on concentration outside of the most-affected markets, let alone the competitive effect of that change in concentration on outcomes (Steinbaum 2018). That is because the merger "signal" is often drowned out by the noise of other variation in concentration, from entry, exit, or changes in market shares arising from some other cause. In this paper's exercise, the variation in concentration we use to predict earnings changes is calculated by simply combining market shares of the merging parties. But should the merger be consummated, the change in concentration that actually results from it would probably be different (and vary widely across markets) than the predicted change we use. That concern is prior to the concern about the out-of-sample robustness of the earnings regressions, and probably a more empirically relevant basis for doubting these predictions than the reluctance to make assumptions about the competitive structure of labor markets expressed above.

Conclusion and policy implications

In this paper, we predict that the merger of Sprint and T-Mobile would reduce labor market competition and therefore reduce earnings in the labor markets where the combined company hires workers to staff its retail stores. To do that, we employ earnings-concentration estimates from three recent studies, which use distinct data sets and specifications to estimate a negative relationship. Moreover, there is reason to believe this market, like most labor markets, is already monopsonized, and hence a profit-maximizing employer would be expected to use its increased monopsony power to reduce wages and worker benefits post-merger.

To the best of our knowledge, this is the first attempt to use the recent spate of labor market concentration studies in a prospective merger review in the United States. We think that analysis of competitive effects in labor markets should be incorporated into competition enforcement as a routine matter. This would require antitrust agencies to come up with principles for defining labor markets and assessing competition therein. It would also involve compulsory data collection from merging parties and other market participants with respect to firm- and establishment-level payroll data matched to employee characteristics (including labor market histories), insofar as these are known to the firms. It should encompass restrictions employers place on their workers, including noncompetes and mandatory arbitration clauses and class-action waivers. It should also extend to independent contractors and other non-employee workers, given their increasing importance to the business models of the economy's most powerful actors. Given what we know about the high degree of interfirm and interestablishment disparities in pay, and what the research shows about the importance of internal labor markets, promotion structures, hiring policies, and outsourcing for labor market outcomes, highly granular data is necessary to effectively assess competition implications for labor markets. Furthermore, if such data collection were a routine (and compulsory) part of merger review, then we would not need to rely on out-of-sample predictions of earnings effects such as the one undertaken in this paper; instead, we could look at wage and other labor data connected directly to the merging parties, as employers.

The potential for anti-competitive effects of mergers in labor markets implicates larger issues of antitrust enforcement beyond expanding merger review to consider labor markets. Under the consumer welfare standard, when evaluating the potential for the anti-competitive exercise of monopoly power, enforcers weigh harm to consumers against "efficiencies" in the form of lower costs of production. If monopsony power is endemic in the economy, then such a comparison is incoherent in welfare economics terms because the profits of incumbents due to anti-competitive wage reductions are not equivalent in welfare terms to consumer surplus. This scenario points to the inadequacy of the consumer welfare standard to antitrust enforcement given realistic economic assumptions.

For that reason, we have proposed the Effective Competition Standard (Steinbaum and Stucke 2018), which, if enacted, would alter the Sprint–T-Mobile merger review in three respects. First of all, it shifts the burden of proof in any merger review to the merging parties, to prove their transaction would not harm competition. Second, it mandates that antitrust enforcers look more often upstream for anti-competitive effects, including in labor markets—mitigating the neglect of upstream harm to competition during the consumer welfare standard era. Finally, it establishes a right of market access for upstream suppliers, which, in this case, would include content creators who use wireless technology to reach customers. They would have the right to do so without exclusion or discrimination, which in turn places restrictions on the autonomy of powerful telecoms distributors like a combined Sprint–T-Mobile to extract a toll or to treat their customers or affiliates preferentially. If the merger threatened that right of market access, that would be grounds for preventing it.

This merger is proposed in a market where product market competition has been virtually eliminated, by both horizontal and vertical mergers and through the repeal of regulations—the 2015 Open Internet Order—designed to preserve competition in a sector in which incentives for discrimination and exclusion are significant. The aim of the

Telecommunications Act of 1996—to introduce competition as an alternative to the heavy-handed regulation of the regime established by the Communications Act of 1934 and amendments—has manifestly failed. Instead, we now have the worst of both worlds: private rather than public regulation; discrimination and exclusion among suppliers, workers, and customers; and the extremely high profits that result from such a business model. Moreover, the labor markets where telecoms companies hire their workers are already monopsonized, meaning that increased market power on the part of employers would likely cause employment loss and wage declines. It is time for competition and regulatory authorities to take a new look at the rules governing the way telecoms are currently run in this country, including the antitrust enforcement approach that has allowed telecoms companies to consolidate to the point that they threaten overall economic well-being.

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Appendix Table 1

Predicted decline in retail wireless worker weekly earnings from a Sprint–T-Mobile merger, by commuting zone, ranked by population size

Rank (by population)	Commuting zone	Azar et al. (OLS)	Azar et al. (IV)	Benmelech et al.	Rinz
1	***Los Angeles, CA***	-$16.96	-$55.69	-$9.14	-$14.56
2	***New York, NY***	-$18.91	-$62.24	-$10.07	-$16.23
3	***Chicago, IL***	-$22.77	-$74.71	-$11.89	-$19.54
4	***Houston, TX***	-$18.58	-$61.03	-$10.03	-$15.95
5	***Newark, NJ***	-$24.01	-$79.14	-$11.74	-$20.61
6	***San Francisco, CA***	-$17.16	-$56.59	-$8.10	-$14.73
7	***Boston, MA***	-$11.82	-$39.05	-$5.55	-$10.14
8	***Washington, DC***	-$19.73	-$64.90	-$9.63	-$16.93
9	***Atlanta, GA***	-$29.38	-$96.63	-$15.13	-$25.22
10	***Philadelphia, PA***	-$12.37	-$40.88	-$5.80	-$10.61
11	***Detroit, MI***	-$18.29	-$60.07	-$9.83	-$15.70
12	***Miami, FL***	-$19.33	-$63.47	-$11.86	-$16.59
13	***Phoenix, AZ***	-$15.45	-$50.97	-$7.69	-$13.26
14	***Seattle, WA***	-$18.98	-$62.71	-$9.05	-$16.28
15	***Dallas, TX***	-$23.64	-$77.65	-$13.31	-$20.29
16	***New Haven, CT***	-$11.91	-$39.40	-$5.22	-$10.22
17	***Minneapolis, MN***	-$18.15	-$59.81	-$8.48	-$15.58
18	***San Diego, CA***	-$13.74	-$45.27	-$6.92	-$11.79
19	***Tampa, FL***	-$18.73	-$61.62	-$10.29	-$16.07
20	***Denver, CO***	-$13.27	-$43.67	-$6.42	-$11.39
21	***Baltimore, MD***	-$17.26	-$56.86	-$8.34	-$14.82
22	***Akron, OH***	-$12.30	-$40.54	-$5.67	-$10.55
23	***San Jose, CA***	-$15.82	-$52.26	-$7.25	-$13.57
24	***St. Louis, MO***	-$21.50	-$70.61	-$10.64	-$18.45
25	***Pittsburgh, PA***	-$10.24	-$33.88	-$4.47	-$8.78
26	***Yonkers, NY***	-$11.78	-$38.95	-$5.49	-$10.11
27	***Sacramento, CA***	-$13.48	-$44.44	-$6.43	-$11.57

Appendix Table 1 (cont.)

Rank (by population)	Commuting zone	Azar et al. (OLS)	Azar et al. (IV)	Benmelech et al.	Rinz
28	***Orlando, FL***	-$17.51	-$57.45	-$9.26	-$15.03
29	***Portland, Oregon***	-$12.12	-$40.00	-$5.60	-$10.40
30	***Lake Havasu, AZ***	-$12.66	-$41.75	-$5.98	-$10.86
31	***Dallas, TX***	-$18.15	-$59.65	-$9.97	-$15.58
32	***San Antonio, TX***	-$17.04	-$56.08	-$8.66	-$14.63
33	***Cincinnati, OH***	-$13.86	-$45.69	-$6.24	-$11.89
34	***Charolotte, NC***	-$13.52	-$44.53	-$6.16	-$11.60
35	***Columbus, OH***	-$17.66	-$58.16	-$8.21	-$15.16
36	***Indianapolis, IN***	-$15.07	-$49.69	-$6.88	-$12.94
37	***Durham, NC***	-$16.72	-$55.16	-$7.67	-$14.35
38	***Kansas City, KS***	-$19.55	-$64.14	-$9.76	-$16.78
39	***Atlantic City, NJ***	-$16.46	-$54.28	-$7.85	-$14.12
40	***Austin, TX***	-$26.11	-$86.05	-$12.32	-$22.40
41	***Fort Lauderdale, FL***	-$16.72	-$54.84	-$9.01	-$14.35
42	***York, PA***	-$10.62	-$35.07	-$4.77	-$9.11
43	***Milwaukee, WI***	-$14.26	-$46.85	-$7.01	-$12.24
44	***Virginia Beach, VA***	-$11.06	-$36.46	-$5.24	-$9.49
45	***Salt Lake City, UT***	-$16.69	-$55.02	-$8.05	-$14.32
46	***Hanford, CA***	-$9.08	-$30.03	-$4.12	-$7.79
47	***Providence, RI***	-$14.66	-$48.16	-$7.32	-$12.58
48	***Jacksonville, FL***	-$17.30	-$56.94	-$8.65	-$14.85
49	***Nashville, TN***	-$16.36	-$53.92	-$7.38	-$14.04
50	***Grand Rapids, MI***	-$17.41	-$57.36	-$9.04	-$14.94

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Data columns show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018. See text for details.

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Appendix Table 2

Predicted decline in retail wireless worker weekly earnings from a Sprint–T-Mobile merger, by commuting zone, ranked by earnings change

Rank (by earnings change)	Commuting zone	Azar et al. (OLS)	Azar et al. (IV)	Benmelech et al.	Rinz
1	*Wenatchee, WA*	-$46.03	-$151.95	-$24.33	-$39.49
2	*Atlanta, GA*	-$29.38	-$96.63	-$15.13	-$25.22
3	*Austin, TX*	-$26.11	-$86.05	-$12.32	-$22.40
4	*Newark, NJ*	-$24.01	-$79.14	-$11.74	-$20.61
5	*Dallas, TX*	-$23.64	-$77.65	-$13.31	-$20.29
6	*Chicago, IL*	-$22.77	-$74.71	-$11.89	-$19.54
7	*Wichita Falls, TX*	-$22.14	-$72.56	-$11.58	-$19.01
8	*St. Louis, MO*	-$21.50	-$70.61	-$10.64	-$18.45
9	*Washington, DC*	-$19.73	-$64.90	-$9.63	-$16.93
10	*Kansas City, KS*	-$19.55	-$64.14	-$9.76	-$16.78
11	*Miami, FL*	-$19.33	-$63.47	-$11.86	-$16.59
12	*Martinsville, VA*	-$19.22	-$63.09	-$10.35	-$16.50
13	*El Centro, CA*	-$19.10	-$62.61	-$9.93	-$16.40
14	*Provo-Orem, UT*	-$19.05	-$62.75	-$8.86	-$16.35
15	*Columbia, SC*	-$19.03	-$62.64	-$8.90	-$16.34
16	*Champaign, IL*	-$18.98	-$62.65	-$8.41	-$16.29
17	*Seattle, WA*	-$18.98	-$62.71	-$9.05	-$16.28
18	*New Orlean, LA*	-$18.98	-$62.26	-$9.49	-$16.29
19	*New York, NY*	-$18.91	-$62.24	-$10.07	-$16.23
20	*Tampa, FL*	-$18.73	-$61.62	-$10.29	-$16.07
21	*Houston, TX*	-$18.58	-$61.03	-$10.03	-$15.95
22	*St. Joseph, MO*	-$18.53	-$60.76	-$11.05	-$15.91
23	*Detroit, MI*	-$18.29	-$60.07	-$9.83	-$15.70
24	*Boise City, ID*	-$18.17	-$59.77	-$8.54	-$15.60
25	*Dallas, TX*	-$18.15	-$59.65	-$9.97	-$15.58
26	*Minneapolis, MN*	-$18.15	-$59.81	-$8.48	-$15.58
27	*Huntsville, TX*	-$17.89	-$58.91	-$8.98	-$15.35
28	*Columbus, OH*	-$17.66	-$58.16	-$8.21	-$15.16

Appendix Table 2 (cont.)

Rank (by earnings change)	Commuting zone	Azar et al. (OLS)	Azar et al. (IV)	Benmelech et al.	Rinz
29	*Orlando, FL*	-$17.51	-$57.45	-$9.26	-$15.03
30	*Plainview, TX*	-$17.45	-$57.47	-$9.17	-$14.97
31	*Ottawa, KS*	-$17.43	-$57.10	-$9.36	-$14.96
32	*Grand Rapids, MI*	-$17.41	-$57.36	-$9.04	-$14.94
33	*Jacksonville, FL*	-$17.30	-$56.94	-$8.65	-$14.85
34	*Greenville, NC*	-$17.29	-$56.91	-$9.18	-$14.84
35	*Baltimore, MD*	-$17.26	-$56.86	-$8.34	-$14.82
36	*San Francisco, CA*	-$17.16	-$56.59	-$8.10	-$14.73
37	*San Antonio, TX*	-$17.04	-$56.08	-$8.66	-$14.63
38	*Los Angeles, CA*	-$16.96	-$55.69	-$9.14	-$14.56
39	*Durham, NC*	-$16.72	-$55.16	-$7.67	-$14.35
40	*Fort Lauderdale, FL*	-$16.72	-$54.84	-$9.01	-$14.35
41	*Salt Lake City, UT*	-$16.69	-$55.02	-$8.05	-$14.32
42	*Atlantic City, NJ*	-$16.46	-$54.28	-$7.85	-$14.12
43	*Nashville, TN*	-$16.36	-$53.92	-$7.38	-$14.04
44	*Flint, MI*	-$16.21	-$53.25	-$8.16	-$13.92
45	*San Jose, CA*	-$15.82	-$52.26	-$7.25	-$13.57
46	*Harrisonburg, VA*	-$15.78	-$52.00	-$9.02	-$13.54
47	*Charleston, SC*	-$15.72	-$51.91	-$7.22	-$13.49
48	*Emporia, KS*	-$15.65	-$51.42	-$8.33	-$13.43
49	*Phoenix, AZ*	-$15.45	-$50.97	-$7.69	-$13.26
50	*Ontario, OR*	-$15.43	-$50.70	-$7.69	-$13.25
Average		-$19.13	-$62.93	-$9.74	-$16.42

* Rankings are based on the Azar et al. (OLS) predicted earnings decline.

Source: Authors' calculations based on data from Change to Win 2018 and earnings data from the Quarterly Census of Employment and Wages. Data columns show change in labor market concentration and worker earnings using estimated effects of labor market concentration from Azar, Marinescu, and Steinbaum 2017 ("Azar et al."); Benmelech, Bergman, and Kim 2018 ("Benmelech et al."); and Rinz 2018. See text for details.

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Endnotes

1. The new findings we put to use in this paper on monopsony power in labor markets return to the roots of an old debate about whether individual employers have the power to set wages (which is how this paper defines "monopsony"). In recent decades, economists have grounded their theories as to why individual employers have the power to set wages in labor market imperfections that impair worker mobility even when many employers might be active in a given market (Manning 2003, 2011). The three papers we rely on for the predictions made in this paper resurrect arguments in an older literature—that employer power to set wages might also be caused by outright concentration, i.e., the existence of few employers in a given labor market, which means that workers cannot obtain outside job offers because there aren't any employers to give job offers (Robinson 1933, for example). We view the two theories as consistent and mutually reinforcing, with implications for competition policy that are considerable.

2. The Herfindahl-Hirschman Index is computed by summing the squares of each firm's market share, and then multiplying the resulting sum by 10,000. It thus up-weights large market shares in the computation of overall concentration in a market.

3. According to the Horizontal Merger Guidelines, the threshold for a highly concentrated market is 2500, and the threshold for a merger that threatens to reduce competition is one that would increase concentration by 200 HHI points.

4. 374 U.S. 321.

5. The word "monopsony" formally refers to a single employer as the sole purchaser of labor in a market, but the word has a wider application in this paper and in the economics literature more generally. In contemporary economics, monopsony power refers to inelastic firm-level labor supply, giving employers some unilateral discretion to set wages. Alternatively, from the worker's point of view, monopsony refers to wages that are less than the marginal product of labor. There are many potential reasons why labor markets might be monopsonized, including a small number of employers, search-and-matching frictions, asymmetric information, or discrimination.

6. Change to Win's research indicates that the Sprint–T-Mobile merger is likely to reduce employment by the merging parties and their competitors. The analysis in this EPI paper assumes no change in employment as a result of the merger. The analysis in this paper could be seen, for that reason, as a scenario under which the monopsony power that results from the merger is used solely to depress wages. In reality, it may reduce both wages and employment.

7. Benmelech, Bergman, and Kim (2018) use a log-level, rather than a log–log, specification for the earnings-concentration regression equation. This difference is reflected in the merger counterfactual calculations reported below.

8. Benmelech, Bergman, and Kim (2018) observe unionization rates at firms in their data, which they use as another control. They find that unionization mitigates the earnings-reducing effect of concentration, a finding that is tentatively corroborated by Kwan and Liu (2018). In fact, the Benmelech, Bergman, and Kim 2018 paper posits that one of the reasons labor market concentration exerts a macroeconomically significant negative impact on wages now, versus in the past, is not only that labor markets have become more concentrated, but also that concentration matters more for wages since unionization rates have declined. For the retail wireless labor markets we study, Change to Win (2018) estimates that the unionization rate is

approximately 9 percent, almost entirely at corporately owned stores of AT&T Mobility LLC (the AT&T subsidiary that provides wireless services).

9. We return to the validity of this ceteris paribus exercise for concentration at the end of this section.

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APPENDIX D:
DECLARATION OF ANDREW AFFLERBACH, PH.D., P.E.
Chief Executive Officer and Chief Technology Officer, CTC Technology & Energy

APPENDIX D:
DECLARATION OF ANDREW AFFLERBACH, PH.D., P.E.
Chief Executive Officer and Chief Technology Officer,
CTC Technology & Energy
WT Docket 18-197

DECLARATION OF ANDREW AFFLERBACH, PH.D., P.E.

1. I have been the Chief Executive Officer and Chief Technology Officer of Columbia Telecommunications Corporation (d/b/a CTC Technology & Energy), a communications engineering consultancy, since 2000, and was Senior Scientist at CTC from 1996 until 2000. I specialize in the planning, design, and implementation of communications infrastructure and networks. My expertise includes fiber and wireless technologies and state-of-the-art networking applications. I have closely observed the development of wireless technology since the advent of the commercial internet in the 1990s.
2. As CTO, I am responsible for all engineering work and technical analysis performed by CTC. I have planned and overseen the implementation of a wide variety of wired and wireless government and public safety networks. I have advised cities, counties, and states about emerging technologies, including successive generations of wireless networks across a range of licensed and unlicensed spectrum bands. I have developed broadband technology strategy for cities including San Francisco, Seattle, Atlanta, Washington, D.C., and New York; for states including Connecticut, Delaware, Kansas,

Kentucky, and New Mexico; and for the government of New Zealand's national broadband project.

3. I have designed wireless networks for large cities, counties, and regions. I lead the CTC team advising the State of Texas Department of Transportation and many local governments on wireless facilities standards and processes. I also lead the CTC technical teams conducting FirstNet planning for the District of Columbia and the State of Delaware.
4. I have prepared extensive technical analyses for submission to the U.S. Federal Communications Commission and U.S. policymakers on broadband expansion to underserved schools, libraries, and other anchor facilities; on due diligence for the IP transition of the U.S. telecommunications infrastructure; and on the relative strengths and weaknesses of various wired and wireless technologies.
5. Under my direction, the technical team at CTC has advised hundreds of public and non-profit clients, primarily in the United States. My technical staff has been engaged on projects encompassing the evaluation or planning of hundreds of miles of fiber optics and hundreds of wireless nodes in rural, suburban, and urban areas across the country. My experience with rural broadband engineering encompasses the full range of geographic typologies in the United States, from the desert and mountains of the West to the plains in the Midwest to the mountain and coastal areas of the East.
6. I am a licensed Professional Engineer in the Commonwealth of Virginia and the states of Delaware, Maryland, and Illinois. I received a Ph.D. in Astronomy in 1996 from the

University of Wisconsin–Madison and an undergraduate degree in Physics from Swarthmore College in 1991. My full CV is included in Attachment A.

New T-Mobile would only marginally improve rural broadband relative to stand-alone T-Mobile and Sprint

7. Based on my review of the redacted public version of T-Mobile and Sprint's Public Interest Statement (hereinafter, "Statement"), one of the justifications T-Mobile and Sprint ("Applicants") emphasize for their merger is the enhanced broadband service that "New T-Mobile" would be able to provide to underserved rural areas. However, based on my review of the information presented in the Applicants' Statement, the merged New T-Mobile would only provide marginally better broadband options than stand-alone T-Mobile in much of rural America.

8. The deployment plan does not appear to harm or reduce the capacity or coverage for rural Americans and may provide benefits for some. However, for the great majority of rural Americans, the level of coverage and capacity would be similar for the merged New T-Mobile network and the stand-alone T-Mobile network.

9. By the Applicants' own admission in Table 9 of the Statement, as discussed in more detail in Paragraph 12 below, most of New T-Mobile's rural customers would be forced to settle for a service that has significantly lower performance than the urban and suburban parts of the network. This is because (a) Sprint's network is mostly concentrated in urban and suburban areas and therefore the New T-Mobile network would gain relatively few new sites in rural areas from Sprint to add to stand-alone T-Mobile's network; (b) Sprint's "mid-band spectrum" (i.e., 2.5 GHz and PCS) that would

become available for use at T-Mobile sites will not be activated in many rural areas in the next six years; and (c) for technical reasons described in more detail below, that mid-band spectrum is only marginally useful in rural areas. Therefore, the merger does not by itself provide a meaningful solution to the lack of adequate broadband options in most rural parts of the country.

New T-Mobile's mid-band spectrum coverage would be insufficient to support rural broadband

10. In his public statement, T-Mobile CTO Neville Ray touts many potential benefits of 5G (described in more detail below), but the full degree of these benefits will largely be limited to customers in urban and suburban areas with adequate mid-band and millimeter-wave (mmWave) spectrum coverage. The wide mid-band and mmWave spectrum bands have more capacity than low-band and therefore are the key underlying factor in potentially providing speeds of hundreds of Mbps (mid-band) or Gbps (mid-band plus mmWave). However, they also have more limited propagation characteristics than the lower bands and, as indicated by Table 9 in the Statement and discussed in more detail in Paragraph 12 below, will not be activated in most of New T-Mobile's rural markets in the coming years. Without the added capacity of the mid-band spectrum, New T-Mobile would be unable to support bandwidth-intensive applications on its networks in most rural parts of the country. In areas with both low- and mid-band coverage, New T-Mobile's network (assuming adequate engineering, construction, and operations) would potentially support bandwidth-intensive applications such as telehealth services, autonomous vehicles, high-definition video streams, virtual reality, and online gaming—

but rural subscribers would have limited or no access to these services without mid-band coverage.

11. Mr. Ray explains that low-band spectrum (below 1 GHz) can support cell site operating radii of up to 18 miles, while mid-band spectrum (from 1 GHz to 6 GHz) can support cell site operating radii of up to approximately 4 miles around cell sites.[1] T-Mobile has aggressively extended its coverage in rural areas using its 600 MHz and 700 MHz spectrum in the past few years. Sprint also has licenses for 14 MHz of 800 MHz spectrum in most of the United States, but Sprint's narrow holdings in the 800 MHz spectrum band will only contribute a small amount of additional spectrum, relative to the hundreds of MHz in the mid-band spectrum (see table below). Moreover, Sprint service is limited in rural areas away from major roadways, where it relies mostly on service from its roaming partners;[2] adding its relatively few rural towers will not add much to the coverage already provided by T-Mobile in the rural areas. Therefore, even if New T-Mobile were to add Sprint's mid-band spectrum assets to all its rural towers, only a fraction of the total covered area would be within range of the mid-band signal and able to provide hundreds of Mbps to customers of the merged network. The T-Mobile and Sprint spectrum holdings are summarized in the following table.[3]

[1] Declaration of Neville R. Ray, Executive Vice President and Chief Technology Officer, T-Mobile, US, Inc., Appendix B, at ¶36.

[2] Sprint roaming coverage, https://coverage.sprint.com/roamingmap.jsp (accessed August 23, 2018).

[3] *See T-Mobile US, Inc. and Sprint Corporation Seek FCC Consent to the Transfer of Control of Licenses, Authorizations, and Spectrum Leases held by Sprint Corporation and Its Subsidiaries to T-Mobile US, Inc.*, WT Docket No. 18-197, Description of Transaction, Public Interest Statement, and Related Demonstrations, at Appendix L, Spectrum Holdings and Aggregation Data (filed June 18, 2018).

T-Mobile and Sprint Spectrum Holdings

Carrier	Band	Amount	Rural Propagation
T-Mobile	600 MHz	20–50 MHz	Good
T-Mobile	700 MHz	0–36 MHz	Good
T-Mobile	AWS-1	10-50 MHz	Limited
T-Mobile	AWS-3	0–30 MHz	Limited
T-Mobile	PCS	0–50 MHz	Limited
T-Mobile	28 GHz	0–850 MHz	Very limited
T-Mobile	39 GHz	0–200 MHz	Very limited
Sprint	800 MHz	4.9–14 MHz	Good
Sprint	PCS	20–60 MHz	Limited
Sprint	2.5 GHz	0–156.5 MHz	Limited

12. In fact, the Statement acknowledges that much of rural America would be left without mid-band coverage after the proposed merger. Even under the best-case scenario presented in the Statement, T-Mobile projects that if the merger were approved, 84.6 million Americans (26 percent of the 325.5 million total population assumed by the Statement)[4] would still lack New T-Mobile mid-band coverage in 2021, and by 2024, 45.9 million Americans (14 percent of the 328.1 million total population assumed by the Statement) would continue to lack access to these high-capacity mid-bands.[5] These numbers are calculated based on the data provided by T-Mobile in Table 9 of its Statement (reproduced below), subtracting the projected New T-Mobile mid-band covered population for those years from the total population (as calculated based on the table's estimate of the corresponding percentage of uncovered Americans).

[4] The U.S. population was derived from the Statement's numbers by taking the Covered Pops in Table 9 and dividing by the percent served for 2021 and 2024. For example, dividing the Covered Pops in 2021 mid-band (240.9 million) by one minus the 26 percent unserved number provides a total population for 2021 of 325.5 million. Dividing the Covered Pops in 2024 mid-band (282.2 million) by one minus the 14 percent unserved number provides a total population for 2024 of 328.1 million.

[5] Description of Transaction, Public Interest Statement, and Related Demonstrations at p. 47.

Table 9 from T-Mobile's Statement

		T-Mobile	Sprint	New T-Mobile
	Network Coverage Footprint	Covered Pops (Millions)	Covered Pops (Millions)	Covered Pops (Millions)
Year 2021	Mid-band (PCS & 2.5GHz)	74.6 (77% uncovered)	174.7 (47% uncovered)	240.9 (26% uncovered)
	Low-band (600)	317.9 (2.9% uncovered)	0 (100% uncovered)	319.6 (2.4% uncovered)
Year 2024	Mid-band (PCS & 2.5GHz)	173.2 (47% uncovered)	194.0 (41% uncovered)	282.2 (14% uncovered)
	Low-band (600)	323.0 (1.4% uncovered)	0 (100% uncovered)	324.1 (1.0% uncovered)

13. Additionally, Figure 10 of the Statement shows New T-Mobile's predicted low-band and mid-band coverage. The dark red areas depicting the mid-band coverage indicates that the Americans unserved by the mid-band are outside metropolitan areas. Because Figure 10 is a low-resolution map of the entire U.S., it does not precisely resolve the mid-band service areas, which are a few miles across; a higher-resolution map would likely indicate many additional uncovered areas within the dark area. Therefore, assuming that the country's rural population is the least served by mid-band, and using the numbers above, New T-Mobile will likely provide mid-band coverage to few or no rural Americans by 2021, and, under best-case projections, only 26 percent of rural Americans by 2024.

T-Mobile and Sprint's claims of enhanced rural broadband for New T-Mobile are not supported by their stated reliance on the same low-band coverage as the unmerged company

14. The Statement refers to enhanced coverage in rural areas driven by increased cell site density but does not quantify the increased number of cell sites for New T-Mobile in

rural areas compared to stand-alone T-Mobile and stand-alone Sprint. Further quantitative information about the number and locations of additional towers, ideally in high-resolution maps or shapefiles, is necessary to evaluate the magnitude of New T-Mobile's proposed rural buildout.

15. Judging by the relatively small change in the low-band-covered population with and without the merger (Table 9 in the Statement), New T-Mobile may not be contemplating a large buildout in rural areas of the country. Table 9 provides T-Mobile's estimate of the covered population for the merged companies and for T-Mobile and Sprint separately, in 2021 and 2024, for mid-band and low-band.

16. According to Table 9, the low-band coverage (reflecting the total urban, suburban, and rural coverage) will be relatively constant regardless of whether the merger happens. Without the merger, Table 9 indicates that T-Mobile's low-band network will cover 317.9 million users by 2021 and 323 million by 2024, compared with New T-Mobile's 319.6 million users covered by 2021 and 324.1 million by 2024.[6] Thus, the New T-Mobile's low-band network would only serve an additional 1.7 million users by 2021 and an additional 1.1 million users by 2024 compared to stand-alone T-Mobile. Since most of the new spectrum that Sprint would bring to New T-Mobile is in the mid-band, the 45.9 million (2024) to 84.6 million (2021) customers discussed above that can only access New T-Mobile's low-band network would not receive large amounts of new spectrum and would receive speeds similar to what they would receive from stand-alone T-Mobile.

[6] Description of Transaction, Public Interest Statement, and Related Demonstrations at p. 47.

17. Since the actual speeds that users of mobile 4G and 5G networks experience are largely dependent on the signal strength they receive, it is also important to note that the user experience will deteriorate for users who are farther from the antenna site, who are indoors, or who are obstructed by terrain or foliage. It is not clear from the Statement whether and how this variation has been taken into account in the capacity and coverage estimates. As mentioned in Paragraph 13 above, the Statement's Figure 10 is a high-level approximation and implies a consistent level of mid-band coverage over large areas. For these reasons, higher-resolution maps and model assumptions are required to enable a full understanding of the potential capacity and coverage in rural areas.

18. Even according to the projections offered in the Statement, of the 59.4 million rural Americans that New T-Mobile expects to serve with outdoor mobile coverage by 2024, 13.5 million will still receive speeds below 10 Mbps.[7] To put these speeds in perspective, the Statement claims that New T-Mobile will provide average data rates above 500 Mbps to 208.7 million Americans, mostly in urban and suburban areas, by 2024.[8]

T-Mobile states that the merger will improve the path to 5G, but 5G is still in conceptual U-phases

19. Given the strong emphasis that the Statement places on accelerating the transition to 5G technology as a justification for the merger, it is important to note the considerable uncertainty around emerging 5G standards, equipment, pricing, capabilities, and deployment patterns. As a starting point, the Statement is centered around projections for

[7] Declaration of Neville R. Ray, Executive Vice President and Chief Technology Officer, T-Mobile, US, Inc., Appendix B, at ¶ 36.

[8] Declaration of Neville R. Ray, Executive Vice President and Chief Technology Officer, T-Mobile, US, Inc., Appendix B, at ¶ 20.

2021 and 2024. Three to six years is a significant amount of time in technological evolution. For example, six years ago, mobile broadband was in the early days of 4G LTE and much of the current mobile application environment and industry development could not have been easily foreseen.

20. The standards for both mobile and fixed 5G are still in development, which means that equipment is not yet being built to standards and is thus neither interoperable nor at scale. This is true not only for networking equipment but also for 5G-capable devices such as smartphones, laptops, tablets, and other consumer electronics. None of these equipment categories is yet being mass-manufactured, let alone adopted by consumers; the timeline, deployment, and uptake patterns are still uncertain.

21. 5G mobile standards are being developed by participants in the 3GPP standards development process.[9] 3GPP approaches standardization in stages, and in December 2017 announced completion of phases 1 and 2 of the mobile 5G standard.[10] These stages include a system architecture, the services to be provided in 5G, and coexistence with and evolution from 4G. Work in progress includes specifications for the radio access network (RAN), including the switching and service node descriptions to implement the 5G

[9] The cellular communications standards process is overseen by the International Telecommunication Union (ITU) and by 3GPP, the organization of global standards bodies that were responsible for developing earlier GSM and LTE standards.

[10] Frank Mademann, "System architecture milestone of 5G Phase 1 is achieved," 3GPP, News Release, Dec. 21, 2017, http://www.3gpp.org/news-events/3gpp-news/1930-sys_architecture (accessed August 22, 2018).

services.[11] In other words, the standards are in a conceptual stage, with significant detailed work yet to be completed.

22. Given that 5G equipment has not yet been built or tested in its final form, and is still years away from mass production, the exact performance characteristics of operational 5G equipment are not known. Therefore, the increases in capacity and the deployment schedules presented by T-Mobile based on 5G equipment are necessarily estimates. The cost and complexity of upgrading a network to 5G, both of which are critical inputs into a buildout schedule, also are not yet well known. In my experience, there still exist many questions within the network engineering community about the form in which mobile 5G deployment will emerge, and whether it will emerge within five years, 10 years, or at all.

23. Indeed, the Statement notes that Verizon and AT&T are pursuing a different approach than New T-Mobile with respect to 5G, with an initial focus on urban mmWave and fixed deployments rather than mobile. The different approach by the two industry leaders, described as "tepid" by Dr. David Evans in the Statement, may also indicate a broader industry-wide reluctance toward 5G and a more cautious walk to the technology (including by investors). Indeed, there is precedent for widely heralded wireless technologies never reaching maturity; WiMAX, for example, was anticipated as a wireless response to fixed broadband nationwide but only played a niche role.

[11] "Method for the Characterization of Telecommunications Services Supported by an ISDN and Network Capabilities of an ISDN," ITU-T I.130, International Telecommunications Union, https://www.itu.int/rec/T-REC-I.130/en (accessed August 22, 2018).

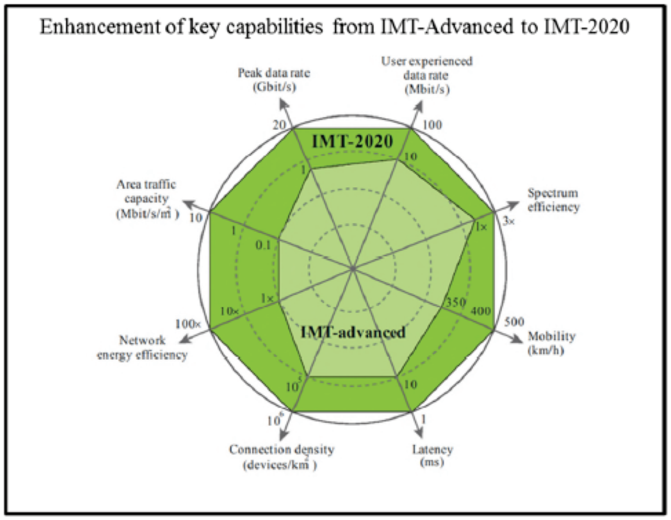
T-Mobile's claims for 5G depend on spectrum that will not be useful in rural areas

24. Despite T-Mobile's advocacy for a 5G that goes beyond mmWave spectrum, the Statement's sweeping technical claims about the capabilities of 5G only apply when the technology is used with mmWave spectrum—spectrum that has not been widely used, is limited to short distances (and therefore not useful in rural areas), and would only be available to New T-Mobile in relatively small quantities in most of the United States.

25. For example, Mr. Ray, in his statement, implies by inclusion of Figure 2 (reproduced below), a diagram created by the International Telecommunications Union, depicting eight key performance parameters for 5G as part of the standards development process, that New T-Mobile "expect[s] from 5G": 20 Gbps per site, 1 ms latency, and triple the spectrum efficiency of LTE. However, as noted in the source document,[12] attaining this level of performance requires (a) use of mmWave bands at short range distance with good line of sight and (b) a large amount of spectrum within the mmWave band.

[12] Mr. Ray's Figure 2 is excerpted from p. 14 of ITU's "Recommendation ITU-R M.2083-0 (09/2015), IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond, M Series, Mobile, radiodetermination, amateur and related satellite services," http://www.itu.int/rec/R-REC-M.2083-0-201509-I (accessed August 22, 2018). This "Recommendation" indicates that the sought-after performance in this Figure requires spectrum above the low-band and mid-band: "In particular, bandwidths to support the different usage scenarios in § 4 (e.g. enhanced mobile broadband, ultra-reliable and low-latency communications, and massive machine type communications) would vary. For those scenarios requiring several hundred MHz up to at least 1 GHz, there would be a need to consider wideband contiguous spectrum above 6 GHz" (p. 9). Additionally, the "Recommendation" indicates a need for "network densification" [i.e., placement of antennas close to the user] to attain the specified level of performance (p. 8). Neither mmWave spectrum nor densification is feasible in most rural areas, therefore Mr. Ray's Figure 2 is not relevant in most rural areas, nor is it relevant in any other area where a dense mmWave network is not available.

Figure 2 from T-Mobile's Statement



Source: ITU Recommendation ITU-R M.2083-0

Figure 2: 5G Network Improvements

26. In fact, New T-Mobile will have a relatively small amount of mmWave spectrum. As of early this year, T-Mobile had 200 MHz in most markets in which it has publicly shared plans for 5G buildout (except in most of Ohio, where it owns 1150 MHz). Though the majority of these bands have not yet been auctioned, Verizon already owns 23 percent, AT&T owns 7 percent, and T-Mobile owns just 2 percent. Because of the limitations of mmWave technology (discussed in more detail below), its usefulness is limited to dense urban and suburban areas.

27. The mmWave bands—for example, the 28 GHz band where a portion is held by T-Mobile—provide broad spectrum channels. Furthermore, because mmWave

communications are physically more like light beams than a shared wave, mmWave networks can theoretically set up individual paths to each device, reusing the same spectrum for many users simultaneously. This is what makes it possible for an antenna site to have enormous aggregate capacity, and for individual users to have very-high-speed connections.

28. However, mmWave requires proximity and/or line of sight to function well. If there are obstructions in the line of sight, the mmWave signal scatters and bounces. If the user and the device are close together, they may still be able to connect using scattered signals. Using the 28 GHz band, for example, if the device is more than one-third to one-half of a mile away, without a line of sight, the performance of mmWave will begin to deteriorate,[13] and high-speed connections must be made with the mid-band and low-band spectrum (i.e., 3.5 GHz and below).

29. With New T-Mobile's 2.5 GHz spectrum, as provided in Table 2 of the Statement, the increase in spectrum efficiency that will potentially be created through use of future 5G radios, taking into account advances in MIMO and new radio technology, will be only 52 percent relative to LTE. For 600 MHz—the band that will carry most of the New T-Mobile's rural broadband—there will be an increase of only 19 percent.

[13] "The Power of Millimeter Wave," Video, Verizon, May 23, 2018, https://www.youtube.com/watch?v=jnyG2bliKCs (accessed August 22, 2018), illustrating an upper limit of one-third to one-half mile for gigabit performance based on field trials.

30. As a result, my engineering judgment is that Mr. Ray's sweeping, optimistic claims of increased benefit from 5G (p. 6-7) are based on limited, best-case scenarios for very limited parts of the T-Mobile footprint (if any) and are not relevant to rural communities.

31. Because the filing makes broad-brush overstatements of network performance when many rural areas clearly will not receive this performance, it is also necessary to closely examine and question the availability of new applications and services in rural areas. It is not clear from the Statement whether the rural users who (a) will obtain service only on low-band and (b) live in a wide range of signal quality conditions will have access to the 4K video and online gaming applications Mr. Ray describes on p. 7, not to mention access to "unlimited" data packages without throttling of bandwidth.

32. Similarly, it is doubtful that the "virtual and augmented reality, connected vehicles and highways, real-time translation, and drone control/monitoring services" Mr. Ray describes on p. 8 will be available in rural areas if T-Mobile is not able to deliver very-low-latency services in those areas.

33. In terms of latency, the design specification for 5G calls for less than 10 ms in general, and less than 1 ms for ultra-reliable, critical machine-to-machine communications.[14] However, latency of this level may not be attainable in the version of 5G that is deployable in rural areas without mmWave. The reduction in latency in 5G is enabled in part by rapid assignment of resource blocks (i.e., the combinations of spectrum and time blocks that constitute the LTE signal) to intersperse highly time-critical blocks within

[14] Andreas Maeder et. al, "A Scalable and Flexible Radio Access Network Architecture for Fifth Generation Mobile Networks," IEEE Communications Magazine, Volume: 54, Issue: 11, November 15, 2016, p. 17, http://ieeexplore.ieee.org/document/7744804/?reload=true (accessed August 22, 2018).

other communications streams. Other key technical requirements for reducing latency are optimization of backhaul and caching of content close to the access point.[15] Therefore, a rural deployment, with long backhaul distances, limited or no use of mmWave spectrum, and less likelihood of data being cached close to the user, will likely have significantly higher latency than an urban or suburban 5G network, with the actual latency potentially similar to that of current 4G networks.

34. So far, the design latency has not been attained consistently in 5G tests. For example, AT&T has only reported latencies around 10 ms in its testing.[16]

Conclusion

35. Although I do not see a situation where New T-Mobile will result in worse technical performance than T-Mobile without the merger, most rural broadband users will experience similar availability of capacity and coverage from New T-Mobile as they would from old T-Mobile, regardless of whether the merger happens. Even under the best-case scenarios presented by the Statement, New T-Mobile's rural offerings will still

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[15] I. Parvez, A. Rahmati, I. Guvenc, A.I. Sarwat, H. Dai, "A Survey on Low Latency Towards 5G: RAN, Core Network and Caching Solutions," accepted in *IEEE Communications Surveys and Tutorials,* arXiv:1708.02562v2 [cs.NI], May 29, 2018, https://arxiv.org/pdf/1708.02562.pdf (accessed August 22, 2018).

[16] Dave Burstein, "AT&T Shocker: 5G mmWave Latency 9-12 Milliseconds, Not 1-5 Ms.," *Wireless One*, April 10, 2018, http://wirelessone.news/10-r/1020-at-t-shocker-5g-mmwave-latency-9-12-milliseconds-not-1-5-ms (accessed August 22, 2018).

fall dramatically short of those in urban and suburban markets and will not be dramatically improved relative to stand-alone T-Mobile and Sprint.

DATED: Kensington, Maryland
August 23, 2018

Andrew Afflerbach, Ph.D., P.E.

Appendix E

Estimated Impact of Proposed T-Mobile/Sprint Merger on Colorado Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 531 retail jobs in Colorado.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Colorado that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Colorado.

U.S. Census-defined urban area	Number of existing stores [3]	Projected store closures	Projected retail jobs lost (net)
Denver-Aurora, CO	255	80	-372
Colorado Springs, CO	54	13	-70
Fort Collins, CO	16	4	-23
Pueblo, CO	17	5	-19
Greeley, CO	12	4	-17
Grand Junction, CO	8	2	-11
Boulder, CO	4	1	-5
Other cities in the state	28	3	-14
TOTAL FOR THE STATE	394	112	-531

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Colorado does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on Florida Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 3,157 retail jobs in Florida.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Florida and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Florida.

U.S. Census-defined urban area	Number of existing stores in Florida[3]	Projected store closures in Florida	Projected retail jobs lost (net) in Florida
Miami, FL	839	267	-1,087
Tampa-St. Petersburg, FL	331	100	-384
Orlando, FL	214	82	-341
Jacksonville, FL	146	52	-191
Cape Coral, FL	72	28	-113
Sarasota-Bradenton, FL	78	34	-111
Gainesville, FL	31	18	-99
Palm Coast-Daytona Beach-Port Orange, FL	39	16	-75
Port St. Lucie, FL	53	18	-67
Leesburg-Eustis-Tavares, FL	26	15	-59
Palm Bay-Melbourne, FL	49	16	-58
Kissimmee, FL	46	17	-57
Winter Haven, FL	34	13	-56
Lakeland, FL	39	15	-51
Ocala, FL	28	13	-50
Bonita Springs, FL	38	12	-44
Deltona, FL	26	11	-38
Pensacola, FL-AL	34	11	-31
North Port-Port Charlotte, FL	18	5	-28
Fort Walton Beach-Navarre-Wright, FL	11	3	-18
Lady Lake-The Villages, FL	10	3	-16
Panama City, FL	13	5	-16
Sebastian-Vero Beach South-Florida Ridge, FL	15	4	-11
Tallahassee, FL	20	4	-10
Spring Hill, FL	19	3	-6

Other cities in the state	157	43	-140
TOTAL FOR THE STATE	2,386	807	-3,157

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Florida does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on Georgia Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 1,027 retail jobs in Georgia.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Georgia and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Georgia.

U.S. Census-defined urban area	Number of existing stores in Georgia[3]	Projected store closures in Georgia	Projected retail jobs lost (net) in Georgia
Atlanta, GA	577	180	-759
Savannah, GA	34	15	-59
Gainesville, GA	19	9	-36
Augusta-Richmond County, GA-SC	29	9	-36
Macon, GA	18	6	-22
Athens-Clarke County, GA	10	2	-11
Chattanooga, TN-GA	5	2	-8
Columbus, GA-AL	21	3	-8
Warner Robins, GA	10	1	-3
Other cities in the state	111	21	-85
TOTAL FOR THE STATE	834	248	-1,027

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss

figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Georgia does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of*

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5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on Maryland Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 520 retail jobs in Maryland.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Maryland and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Maryland.

U.S. Census-defined urban area	Number of existing stores in Maryland[3]	Projected store closures in Maryland	Projected retail jobs lost (net) in Maryland
Baltimore, MD	238	79	-258
Washington, DC-VA-MD	165	26	-110
Hagerstown, MD-WV-PA	16	9	-52
Waldorf, MD	11	4	-29
Frederick, MD	12	3	-18
Aberdeen-Bel Air South-Bel Air North, MD	13	3	-15
Salisbury, MD-DE	9	3	-11
Philadelphia, PA-NJ-DE-MD	4	38	-2
Other cities in the state	14	4	-25
TOTAL FOR THE STATE	482	169	-520

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss

figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Maryland does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

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3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of*

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5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on New York Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 1,705 retail jobs in New York.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in New York and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in New York.

U.S. Census-defined urban area	Number of existing stores in New York[3]	Projected store closures in New York	Projected retail jobs lost (net) in New York
New York-Newark, NY-NJ-CT	1,311	386	-1,512
Buffalo, NY	84	18	-54
Albany-Schenectady, NY	51	12	-43
Rochester, NY	58	10	-21
Binghamton, NY-PA	14	4	-18
Utica, NY	7	1	-5
Syracuse, NY	29	2	-2
Other cities in the state	88	10	-50
TOTAL FOR THE STATE	1,642	443	-1,705

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss

figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for New York does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of*

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Estimated Impact of Proposed T-Mobile/Sprint Merger on Pennsylvania Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 635 retail jobs in Pennsylvania.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Pennsylvania and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Pennsylvania.

U.S. Census-defined urban area	Number of existing stores in Pennsylvania[3]	Projected store closures in Pennsylvania	Projected retail jobs lost (net) in Pennsylvania
Philadelphia, PA-NJ-DE-MD	318	65	-194
Pittsburgh, PA	148	32	-107
Harrisburg, PA	43	13	-66
York, PA	23	8	-38
Lancaster, PA	28	6	-34
Allentown, PA-NJ	44	6	-24
Erie, PA	18	4	-21
Pottstown, PA	6	2	-13
Youngstown, OH-PA	5	2	-8
Reading, PA	20	3	-6
Scranton, PA	26	1	-3
Other cities in the state	92	26	-121
TOTAL FOR THE STATE	771	168	-635

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

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For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Pennsylvania does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on Rhode Island Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 111 retail jobs in Rhode Island.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Rhode Island and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Rhode Island.

U.S. Census-defined urban area	Number of existing stores in Rhode Island[3]	Projected store closures in Rhode Island	Projected retail jobs lost (net) in Rhode Island
Providence, RI-MA	99	25	-111
TOTAL FOR THE STATE	102	26	-111

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Rhode Island does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store

openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location
https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Estimated Impact of Proposed T-Mobile/Sprint Merger on Washington Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 497 retail jobs in Washington,[1] and 500 jobs from the elimination of headquarters administrative functions in the Seattle Urbanized Area.[2] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[3]

The table below lists U.S. Census-defined urban areas in Washington and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Washington.

U.S. Census-defined urban area	**Number of existing stores in Washington[4]**	**Projected store closures in Washington**	**Projected jobs lost (net) in Washington**
Seattle, WA	236	41	-205
Spokane, WA	35	9	-53
Portland, OR-WA	34	6	-36
Bremerton, WA	16	5	-32
Olympia-Lacey, WA	18	5	-26
Marysville, WA	13	4	-24
Kennewick-Pasco, WA	18	4	-22
Yakima, WA	12	5	-14
Bellingham, WA	10	2	-7
Other cities in the state	55	17	-78
Total impact on retail	**447**	**99**	**-497**
Total impact, including headquarters jobs			**-997***

* Includes 500 jobs at T-Mobile's headquarters in the Seattle, WA Urbanized Area.

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[5]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store,[6] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[7]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.[8]

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Washington does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

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4. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

5. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

6. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

7. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

8. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

Estimated Impact of Proposed T-Mobile/Sprint Merger on Wisconsin Workers

Prepared by Communications Workers of America (CWA), October 2018

CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of 394 retail jobs in Wisconsin.[1] Nationally, CWA projects that the proposed T-Mobile/Sprint merger could result in the loss of more than 30,000 jobs - 25,500 from the elimination of overlapping retail stores and 4,500 from the elimination of headquarters administrative functions.[2]

The table below lists U.S. Census-defined urban areas in Wisconsin and bordering states that could be most impacted by the closure of T-Mobile, Sprint, MetroPCS and Boost Mobile stores. For urban areas that span across more than one state, the figures only represent the share of the urban area's stores and jobs located in Wisconsin.

U.S. Census-defined urban area	Number of existing stores in Wisconsin[3]	Projected store closures in Wisconsin	Projected retail jobs lost (net) in Wisconsin
Milwaukee, WI	158	65	-226
Green Bay, WI	25	12	-42
Kenosha, WI-IL	12	5	-21
Appleton, WI	19	5	-16
Eau Claire, WI	6	2	-13
Racine, WI	12	4	-12
Madison, WI	22	3	-11
Other cities in the state	52	12	-53
TOTAL FOR THE STATE	306	108	-394

Methodology

Estimating store closures following the proposed transaction

CWA developed a model to predict how the merger of T-Mobile, Sprint, and their prepaid brands MetroPCS and Boost Mobile into a single postpaid brand and a single prepaid brand will impact the merged company's retail footprint. CWA's model uses a regression analysis based on the relationship between population in Census-defined urban areas and the existing number of T-Mobile and MetroPCS stores in those urban areas. The model uses T-Mobile and MetroPCS' store counts because all indications suggest that the merged company will follow T-Mobile's retail growth strategy.[4]

Of the 1,170 U.S. Census-defined urban areas where the companies operate at least one store, 92 span across more than one state. When calculating state-based store closures and job loss

figures, CWA assumed that the number of store closures and job losses would be proportional to the current share of the companies' postpaid and prepaid stores located in each state.

For a full description of the methodology employed by CWA to project store closures, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Estimating job losses following the proposed transaction

We estimate that T-Mobile and Sprint corporate stores and authorized dealers employ an average of eight workers per store[5] and MetroPCS and Boost Mobile locations employ an average of three workers per store.[6]

To estimate the number of job losses from projected store closures, we first multiplied the number of projected store closures by the average number of workers employed at those stores to calculate a gross decrease in retail jobs. We then adjusted these estimates by adding one and a half employees on average to the remaining postpaid retail stores to account for increased customer volumes following the merger.

For a full description of the methodology employed by CWA to project job losses, see Appendix D in *Comments of Communications Workers of America* to the Federal Communications Commission.

Sources

1. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. CWA's job loss projection for Wisconsin does not account for jobs from new stores in markets not already served by T-Mobile or Sprint. T-Mobile has previously indicated that the company will open 600 new rural stores after the transaction. CWA estimates that these stores will generate approximately 2,760 jobs. At this time, the company has not made comments on how it will distributes its new stores. See Appendix D in *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

2. CWA analysis of retail job losses from the proposed T-Mobile/Sprint merger. See *Comments of Communications Workers of America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations.* August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

3. CWA analysis of store location data collected from the T-Mobile, Sprint, MetroPCS, and Boost Mobile websites in April and May 2018.

4. The T-Mobile and urban area population regression has an R-squared of 0.98. The MetroPCS and urban area population regression has an R-squared of 0.92. See Appendix D in *Comments of Communications Workers of*

America In the Matter of Applications of T-Mobile USA, Inc., and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations. August 27, 2018. https://cwa-union.org/sites/default/files/cwa_t-mobile-sprint_comments_8-27-2018.pdf

5. Based on assumptions by New Street Research, *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018.

6. T-Mobile and Sprint average from New Street Research *Sprint/T-Mobile Redux: Refreshing Synergies and Scenarios.* April 15, 2018. MetroPCS and Boost Mobile average is CWA estimate from press coverage on store openings such as: https://patch.com/florida/newportrichey/talk-time-store-opens-new-tampa-bay-location https://www.mlive.com/business/west-michigan/index.ssf/2012/07/boost_mobile_to_open_location.html

Mr. CICILLINE. Thank you, Mr. Shelton.

Ms. Sohn is now recognized for five minutes.

TESTIMONY OF GIGI SOHN

Ms. SOHN. Chair Cicilline, Ranking Member Sensenbrenner, Chair Nadler, Members of the Subcommittee, thank you for inviting me to testify today.

When I was working for Chair Wheeler in 2014, executives from T-Mobile, Sprint, and SoftBank visited the FCC several times to get his thoughts on a possible merger between T-Mobile and Sprint.

Chair Wheeler didn't discourage the parties from seeking merger approval, but he was clear that they would have a tough time showing that the merger wouldn't be anticompetitive.

A pioneer in the wireless industry, Chair Wheeler had seen immense consolidation from 2003 to 2013, the country's eight mobile wireless carriers shrunk to just four. He believed strongly that reducing the number of wireless carriers from four to three would harm consumers through higher prices, coordinated effects, and less innovation.

Bill Baer, the Assistant Attorney General for Antitrust at the time, agreed and said so publicly in January 2014.

Later that year, after the parties abandoned the deal, Chair Wheeler said, "Four national wireless providers are good for American consumers. Sprint now has an opportunity to focus their efforts on robust competition."

Nothing in the intervening five years has altered the previous analysis that this combination would be harmful for consumers and the wireless industry.

T-Mobile and Sprint occupy vital roles in today's national wireless market. Both are mavericks who forced AT&T and Verizon to lower their prices and to adopt more consumer-friendly service plans.

T-Mobile was the first carrier to eliminate two-year contracts and provide unlimited data. T-Mobile and Sprint were the first to allow subscribers to unlock their phones. Both companies fought to match AT&T and Verizon in coverage, speed, and reliability. Importantly, the companies compete to the benefit of the value-conscious consumer.

This dynamic will change if the companies are allowed to merge. With a market share similar to AT&T and Verizon, New T-Mobile would have reduced incentives to engage in price and non-price competition as well as greater incentive and ability to cooperate with those companies to raise consumer and wholesale prices.

Indeed, one analysis found that consumer price increases from this transaction could be as much as 15 percent. The merging parties don't dispute that prices will rise but argue that improvements to the service quality, no matter how small, will be worth the extra cost. That is a dicey proposition for consumers that are attracted to T-Mobile and Sprint because of their cheaper postpaid innovative prepaid services.

These higher prices will have a disproportionate effect on consumers of prepaid service who tend to be low-income and people of color. This merger would result in New T-Mobile controlling about

43 percent of prepaid market and the market for prepaid services would shrink from three to two.

The merging parties recognize these price increases but argue that low-income consumers will accept them because they, and I quote, "heavily rely on their smart phone for their communication and media consumption." That is quite a remarkable thing to say about consumers for whom an extra $10 a month would be an unwelcomed hardship.

The harm from four to three mobile wireless mergers is clear. In both the Netherlands and Austria, four to three mergers saddle consumers with double-digit price increases. In both cases, one of the remaining carriers was a T-Mobile affiliate. In the U.S. similar concerns over higher prices and the elimination of competition moved the DOJ to sue to block the proposed AT&T/T-Mobile merger in 2011.

Faced with overwhelming evidence that four to three mergers and this particular merger will lead to higher prices, T-Mobile has twice promised the FCC not to raise prices on its rate plans for three years. The mere fact that T-Mobile believes it must make this so-called pricing commitment is an admission that post-merger there would not be enough competition in the wireless market to constrain price increases.

It also undermines the parties insistence that the merged entity would have so much capacity that it wouldn't raise prices. Regardless, the pricing commitment is riddled with ambiguities and loopholes. Neither the FCC nor the DOJ is capable of overseeing this kind of price regulation.

My written testimony argues that the purported benefits of this merger, faster 5G roll-out, increased rural coverage, and more jobs, are speculative, non-merger-specific, and non-cognizable, in any event wouldn't outweigh the merger's harms.

I will add T-Mobile's recent promise that it will provide in-home broadband to a fraction of U.S. homes by 2024. I would love to see more competition to big cable, but in addition to being too far in the future to be relevant to antitrust scrutiny, this promise has absolutely nothing to do with the market that is the subject of this merger: the market for national mobile wireless services.

I am a proud T-Mobile customer and a fan of both its CEO and its Government Relations Team, but I am not a fan of this merger because the harms to consumers who value low-cost and innovative service plans far outweigh the supposed benefits.

Thank you, and I look forward to your questions.

[The statement of Ms. Sohn follows:]

STATEMENT OF MS. SOHN

Chairman Cicilline, Ranking Member Sensenbrenner and Members of the Subcommittee.

My name is Gigi Sohn. I am a Distinguished Fellow with the Georgetown Institute for Technology Law and Policy and a Benton Senior Fellow and Public Advocate. I served as Counselor to former Federal Communications Commission ("FCC") Chairman Tom Wheeler from November 2013 to December 2016. In 2011, as President and CEO of Public Knowledge, I testified alongside then-Sprint CEO Dan Hesse at a hearing of the Senate Judiciary Committee's Antitrust Subcommittee in opposition to the proposed AT&T–T-Mobile merger.

Thank you for inviting me to testify today on the proposed merger of Sprint and T-Mobile.

Introduction: The Sprint T-Mobile Merger: Wrong Then and Now

When I was working for Chairman Wheeler in the spring and summer of 2014, executives from T-Mobile, Sprint and Softbank visited the Commission on several occasions to get Chairman Wheeler's thoughts on a possible merger between T-Mobile and Sprint. These meetings included on at least one occasion, a detailed Power Point presentation on the alleged merits of the transaction.

Chairman Wheeler did not discourage T-Mobile and Sprint from seeking FCC approval of the merger, but he was clear that the parties would have a difficult time convincing him that such a merger would not be anticompetitive. As pioneer and an entrepreneur in the mobile wireless industry, Chairman Wheeler had seen first-hand immense consolidation in the industry: from 2003–2013, the country's 8 mobile wireless carriers were reduced to just 4. While he believed then that that the mobile wireless industry had already gotten too consolidated, he also believed strongly that further reducing the number of national wireless carriers from 4 to 3 would harm consumers through higher prices, coordinated effects and less innovation. In August 2014, following news that the parties had abandoned the deal, Chairman Wheeler issued the following statement:

> "Four national wireless providers are good for American consumers. Sprint now has an opportunity to focus their efforts on robust competition." [1]

Chairman Wheeler was correct then to think that such a merger would be anticompetitive. Nothing in the intervening 5 years has altered the analysis that this combination would be harmful. Today, the proposed Sprint T-Mobile merger would be just as bad for consumers and the wireless industry.[2] It would concentrate market power in the hands of three behemoth wireless companies, driving up prices and reducing innovation. The history of 4–to–3 mergers in the mobile wireless industry in Europe is instructive here—in each case, consumers have had to bear the brunt of significant price increases.

The merging parties allege a number of benefits that they say will result from this merger: faster 5G buildout, increased rural buildout and more jobs. But these purported benefits are speculative, non-cognizable and not specific to this merger, and in any event do not outweigh the harms to consumers and competition that would result from this transaction.

For these reasons, and the reasons described by my colleagues on this panel and in the FCC's record, the Members of this Committee should urge the Department of Justice ("DOJ") and the FCC to block this transaction.

I. Merger of T-Mobile and Sprint Will Substantially Lessen Competition in the National Mobile Wireless/Broadband Market

The proposed merger of T-Mobile and Sprint into a New T-Mobile is a classic 4–to–3 horizontal merger that will lead to fewer choices, higher prices, and less consumer-friendly service offerings.

The New T-Mobile would combine two maverick firms that have, for the past 8 years, forced the two largest mobile wireless carriers, Verizon and AT&T, to lower their prices and adopt more consumer-friendly service offerings. For example, T-Mobile, the "Un-Carrier," was the first to eliminate two-year contracts and to provide unlimited data and creative family plans. T-Mobile and Sprint were the first carriers to allow subscribers to unlock their phones. Sprint proudly took a chainsaw to its competitor Verizon's bills and offered to cut those costs in half. Both companies have fought to match AT&T and Verizon in coverage, speed and reliability.

T-Mobile and Sprint have promoted themselves as low-cost providers and currently offer the cheapest data plans of the 4 nationwide mobile wireless carriers. As such, T-Mobile and Sprint have competed vigorously with each other as well, to the benefit of the "value consumer" seeking better rates and service plans. Just as important, the competition between Sprint and T-Mobile has had a moderating effect

[1] Brian Fung, *Why regulators are the big winners in the failed Sprint-T-Mobile deal*, Washington Post, August 6, 2014 found at *https://www.washingtonpost.com/news/the-switch/wp/2014/08/06/why-regulators-are-the-big-winners-in-the-failed-sprint-t-mobile-deal/?utm__term=.69e1ef0f8f16*.

[2] Chairman Wheeler, and Bill Baer, who was the Assistant Attorney General for Antitrust under President Obama agree, writing in a 2017 editorial that "the merger made no sense before, and it makes no sense today." Bill Baer and Tom Wheeler, *Here's Who Loses Big Time if Sprint and T-Mobile are Allowed to Merge*, CNBC, May 19, 2017) found at *https://www.cnbc.com/2017/05/19/heres-who-loses-big-time-if-sprint-and-t-mobile-are-allowed-to-merge-commentary.html*.

on AT&T and Verizon, forcing them to respond with lower prices and more attractive service options. All of this competition has benefitted consumers.

If allowed to proceed, this merger would result in a New T-Mobile with a market share closer to that of AT&T and Verizon. As a result, New T-Mobile would have reduced incentives to engage in price and non-price competition, as well as a greater incentive and ability to cooperate and collude with those companies to raise both consumer and wholesale prices. The remaining three network operators would each have the incentive to raise prices unilaterally and also to substantially increase the maximum price that carriers will be willing to initiate and match.

Indeed, one analysis found that this transaction "will result in [consumer] price increases of up to 15%." [3]

The merging parties don't dispute that prices will go up, but argue instead without proof that the improvements to the quality of their service, no matter how minimal, will be worth the significant extra cost. That is a dicey proposition for the value and low-income consumers that are most attracted to T-Mobile and Sprint because of their less expensive postpaid and their innovative prepaid services.

These higher prices will have a disproportionate effect on customers of prepaid service, who tend to be low income customers and people of color. This merger would combine T-Mobile's Metro PCS and Sprint's Boost Mobile and Virgin Mobile Services, resulting in New T-Mobile controlling an estimated 43% percent of the pre-paid market.[4] Since Verizon has negligible pre-paid service, this merger would for all intents and purposes shrink the market for facilities-based prepaid wireless services from 3 to 2. The economists for the merging parties recognize that such concentration is likely to lead to higher prices for low income consumers, but argues that such consumers will be more willing to stomach price increases because they "heavily rely on their smartphone for their communication and media consumption." [5] That's a remarkable statement for a segment of Americans for whom an extra $10 a month might mean missing a few meals to pay their cell phone bills.

Many of the same concerns that caused the DOJ to file suit to enjoin the proposed AT&T–T-Mobile merger are present here. Like AT&T–T-Mobile, this merger will shrink the already concentrated mobile wireless market from 4 to 3 players. Like AT&T–T-Mobile, this merger will lead to higher prices and fewer innovative service offerings. Like AT&T–T-Mobile, this merger would eliminate actual and potential competition between the two merging firms. Instead of combining one maverick firm with a large incumbent, it combines two remaining maverick firms, making disruption less likely and coordination more likely. Moreover, this transaction would lead to unprecedented spectrum concentration: It will cause New T-Mobile to exceed the FCC's spectrum screen in 532 Cellular Market Areas ("CMAs"), almost double the number of the proposed AT&T–T-Mobile transaction.[6]

Evidence from previous 4–to–3 mobile wireless mergers in Europe confirm the harms to consumers. In the Netherlands, the European Commission found that the 4–to–3 merger of T-Mobile Nederland and Orange in that country resulted in price increases of between 10% and 17% compared to control countries.[7] In Austria, a merger of Orange Austria and H3G Austria also resulted in 4–to–3 consolidation. While the European Commission imposed a facilities-based condition to approving the merger, those conditions didn't materialize, and the spectrum intended for the new entrant reverted to H3G. As a result, consumers suffered a 14–20% increase from that merger.[8] This example is especially instructive because one of the three remaining players was T-Mobile's affiliate, T-Mobile Austria.

[3] *Petition to Deny of Dish Network Corporation in the Matter of Applications of T-Mobile U.S., Inc. and Sprint Corporation* (filed August 27, 2018) at 11.

[4] Anna-Maria Kovacs, *Competition in the U.S. Wireless Service Market at 6* (August 2018) found at *https://cbpp.georgetown.edu/sites/default/files/Policy%20Paper%20-%20Kovacs%20-%20Wireless%20Competition%202018-08.pdf*.

[5] Letter from Nancy Victory, Counsel for T-Mobile, to Marlene Dortch FCC, Attachment A at 18, (December 18, 2018).

[6] *Petition to Deny of DISH Network Corporation in the Matter of Applications of T-Mobile U.S., Inc. and Sprint Corporation* (filed August 27, 2018) at 71 ("Second, Brattle finds that New T-Mobile would be over the screen threshold in 1,996 out of the nation's 3,221 counties, or in 532 CMAs, covering all of the top 100 markets. By comparison, the rejected AT&T/T-Mobile merger would have caused AT&T to exceed the screen in 274 CMAs. New T-Mobile would be over the screen across 90.2% of the country's population and almost half of its land area.") (internal citations omitted).

[7] European Commission, *Ex post analysis of two telecom mergers: T-Mobile/tele.ring in Australia and T-Mobile/Orange in the Netherlands* found at *https://www.rtr.at/de/inf/Analysis__mobile__mergers/Ex-ost__ analysis__of__two__mobile__telecom__mergers.pdf*.

[8] *Id.*

Finally, a recent study by Rewheel Research looked at European markets and found that "the median gigabyte price in 3 [Mobile Network Operator] markets is 2× higher than in 4 [Mobile Network Operator markets]."[9]

II. The Parties' Pricing Commitment Is No Commitment at All, but Instead Is an Admission That There Will Be No Constraints on Pricing if This Merger Is Consummated

In response to the consensus that the proposed merger will lead to higher prices, T-Mobile's counsel submitted an open letter to the FCC offering a "pricing commitment" that would maintain existing T-Mobile and Sprint "rate plans" for three years. Then, when merger opponents pointed out that the so-called "commitment" was riddled with ambiguities and loopholes, T-Mobile filed another 8-page letter attempting to "simplify" the offer.

First and foremost, the fact that T-Mobile had to file two letters with the FCC to explain its pricing commitment *is an admission that post-merger, there would not be enough competition in the wireless market to constrain price increases.*

In its effort to simplify the pricing commitment, T-Mobile actually sows *more* confusion. T-Mobile originally promised that "T-Mobile and Sprint legacy rate plans will continue as New T-Mobile plans for three years after the merger or until *better plans* that offer a lower price or more data are made available, whichever occurs first.[10] In its second letter, T-Mobile explains that a "better plan" is "the same plan with a lower price; the same plan with more data for the same price; or the same plan with a lower price and more data."[11]

But this begs any number of questions: What does "same plan" mean? What does "same price" mean? When does a plan become different? Would a different price per month be considered the same price if the customer receives some non-monetary benefit?

Moreover, this new filing does nothing to ameliorate concerns that this "commitment" is anything but. In addition to being time limited at 3 years, the pricing plan still has significant loopholes that could allow New T-Mobile to raise prices on consumers, including:

- increased prices through handset or device costs
- increased prices through any manner of unnamed additional fees and surcharges
- increased prices to offset claimed costs increased from "third party partners" or cancellation of benefits (like T-Mobile's free subscription to Netflix) from those partners

There are still many ways that New T-Mobile could exploit these loopholes,[12] for example:

- Make it more difficult to upgrade devices
- Increase the cost to purchase or upgrade to a new phone
- Increase the down payment for a new phone
- Remove the ability to use the phone as a hotspot

The ambiguities and opportunities for evasion in this kind of behavioral remedy (price regulation) would require strong government oversight that is generally disfavored by antitrust authorities. As Assistant Attorney General for Antitrust Makan Delrahim has explained: "In telecommunications, as in other industries, we strongly favor structural remedies. If a structural remedy isn't available, then, except in the rarest of circumstances, we will seek to block an illegal merger."[13]

The challenges inherent in government oversight of behavioral remedies—and specifically price regulation—manifested itself just last month, when the European Commission alleged that Telefonica Deutschland breached its commitment to offer wholesale 4G services to all interested parties at "best prices," as part of its acquisi-

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[9] Rewheel/research, *The State of 4G pricing—2H2018*, found at *http://research.rewheel.fi/downloads/The_state_of_4G_pricing_DFMonitor_10th_release_2H2018_PUBLIC.pdf*.

[10] Letter from Nancy Victory, T-Mobile Counsel, to Marlene Dortch, FCC at 4, WT Docket No. 18–197 (Feb 4, 2019).

[11] Letter from Nancy Victory, T-Mobile Counsel, to Marlene Dortch, FCC at 3, WT Docket No. 18–197 (Feb. 12, 2019).

[12] For a non-exhaustive list of examples, *see* Letter from Pantelis Michalopolous, Counsel to DISH Network to Marlene Dortch, FCC at 4–6, WT Docket No. 18–197 (Feb. 7, 2019).

[13] Assistant Attorney General Makan Delrahim Delivers Remarks at the Federal Telecommunications Institute's Conference in Mexico City (Nov. 7, 2018) found at *https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-federal-institute*.

tion of E-plus, the German mobile telecommunications business of Dutch Telecom operator KPN. This too, occurred in the aftermath of a 4–to–3 merger.

III. The Purported Benefits of This Merger are Speculative, Non-Merger Specific and Non-Recognizable, and Would not Outweigh Its Harms

In recognition of the harms that this transaction will bring to consumers and competition, the merging parties allege three benefits to this merger: Better rollout of 5G services, greater rural coverage and an increase in jobs. But the parties have failed to show either that these benefits will ever materialize or that they are specific to this merger. Nor have they shown that the benefits will outweigh the harm to consumers and competition that would result from this transaction.

A. 5G Deployment Is Already Happening and Will Continue Rapidly With or Without This Merger

The merging parties alternatively make two claims—that this transaction is necessary to accelerate the rollout of new 5G wireless services (and therefore make the U.S. the leader in 5G connectivity) and also that neither company alone has the wherewithal to build a nationwide 5G network.

Neither of these claims are true. With regard to whether this merger is necessary to speed the deployment of 5G and win the so-called "race" to 5G (presumably with China), AT&T responded in its comments to the FCC on the merger applications that:

> "In fact, the U.S. is already the world leader in 5G, and AT&T and the other major facilities based wireless carriers are in the midst of a race to deploy next generation 5G services—a race that began long before T-Mobile and Sprint announced their merger plans."

U.S. Policymakers like FCC Chairman Pai and Commissioner Carr have also boasted that the U.S. is the world leader in 5G deployment. A study released late last month by ABI Research, which provides analysis on transformative technologies, found that as a result of the financial health of the four nationwide carriers and forward-looking FCC policies, the U.S. is currently the leader in 5G rollout and will continue to be for at least two years.[14]

But don't just take it from AT&T, FCC Commissioners and expert analysts. Listen to the merging parties' representatives themselves and what they said prior to the merger about their ability and timing to build new 5G networks. Prior to the merger announcement in February 2018, T-Mobile stated that it "will be the first to give customers the truly transformative, nationwide 5G network they deserve[.]"[15] It also announced that it would accelerate its 600 MHz rollout in 2018, while laying the foundation for the country's first nationwide 5G network by 2020. In its annual 10–K filing for 2017, T-Mobile explained that it is "rapidly preparing for the next generation of 5G services" by creating a "network that will allow us to deliver innovative new products and services with the same customer focused and industry disrupting mentality that has redefined wireless service in the United States.[16]

Just two weeks ago, at the Mobile World Congress in Barcelona, Sprint announced that it would be the first company to provide "mass market" 5G mobile services in 4 major cities (Dallas, Atlanta, Chicago and Kansas City) this May, with another 5 cities (Washington, DC, Phoenix, Los Angeles, New York and Houston) starting in June.[17] In addition, the company's CEO has boasted that it has "the BEST spectrum and assets to build an incredible nationwide #5G network that our customers will love."[18] It said pre-merger that "I have never seen a company with

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[14] ABI Research, 5G in the United States, 1Q 2019, found at *https://www.abiresearch.com/market-research/product/1031420-5g-in-the-united-states/*.

[15] Ericsson and T-Mobile to Deploy Multiband Nationwide 5G Network (Feb. 27, 2018) found at *https://www.prnewswire.com/news-releases/ericsson-and-t-mobile-to-deploy-multi-band-nationwide-5g-network-300605069.html*.

[16] T-Mobile USA, Inc. Form 10K For the Year Ended December 31, 2017 at 13, found at *https://s22.q4cdn.com/194431217/files/doc_financials/2017/annual/1500109984.pdf?O=PDF&T=&Y=&D=&FID=1500109984&iid=4091145*.

[17] Eli Blumenthal, *Sprint's 5G Network will go live this May in Chicago, Atlanta, Dallas and Kansas City*, USA Today (Feb. 25, 2019) found at *https://www.usatoday.com/story/tech/2019/02/25/sprint-5-g-network-goes-live-in-may-in-four-cities/2973150002/*.

[18] Marcelo Claure (@marceloclaure) Twitter (Mar. 9 2018 12:24 p.m.).

such a rich spectrum which is a sweet spot for 5G, I guess that gives us a tremendous opportunity for the years to come."[19]

Both companies are independently putting their money where their mouths are by heavily investing in 5G deployments. Both companies each have already committed to investing $5–6 billion annually until 2020 into their respective 5G deployments. In fact, their projected combined spend is roughly the sum of what each intended to spend on its own. Evidence in the record indicates that the companies aren't admitting how much it will cost for New T-Mobile to upgrade to 5G: Independent analysis suggests it will cost more than if Sprint did it alone.

B. The Companies' Claims That the Rural Americans Will Benefit are Unsubstantiated

The merging companies claim that if allowed to merge, rural Americans will "win big." But the companies provide little support for this assertion other than handwaving. T-Mobile's owned LTE facilities currently serve 83.1% of the rural U.S. population, while Sprint serves just 56.2%. So, adding Sprint to the New T-Mobile adds nothing to T-Mobile's current rural coverage.

Having spent nearly $8 billion to buy low band spectrum at the FCC's incentive auction in 2017, T-Mobile already has plans to extend its reach in rural areas. Importantly, this coverage doesn't include whatever spectrum T-Mobile may buy at upcoming auctions.

Even as the carriers move to 5G, the claim that rural coverage will significantly increase is unsubstantiated. First, the parties can't seem to make up their minds whether Sprint will help T-Mobile's rural 5G coverage at all. On the one hand, the parties claim that Sprint's 2.5 GHz spectrum will enhance rural deployment for New T-Mobile. On the other hand, they argue that Sprint's 2.5 GHz spectrum is inadequate and that Sprint, standing alone, will "not be a major competitor in most of rural America in the foreseeable future."[20]

Finally, and perhaps most important, the merging parties, like their national mobile wireless/broadband brethren, understate the challenges and costs of bringing 5G connectivity to rural areas. In places where population density is low and the challenges of steep terrain and thick fauna are high, deployment is both a technological challenge and expensive and revenues are hard to come by.[21] Moreover, the high speed "special access" lines needed to bring 5G connectivity to rural America are also expensive and largely in the control of 3 companies—AT&T, Verizon and Century Link. Indeed, because of the cost of these broadband data services and other infrastructure, many rural areas still don't yet have 4G connectivity. Policymakers should be extremely wary of any promise to bring 5G to significant parts rural America in the absence of significant subsidies any time soon, if ever.

C. The Entire Point of a Merger Is To Lower Costs and Create Efficiencies, Which Necessarily Include Eliminating Jobs

On the question of whether this merger will result in more jobs, I defer to the testimony of Chris Shelton, the President of the Communications Workers of America, as well as CWA's comprehensive filings at the FCC, for a full accounting of the number and types of jobs that will be lost as a result of this merger. The numbers are significant—CWA estimates that 30,000 jobs will be lost.

I wish only to note that significant numbers of new jobs rarely, if ever come from massive mergers of this kind. Like other merging parties, T-Mobile and Sprint boasted when the deal was first announced that the combined companies will have "lower costs, greater economies of scale" and "cost synergies." The way that most merging companies achieve these goals is by eliminating redundancies, which typically means cutting jobs, among other things. One needn't be an economist to figure out that duplicative retail stores and call centers will be closed and that there is no need for two sets of middle managers and C-Suite executives.[22]

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[19] Transcript, Sprint Presentation at Deutsche Bank Leveraged Finance Conference, Fair Disclosure Wire (Oct. 2, 2018).

[20] Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, WT Docket 18–197 at 65 (June 18, 2018).

[21] *See generally*, Larry Thompson and Warren Vande Stadt, *5G Is Not the Answer for Rural Broadband*, Broadband Communities (March/April 2017) found at ***https://www.bbcmag.com/rural-broadband/5g-is-not-the-answer-for-rural-broadband***.

[22] While T-Mobile has promised to open 5 new call centers housing 1,000 new employees each, this seems no more than a desperate PR stunt to win political support. T-Mobile may call these "additional" jobs, but they fail to say is how many call center and other jobs will be lost if the transaction is approved.

VI. Sprint Is Neither a Failing nor Even an Ailing Firm

It is axiomatic that companies seeking to merge will tell regulators in Washington, DC one thing and Wall Street another. In September 2018, Sprint told the FCC, among other things, that "[d]espite achieving substantial cost reductions and stabilizing its financial position, Sprint has not been able to turn the corner with respect to its core business challenges .... Sprint tried a more localized approach in an attempt to drive growth, but continues to face declining subscribers and revenue[.]" [23] Just 3 months later, Sprint issued a year-end press release touting "a banner year for the Sprint network" in which it made "a massive investment to drive strong improvements in our network performance." [24]

One need only look at what Sprint told Wall Street earlier this year, through its recently released earnings from the 3rd quarter of 2018, to see that it is not only not a "failing firm" for purposes of scrutinizing a merger, it isn't even ailing. In fact, Sprint is about as healthy a company as it has been in many years. As Sprint CEO Michel Combes said on January 31, "[w]e delivered solid financials, increased network investments as we prepare for our mobile 5G launch, and the continued digital transformation of our company." [25]

Sprint's Q3 results showed, among other things, its second consecutive quarter of year-over-year growth in wireless service revenue and its sixth consecutive quarter of postpaid additions. The number of postpaid additions in the quarter were 309,000, an improvement of 53,000 year-over-year.[26]

In addition, Sprint's postpaid service revenue grew year-over-year for the first time in five years and its pre-paid service revenue grew year-over-year for the fifth consecutive quarter. The company also reported its 12th consecutive quarter of operating income and the highest fiscal third quarter adjusted EBITDA (Earnings before interest, tax, depreciation and amortization) in 12 years.[27]

Sprint's quarterly network investments of $1.4 billion more than doubled year-over-year and increased approximately $150 million "as the company made continued progress on executing its Next-Gen Network plan." [28]

The merger proponents, however, point to negative adjusted free cash flow of $908 million Sprint reported for Q3. But this was primarily due to ramped up capital investment of $1.4 billion. In fact, in the immediate prior quarter (FY Q2 2018), Sprint reported a *positive* cash flow of $525 million. Despite this recent drawdown, Sprint currently has almost $9 billion of liquidity, including $6.8 billion in cash.[29]

Finally, Sprint hasn't acknowledged the additional measures that could be used to strengthen the company's financial position even further. For example, Sprint's owner SoftBank holds more than $31 billion (more than 3 trillion yen) in cash and cash equivalents across its portfolio that can be invested into Sprint.[30] SoftBank's Vision Fund has more than $90 billion (10 trillion yen) in capital from both SoftBank and third parties, which it uses to invest in cutting-edge technology companies.[31]

Policymakers should absolutely believe what Sprint has told Wall Street—its financial picture gets brighter with each quarter, and its continuing network improvements will take the company to even greater success in the future as a stand-alone firm.

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[23] Letter from Regina M. Keeney, Counsel for Sprint Corp., to Marlene Dortch, FCC, WT Docket 18–197, Attachment C at 2 (Sept. 25 2018).

[24] Dr. John Saw, *Celebrating a Year of Sprint Milestones on our Path to 5G* (Dec. 18, 2018) found at *https://newsroom.sprint.com/2018-milestones-on-path-to-5g.htm*.

[25] Sprint Reports Continued Year-Over-Year Growth In Wireless Service Revenue With Fiscal Year 2018 Third Quarter Results (Jan. 31, 2019) ("Sprint Q3 2018 Report") found at *https://investors.sprint.com/news-and-events/press-releases/press-release-details/2019/Sprint-Reports-Continued-Year-Over-Year-Growth-In-Wireless-Service-Revenue-With-Fiscal-Year-2018-Third-Quarter-Results/default.aspx*.

[26] Sprint Q3 2018 Report, *supra*.

[27] Sprint Q3 2018 Report, *supra*.

[28] Sprint Q3 2018 Report, *supra*.

[29] Sprint Corporation (S) Q3 2018 Earnings Conference Call Transcript (Jan. 31, 2019) found at *https://www.fool.com/investing/2019/01/31/sprint-corporation-s-q3-2018-earnings-conference-c.aspx*.

[30] SoftBank Group Corp., Annual Report FY 2018 at 1 (July 20, 2018) found at *https://cdn.group.softbank/en/corp/set/data/irinfo/financials/annual_reports/pdf/2018/soft_bank_annual_report_2018_001.pdf.*.

[31] SoftBank Group Corp., Consolidated Financial Report For the Three-month Period Ended June 30, 2018 at 22 (Aug. 6, 2018) found at *https://cdn.group.softbank/en/corp/set/data/irinfo/financials/financial_reports/pdf/2019/softbank_results_2019q1_001.pdf*.

Conclusion

I am a proud and loyal T-Mobile customer and a big fan of both its CEO and its Government Relations staff. I'm not a fan of this merger, because the harms to consumers who value good service and innovative service plans far outweigh the supposed benefits. Thank you again for inviting me to testify.

Mr. CICILLINE. Thank you, Ms. Sohn.

I now recognize Ms. Scurato for five minutes.

TESTIMONY OF CARMEN SCURATO

Ms. SCURATO. Chair Cicilline, Ranking Member Sensenbrenner, Chair Nadler, and Subcommittee Members, thank you for having me.

My name is Carmen Scurato, and I am a Senior Policy Counsel at Free Press with 1.4 million Members across all 50 states, the District of Columbia, and Puerto Rico.

We strongly oppose this merger. Free Press's extensive research shows the disproportionate harms it would cause to low-income communities and people of color who are more likely to be on the wrong side of the digital divide and more often rely on mobile phones for their only means of connecting to the internet.

While my organization signed protective orders at the FCC to assess the merger applicants' data and claims, I am not a signatory. That means everything I say today is based on publicly available data, but let me be clear. No matter where we look, nothing about this deal's benefits, all of which are speculative and unenforceable, offsets its immediate and permanent harms.

Sprint and T-Mobile and their prepaid brands, Boost, Virgin, and Metro, are the dominant providers of mobile service for low-income people. More than 30 percent of Metro and Boost subscribers report yearly incomes of $25,000 or less.

Due to structural and systemic racism, people of color are disproportionately represented in these demographics. T-Mobile and Sprint customers are far more likely to be people of color than are AT&T and Verizon's. Fifty-six percent of T-Mobile subscribers in 2018 identified as people of color as did 45 percent of Sprint's.

The reason that Members of these communities choose Sprint and T-Mobile is very clear. Their plans cost less. As our research confirms, these two carriers compete with one another vigorously. They are each other's closest competitors.

They serve price-conscious customers that AT&T and Verizon are content and able to ignore. Both T-Mobile and Sprint have been mavericks, taking customers from each other and from the Big 2 carriers, as well, after the government rejected previously proposed horizontal mergers, like this one.

My full testimony touches on T-Mobile's inflated 5G efficiency claims and exaggerated rumors of Sprint's death used to justify this deal, but I will focus my remaining time on three facts illustrating the harms to these most impacted communities.

First, no matter how antitrust enforcers define the product markets, this deal would consolidate already highly-concentrated markets and it would eliminate choice for customers who want or need to pay less for essential communication services.

Our FCC filings document how T-Mobile and Sprint's prepaid and postpaid brands compete, countering each other's innovations and offers in ways that benefit price-conscious customers and exert some discipline on Verizon and AT&T, as well.

T-Mobile and Sprint both offer lower-priced options than their larger rivals. Don't believe the parties' funny math suggesting that having fewer competitors somehow strengthens competition. This is a four to three merger nationally and closer to a three to two in the prepaid market.

It would reduce choice for all lower-priced plans that don't require customers to pass discriminatory credit checks or finance devices through the carrier.

Second, the merger would increase prices. In their filings, Sprint and T-Mobile don't even hide the likelihood that prices would go up for their postpaid and prepaid customers alike. That is right. Their own economic models say prices would go up.

T-Mobile's price pledge is riddled with loopholes and does nothing to allay this concern. T-Mobile announced that legacy plans would continue, and I quote, "for three years or until better plans that offer a lower price or more data are made available."

This mockery of a promise is meaningless. Prices will stay the same unless, of course, T-Mobile decides to raise them. Just as T-Mobile did with its initial attempts to hide this fact, the carrier gets to decide whether a more expensive plan is better for you, even if it offers more than many customers might want, need, or be able to afford.

Third, this merger would mean massive consolidation in the wholesale wireless market. Reducing wholesale supply would raise costs passed along to the retail customers of all resellers. Wholesale is used by carriers without their own networks, including most Lifeline carriers, to offer service at resale.

Throughout my career, I have been a strong defender of Lifeline because it helps the most vulnerable in society stay connected, providing just $9.25 a month to defray the high cost.

Lifeline is dependent on a well-functioning wholesale market. Consolidation would further widen the quality gap between wireless Lifeline offerings and non-subsidized plans.

In sum, you should closely scrutinize the too-good-to-be-true claims made by these two companies. You should also consider the real-world impacts on communities that struggle with high-priced connectivity and often find themselves on the wrong side of the digital divide.

Thank you, and I look forward to your questions.

[The statement of Ms. Scurato follows:]

Written Testimony of

Carmen Scurato
Senior Policy Counsel
Free Press and Free Press Action

Before the

Congress of the United States
House of Representatives
Committee on the Judiciary
Subcommittee on Antitrust, Commercial,
and Administrative Law

Regarding

“The State of Competition in the Wireless Market: Examining the Impact of the Proposed Merger of T-Mobile and Sprint on Consumers, Workers, and the Internet”

March 12, 2019

Overview

Free Press, on behalf of its more than 1.4 million members across all fifty states, the District of Columbia, and Puerto Rico, strongly opposes the proposed merger between T-Mobile and Sprint that is the subject of this important hearing.

We've conducted extensive research on the proposed merger. Our filings[1] in the Federal Communications Commission ("FCC") proceeding to examine the transaction, which we have summarized and updated in the attached Exhibit A to this testimony, demonstrate conclusively the disproportionate harms this deal would cause to low-income communities and people of color, who are more likely to be on the wrong side of the digital divide, and who more often rely on mobile phones as their only means of connecting to the internet.

Other attorneys and analysts at Free Press signed the FCC's protective orders, and thus were able to assess the merger applicants' confidential filings, as well as proprietary industry data that more precisely indicates wireless carriers' market shares and customers' switching patterns between them. This testimony cannot and does not make use of material subject to the protective orders, and is thus based entirely on publicly available data and arguments. That does not change the conclusion that this deal's speculative benefits do not offset its obvious harms.

Sprint and T-Mobile (and their respective pre-paid brands: Sprint's Boost and Virgin affiliates, and Metro by T-Mobile) are the dominant providers of mobile telecommunications service for low-income people. For instance, more than 30 percent of Metro and Boost subscribers report yearly incomes of $25,000 or less.

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[1] *See* Petition to Deny of Free Press, Redacted for Public Inspection, WT Docket No. 18-197 (filed Aug. 27, 2018) ("Petition to Deny"), https://www.freepress.net/sites/default/files/2018-08/free-press -petition-tmobile-sprint.pdf; Free Press, Reply to Opposition, Redacted for Public Inspection, WT Docket No. 18-197 (filed Oct. 31, 2018) ("Reply"), https://www.freepress.net/sites/default/files/2018-11/redacted_tmobile_sprint_reply_comments_free_press.pdf

Due to structural and systemic racism, people of color are disproportionately represented in these demographics. T-Mobile and Sprint customers are far more likely to be people of color than are AT&T's and Verizon's customers. For example, 56 percent of T-Mobile's subscribers in 2018 identified as people of color, as did 45 percent of Sprint's subscribers.

The reason that members of these communities choose Sprint and T-Mobile is very clear: their plans cost less. As Free Press and other merger opponents' research confirms, these two carriers compete with one another vigorously. They are each other's closest competitors. They serve price-conscious customers that AT&T and Verizon are both content to ignore and quite able to ignore profitably, as those larger carriers focus on quality-conscious and "premium" customers willing and able to pay more for wireless service.

Despite any suggestion that only T-Mobile has been able to compete with AT&T and Verizon, our filings trace all of the four nationwide carriers' performance to show that both T-Mobile and Sprint have been "mavericks," and both have been vital for the better competitive results seen over the past several years. Both T-Mobile and Sprint take customers from each other, and from each other's pre-paid brands. Yet T-Mobile and Sprint also both win customers away from the "big two" carriers as well. This pro-competitive behavior increased after, and was fueled by, the government's rejection of the previously proposed horizontal mergers like this very same T-Mobile/Sprint tie-up in 2014, and AT&T's failed 2011 T-Mobile takeover attempt.

Exhibit A discusses the parties' inflated efficiency claims, as well as greatly exaggerated rumors of Sprint's death put forward to justify this transaction. Both topics are covered even more thoroughly in our full FCC filings. Our focal point today is the harm to price-conscious customers in low-income communities, communities of color, and pre-paid market segments.

First: No matter how antitrust enforcers define the relevant product markets for purposes of their analysis here, our FCC filings illustrate the inescapable fact that this deal would further concentrate already highly-concentrated markets. In doing so, it would eliminate choices for people who want or need to pay less for essential communications services. Our filings document how T-Mobile and Sprint's pre-paid and post-paid offerings compete, with these two carriers frequently countering each other's moves in ways that benefit price-conscious customers and that exert some discipline on Verizon and AT&T as well.

Simply put, T-Mobile and Sprint both offer lower-priced options than their larger rivals do. That is because of their rivalry with each other. Their outlandish suggestion that having fewer competitors somehow strengthens competition is wrong in any case, but especially for price-conscious customers. Merger proponents' incomprehensible math tries to obscure the fact that this is a 4-to-3 merger, and 3-to-2 in pre-paid, with AT&T's Cricket brand the only other remaining facilities-based option there. This merger would reduce choices for lower-priced plans that don't typically require customers to pass credit checks or finance devices through the carrier.

Second: This merger would increase prices. In their filings, Sprint and T-Mobile don't even hide the likelihood that prices would go up for their post-paid and pre-paid customers alike. That bears repeating and special emphasis: their own economic models say prices would go up.

Our FCC filings catalogued the conflations and assumptions originally used by T-Mobile and Sprint to obscure that reality. They prop up their implausible claim that prices would actually go down eventually, or depending on how you look at it, based on the false suggestion that increased "supply" of spectrum and bandwidth in the New T-Mobile's hands would automatically necessitate a decrease in prices – even in the absence of competitive pressure.

Other deal opponents filed far more extensive refutations of T-Mobile's and Sprint's suggestions. They questioned not only the validity of the merging parties' models, but also their assertion that heavy data users would be better off with the supposed benefit of minimally improved speeds and coverage despite the price increases destined to happen.[2]

The merging parties' claims in each case boiled down to little more than an assertion that any price increases would be worth it – perhaps as customers were given the option to purchase more data and faster speeds; or, as is more likely to be the case, as customers were given <u>no option</u> but to purchase such plans at a greater out-of-pocket expense, even when they could not afford to do so or would not choose to do so.

T-Mobile's loophole-riddled pricing pledge does nothing to allay this concern or change this impression. In the original announcement in a short letter filed with the FCC, T-Mobile promised that its own and Sprint's legacy plans would continue "for three years . . . <u>or until better plans that offer</u> a lower price or <u>more data</u> are made available."[3] This mockery makes the entire pledge meaningless: post-merger prices will stay the same, unless of course New T-Mobile changes its mind. Just as T-Mobile did in its initial attempts to explain away such harms, it is the carrier that gets to decide that a more expensive plan is "better" if and when it offers more data than many customers might want, need, or be able to afford.

[2] *See* DISH Network Corporation, Comments in Response to Public Notice Regarding Cornerstone Report, Redacted for Public Inspection, WT Docket No. 18-197, at 2 (filed Dec. 4, 2018), https://ecfsapi.fcc.gov/file/120509262305/REDACTED%20DISH%20Network%20Comment%204Dec%2018.pdf ("Instead of denying the prospect of price increases, the Applicants seem to stake their entire case on the proposition that consumers will accept New T-Mobile's higher prices because they are supposedly willing to pay a disproportionately large amount of money for even an ounce of improvement in the quality of their current 4G LTE service.").

[3] Letter from Nancy Victory, Counsel to T-Mobile, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 18-197, at 2 (filed Feb. 4, 2019) (emphasis added) ("T-Mobile Pledge"), https://ecfsapi.fcc.gov/file/102042192910190/Pricing%20Commitment%20Ex%20Parte%2002.03.2019.pdf.

T-Mobile's attempts to "clarify" this pledge leave in place the same ambiguities, allowing the merged firm to raise prices even within the first three years, to say nothing of the years that follow. Its purported clarifications only muddy the waters. There are internal contradictions within the latest T-Mobile filing on this point, to say nothing of the way the document conflicts with the original pledge and the parties' FCC applications and economic models.

Third: This merger would mean massive consolidation in the wholesale wireless market. T-Mobile and Sprint are wholesale suppliers. Reducing wholesale supply would raise costs for resellers who rely on that wholesale capacity, with the resellers passing along those increased costs in the form of higher prices for their own retail customers.

Wholesale is used by carriers without their own networks – including most wireless Lifeline carriers – to offer services at resale. Free Press has been a strong supporter of Lifeline, defending it against unfortunate and unfounded attacks by the current FCC, because Lifeline helps the most vulnerable in society stay connected with a benefit of just $9.25 a month to defray the high cost of voice or broadband service. What that subsidy gets participants has evolved, thanks in large part to competition. When the FCC first approved wireless Lifeline offerings, TracFone offered recipients a measly 68 monthly voice minutes. When Virgin entered the Lifeline market with a better plan, TracFone responded by nearly quadrupling its own offering.

Lifeline competition and Lifeline in general are dependent on a well-functioning wholesale market. Consolidation of the type contemplated here would further widen the quality gap between Lifeline offerings and non-subsidized plans. And since most facilities-based carriers including T-Mobile have largely abandoned the Lifeline program, this lessening of wholesale competition and Lifeline competition would harm recipients of that vital affordability program.

Merger Background and Summary of Harms

On April 29, 2018, T-Mobile and Sprint formally announced their intent to merge, with T-Mobile the surviving entity. On June 18, 2018, they filed their public interest statement with the FCC, purporting to outline the benefits of the proposed merger.[4] As we demonstrated in our petition calling on the FCC to deny the transaction, T-Mobile and Sprint failed to show at the outset that this deal would not lessen competition. They likewise failed to show any efficiencies, supposedly offsetting the harm of reduced competition, that were merger-specific, cognizable, or of greater weight than harm from further concentration of highly concentrated markets.

For these reasons, even as we explained that the deal could not satisfy the parties' burden of proof before the FCC to demonstrate affirmative public interest benefits, we showed too that this merger would violate the antitrust laws of the United States based on Department of Justice ("DOJ") guidelines and past precedent. The merging parties have conceded in their FCC filings that the concentration of the market would generate upward pricing pressure.

In the end, T-Mobile and Sprint's claimed efficiencies and net benefits for this proposed horizontal merger are negligible at best, and upon close scrutiny appear to be non-existent. Even if those claimed benefits were legitimate, they are not merger-specific, and not nearly enough to offset the harms from the loss of a competitor in an already highly concentrated market or the price increases destined to follow from that combination. And the merging parties' funny math – claiming elimination of a competitor would somehow increase the number of viable competitors – is the kind of doublespeak that members of this subcommittee must see right through.

[4] *See Applications of T-Mobile US, Inc. and Sprint Corporation For Consent To Transfer Control of Licenses and Authorizations*, WT Docket No. 18-197, Description of Transaction, Public Interest Statement, and Related Demonstrations ("Application").

The bottom line is that nothing about this deal begins to offset the harms from the merger of the two primary carriers that serve the price-sensitive cellular market segment. This merger's irreversible harms to competition would be most acutely felt by subscribers who rely on the availability of lower-priced wireless options, and in particular by those who have low incomes – with people of color disproportionately represented in that low-income demographic and disproportionately stuck on the wrong side of the digital divide.

This merger would especially harm those types of customers, often living in many of the nation's largest cities, as well as all other wireless subscribers who would likewise suffer from a loss of choices and resulting increase on the likelihood of coordinated effects in a market nearly 100 percent controlled by three roughly equal-sized firms. At a time when the modicum of wireless competition we see in today's market has finally yielded some benefits for the average customer, approval of this merger should be unthinkable. As our FCC filings summarized:

- The relevant product markets are the nationwide cellular service market and the nationwide wholesale cellular service market.
- Both of these markets are already highly concentrated, and the proposed merger of T-Mobile and Sprint would substantially increase concentration even further in both.
- This merger would result in substantial unilateral harms to consumers and competition. It would reverse the competitive progress made since the U.S. Government's 2011 rejection of the proposed AT&T/T-Mobile merger.
- T-Mobile and Sprint each independently exert competitive pressures on the market's "premium" carriers, AT&T and Verizon, and also compete with each other for the market segment comprising more price-conscious and value-conscious customers.
- T-Mobile and Sprint are critical wholesale suppliers to resellers serving the most price-sensitive customers. This merger would substantially increase concentration in the already highly concentrated wholesale market, imparting substantial, disproportionate harms on low-income wireless users.
- The market is already vulnerable to coordinated conduct, and this merger would drastically exacerbate that harm.

- There is no prospect of competitive entry that could mitigate the unilateral harms and coordinated effects of this transaction.
- The claimed efficiencies of this merger are speculative, non-merger specific, non-cognizable, and would not outweigh the adverse competitive impact of this transaction. The merging parties' claimed benefits about accelerated 5G deployment are vastly overstated and cannot possibly outweigh the permanent harms resulting from the contraction of the market from four to three facilities-based carriers.
- Local market divestiture would not remedy the adverse competitive impacts this transaction would have. The local markets where Applicants have the highest combined market shares are disproportionately composed of lower-income households. Divesting these customers to remaining national carriers would be harmful, as those carriers have substantially higher prices than T-Mobile or Sprint.

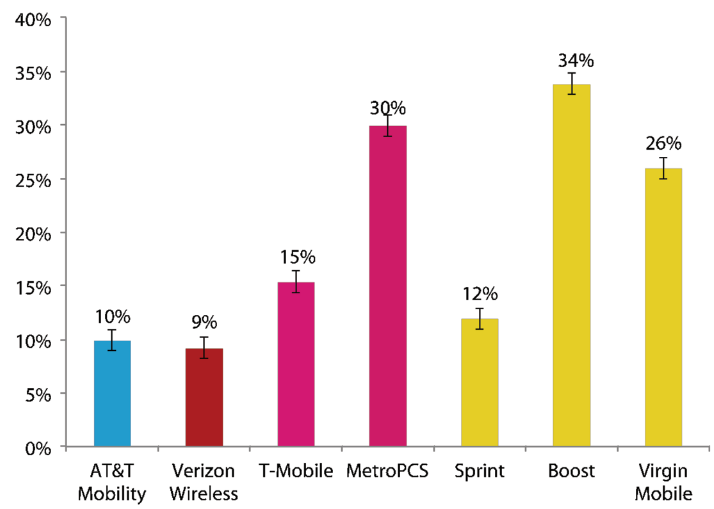
In our Reply in the FCC proceeding, we made extensive use of data subject to the FCC's protective orders to show conclusively that T-Mobile and Sprint are each other's closest competitors. They take customers away from each other's flagship brands and pre-paid affiliates by offering not only more valuable data packages, but plain and simple lower prices. They cater to these customers in densely populated areas, placing retail stores in locations that serve middle- and low-income populations often ignored by the two largest carriers. They are rewarded for this with higher market shares in those largest local markets, which would be hit hardest by this merger's price increases and job cuts.

Lastly, we explained that the driving force for the dynamic competition benefitting those communities has been Sprint's revival over the course of the past half-decade, coupled with T-Mobile's resurgence following its liberation from AT&T's rejected 2011 takeover bid. Sprint's different network coverage capabilities are not an impediment in this regard, and in fact those different coverage capabilities benefit the entire market and specific market segments by requiring Sprint to differentiate itself and compete more aggressively on price.

This Merger Would Eliminate the Primary Source of Price Competition in the Relevant Product Markets, for Price-Conscious Wireless Customers and for People of Color

T-Mobile's and Sprint's customers, for their flagship brands and especially for their respective pre-paid brands, far more often report that they are lower-income individuals than do the customers of the Verizon and AT&T. For instance, 30 percent of T-Mobile's Metro customers last year reported incomes below $25,000, as did 34 percent of customers for Sprint-owned Boost. This is a markedly higher percentage than the number of customers reporting incomes below that level for the "big two" carriers.

Percent of Each Carrier's Customers that Report Annual Income Below $25,000

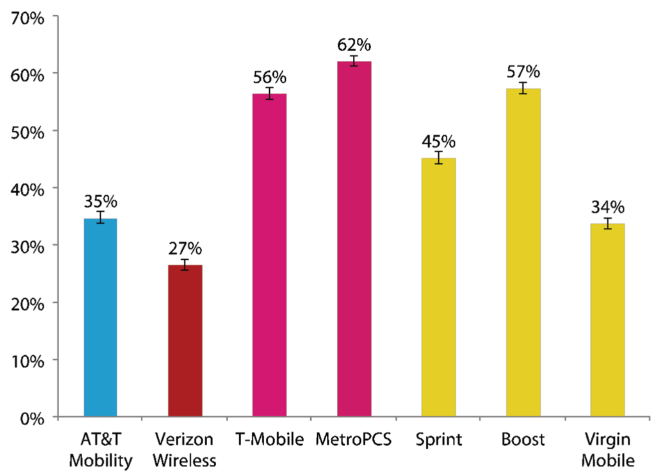


Source: Free Press analysis of a S&P Global Market Intelligence MediaCensus survey of 10,000 U.S. internet adults conducted in February 2018. Values for each carrier represent the percent of survey respondents claiming that brand as their carrier who reported their income as less than $25,000 per year. Values shown only represent branded customers, and do not include carriers' unlisted subsidiaries or customers of MVNOs that purchase wholesale network access from one of the facilities-based providers.

T-Mobile's and Sprint's customers are also far more likely to self-identify as persons of color, or members of a racial or ethnic group other than what the U.S. Census describes as "Non-

Hispanic white." For instance, 56 percent of T-Mobile customers and 45 percent of Sprint customers last year identified as persons of color, while even higher percentages of customers for T-Mobile's Metro brand and Sprint's Boost brand did.

Percent of Each Carrier's Customers that are Persons of Color

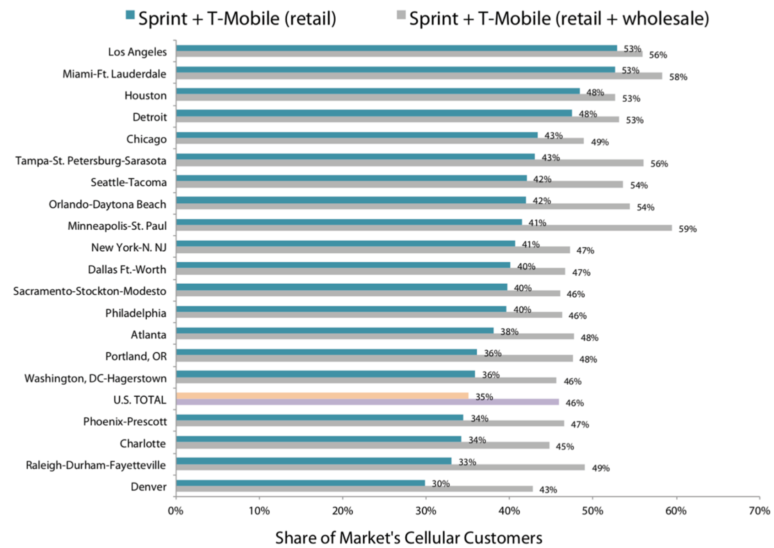


Source: Free Press analysis of a S&P Global Market Intelligence MediaCensus survey of 10,000 U.S. internet adults conducted in February 2018. Values for each carrier represent the percent of survey respondents claiming that brand as their carrier who self-reported a race or ethnicity other than Non-Hispanic white. Values shown only represent branded customers, and do not include carriers' unlisted subsidiaries or customers of MVNOs that purchase wholesale network access from one of the facilities-based providers.

And in several areas, the post-merger T-Mobile would be the number one carrier in the market, including in some of the country's largest cities.

The chart below lists markets in the top 25 most-populated Nielsen Designated Market Areas in which the New T-Mobile would likely be the largest retail carrier, largest wholesale supplier, or both. These cities have a disproportionate share of lower-income wireless users, people of color, and Spanish speakers. T-Mobile and Sprint have done well gaining share there precisely because these markets have disproportionately high levels of value-seeking customers.[5]

Percent of Select Market's Customers that Report Cellular Service from a Sprint- or T-Mobile-Owned Company, or Sprint- or T-Mobile-Owned Wholesale Partner



Source: Free Press analysis of a S&P Global Market Intelligence MediaCensus survey of 10,000 U.S. internet adults conducted in February 2018. Values for "retail + wholesale" represent MVNOs that exclusively purchase wholesale network access from Applicants plus an estimated allocation of customers from MVNOs that purchase wholesale access from Applicants and others.

In sum, the harmful impact of this deal would be felt most by low-income individuals and households. It would land most heavily on people of color. And it would hit hardest the subscribers to T-Mobile's and Sprint's pre-paid brands, along with users of these merging parties' other plans

[5] Values for "Sprint + T-Mobile (retail)" represent the percent of survey respondents reporting either Sprint, Boost, Assurance, Virgin, T-Mobile, or MetroPCS as their carrier. Values for "Sprint + T-Mobile (retail + wholesale partners)" represents the retail share plus the share of the market's cellular customers who report using a reseller that obtains network access from Sprint and/or T-Mobile. This includes resellers that may also purchase wholesale network access from other facilities-based carriers, weighted down to reflect those carriers' portions of the lines.

that likewise offer a better value, a lower price, or fewer impediments to adoption such as racially discriminatory credit checks and other similar barriers.

Those impacts would ripple outwards to other carriers' customers, due to coordinated effects and the loss of competitive options for customers of Verizon, AT&T, and AT&T's pre-paid brand Cricket. And they would extend to Lifeline recipients, and to other lower-priced and pre-paid services typically offered on a resale basis by providers that purchase wholesale capacity from Sprint and T-Mobile in an already highly concentrated wholesale market.

Despite the merger applicants' implausible claims to the contrary, none of this is good or necessary. The deal would put a stop to the positive, pro-competitive trends in the U.S. wireless market over the past decade. It would further concentrate markets that our antitrust agencies already consider highly concentrated, enhancing New T-Mobile's market power in ways that are presumptively unlawful under the Clayton Act. The inevitable outcome would be price increases for price-conscious customers, as the merging parties' own FCC filings and economic models admit, despite their recent attempts to pretend otherwise in marketing materials, in congressional testimony, and in their slippery pricing "pledge."

T-Mobile's Own Economic Models Show Price Increases, Disproportionately Impacting Lower-Income Customers, and T-Mobile's Pricing "Pledge" Does Not Change This Reality

Because of the protective orders in the FCC proceeding, and the number of facts and figures hidden behind them, T-Mobile executives, lobbyists, and hired advocates have sometimes tried to claim in public settings that the merger will decrease prices in some way, shape or form. That claim directly contradicts what the merging parties have told the FCC, no matter how they try to obscure that reality in more political settings.

As Free Press explained in a California Public Utilities Commission inquiry[6] into the effects of the proposed merger, and in the popular press,[7] Sprint and T-Mobile's pleadings at the FCC don't even bother to pretend this merger will lead to lower prices. Their own economic models show that pre-paid prices will rise. In their attempt to justify the merger nonetheless, they argue that harms to pre-paid customers will be offset by supposed capacity benefits, but those supposed benefits (if any) would be primarily enjoyed by heavy data users on post-paid plans. In other words, the merging applicants here admit that the poorest users would pay more to bring questionable capacity benefits to the wealthiest users, whose prices would also increase.

While T-Mobile's spokespeople for the deal may want to deny or ignore the existence of the company's concessions on this point, DISH's filings opposing the merger have articulated and explained these impacts that are sometimes spelled out clearly and sometimes merely hinted at in the public versions of T-Mobile's pleadings. For instance, in one of its most recent filings, DISH's economists concluded that T-Mobile's and Sprint's "own economists predict significant price increases, the harms of which would fall disproportionately on lower-income subscribers," even if the efficiencies and cost savings the merging parties claim are real.[8]

It gets worse. Not only has this set of T-Mobile's hired economists (at a firm called Cornerstone) granted that these price increases are likely. "Cornerstone [also] speculates that lower income customers may be proportionately more willing to pay more for better service than higher income customers because they may not be able to afford wireline broadband and therefore need

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[6] *See* Testimony of Jessica J. González, "Free Press Urges the California Public Utilities Commission to Reject the T-Mobile/Sprint Merger" (Dec. 10, 2018), https://www.freepress.net/news/press-releases/free-press-urges-california-public-utilities-commission-reject-t-mobilesprint.

[7] *See* Jessica J. González, "A T-Mobile-Sprint merger would be onerous for California's working families," *L.A. Times* (Jan. 21, 2019), https://www.latimes.com/opinion/op-ed/la-oe-gonzalez-sprint-t-mobile- merger-20190121-story.html.

[8] Letter from Pantelis Michalopoulos, Counsel to DISH Network Corporation, to Marlene Dortch, Secretary, FCC, WT Docket No. 18-197, at 1, 7 (filed Feb. 27, 2019).

mobile broadband more."[9] In other words, part of T-Mobile's sales pitch for this merger is that poor people will be glad to pay more for wireless because it is still cheaper than a wired broadband connection, and T-Mobile and Sprint have these customers over a barrel.

In their initial comments on the Cornerstone report, DISH's experts once again laid bare the admissions made by T-Mobile's own economic model and the ramifications of its conclusions. As DISH explained:

> The Applicants' new study attempts to recast higher prices for New T-Mobile's services as a consumer benefit. But review of Cornerstone's methodology shows that the absurdly high valuations it assigns to small service quality improvements are as wrong as they sound. First of all, Cornerstone's method disguises the manner in which the merger's harm will fall on consumers. Among many other errors, Cornerstone has disregarded the fact that a consumer's willingness to pay is affected by her income. Cornerstone has assumed a nation of Americans for whom money is no object when it comes to purchasing wireless services. Correcting Cornerstone's calculation to take income into account shows what Cornerstone has sought to obscure – lower-income consumers will disproportionately bear the brunt of the harms of this transaction, as these consumers are especially unwilling, and in many cases unable, to pay for the price increases New T-Mobile will bring.[10]

In sum, T-Mobile claims that poor people will pay more because they have to, not because they can or are willing to; and T-Mobile's own economic models suggest that it will all be worth it based on very small increases in wireless service quality.

This same flaw and same poor bargain lies at the root of the more recent T-Mobile pricing pledge, evidently proffered late in the game in order to assuage concerns about the obvious upward pricing pressure T-Mobile has already conceded in its own filings. The pledge does nothing, however, to allay those concerns. The original letter T-Mobile filed with the FCC at the start of February said that T-Mobile and Sprint legacy plans would continue "for three years . . . or until

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[9] Letter from Pantelis Michalopoulos, Counsel to DISH Network Corporation, to Marlene Dortch, Secretary, FCC, WT Docket No. 18-197, at 2 (filed Feb. 19, 2019).
[10] DISH Network Corporation, Comments in Response to Public Notice regarding Cornerstone Report, WT Docket No. 18-197, at 3 (filed Dec. 4, 2018).

better plans that offer a lower price or more data are made available."[11] After merger opponents pointed out the glaring loophole left open by the "or" in the initial formulation – lower prices or more data could both justify revoking the pledge – T-Mobile attempted to clarify its position and only dug itself in on the very same contradiction.

As T-Mobile's attempted clarification claimed on the third version of this same promise, "network improvements in speed, quality, and coverage will not be a basis for eliminating a legacy plan" unless they are offered at the same price.[12] But take two of that promise, just a page above in the clarification letter, left open the same gaping hole afflicting the initial pledge language. It said that a better plan could be "a plan with the same price and/or more data."[13] Whether this is simply unfortunate drafting or a too-clever attempt to keep the loophole open is really of no import. Conditions are hard to enforce in mergers. They are of limited duration, even when they rarely are enforced before they expire. What's more, prices in a mature market with relatively effective competition and more efficient technology might go down absent the merger, not just remain static. And T-Mobile's pledge, even if it were trustworthy for the first three years, would do nothing to prevent inevitable price increases and loss of competition in years to come.

Conclusion

As our FCC filings (summarized and updated in Exhibit A) illustrate, and recent developments confirm, T-Mobile and Sprint are each other's closest competitors. Their rivalry has been the main source of the positive changes in the wireless market in recent years. This merger

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[11] T-Mobile Pledge at 2.
[12] Letter from Nancy J. Victory, Counsel to T-Mobile, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 18-197, at 3 (filed Feb. 12, 2019).
[13] *Id.* at 2 (emphasis added).

would put a stop to that momentum, without sufficient offsetting merger-specific benefits, or without any need to "save" Sprint by eliminating it.

The U.S. wireless market already exhibits signs of coordinated effects and rampant pricing power, with little true price competition. But the competition that exists is thanks almost entirely to competition between Sprint and T-Mobile for value-conscious customers. This merger would eliminate this "maverick" competitive pressure, exacerbating pre-existing coordination effects, causing substantial unilateral harms, and creating substantial unilateral pricing power in the wholesale market – which though important to resellers serving the most value-focused and credit-challenged customers has largely failed to exert competitive pressure on the nation's two most dominant retail carriers.

The last time antitrust authorities were faced with a similar national wireless market merger in 2011, they rejected it out of hand, and in doing so set off a period of pro-consumer market expansion and competition. This current merger poses similar issues, and comes with similar unrealistic promises of benefits, and similar overwrought predictions of doom if it is rejected. It should be rejected out of hand too.

EXHIBIT A

Updated Summary of Free Press FCC Filings Opposing the T-Mobile/Sprint Merger

Antitrust Enforcers Use Data on Consumer Behavior to Determine Markets and the Number of Competitors – Not Self-Serving Claims That Fewer Competitors Is More

This horizontal merger of the nation's third- and fourth-largest cellular service providers would combine two of just four remaining nationwide carriers. In prior wireless merger reviews, such as the AT&T/T-Mobile takeover attempt, DOJ[14] and the FCC have determined that the relevant product market is the mobile voice and data market. It contains other distinct product markets in which a transaction may impart particular competitive effects (*e.g.*, retail, wholesale, enterprise and government wireless services). Antitrust enforcers also can and do devote attention to market segments that might be particularly impacted by a transaction, assessing the competitive impact a transaction would have on "value-focused" wireless customers, the pre-paid market segment, or other such price discrimination markets.

T-Mobile and Sprint, along with the legion of lobbyists they have paid to promote their merger, are fond of saying that this deal isn't "really" a 4-to-3 contraction in the nationwide cellular service market and wholesale cellular service market; or that it's not "really" an even more dramatic 3-to-2 shrinking in the nationwide pre-paid market segment, or other market segments that the agencies may examine as they review this transaction. The merger proponents attempt a sort of sad parlor trick, trying to fool their audiences into believe that eliminating a major competitor is "really" a 2-to-3 merger – whatever that may mean – or some other sort of fanciful calculation. In short, T-Mobile asks the esteemed members of this subcommittee to ignore all evidence, logic, and even mathematics, and accept these kinds of oxymoronic claims about how having fewer competitors is actually having more.

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[14] *See U.S. v AT&T Inc. & T-Mobile USA, Inc.*, Second Amended Complaint, Civil Action No. 11-01560 (ESH), ¶¶ 12-13 (D.D.C. Sept. 30, 2011) ("DOJ Second Amended Complaint").

The relevant product and geographic markets affected by this transaction function at the national level; but differences in how services are marketed (*e.g.*, where carriers place retail stores, advertise, or market to customer segments like the value-focused segment) also produce effects on competition in certain local markets. For cellular telecommunications consumers, there are no viable substitutes for combined, all-in-one mobile telephony and computing via mobile broadband networks. A smartphone user, facing sustained price increases in this market, would have no choice but to pay the increased rate or exit the cellular market and use fixed networks. Most cellular users would not substitute in that manner, and thus would not exit.

Antitrust analysis uses the hypothetical monopolist test to assess the likelihood of that kind of substitution, asking whether a small but significant and non-transitory increase in price ("SSNIP") in the merging parties' offerings actually would result in customers substituting fixed voice and data services for mobile communications services. There is no evidence to suggest that a critical level of customers would do so. Antitrust analysis also indicates the existence of distinct product markets beyond the broad "mobile" telecommunications market. For example, resellers that purchase wholesale network access from the merger proponents and from other facilities-based carriers have no viable substitutes in adjacent product markets.

However substantial the harms it would cause in general, this merger's increased concentration in the retail and wholesale mobile wireless markets would have disparate competitive impacts on particular market segments, such as the value-focused and pre-paid customer segments. These segments may not be formally defined as separate product markets, but they are differentiated enough that concentration would likely confer additional market power on the New T-Mobile that other firms in the broad mobile market would not act to negate.

For example, both T-Mobile and Sprint (and their affiliated pre-paid brands Metro, Virgin, and Boost) market specifically to the segment of cellular customers primarily concerned with price. By contrast, AT&T and Verizon market to customers primarily concerned with service quality (including geographic scope). This segmentation is reflected in the prices of each national carrier, with Verizon's and AT&T's prices well above T-Mobile's and Sprint's.

With the relevant product market defined as the nationwide cellular service market, the harms of this merger are impossible to ignore. The four national carriers controlled 98 percent of mobile wireless service revenue by 2016, with a likely higher share of smartphone revenues.[15] Regional carriers' offerings have diminished in importance. Traditional cable companies' nascent, "Wi-Fi-first" wireless services do not discipline national cellular carriers' behavior. That's why, two months before publicly announcing this proposed merger, CEO John Legere said that as he looked ahead to T-Mobile's expected growth in 2018, "the furthest thing from my mind is any concern about the impact of cable."[16] Just as this merger isn't really a math-defying and logic-defying "2-to-3" merger, it's not an "8-to-7" merger either, based on the lack of prospects for near-term discipline on nationwide wireless carriers from cable companies.

Nevertheless, consistent with FCC and DOJ precedent, antitrust enforcers can examine the transaction's effects at the national level as well as the local level. This is particularly important in the examination of certain market segments, such as the value-focused and pre-paid customer segments. And it's especially important in the cities where Sprint and T-Mobile – along with their

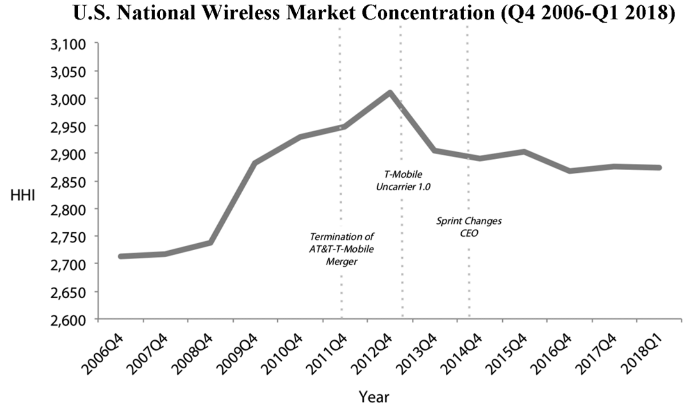
[15] *Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket 17-69, Twentieth Report, 32 FCC Rcd 8968, ¶ 32 (2017) ("*Twentieth Report*").

[16] Comments of John Legere, T-Mobile US, Inc., Fourth Quarter 2017 Analyst Call (Feb. 8, 2018) ("Legere 4Q 2017 Comments").

affiliated pre-paid brands, and other resellers that purchase wholesale capacity from them – have significantly larger market shares, making the merger's harms particularly acute.

The longstanding decline in the regional carriers' combined share, along with the share-growth of the two legacy Bell carriers, meant steady increase in market concentration as measured with the standard Herfindahl-Hirschman Index ("HHI") method for determining market concentration by examining individual firms' shares and the change in those shares resulting from a proposed merger. FCC-calculated HHI figures for the total U.S. wireless market from 2003 to 2017 reflect a decade-plus of continued mergers and acquisitions. Yet, importantly, they show a slight decline in overall concentration after 2014, with small but meaningful growth in the shares of T-Mobile and Sprint after antitrust enforcers' 2011 rejection of AT&T/T-Mobile merger and signals that they would not approve a Sprint/T-Mobile bid in 2014 either.

U.S. National Wireless Market Concentration (Q4 2006-Q1 2018)



National Wireless Market Share	2006 - Q4	2007 - Q4	2008 - Q4	2009 - Q4	2010 - Q4	2011 - Q4	2012 - Q4	2013 - Q4	2014 - Q4	2015 - Q4	2016 - Q4	2017 - Q4	2018 - Q1
Verizon	29.8%	30.1%	31.2%	36.6%	36.3%	36.0%	38.0%	37.2%	36.6%	36.2%	35.2%	34.8%	34.5%
AT&T	30.8%	32.1%	33.3%	32.3%	33.9%	34.5%	33.8%	32.7%	33.0%	33.6%	33.7%	34.3%	34.6%
T-Mobile	12.6%	13.1%	14.2%	12.8%	12.0%	11.1%	10.6%	13.8%	15.1%	16.5%	17.8%	17.6%	17.8%
Sprint	26.8%	24.7%	21.3%	18.3%	17.7%	18.4%	17.6%	16.4%	15.3%	13.6%	13.3%	13.2%	13.1%

Source: Company SEC Reports

This Merger Would Vastly Increase Already High Concentration Levels

As DOJ and FTC *Horizontal Merger Guidelines* explain, the agencies calculate HHI to assess concentration levels before and after proposed mergers "by summing the squares of the individual firms' market shares" which "gives proportionately greater weight to the larger market shares."[17] Thus, HHI calculations for the deal may differ based on the source and timing of market-share data, and in this hearing we cannot use material behind the FCC's protective order.

These expert agencies view markets with an HHI above 2,500 points as highly concentrated. They also presume that mergers in such markets increasing HHI by more than 200 points are "likely to enhance market power."[18] Publicly available data at the time Free Press filed its Petition to Deny this merger with the FCC conservatively implied a national market HHI that already stood at 2,875, increasing 467 points to 3,342 if T-Mobile and Sprint were permitted to merge – exceeding even the post-merger HHI the AT&T/T-Mobile deal would have caused.[19]

We suggested in our initial filing too that analysis of local market shares would reveal dozens of markets where post-merger concentration increases would be even higher, estimating HHI increases of 1,000 points or more in cities with large low- to middle-income populations, such as New York, Los Angeles, Chicago, Houston and others. There also is data strongly indicating that the relevant product market may in fact be narrower than the broad cellular market and include a "value" segment in which post-merger T-Mobile would be able to exercise market power, thanks to T-Mobile's and Sprint's dominance in those retail segments along with their importance to the wholesale market relied upon by pre-paid and Lifeline resellers.

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[17] *See* DOJ & FTC, *Horizontal Merger Guidelines*, at 18 (Aug. 19, 2010) ("*Horizontal Merger Guidelines*").
[18] *Id.* at 19.
[19] *See* DOJ Second Amended Complaint ¶ 25.

Sprint and T-Mobile are Each Other's Closest Competitors, and Sprint Independently Competes for AT&T and Verizon Customers Who Seek Less Expensive Services

Our Reply filing in the FCC proceeding showed conclusively that T-Mobile and Sprint are each other's closest competitors. Much of that filing is redacted, because it relied extensively on data behind the FCC's protective orders suggesting market shares and switching patterns between not just T-Mobile and Sprint but all U.S. wireless carriers. Based on my colleagues' review of that data, we are confident that competition between T-Mobile, Sprint, and their pre-paid brands is what keeps prices lower and plans better for their customers and all U.S. wireless users.

T-Mobile and Sprint take customers away from each other's flagship brands and pre-paid affiliates, offering not only more valuable data packages but plain and simple lower prices. They cater to customers in densely populated areas, placing stores in locations that serve middle- and low-income populations often ignored by the two largest carriers. They are rewarded for this with higher shares in those largest markets, which would be hit hardest by this merger's harms.

The driving force for the dynamic competition benefitting those communities has been Sprint's revival over the course of the past half-decade, coupled with T-Mobile's resurgence following its liberation from AT&T's rejected 2011 takeover bid. Sprint's different network coverage capabilities are not the impediment that the merger applicants now pretend, and in fact have the benefit of requiring Sprint to differentiate itself and compete more aggressively on price in ways that benefit the entire market and specific market segments. The filings these companies made at the FCC to justify their merger, and the statements they have made in hearings like these, paint a very different picture – but not an accurate one.

T-Mobile waves away the allegedly failing or flailing Sprint's competitive presence as immaterial to T-Mobile and the entire market. Yet they claim competition from resellers (which Sprint directly supports), and emerging competition from cable companies with far fewer wireless subscribers than the 50 million Sprint still serves, all would thrive after the merger and mitigate unilateral and coordinated effects. They fail to undertake an honest examination of how competition truly operates in the U.S. wireless market, and ignore the disproportionate impacts their merger would have on people in the most price-sensitive market segments.

As the wireless market becomes saturated, with all four remaining national carriers having comparable quality and universal coverage in most urban areas, an increasing proportion of people will choose a carrier based on price and perceived value. As the market reaches this state, Sprint stands to gain share from Verizon and AT&T while continuing to compete most directly with T-Mobile (the other carrier that primarily caters to this more price-sensitive consumer segment). The wireless market entered this state during the last two years, when it entered the "return to unlimited" era across all four nationwide carriers.

However, even at full saturation, the U.S. wireless market still has too few carriers to operate as a true commodity market in which price is the sole differentiator. Carriers continue to target certain market segments, and differentiate primarily based on non-price factors (*e.g.*, bundling wireless with "free" over-the-top video services). But so long as there are a minimum number of competitors and sufficient competition at the market's "lower" end, this saturation will result in some price discipline on the market's "top" end.

This Merger Would Reverse Competitive Gains in the U.S. Wireless Market, Which Stem Largely From the Rivalry Between T-Mobile, Sprint, and Their Pre-Paid Brands

T-Mobile's and Sprint's long histories offering prices well below Verizon's and AT&T's indicate that competition between these two merger applicants is the primary reason wireless users have seen actual and quality-adjusted price declines in recent years.

This competition that T-Mobile and Sprint independently bring to the highly concentrated U.S. wireless marketplace is invaluable. And their customers (and the customers of their associated resale partners) would be far worse off if not for the competition between Sprint and T-Mobile centered around attracting and retaining value-focused customers.

Less than a decade ago, the U.S. wireless market was already highly concentrated, and in a bad place. Waves of consolidation went hand-in-hand with increasing prices and onerous contracts. Competition was virtually non-existent. Anti-consumer practices like $0.20 per-text fees and "bill shock" were commonplace, even as demand grew with the arrival of the smartphone-era. The market was characterized by increasing prices, elimination of unlimited data plans, exorbitant rates on text messages, bill shock from metered plan overages, substantial below-the-line fees, arcane limits on voice minutes and when they could be used, onerous contracts with early termination fees, carrier exclusives on popular handsets, carrier device-locking, slow carrier deployment of network upgrades, limited marketing and availability of pre-paid plans and offerings from resellers, and other anticompetitive behavior. Carriers were reluctant to invest and innovate, choosing instead to reap supra-competitive profits.

This all started to change following DOJ and FCC rejection of the proposed AT&T/T-Mobile merger in 2011, and only continued after the government signaled that it would not approve a horizontal merger between Sprint and T-Mobile in 2014. Forced to go it alone, T-Mobile had no choice but to invest and compete, and it did so by taking aim at the value-focused market segment. T-Mobile's competitive moves prompted responses, from Sprint (which had been the best option among national carriers for value-focused users until then), and from AT&T and Verizon as well.

Our FCC filings opposing this merger catalogue Sprint's and T-Mobile's competitive innovations and successes over the last half-decade. We will only summarize a few of those here. But I cannot emphasize enough that Sprint and T-Mobile both acted successfully as "maverick" firms during this time period, attracting customers from each other and from the big two wireless carriers above them – not despite competition between T-Mobile and Sprint, but because of it.

After T-Mobile was liberated from AT&T's proposed takeover in 2011 and began its vaunted "uncarrier" promotions, Sprint undertook a series of aggressive moves starting in January 2014, like its so-called "Framily Plans" with substantial per-line savings if users purchased multi-line friends and family plans.[20] That same month, T-Mobile unveiled its "Contract Freedom" promotion to pay a new customer's early termination fee up to $650.[21] T-Mobile's promotion mirrored one launched by AT&T a few weeks earlier, with AT&T offering up to $450 to T-Mobile customers who switched to AT&T.[22] And AT&T's switching promotion targeted at T-Mobile customers wasn't its only winter 2014 response to competition, as it also decreased prices for users who shared 10 gigabytes or more of monthly data. AT&T's move still placed its prices above T-Mobile's then-current offers; but likely came in response to Sprint's Framily Plans, which were significantly less costly than the shared plans of all other carriers.[23] Verizon – exhibiting its tendency to ignore such moves or at least wait until every other carrier has acted – finally unveiled its "More Everything" family-style plan in mid-February 2014.

In February and March 2014, Sprint's Boost Mobile brand unveiled a $35 monthly unlimited talk, text and data plan with 2.5 gigabytes of 4G LTE data, then a Sprint-branded unlimited pre-paid plan for $60 per month.[24] Competition cooled somewhat during mid-2014, as

[20] *See* Marguerite Reardon, "Sprint's new 'Framily Plans' offers big savings," *CNET* (Jan. 7, 2014).
[21] *See* Sean Hollister, "T-Mobile will now pay $350 for you to leave AT&T, Sprint, or Verizon," *The Verge* (Jan. 8, 2014); Marguerite Reardon, "T-Mobile will buy your AT&T or Verizon smartphone. What's the catch?" *CNET* (Mar. 22, 2015).
[22] *See* Don Reisinger, "Temptation: AT&T offers T-Mobile users $450 to switch," *CNET* (Jan. 3, 2014).
[23] *See* Dante D'Orazio, "AT&T tweaks Mobile Share pricing to significantly discount 10GB or larger plans," *The Verge* (Feb. 1, 2014).
[24] *See* Angela Moscaritolo, "Boost Mobile Kicks Off $35 4G LTE Promotion," *PC Magazine* (Feb. 6, 2014); Phil Goldstein, "Sprint replaces Sprint As You Go with Sprint Prepaid brand: New plans at $45 and $60 for smartphones," *FierceWireless* (Mar. 14, 2014).

Sprint and T-Mobile entered into negotiations with each other and with the U.S. government over a potential merger. But by August 2014, the competition ramped back up, beginning with Sprint's replacement of its CEO and subsequent replacement of its Framily Plans with shared plans that had higher data allotments. Sprint also launched a new single-user unlimited plan at a steep discount compared to any other carriers' unlimited options, offering a single-line unlimited plan for $60 per month – $20 cheaper than other carriers' similar plans.[25]

T-Mobile responded in August 2014, as it cut prices on family plans and launched a $10 monthly tablet data plan. It also responded to Sprint's single-line discounts by quadrupling the amount of monthly data on its entry-level single-line plan, offering unlimited voice, text, 3G data, and 2 gigabytes of 4G LTE data for $45 per month.[26] In September, T-Mobile also implemented a device trade-in program it called the industry's "best value,"[27] only to see Sprint launch its own trade-in program a day later aimed directly at the perceived shortcomings of T-Mobile's promotion.[28]

Sprint continued to respond to T-Mobile during the fall of 2014, as the company's new CEO implemented an overhaul of the company's pricing, promotions, and culture, and moved the "Sprint Spark" plan to upgrade the company's network capacity. In September, Sprint's Boost

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[25] *See* Marguerite Reardon, "Sprint CEO hits gas on price overhaul," *CNET* (Aug. 18, 2014); Marguerite Reardon, "Sprint attacks T-Mobile with $60 unlimited data plan," *CNET* (Aug. 21, 2014).
[26] *See* Phil Goldstein, "T-Mobile cuts prices on family plans with 7-10 lines, launches $10/month tablet plan," *FierceWireless* (Aug. 26, 2014); Malarie Gokey, "T-Mobile now offers a 2GB talk, text and data plan for $45," *Digital Trends* (Aug. 25, 2014).
[27] *T-Mobile US, Inc*., Press Release, "T-Mobile Guarantees Industry's Best Trade-In Value on Used Devices" (Sept. 8, 2014).
[28] *See* "Sprint 'Strikes Back,' Announces Tweaked Trade-in Program with Options for In-store and Account Credit," *Droid Life* (Sept. 9, 2014).

brand doubled monthly data allotments and cut prices by $5 price.[29] AT&T doubled data on its high-end plans a few days later, and Verizon aligned its tiers to match AT&T's.[30]

Sprint responded to AT&T's and Verizon's moves in the fall of 2014 by rolling out new post-paid tiers that offered double the amount of data that these "Twin Bell" companies did at the same price points.[31] In mid-October, Sprint's Boost Mobile became the first pre-paid carrier to offer the latest iPhone.[32] Sprint ended 2014 with an aggressive promotion: it announced it would charge customers who switched from AT&T or Verizon half of what they were paying previously.[33]

The primary beneficiaries of the wireless market competition during 2014 were, of course, wireless consumers. <u>But T-Mobile and Sprint benefited as well, with their promotions bringing in a slew of new customers that ultimately improved each company's financial metrics</u>. AT&T and Verizon were not so fortunate. After years of reaping the bounty of their market power, T-Mobile's and Sprint's competitive moves finally ate into the Twin Bells' profits.[34]

After Sprint's ascendency during 2014 and early 2015, T-Mobile's MetroPCS rolled out a series of price cuts and promotions aimed directly at Sprint's price-conscious customer base. In January 2015, Metro reduced the monthly price of its unlimited LTE plan from $60 to $50,[35] and T-Mobile unveiled its "smartphone equality" promotion, which extended no down-payment device

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[29] *See* Mark Davis, "Sprint CEO Marcelo Claure outlines shake-up of entire company," *Kansas City Star* (Sept. 11, 2014); "Sprint's Boost Mobile promotion doubles data and cuts price," *Kansas City Star* (Sept. 3, 2014).
[30] *See* Roger Cheng, "AT&T doubles data on high-end plans, starting at 15GB tier," *CNET* (Sept. 27, 2014); Mark Rogowsky, "Mobile Wars: AT&T Goes Whale Hunting, But Verizon, Sprint Bite Back as Data Prices Continue to Fall," *Forbes* (Oct. 2, 2014).
[31] Sprint Corporation, Press Release, "Sprint Stands Behind Pledge to Deliver 'Double the Data,'" (Oct. 1, 2014).
[32] *See* Bobby Burch, "Sprint's prepaid brand releases iPhone 6 pricing," *Kansas City Business Journal* (Oct. 10, 2014).
[33] *See* Chris Welch, "Sprint promises to cut Verizon and AT&T bills in half if customers switch," *The Verge* (Dec. 2, 2014).
[34] "AT&T and Verizon warn investors of higher Q4 churn as Sprint and T-Mobile increase competition," *9 to 5 Mac* (Dec. 9, 2014).
[35] *See* Amit Chowdhry, "MetroPCS Is Offering An Unlimited LTE Data Plan For $50 Per Month," *Forbes* (Jan. 22, 2015).

financing to pre-paid customers and eliminated credit checks.[36] Sprint's Boost Mobile responded quickly with a suite of unlimited plans ranging from $35 to $55 monthly, depending on the amount of 4G LTE data chosen.[37] In March 2015, MetroPCS introduced a $30 unlimited plan with no additional taxes or fees.[38] These promotions continued apace throughout the spring and summer of 2015. T-Mobile aggressively used MetroPCS to take customer share from Sprint, which had previously faced aggressive pre-paid competition only in the regional markets in which Cricket and MetroPCS operated prior to their acquisitions.[39]

With several carriers having dropped prices in January 2015, many additional promotions that Spring shifted to value-adds, such as handset discounts and data rollovers. Yet in June 2015, Sprint pushed the market with a promotion that cut Cricket and MetroPCS customers' prices in half if they switched to Boost Mobile. This resulted in customers being able to pay as little as $20 per month for unlimited voice and text with 2.5 gigabytes of data.[40]

In August 2016, T-Mobile brought back unlimited data plans, and just hours later Sprint announced its own unlimited data offering.[41] It was a full six months later that Verizon responded with its own unlimited data plan, and three days after that AT&T extended its unlimited data offering to any customer[42] (AT&T had an unlimited data offering, but only for its DirecTV customers, starting in January 2016).[43] These continuing back-and-forth salvos are crucial for

[36] *See* Chris Welch, "T-Mobile will ignore bad credit if you pay your bill on time for a year," *The Verge* (Jan. 22, 2015).
[37] *See* Bertel King Jr., "Boost Mobile $35 Plan Will Supply 2.5GB Of 4G LTE To Customers Who Commit To Automatic Payments Starting Feb. 3rd," *Android Police* (Jan 22, 2015).
[38] *See* Lance Whitney, "MetroPCS crafts unlimited phone plan for $30 a month," *CNET* (Mar. 24, 2015).
[39] *See, e.g.*, Nick Terry, "MetroPCS and Boost Mobile Battle It Out for Subscribers," *AndroidHeadlines*, (May 21, 2015).
[40] *See* "Boost Mobile Invites All Cricket and MetroPCS Customers to Slash Their Payment in Half," *PR Newswire* (June 19, 2015).
[41] *See* Aaron Pressman, "Here's How Sprint and T-Mobile Are Battling With New Unlimited Data Plans," *Fortune* (Aug. 18, 2016).
[42] *See* Raymond Wong, "AT&T caves in and opens its unlimited data plan to non DirecTV and U-Verse subscribers," *Mashable* (Feb. 17, 2017).
[43] *See* Roger Cheng, "AT&T revives the unlimited data plan, with a catch," *CNET* (Jan. 11, 2016).

competition – not just those in which T-Mobile or Sprint spurred Verizon or AT&T, but also these battles between T-Mobile and Sprint competing against each other.

It is critical to note the change in each carrier's market shares during these more competitive periods, and how such changes also reveal the importance of competition between Sprint and T-Mobile to the entire wireless market. The return of unlimited or uncapped data plans and numerous other positive developments occurred primarily because of direct competition between Sprint and T-Mobile, and as a result of DOJ and the FCC as well rejecting prior overtures towards damaging 4-to-3 mergers like this one.

The point of all of this is that the national market de-concentrated during the 2013-2017 time period, when many of the prior period's anti-consumer practices faded away. Verizon's and AT&T's share of the wireless market's service revenues started to decline, as T-Mobile's and Sprint's went in the right direction.[44] And customers saved too, on discounted multi-line offerings common after T-Mobile's introduction of its "Simple Choice" plans, followed shortly by Sprint's "Framily" plans (and then followed by T-Mobile beating Sprint's multi-line price).[45]

The elimination of independent T-Mobile and Sprint would remove from the market firms that each have a track record of product innovation, produced by pressure to compete not only with the Twin Bells but against each other.[46] Both T-Mobile and Sprint have taken on the role of

[44] *See* Petition to Deny at 30-32, figs. 4-5.

[45] *See* Marguerite Reardon, "Sprint's new 'Framily Plans' offers big savings," *CNET* (Jan. 7, 2014); T-Mobile US, Inc., Press Release, "T-Mobile Doubles Down on Flagship Simple Choice Plan with More 4G LTE Data, Tethering – and Unlimited International Texting" (Mar. 6, 2014). Sprint's actions in this more recent de-concentrating time period also illustrate how important Sprint is, independent from T-Mobile, to price competition between all of the carriers. When Sprint first launched its "Framily" plans, users had to have seven or more lines in order to pay $25 per month per line for unlimited talk and text with just one gigabyte of data. Sprint's "Unlimited Freedom" plan update in early 2018 prices four lines of unlimited voice, text and data at the same $25 per-line monthly fee; Jerry Hildenbrand & Joseph Keller, "Everything you need to know about Sprint's Unlimited Freedom Plan," *iMore* (Jan. 7, 2018).

[46] *See Horizontal Merger Guidelines* at 23 ("The Agencies may consider whether a merger is likely to diminish innovation competition by encouraging the merged firm to curtail its innovative efforts below the level that would prevail in the absence of the merger. That curtailment of innovation could take the form of reduced incentive to continue with an existing product-development effort or reduced incentive to initiate development of new products.").

maverick competitors, and collectively gained share relative to those Twin Bells in the broader cellular market and specific market segments. Both have used product innovation and price promotions to differentiate and compete. With this merger, T-Mobile and Sprint propose to put a stop to this positive competitive momentum.

The merged firm wants to grow its profits and profit margins to heights historically enjoyed by AT&T and Verizon, and the only way to achieve that goal is to merge the market into a triopoly where no provider feels any meaningful pressures to compete on price.

There is no credible evidence to support T-Mobile's claims that without an independent Sprint, the New T-Mobile would not exercise its newfound market power; or that the consolidated market would not produce coordinated effects in the absence of low- and middle-market competition between Sprint and T-Mobile vying for a share of these segments.

This Massive Merger and Elimination of Competition in the Value-Focused Market Segment Would Lead to Price Increases, Not the Benefits and Efficiencies T-Mobile Claims

At the outset of the FCC proceeding, T-Mobile's central argument was that the merged firm would see a 6 percent reduction in Average Revenue per User ("ARPU") by 2026, which it claimed would result from the merged firm passing along scale benefits to customers.[47] Setting aside the reality that in the resulting (and obscenely highly concentrated) market, there would not be the normal competitive pressures that force a carrier to pass along these savings to users as opposed to shareholders, this is a wildly misleading statistic. ARPU is already declining.[48]

A 6 percent reduction in ARPU by 2026 is an average annual decline of 0.9 percent. But according to CTIA, a trade association representing the U.S. wireless industry, industry ARPU declined by 7 percent in 2016 alone (and between 2012 and 2016, declined by an average annual

[47] Application at 121.
[48] *See Twentieth Report* ¶ 59.

rate of 1.9 percent). As a growing proportion of wireless carriers' customers are not smartphone users but connected devices, using lower amounts of bandwidth and generating less revenue per account, these ARPU claims may in fact mask price increases for cellphone customers.

This is laid bare by T-Mobile's public materials touting the merger to investors, which noted in the long term (5-plus years) their expectation that profit margins would more than double to a whopping 45 percent, well above 2018 *pro forma* values of 21 percent.[49] This cannot be explained by increased competition, nor supposed synergies; only by reduced market-wide competition that enables unilateral and coordinated behavior, and a reduction in investment.

The FCC's 2011 decision to reject AT&T's takeover of T-Mobile was in part based on those applicants "significantly overstat[ing] the estimated cost savings of the proposed transaction."[50] This overstatement should not have been surprising, as it reflects the economic reality that large telecommunications firms have largely exhausted their returns to scale, which is particularly the case for wireless firms.[51] The DOJ's findings that firms of Sprint's and T-Mobile's size likely do not have unexhausted scale economies suggest that claims here of substantial merger-related efficiencies are overstated. If this is the case, not only are the supposed benefits of this merger non-cognizable, they would not outweigh the competitive harms of the transaction – particularly those caused by the upward pricing pressure in the value-focused market segment.

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[49] *See* T-Mobile US, Inc., and Sprint Corporation, "Creating Robust Competition in the 5G Era," at 18 (Apr. 29, 2018) (showing the 2018 *pro forma* values for adjusted EBITDA and margins; adjusted EBITDA less capital expenditures and margins; capital intensity; as well as the short and long-term expectations for these values at New T-Mobile).

[50] FCC Staff Report ¶ 176.

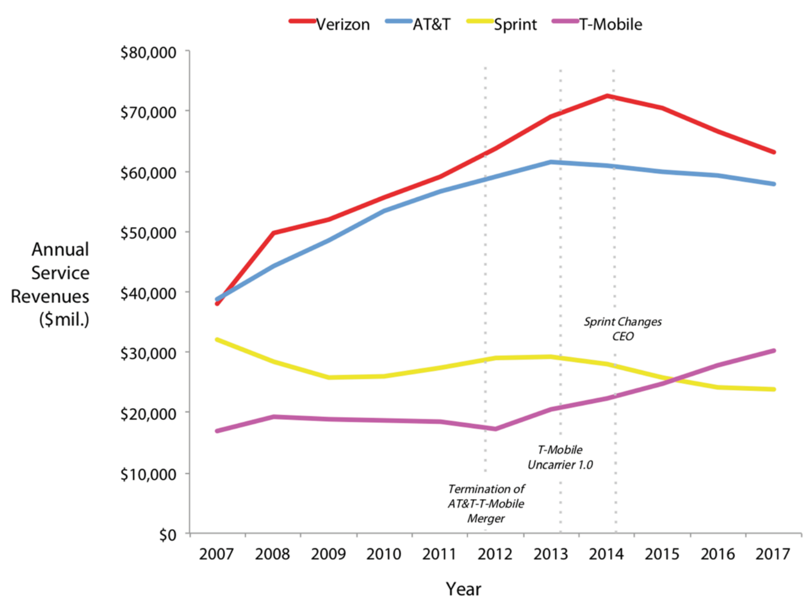
[51] *See* Yan Li & Russell Pittman, United States Department of Justice Economic Analysis Group, Discussion Paper, "The proposed merger of AT&T and T-Mobile: Are there unexhausted scale economies in U.S. mobile telephony?" at 8 (Apr. 2012) ("[T]he literature suggests that it is unlikely that a firm as large as AT&T – and perhaps T-Mobile as well – is operating at a point on its overall enterprise cost curve of substantial unexhausted economies of scale."). Note that this was written in 2012, when T-Mobile's reach was well below where it is today, now reaching some 99 percent of the U.S. population.

The Merger Would Result in Substantial Unilateral Harms in the Relevant Product Markets, Reversing the Positive Competitive Trends of the Past Half-Decade

The proposed transaction is not a merger to monopoly in the primary product markets. Yet there would be substantial unilateral harms, including reductions in relative long-term capital investment, innovation, and non-price competition; higher prices for certain services, and removal of certain products from the market. This would reverse recent, more positive trends.

Service revenues for the four national wireless carriers combined increased steadily until peaking in 2014, but declined sequentially until 2017 for nearly a 5 percent drop. T-Mobile's "uncarrier" moves elicited competitive responses from AT&T and Verizon, and Sprint as well.

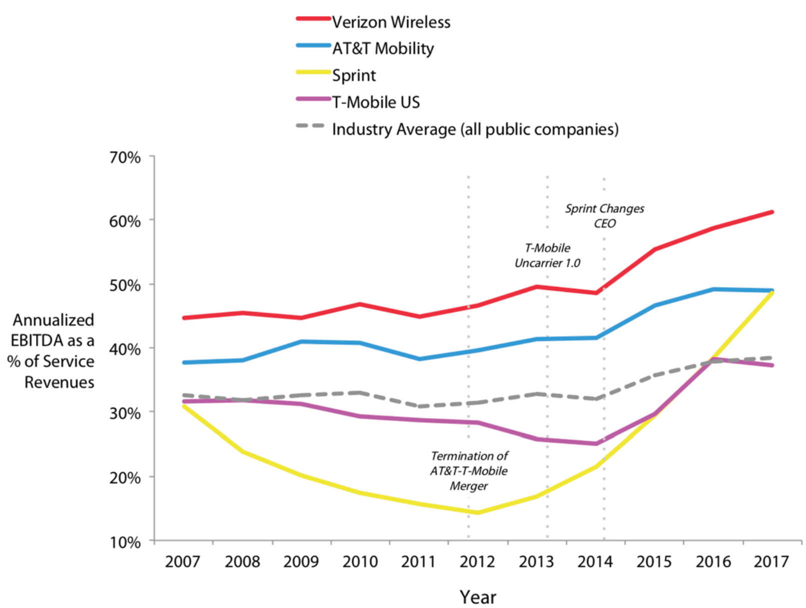
Wireless Market Service Revenues (2007-2017)



Source: Company annual SEC filings. Values exclude equipment revenues.

We saw declining competitive outcomes prior to the government's rejection of the AT&T/T-Mobile merger in late 2011. Competitive outcomes improved following that, and continued to improve after strong signals in 2014 that antitrust enforcers would not permit Sprint and T-Mobile to merge either. But that increase in competition did not harm profitability of the industry as a whole, or of any individual carriers. Indeed, increased competition appears to be a rising tide that lifted all boats. AT&T and Verizon saw their profit margins grow slowly and steadily over the last decade. Their margins were appreciably higher than those of T-Mobile and Sprint. However, while Sprint and T-Mobile's profit margins had declined prior to the failed AT&T/T-Mobile merger, they too returned to growth in recent years.

Wireless Profit Margins (2007-2017)

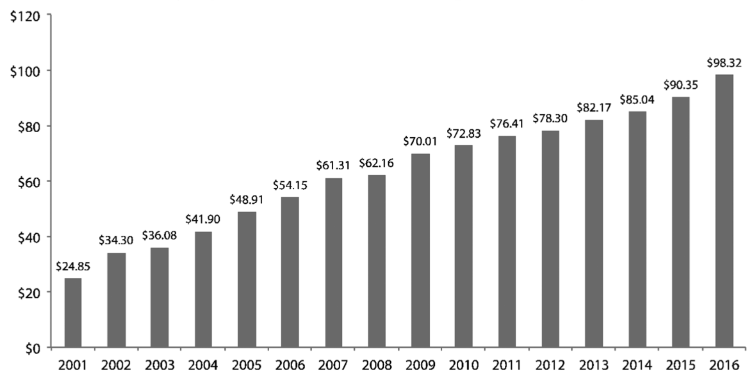


Source: S&P Global Market Intelligence.

The data collectively shows that consumers are spending more and that carrier profits are increasing, all while carriers continue to offer certain quality improvements. The market's competitive activity increased following the rejection of the AT&T/T-Mobile merger, but it largely took the form of service enhancements and bulk discounts rather than direct price declines, as expected from a highly concentrated market reaching customer saturation.

Yet the competitive benefits that materialized over the past half-decade would not have occurred if there were not competition between the market's two smaller national carriers for value-seeking customers. That in turn produced responses from the market's two larger national carriers, because in a saturated market they could no longer grow from "natural" customer additions of individuals with no prior service.

Monthly Expenditures for Cellular Phone Services per Consumer Unit (2001-2016)
(May 2018 CPI-U Inflation-Adjusted Values)



Source: Bureau of Labor Statistics Annual Consumer Expenditure Survey; Bureau of Labor Statistics CPI-U

The central question for this merger is whether it would confer unilateral pricing power on the merged firm. We are confident, based on all of the publicly available data, that Sprint and T-Mobile already possess unilateral pricing power in the value market segment, and that their merger would vastly enhance this unilateral market power. Sprint's pre-paid ARPU has increased 11 percent over the past two years, while T-Mobile's increased 4 percent during this time.

Another critical point to note in assessing potential unilateral effects is that Sprint, not T-Mobile, has acted more like a "maverick" in recent months. After T-Mobile surpassed Sprint as the third place carrier, it began to pull back on its price promotions, focusing more on value-adds like free Netflix subscriptions. Sprint continues to focus on aggressive price promotions, like a 2018 offering of $15 monthly unlimited plans to switching customers. Sprint's price-focused efforts exert some price discipline on T-Mobile, primarily on T-Mobile's pre-paid MetroPCS subsidiary. But if T-Mobile is permitted to acquire Sprint, these pricing pressures disappear.

In sum, there's no good argument that combining the market's only two value-focused facilities-based carriers would not lead to price increases and unilateral harms. And as we discuss below, there's ample reason to expect this 4-to-3 market contraction would create coordinated harms too, relieving AT&T and Verizon from the modicum of competitive pressure they've felt from both Sprint and T-Mobile in recent years. But to put to rest any doubt that the merger would likely lead to price increases by the New T-Mobile itself, we need only consult the economists hired by . . . T-Mobile itself. As explained in our main testimony above, based largely on a series of DISH filings that unearth and interpret the statements T-Mobile's hired experts made in the FCC record for this proceeding, T-Mobile has conceded that prices are likely to go up considerably – especially for price-conscious customers least able to afford such price hikes.

The Merger of T-Mobile and Sprint Would Further Exacerbate Harmful Coordinated Effects in the Relevant Product Markets, With No Prospect of New Entry to Prevent Them

DOJ has shown concern in the recent past that AT&T and Verizon may already engage in and benefit from coordinated interaction.[52] This merger's elimination of competition in the value-focused customer segment would exacerbate that threat. Assessing the potential for coordinated interaction is inherently a predictive exercise for antitrust enforcers, but the structure of the wireless marketplace makes it particularly vulnerable. The potential product market (smartphone service plans) is largely homogeneous, with prices readily observed by competing firms. Wireless carriers more rarely offer new customer discounts or retention incentives than wired carriers do, and they price their services nationally.[53]

DOJ's review undoubtedly focused both on price and non-price competition when evaluating the potential for coordinated conduct. Though some of the prior switching barriers (such as handset exclusivity, two-year contracts, or lack of handset portability) have gone away thanks to T-Mobile's and Sprint's competitive moves, switching remains difficult. It is unlikely a firm exercising market power through increased prices would immediately lose a substantial portion of customers to competing carriers. This would especially be the case if New T-Mobile increased prices or reduced non-price competition, because value-focused customers would have no better option. For Verizon and AT&T though, coordination in response to New T-Mobile would be highly likely: they'd face less threat of defection from customers seeking greater value.

[52] *See*, *e.g*., Cecilia Kang, "U.S. Investigating AT&T and Verizon Over Wireless Collusion Claim," *New York Times* (Apr. 20, 2018).

[53] *See Horizontal Merger Guidelines* at 26 ("A market typically is more vulnerable to coordinated conduct if each competitively important firm's significant competitive initiatives can be promptly and confidently observed by that firm's rivals. This is more likely to be the case if the terms offered to customers are relatively transparent. Price transparency can be greater for relatively homogeneous products.").

In a typical product market, the impact of coordination would be greatly reduced by smaller firms expanding output and capturing share.[54] But the cellular service market is not typical: Smaller firms no longer exist, and the few remaining regional facilities-based carriers could not rapidly expand their sales due to customer switching costs and regional carriers' lack of spectrum outside their regions. The threat of regional carrier expansion into the national market obviously could not mitigate coordinated action due to the high fixed costs and deployment time even if the few remaining regional carriers were inclined to try. And as discussed above, cable companies have neither the mobile customer base or mobile service footprint needed to challenge the nationwide mobile carriers.

Horizontal mergers of this size raise particular concern in markets where competitors are unable to enter sufficiently and quickly. In the wireless market – and particularly the wireless data market – sufficient new entry is impossible, and the smaller firms lack the ability to quickly and efficiently expand output at levels needed to offset the unilateral and coordinated harms that approving this merger would cause. No new firm has successfully entered the facilities-based cellular telephony and data market in the past two decades, and with the massive amount of consolidation many have exited.[55] New entrants would have to amass substantial spectrum assets, navigate local and federal regulations, and incur substantial fixed deployment costs prior to signing up a single customer. In addition, the high valuation of existing leading firms indicates intangible assets that a new entrant would not be able to sufficiently and quickly duplicate.

[54] *See id*. ("This collective market power is diminished by the presence of other market participants with small market shares and little stake in the outcome resulting from the coordinated conduct, if these firms can rapidly expand their sales in the relevant market."). But as we mentioned above, the few remaining and vanishingly small regional and pre-paid firms are simply unable to rapidly expand sales, both due to constraints on supply (prime spectrum) and demand (switching costs).

[55] The only facilities-based carriers to enter the market in the past two decades are Clearwire in 1998, and Qualcomm's spin-off Leap in 1999. Clearwire did not enter the national market for integrated mobile voice and data. AT&T later acquired Leap. AT&T, Press Release, "AT&T Completes Acquisition of Leap Wireless" (Mar. 13, 2014).

Even if timely entry were possible, it would be insufficient to mitigate the unilateral and coordinated harms of this proposed merger. In the cellular service market, AT&T and Verizon increasingly rely on bundled vertical content to differentiate themselves.[56] This practice, along with substantial switching costs, creates insurmountable barriers to effective entry.[57] T-Mobile in its merger filing at the FCC first held up DISH as a potential competitor, claiming that "DISH has the resources and spectrum to compete effectively in offering 5G wireless broadband services."[58] But as we noted in our Petition to Deny, there is little reason to expect DISH will <u>ever</u> launch a nationwide, competitive service, certainly not in the foreseeable future. What's more, DISH's current plans are for a narrowband connected devices network, not a full broadband network offering a nationwide integrated mobile voice and data service that competes in the retail market with the national carriers.[59] And T-Mobile has changed its tune completely, now telling the FCC that DISH "intends to continue to warehouse spectrum with no benefit to consumers."[60]

This market is also particularly vulnerable to coordinated conduct because it is so top-heavy, with so much of the subscriber base and industry's revenues already concentrated in the four nationwide carriers. This merger would eliminate <u>two</u> maverick competitors (replacing them with a newly combined firm equal in size to the Verizon and AT&T) and would lead to "a more stable pricing environment," which is the main reason that Wall Street has long clamored for

[56] *See* Jacob Passy, "Why a T-Mobile-Sprint merger could be 'devastating' for consumers," *MarketWatch* (Apr. 30, 2018) ("One big reason why regulators could block the deal is the role TV and internet services now play in the wireless market. . . . [T]here's a divide among the major carriers between those that offer bundled services including TV and internet (AT&T and Verizon) and those that don't (Sprint and T-Mobile). Only having one company in the latter category could have caused prices to go up.").
[57] *See Horizontal Merger Guidelines* at 29 ("Even where timely and likely, entry may not be sufficient to deter or counteract the competitive effects of concern. For example, in a differentiated product industry, entry may be insufficient because the products offered by entrants are not close enough substitutes to the products offered by the merged firm to render a price increase by the merged firm unprofitable.").
[58] Application at 112.
[59] *See* Sarah Barry James and Waqar Jamshed, "Analysis: Debt load, build-out deadlines complicate DISH's wireless ambitions," *S&P Global Market Intelligence* (Aug. 7, 2018).
[60] Mike Dano, "T-Mobile takes huge swing at Dish for hoarding spectrum," *Fierce Wireless* (Oct. 26, 2018).

greater wireless industry consolidation.[61] And AT&T and Verizon investors do not expect that a merged T-Mobile and Sprint would harm AT&T's or Verizon's future earnings, but likely punished AT&T and Verizon on news that the merger was not happening because investors feared AT&T's and Verizon's earnings at the top are subject to greater challenge by an independent T-Mobile and Sprint.

The domination at the top is a strong indicator of an already-broken market, but this proposed merger of the third- and fourth-largest carriers would exacerbate, not cure, its problems. The proposed contraction from four to three carriers would have a particularly corrosive impact on innovation and what few competitive incentives exist. That AT&T and Verizon were able to largely avoid dropping their prices during periods in which both T-Mobile and Sprint did so, and were still able to increase their profit margins and subscribers in the face of this price competition below them, is a strong indicator of the market's existing lack of effective competition. Indeed, the *Horizontal Merger Guidelines* state:

> If a firm has retained its market share even after its price has increased relative to those of its rivals, that firm already faces limited competitive constraints, making it less likely that its remaining rivals will replace the competition lost if one of that firm's important rivals is eliminated due to a merger.[62]

Both Sprint and T-Mobile have proven to be critical sources of marketplace competition that has in recent years resulted in tangible consumer benefits. Indeed, the market had four national carriers prior to the government's rejection of the AT&T/T-Mobile merger, yet still showed no signs of effective competition until T-Mobile received an infusion of cash and spectrum from the breakup. It is critical to maintain Sprint and T-Mobile as independent firms, and why market contraction to just three carriers would be a disaster. The elimination of the two "maverick" firms

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[61] Sheena Lee, "AT&T/T-Mobile Deal Won't Hurt Verizon," *Seeking Alpha* (Mar. 25, 2011).

[62] *See Horizontal Merger Guidelines* at 18.

currently running as the third- and fourth-place carriers would more than fully restore AT&T's and Verizon's pre-2012 market power, and would remove the only sources of what little pricing discipline currently exists in the wireless space.

There's simply no good argument against the inescapable conclusion that contracting to three carriers would lead to price increases and to unilateral and coordinated harms. The merging parties' hypothesis to the contrary is neither borne out by the historical evidence in the U.S. market, nor suggested by comparative analysis of wireless markets in other nations, where the axiom of "more competitors equals more competition" proves true.[63]

This Merger Would Result in Negative and Irreversible Harms to the Lifeline Marketplace and the Low-Income Families that Rely on Lifeline to Stay Connected

Sprint is the only remaining national facilities-based wireless carrier that offers the FCC-standardized "free" wireless Lifeline minimum service plan (under its brand Assurance Wireless). By contrast, T-Mobile ceased its Lifeline offerings almost entirely, stating that it is unprofitable. Whether or not that claim is legitimate, it indicates that incentives for carriers to offer Lifeline are already precarious, and that Sprint – for a variety of potential reasons including its position in the market as the lowest-priced national carrier – has different incentives and a different view of this market than its suitor T-Mobile (as well as AT&T and Verizon, of course).

The Lifeline marketplace is almost entirely dependent on a well-functioning wholesale market, which this merger would massively consolidate. Concerns about harms to the value segment of the cellular market are particularly acute given T-Mobile's and Sprint's already

[63] There are at least two major international comparative market studies that provide strong evidence that markets with three carriers produce worse competitive outcomes than markets with four or more carriers. *See* Working Party on Communications Infrastructures and Policy, OECD, "Wireless Market Structures and Network Sharing," at 17 (Jan. 8, 2015). "Particularly in countries with four or more mobile operators[,] benefits are visible through more competitive and more inclusive offers and services that are generally not available in countries with three mobile operators." Price Waterhouse Coopers, "Grasping at differentiated straws: Commoditization in the wireless telecom industry" (Feb. 2018).

substantial shares of the wholesale market. In addition to Lifeline providers, that market's buyers consist of resellers like Ting, Mint Mobile, Simple Mobile, Project Fi, and dozens of others that purchase wholesale network access from a national facilities-based carrier then resell that capacity at service prices often far lower than those charged by the wholesaling carrier for its own similar retail plans.

Precise wholesale market share data is difficult to estimate using only public data, due to the way each national facilities-based carrier reports subscriber totals. For example, Verizon only reports retail connections, not wholesale or connected device counts. AT&T does report "reseller" connections; but it is unclear how many, if any, of AT&T's reseller connections are for connected devices. Sprint and T-Mobile also report wholesale connections, but neither company includes in its counts the connections resold by Lifeline resellers.

However, our FCC filings estimated that post-merger T-Mobile would control more than 45 percent of all wholesale connections for mobile customers using integrated mobile voice and data telecommunications services. <u>We estimated in that scenario that the post-merger wholesale HHI would increase by more than a thousand points, to nearly 3,700</u>. That could range higher, depending on the reality of AT&T's unspecified connected devices count, with <u>New T-Mobile's total wholesale market share after this merger possibly even above 70 percent, and the total wholesale market HHI increasing from just under 3,000 points to more than 5,500 points.</u>

It's clear from these and other reasonable estimates that this merger would dramatically increase wholesale market concentration, posing a grave threat to resellers and their price-sensitive customers. If approved, it would increase market power for these facilities-based suppliers in the wholesale market. This would result in higher prices for resellers, who simply might not be able to earn what they deem a reasonable profit from offering Lifeline services, much less at the quality levels the FCC requires.

Competition among providers also plays a critical role in Lifeline. For example, when the FCC first introduced wireless waivers for TracFone, the quality offered was static, and the quantity frankly paltry. TracFone initially offered Lifeline subscribers 68 free monthly minutes, increasing this to 250 minutes only after Virgin Mobile entered the program with a 200 minutes per-month offering. That TracFone was capable of nearly quadrupling the size of its offering – merely in response to entry by another carrier – illustrates the importance of robust competition in the wireless market overall, but also in the segment that is occupied by the value-focused facilities-based carriers (Sprint and T-Mobile) as well as the resellers primarily supplied with wholesale access by Sprint and T-Mobile.

Sprint Is Positioned to Survive and Even Thrive Without the Merger, As Robust Wireless Competition Benefits Not Only Consumers But Competitive Carriers Too

As T-Mobile did in 2011 when it tried to merge with AT&T, Sprint today pleads poverty and begs for a government bailout. Yet it is now clear that T-Mobile's predictions of impending doom in 2011 were completely wrong, and the evidence indicates that Sprint is wrong today too.

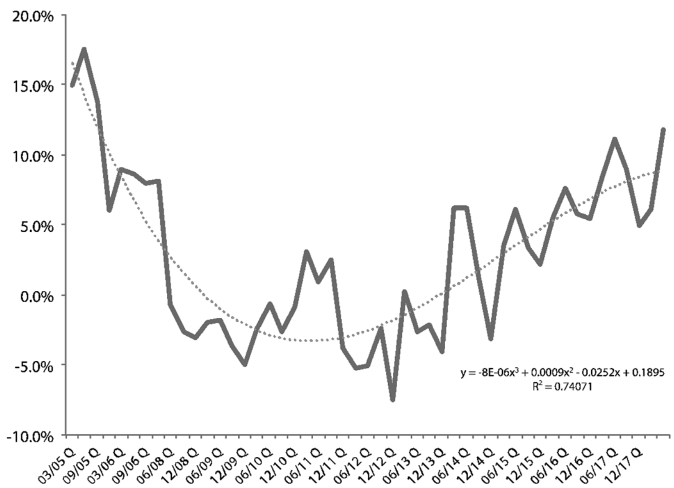
Upon being told merger with AT&T was not possible, T-Mobile took a series of steps that shook up the wireless market and increased its competitiveness relative to all carriers, especially Sprint and AT&T. And though Sprint lost market share largely to T-Mobile because of T-Mobile's competitive moves, Sprint's own financial situation improved too. This is a strong indicator that the U.S. wireless market functions best when competitive pressures force firms to respond. If it were forbidden to merge with T-Mobile, Sprint would not be forced to shutter its doors, or even reduce its network quality.

The path ahead is even clearer for Sprint today than it was for fourth-place T-Mobile in 2012. And the public evidence makes clear that the merger of T-Mobile and Sprint would destroy the primary competitive force producing substantial, tangible consumer benefits during the past seven years. This fact is further supported by the evidence and data subject to the protective order. Neither Sprint or T-Mobile have made credible claims to the contrary. They rely on wildly optimistic predictions about the merged firm's future capacities as their offsetting benefit, ignoring the wealth of economic evidence that indicates the merger would confer substantial new market power on the merged firm as well as the other two remaining national carriers.

Sprint is not a dying firm, but even if it were, the firm would not simply shutter its network. It would become an attractive takeover target not only for its current national wireless competitors blatantly destructive horizontal merger like this one, but for one of the myriad U.S. telecommunications firms already dabbling in the wireless market (such as Comcast or Charter) or a traditional Local Exchange Carrier seeking to enter the wireless market as a hedge against its slowly shrinking wired businesses (*e.g.*, CenturyLink, Frontier, or Windstream). All of those potential outcomes are more favorable than T-Mobile's acquisition of Sprint.

Sprint's claims now are particularly egregious considering that, after years of struggling with the aftermath of its prior merger with Nextel, Sprint has finally put its financial house in order. It has returned to profitability, largely because it had to invest and compete effectively against a revitalized T-Mobile following DOJ's rejection of the proposed AT&T/T-Mobile merger and government signals to Sprint in 2014 that it would not be permitted to buy T-Mobile. Between 2005 and 2012, Sprint's operating margin was in steady decline, as it struggled after that disastrous Nextel deal. But since 2012 Sprint has seen its operating margin improve.

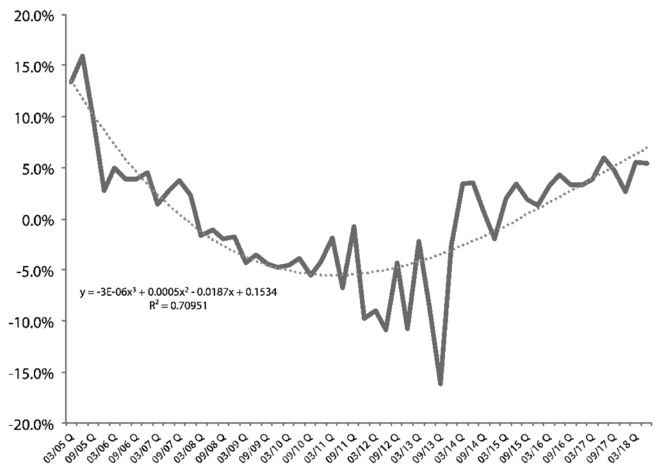
Sprint - Operating Margin (Q1 2005–Q1 2018)



Source: Sprint quarterly SEC filings. Curved-dotted line (and equation) represents a polynomial curve fitted to the data.

Sprint's Return on Invested Capital ("ROIC") also steadily declined following the Nextel merger, entering negative territory in 2008 and remaining there until mid-2014. However, it returned to positive territory following the implementation of Marcelo Claure's turnaround plans. Its ROIC in consecutive quarters in 2018 was 5.6 percent then 5.4 percent. That's above values of T-Mobile's ROIC for 2013 (3.8 percent) and 2014 (3.1 percent), when T-Mobile was universally recognized as ascendant and independently viable. It is difficult to meaningfully compare Sprint's ROIC with AT&T's or Verizon's, vertically integrated conglomerates that operate in many industries outside of wireless telecommunications, but Sprint's ROIC is also above U.S. Cellular's (the only wireless carrier outside the big four that is publicly traded). Sprint is generating positive returns and on the upswing.

Sprint – Return on Invested Capital (Q1 2005–Q1 2018)



Source: Sprint quarterly SEC filings. Curved-dotted line (and equation) represents a polynomial curve fitted to the data.

Sprint's Network Coverage Does Lag Behind Other Carriers in Rural Areas, But It Overcomes This Gap Through Reciprocal Roaming Agreements and Competes on Price

That Sprint's network coverage is inferior to its national carrier rivals is not notable: Sprint's competitors have attempted to make hay of this fact in their commercials, and Sprint has even recognized this fact in its own advertisements, using it as a rationale for why customers that do not value coverage in areas they'll never visit should save money by choosing Sprint.[64]

The U.S. is a vast but sparsely populated geographic space, where people are packed together in cities. According to the U.S. Census Bureau, nearly 63 percent of the U.S. population lives in cities that occupy just 3.5 percent of the nation's land area.[65] Sprint's overlay of its facilities-based LTE coverage area with its competitors on a map of the U.S. is therefore highly

[64] *See* Mike Gikas, "Can You Believe Cell-Phone Carrier TV Ads?" *Consumer Reports* (Feb. 1, 2017).
[65] "U.S. Cities are Home to 62.7 Percent of the U.S. Population, but Comprise Just 3.5 Percent of Land Area," United States Census Bureau (Mar. 4, 2015).

misleading, and also irrelevant. The more informative metric is to measure what percentage of the U.S. population lives in areas where Sprint has deployed LTE (and even that is not completely informative, as roaming agreements have long been an important aspect of Sprint and other carriers' rural coverage).

U.S. Wireless Carrier Facilities-Based Mobile Broadband Deployment
U.S. Population Coverage

Percent of U.S. Population (2016 est.)	Any Mobile Broadband Facilities	LTE
AT&T	99.3%	97.8%
Verizon	97.5%	97.3%
T-Mobile	95.2%	94.9%
Sprint	92.2%	88.1%

Sources: FCC Form 477 data as of Dec. 31, 2017 (centroid methodology); FCC 2016 block-level population estimates; Free Press research. Values do not reflect coverage offered via roaming agreements.

Relative to the other national carriers, Sprint's LTE deployment gap is almost entirely due to a gap in rural-area coverage. Sprint's urban area population coverage is nearly universal (at 95.5 percent) and comparable to its competitors.

U.S. Wireless Carrier Facilities-Based Mobile Broadband Deployment
U.S. Urban Area Population Coverage

Percent of U.S. Urban Population (2010 block-level)	Any Mobile Broadband Facilities	LTE
AT&T	99.8%	99.4%
Verizon	98.2%	98.1%
T-Mobile	98.0%	97.7%
Sprint	97.6%	95.5%

Sources: FCC Form 477 data as of Dec. 31, 2017 (centroid methodology); 2010 Census block-level population counts; Free Press research. Values do not reflect coverage offered via roaming agreements. Values are imprecise due to the use of 2010-census population counts and the possibility of previously unpopulated blocks becoming urban blocks.

Rural coverage is a different story. Sprint's LTE network reaches just 56.2 percent of the rural U.S. population, well behind the proportion of the rural population reached by T-Mobile-owned LTE facilities (83.1 percent), and even further behind AT&T's and Verizon's facilities-based LTE reach (91.2 percent and 93.7 percent, respectively).

U.S. Wireless Carrier Facilities-Based Mobile Broadband Deployment
U.S. Rural Area Population Coverage

Percent of U.S. Rural Population (2010 block-level)	Any Mobile Broadband Facilities	LTE
AT&T	97.4%	91.2%
Verizon	93.9%	93.7%
T-Mobile	83.3%	83.1%
Sprint	68.6%	56.2%

Sources: FCC Form 477 data as of Dec. 31, 2017 (centroid methodology); 2010 Census block-level population counts; Free Press research. Values do not reflect coverage offered via roaming agreements. Values are imprecise due to the use of 2010-census population counts and the possibility of previously unpopulated blocks becoming populated rural blocks.

This clearly matters to people in rural areas, and to the Members of Congress who serve them and know of their struggles to get better coverage. Rural coverage is of course an important factor in the choice of cellular carrier for the persons who live in, or frequently travel through, these areas. And we cannot and should not dismiss the complaints from every quarter of the country that actual rural coverage does not match what the carriers claim. But Sprint can (and does) increase its rural availability through roaming agreements. Such agreements can be reciprocal: Small regional rural carriers provide Sprint with favorable roaming terms in exchange for similar terms for their customers when those individuals leave these rural carriers' facilities-based coverage footprints. And for the vast majority of the U.S. population, remote rural coverage is simply not a factor they weigh when choosing their carrier. Sprint is able to focus on customers who do not value rural coverage as much and offer them lower prices.

T-Mobile's Claimed Benefits of Accelerated 5G Deployment Are Vastly Overstated, Non-Merger Specific, Non-Cognizable, and Do Not Outweigh the Harms of this Merger

Sprint's and T-Mobile's primary claimed benefit from the proposed merger is acceleration of their deployment of 5G. Other witnesses will undoubtedly discuss the flaws in T-Mobile's claims that the merger would markedly improve the national 5G picture or rural 5G coverage. Yet T-Mobile's and Sprint's primary claimed method for achieving those benefits in their FCC merger application is that they would "invest nearly $40 billion to bring the combined company into the 5G era over the next three years, or approximately three times the amount that T-Mobile would have invested on its own without the merger."[66] This is a sleight-of-hand which makes no mention of the amount that both Sprint and T-Mobile would have spent over the next three years.

If we examine the "but-for" scenario, we see that the marginal investment attributed to the merger is very small, the acceleration of investment is very small, and it may not be real. The combined companies took in $76.7 billion in revenues and invested $17.8 billion in capital during 2018. This equates to a combined capital intensity value of 23.2 percent (capital intensity is capital expenditures as a percentage of revenues). This level of capital intensity is high for the telecom industry, which typically see carriers ranging from mid- to high-teens percentages, depending on where each company is in its technology and upgrade cycle.

Thus, even if the stand-alone companies' revenues remained constant at 2018 levels, and even if their capital intensities declined back to the high-teens, the two firms would easily invest $40 billion over the next three years as stand-alone companies. Indeed, financial analyst firm MoffettNathanson recently released its projections for the top telecom industry firms through 2022. MoffettNathanson estimated that between 2019 and 2021, Sprint alone will invest $36.7

[66] Application at 15.

billion, with T-Mobile's projected 3-year capital outlay estimated at $17.9 billion. Sprint's capital expenditures are higher than its peers due to its unique capital outlays for its handset leasing program. This is real capital that Sprint could shift to 5G network construction. However, even without any such shift, MoffettNathanson estimated that Sprint would invest $18 billion during 2019-2021 on network investments.[67] That puts investment estimates for the two stand-alone firms at approximately $36 billion over the coming three-year period on network capital.

Thus, at best, the merging firms claim a total capital investment acceleration of $4 billion over a three-year period, not a new $40 billion as they sometimes pretend. This equates to a four-month acceleration of network capital spending.

T-Mobile and Sprint also claim that without the merger they "would be unable . . . to deploy a fully capable 5G network as quickly or as cost efficiently as New T-Mobile."[68] But T-Mobile and Sprint each independently have committed to deploying 5G technologies across their networks within the same time period the firms now promise with the merger.[69] Sprint has promised a nationwide 5G network by the end of 2019, and T-Mobile has indicated it would fully deploy its 5G network by the end of 2020.

Just one month prior to the public announcement of the merger with Sprint, T-Mobile's CTO again confirmed the company's 2020 completion date for its 5G deployment plans.[70] He also explained how T-Mobile's existing advanced LTE network will have more than enough capacity

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[67] MoffettNathanson Media & Telecom, "Telecom and Cable Capital Spending Outlook 2019" (Jan. 18, 2019).
[68] Application, App. B (Declaration of Neville R. Ray), ¶ 4.
[69] *See* Mike Dano, "Sprint promises to launch nationwide mobile 5G network in first half of 2019," *FierceWireless* (Feb. 2, 2018) ("'We're working with Qualcomm and network and device manufacturers in order to launch the first truly mobile [5G] network in the United States by the first half of 2019,' Sprint CEO Marcelo Claure said today during the carrier's quarterly earnings conference call with investors. 'This development will put Sprint at the forefront of technology innovation on par with other leading carriers around the world. . . . We believe our next-gen network will truly differentiate Sprint over the next couple of years.' That timeline would put Sprint ahead of T-Mobile in terms of launching nationwide mobile 5G; T-Mobile has promised to start its launch in 2019 and finish it in 2020.").
[70] *See* Comments of Neville R. Ray, CTO & EVP, T-Mobile US, Inc., Morgan Stanley European Technology, Media & Telecom Conference (Nov. 16, 2017).

for the foreseeable future, how its 5G and LTE technologies will complement each other, how T-Mobile would beat AT&T and Verizon to market with 5G, and discussed the company's excess spectrum capacity.[71] T-Mobile now wants everyone to believe that without the government's blessing to wipe out its closest competitor in Sprint, T-Mobile will be "unable" to do what it just said it was going to do.

Like T-Mobile, Sprint too outlined its nationwide 5G deployment plans just ahead of the news of the merger. Just a few weeks prior to agreeing to merge with T-Mobile, Sprint laid out in detail its plan to deploy "the first national wireless 5G network in 2019."[72] And as would be true for all carriers (including AT&T, Verizon, and even New T-Mobile), Sprint's CTO noted how incremental improvements to its 4G network would massively increase capacities above projected demand for the foreseeable future, as it also rolls out a national 5G network.[73]

Sprint's confidence in its network improvement plans and its ability to finally leverage its 2.5 GHz spectrum advantages, expressed repeatedly in the months leading up to the merger announcement, stand in stark contrast to the tales of woe in their merger application at the FCC. It is simply impossible to square Sprint's March 2018 statement that "we have the next few years where we have a clear advantage"[74] with the FCC application's claim that "Sprint's standalone

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[71] *See* Comments of Neville R. Ray, CTO & EVP, T-Mobile US, Inc., European and Emerging Telecoms Conference (Mar. 20, 2018) ("[W]e want to build out nationwide 5G. . . .. But in '19, there's going to be a lot of 5G available to our customers in the U.S. and I compare and contrast that to the pockets of millimeter wave 5G that will exist from Verizon and AT&T, and I think that's going to be tremendous for our brand, for our messaging and for our customers.") (emphasis added).

[72] *See* Comments of Michel Combes, President, CFO & Director, Sprint Corporation, 26th Annual Media, Telecom & Business Services Conference (Mar. 7, 2018) ("Combes Comments").

[73] *See id.* ("Massive MIMO is a way to really improve quality of the network in terms of speed, 10 times LTE speed; in terms of reach, meaning extending the coverage; and in terms of bandwidth, at the edge of the cell, so which means a much better experience for the customer. So there, we intend to start in Q2 this year to roll [out] Massive MIMO. . . Massive MIMO . . . to introduce smoothly 5G, meaning that as soon as 5G in our software will be available, probably by the end of the year, we'll be able from a software point of view just to switch on to 5G, our Massive MIMO sites. . . . [O]ur intent is to have . . . a national 5G network in first half of 2019.") (emphasis added).

[74] *Id.* ("We have a unique opportunity to regain leadership in network, leveraging 5G. So, why should we miss it? . . . we have the next few years where we have a clear advantage. So, let's play it. So, you can expect from us, and that's what we have guided the market, that we will invest more in the next 2 to 3 years. . . . Last but not least, it's also very

future will not be one that allows it to be an effective competitor to Verizon and AT&T on a nationwide basis."[75]

5G availability is one of the claimed benefits of New T-Mobile. The other is enhanced capacity. But there is scant evidence of demand for capacities that will not be met more than adequately by these companies independently, using their existing and planned networks. For example, T-Mobile claims its planned standalone 5G network would have broad coverage, but lack capacity.[76] This is misleading because it completely ignores the fact that T-Mobile will no doubt acquire additional spectrum at future auctions or on the secondary market. This claim also ignores the fact that there likely will be little need for any additional excess capacity given the longevity of its 4G network. Regardless, T-Mobile's arguments do not offer a cognizable merger benefit that outweighs the lasting harm of a loss of a value-focused nationwide carrier.

Another argument is that Sprint's 5G network would lack nationwide coverage.[77] What this fails to account for, however, is the competitive benefits where Sprint would operate, how that is a critical component of the competitive forces that discipline the carriers with larger national footprints, and how this shortcoming has in fact benefited competition during the 4G LTE-era as discussed above.[78] Indeed, Sprint's CFO made this clear in March when he stated "we are still the

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good to invest earlier than later in 5G for two reasons. First it will support our unlimited offers. So that will help us to continue the race for unlimited, where some of our competitors might be a little more reluctant. And second, it reduces the cost per megabyte, because with the spectrum that we have, with the efficiency of 5G, we can reduce our cost to operate network. So on one side, we will continue to streamline the organization. On second, we will get the benefit of this 5G transition in terms of data cost." (emphases added).

[75] Application at 98.

[76] *See id.* at 20.

[77] *See* Application at 23-24.

[78] With consolidation wiping out most regional carriers, Sprint's modest geographic shortcomings in part force the company to more aggressively compete nationally on price and non-price dimensions. If the market further consolidates to three equal-sized (in terms of national coverage and quality) firms, consumers will only see "competition" in the form of product add-on differentiation, similar to the offerings of mid-2018 (*e.g.*, Sprint's bundling of Hulu, T-Mobile's bundling of Netflix, AT&T's bundling of DirecTV Now). In other words, it is likely whatever value is lost by not having Sprint's newer networks deployed to the entire country (like the other three national carriers) is more than outweighed by Sprint's subsequent need to compete more aggressively on price in order to make up for this perceived shortcoming.

most aggressive players in the marketplace. We had to compensate a little bit for this bad perception by more aggressive pricing."[79]

T-Mobile Has Broken Its Promises Before

In the end, T-Mobile's last-ditch argument is that no matter what the economic and engineering models show about incentives to the contrary, the company's "mavericky" DNA means that it will keep its promises and keep on competing just the same as ever – even once it's just as large as AT&T and Verizon. These kinds of claims are unpersuasive, to put it mildly. A company has a duty to its shareholders to maximize returns, not to uphold its current CEO's self-styled quirky brand. But beyond being unconvincing in any case, these promises are especially worrisome because (like most big carriers), the so-called uncarrier has a track record of breaking its promises too, often saying one thing and doing another.

The several egregious examples of this behavior further underscores the need to scrutinize the merger proponents' claimed but exaggerated benefits of the merger, and raises questions about T-Mobile's credibility.

For example, in 2016 the FCC received complaints that T-Mobile customers were unable to reach certain rural customers and that calls were failing. T-Mobile was alerted to the issue and ensured the FCC that the problem had been resolved, but complaints continued. The FCC investigated the claims further, revealing that T-Mobile had injected false ringtones in certain calls that failed to connect. In April 2018, the FCC concluded: "Rural call completion problems have significant and immediate public interest ramifications. They cause rural businesses to lose revenue, impede medical professionals from reaching patients in rural areas, cut families off from

[79] *See* Combes Comments ("[I]t's obvious that once you change the perception, we would be able to close the gap in terms of pricing, [ ] which will give us some support to reignite growth for our wireless revenue."). This is a strong indicator of what is to come post-merger: the end to price competition in the U.S. wireless market.

their relatives, and create the potential for dangerous delays in public safety communications."[80] T-Mobile agreed to pay the FCC a $40 million settlement.

There are also allegations that T-Mobile has vastly overstated its 4G LTE rural speeds and even its coverage at those speeds in maps submitted to the FCC, in response to universal service Mobility Fund requirements.[81] The Mobility Fund was created to help wireless carriers build out to rural America, and requires that wireless carriers submit maps of their 4G LTE coverage with speeds of 5 gigabits per second download or faster. However, 95.8 percent of tests showed speeds below that threshold or no 4G LTE coverage at all. In many places where T-Mobile certified it had coverage, there were no cell sites in operation. This possible misrepresentation has negative consequences not just for T-Mobile's customers but for other carriers who do serve rural customers because they would be denied Mobility Fund support.

Finally, just last year Senator Wyden found several wireless carriers selling customers' location data to third parties.[82] Soon after these practices were revealed, T-Mobile CEO John Legere pledged that T-Mobile would not sell location data to "shady middlemen."[83] Yet in January, Motherboard broke a story detailing how T-Mobile (and other carriers) were still selling location data to third party aggregators, which was making its way to bounty hunters, debt collectors and stalkers.[84]

[80] Order, *In the Matter of T-Mobile USA Inc.*, 33 FCC Rcd 3737, ¶ 3 (Apr. 16, 2018).
[81] *See* Informal Request for Commission Action of Rural Wireless Association, Inc., WC Docket No. 10-90 & WT Docket No. 10-208 (filed Dec. 26, 2018).
[82] *See* Letter from Senator Ron Wyden, to Ajit Pai, Chairman, FCC (May 8, 2018), https://www.wyden.senate.gov/imo/media/doc/wyden-securus-location-tracking-letter-to-fcc.pdf.
[83] John Legere (@johnlegere), Twitter (June 19, 2018, 1:17 PM), https://twitter.com/JohnLegere/status/1009168217586061313.
[84] *See* Joseph Cox, "Stalkers and Debt Collectors Impersonate Cops to Trick Big Telecom Into Giving Them Cell Phone Location Data," *Motherboard* (Mar. 6, 2019) ("In several cases, a stalker impersonated a U.S. Marshal and reported a fake kidnapping in order to get telecom companies to give them real-time cell phone location data."); Joseph Cox, "I Gave A Bounty Hunter $300. Then He Located Our Phone," *Motherboard* (Jan. 8, 2019).

Mr. CICILLINE. Thank you very much.

The chair now recognizes Ms. Bennet for five minutes.

TESTIMONY OF CARRI BENNET

Ms. BENNET. Chair Cicilline and Ranking Member Sensenbrenner, and Members of the Subcommittee, my name is Carrie Bennet, and I am here on behalf of the Rural Wireless Association.

Thank you for this opportunity to testify today on the impact the Proposed T-Mobile/Sprint Merger will have on rural Americans.

RWA opposes this merger. This merger is bad for competition. It is bad for consumers, especially in rural areas, who will experience fewer choices, price increases, and substandard service. It should be denied.

T-Mobile has had more than 20 years to build out in rural America. Let's face it. T-Mobile is making a lot of promises about how it will expand coverage in rural America and improve service for these Americans, but based on its track record, we have no reason to believe that it will do so.

I am going to run through four areas of concern. First, roaming. Roaming arrangements are important to rural Americans. Roaming keeps urban, suburban, and rural Americans connected. Sprint has historically worked with rural carriers to ensure rural Americans have robust wireless service. T-Mobile has not.

According to our Members, T-Mobile's roaming rates are 20 times higher than Sprint's and T-Mobile's existing roaming agreements are one-sided. T-Mobile will frequently enter into unilateral agreements under which rural carrier subscribers can roam on T-Mobile's network with no possibility of T-Mobile subscribers roaming on the rural carriers' networks.

In such cases, T-Mobile has simply chosen to deprive T-Mobile's own customers of coverage in rural areas rather than pay the rural carrier for the network access. This means that in those areas T-Mobile's customers cannot be reached and are basically off the grid.

Do we really want new T-Mobile's 100 million plus subscribers, more than one-third of the market, to be denied service in rural America?

Second, 5G build-out in rural America. T-Mobile's repeated claims about new T-Mobile's future 5G rural build-out are unfounded. When it comes to 5G networks and some of the potential rural applications, like precision agriculture and remote health care, low latency is a must.

The facilities needed for 5G technology cannot rely on satellite and microwave due to their high latency. Fiber must be deployed and deploying fiber takes time and money. Neither T-Mobile nor Sprint have expended resources to build out fiber in rural America.

Without a commitment to lay fiber in these undeveloped areas, their claims of building out future 5G broadband networks ring hollow.

Acquiring Sprint does not give New T-Mobile the fiber it needs to serve rural America with 5G or in-home broadband. Disallowing the merger will enable hundreds of rural broadband providers across America to work with both Sprint and T-Mobile to build out broadband more quickly.

Third, rural call completion. Less than a year ago, the FCC found that T-Mobile failed to correct ongoing problems with delivery of calls to rural consumers. In fact, T-Mobile admittedly inserted false ring tones into these calls so that the caller believed the call was ringing on the other end when it wasn't.

Aside from blatantly breaking the law, T-Mobile severely hindered rural consumers from running their businesses, communicating critical information to family and friends, and reaching emergency service personnel. This callous behavior in an effort to save money has harmed rural Americans and we believe that T-Mobile's destructive behavior will continue, perhaps even more aggressively, once its rival Sprint is eliminated.

Finally, false broadband mapping claims. Our Members have serious concerns about T-Mobile's broadband maps submitted in the FCC's Mobility Fund proceeding. That fund was created to provide $4.5 billion to mobile carriers to help better connect rural Americans.

To make sure it knows where the money is needed the most, the FCC asked wireless carriers to submit maps indicating where each carrier offers qualifying 4G broadband coverage.

According to testing done by our Members, when T-Mobile submitted its data, the company vastly overstated its rural coverage to make its reach seem bigger than it is. When rural carriers went to test T-Mobile's claims, 95.8 percent of the tests showed speeds below the threshold demanded by the FCC or no 4G broadband service at all, and many of the places where T-Mobile certified it had coverage cell sites had not even been put into operation. If not corrected, funding will not be available in these rural areas.

As part of its public interest review, the FCC must determine whether T-Mobile has been honest in its dealings with the FCC. Our member's drive tests strongly suggested it has not.

In sum, a string of broken promises does not bode well for rural Americans and this deal should be denied.

Thank you, and I look forward to your questions.

[The statement of Ms. Bennet follows:]

STATEMENT BY MS. BENNET

Introduction and Summary

Chairmen Nadler and Cicilline, Ranking Members Collins and Sensenbrenner, and Members of the Subcommittee, thank you for this opportunity to testify today to discuss the impact that the proposed T-Mobile/Sprint merger will have on rural America. I am here on behalf of the Rural Wireless Association, Inc. (RWA), which represents about 50 rural wireless carriers, each with fewer than 100,000 subscribers and the majority with less than 10,000 subscribers.[1]

RWA's Members consist of both independent wireless carriers and wireless carriers that are affiliated with rural telephone and broadband companies. RWA Members have provided wireless services in their respective rural communities for more than 50 years. Our Members live and work in rural America, and they make sure that rural America is not left behind.

Small, rural-based wireless service providers offer low-cost wireless plans to rural Americans and operate networks which promote public safety, encourage innovation and economic development, enable more efficient energy and agriculture production, and support telehealth and distance learning applications.

RWA opposes the proposed merger of T-Mobile and Sprint. If approved, this horizontal merger would eliminate one of only four nationwide competitors, leaving only

[1] *See* RURAL WIRELESS ASS'N, *https://ruralwireless.org/*.

three nationwide, facilities-based wireless carriers. This consolidation will force rural Americans to pay more money for wireless services. In addition, it will undermine the system of roaming that is a key component of telecommunications and broadband access in rural communities and degrade service quality. In short, this merger will do nothing to help rural Americans or those traveling in rural America, but it will do much to hurt them.

The Proposed Transaction Will Raise Prices for Rural Americans

The primary question facing the Department of Justice (DOJ) and Federal Communications Commission (FCC or Commission) is whether the elimination of Sprint as an independent, nationwide carrier will hurt competition and lead to increased prices, thereby harming the public interest. The answer is an unqualified yes. Such price increases will be acutely felt by rural consumers and those traveling in rural America. The elimination of Sprint will not only remove a facilities-based carrier that supports its own well-known Sprint and Boost retail operations, it will *completely* remove a nationwide roaming option for small rural carriers, as well as a wholesale network option for mobile virtual network operators (MVNOs), machine-to-machine (M2M) service providers, and other Internet of Things (IoT) service providers.

Recently, in an attempt to counter evidence showing that this transaction will increase prices for American consumers, T-Mobile CEO John Legere promised that "T-Mobile and Sprint legacy rate plans will continue as New T-Mobile plans for three years after the merger or until better plans that offer a lower price or more data are made available."[2] In general, this self-imposed behavioral remedy is cold comfort for millions of Americans because there are countless ways New T-Mobile can raise prices while still complying with this supposed "rate plan" freeze.

Worse still, the commitment does nothing to protect rural Americans who purchase wireless plans from the MVNOs that currently rely on Sprint for wholesale service. Mr. Legere makes no commitment to maintain existing prices paid by MVNOs to Sprint.[3] If anything, the promise to freeze rate plans for New T-Mobile customers only increases the combinedvcompany's incentive to raise prices for New T-Mobile's MVNO wholesale customers. Of course, those increased costs to these MVNOs would have to be passed on to rural Americans. As discussed below, T-Mobile has not—and will not—commit to extending Sprint's wholesale roaming agreements with rural carriers, leaving them vulnerable to ever-increasing rate hikes.

The Proposed Transaction Will Harm Rural America by Eliminating a Critical Roaming Partner

The merger will result in particular harm to Americans who travel, work, or reside within rural areas. Sprint has historically worked with rural carriers to ensure rural Americans have access to robust mobile wireless service. Sprint has offered rural carriers, including RWA Members, reciprocal, strategic roaming agreements at commercially reasonable rates, providing rural carriers important pro-consumer benefits and significant flexibility. In doing so, Sprint has been an exception; the other nationwide carriers have not demonstrated a willingness to engage in such commercially reasonable arrangements. While carriers cannot publicly disclose agreement specifics, RWA understands from its Members that the Sprint agreements do not incentivize Sprint or RWA Members to throttle data usage because the agreed-upon roaming rates are commercially reasonable, thereby providing a better experience for their respective customer bases. In fact, according to our Members, Sprint's roaming rates are 20 times lower than T-Mobile's.

RWA Members are concerned that the terms in their roaming agreements with Sprint will not be included in any roaming agreements with New T-Mobile, and that New T-Mobile has no plans to allow its customers to roam on rural carrier networks—even in areas where its own network is substandard or nonexistent.

Absent a guarantee that favorable Sprint roaming terms will continue, RWA Members will be forced to accept T-Mobile's existing one-sided roaming agreements. While T-Mobile is required by the Commission's rules to allow the customers of other carriers to roam on its network, T-Mobile is *not* required to allow its customers to roam on other carriers' networks, even where its own network is substandard or non-existent. T-Mobile will frequently enter into unilateral roaming agreements under which the rural carrier's subscribers can roam on T-Mobile's net-

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[2] Letter from John Legere, CEO, T-Mobile, to Ajit Pai, Chairman, FCC, WT Docket No. 18–197 (Feb. 4, 2019).

[3] *See Id.* at 7.

work, but with no possibility of T-Mobile's subscribers roaming on the rural carrier's network. In such cases, T-Mobile has simply determined that it is better for its business for its customers to do without any coverage in rural areas, rather than pay the rural carrier for network access. As discussed below, the cost of accessing the rural carrier's network is determined by T-Mobile, so T-Mobile's argument that the cost to use a rural carrier's network is too expensive is baseless and self-serving. This means T-Mobile's customers cannot access wireless services when traveling in rural areas. The result? They cannot be reached and are basically off the grid, all because T-Mobile chooses to restrict access to the rural carriers' networks.

Roaming arrangements are particularly important to rural Americans who depend upon reliable access to advanced mobile services in order to communicate with others. This need to access 4G (and soon 5G) services does not end when a rural consumer leaves her home or job in rural America. Rural consumers still need the capability to access mobile wireless services in non-rural U.S. markets where their local hometown carrier does not provide service. Likewise, wireless customers in urban and suburban U.S. markets should have access to the critical coverage provided by RWA member carriers, who in many cases operate the only network in a rural area. This mutual dependency makes bilateral, inter-carrier voice and data roaming critical from both a commercial and public safety perspective. Reciprocal roaming keeps urban, suburban, and rural America connected. Sprint has been a valuable partner in this system, while T-Mobile has consistently refused to enter into reciprocal roaming agreements with RWA Members.

What does this mean? If this merger is approved, rural consumers and consumers traveling through rural America will pay higher rates due to the increased roaming rates set by New T-Mobile. Of the four nationwide carriers, Sprint is the only one that offers anything approximating commercially reasonable roaming rates, terms, and conditions to rural carriers. T-Mobile has not shown that it wants rural carriers to have affordable access to its nationwide network. If a rural carrier had such access, the rural carrier could offer its rural customers not only robust rural coverage on its network, but also affordable coverage when the rural customer chooses to travel outside the rural carrier network (*i.e.*, affordable nationwide service). When a rural carrier's customer regularly travels outside a rural area, the cost to support that customer accessing T-Mobile's network through a roaming agreement can be astronomical. Similarly, if a rural customer purchases a T-Mobile handset and plan, T-Mobile denies access to the rural carrier's network so that the device does not work when the T-Mobile customer is in the rural carrier's service area. Do we really want to force rural Americans to buy two plans—one from a rural carrier and one from New T-Mobile—just to get consistent coverage? That would *double* the monthly price a consumer would pay for service.

Sprint, on the other hand, has not blocked access, throttled data usage, or established unreasonable commercial roaming rates. In fact, RWA Members have reported that the voice and data roaming rates they currently pay to Sprint are one-twentieth (1/20th) of what they pay T-Mobile for comparable coverage and service. If Sprint disappears and T-Mobile's rates are adopted, roaming costs could go up by *1,900 percent*, jeopardizing the ability of rural carriers to offer outbound roaming to their consumers. Without outbound roaming, rural carriers cannot offer a compelling retail product to rural consumers. Absent that capability, they will be forced to exit the business, leaving an untold number of Americans without *any* access to mobile wireless communications in rural America. Obviously, loss of coverage in rural America is not in the public interest and is one of the many harmful anti-competitive effects of this proposed merger.

New T-Mobile will have zero incentive to provide commercially reasonable roaming rates, terms, and conditions to RWA Members. Without access to nationwide roaming (at per-megabyte or per-minute bilateral rates that are lower than each carrier's existing retail rates, or even each carrier's wholesale/MVNO rates), rural carriers cannot offer nationwide rate plans at levels that are competitive with the nationwide carriers. This puts rural carriers at a competitive disadvantage. Specifically, because the flow of roaming traffic is one-way (*i.e.*, only rural to T-Mobile), the wholesale roaming rates paid by rural carriers are often inflated. This is because T-Mobile entered into negotiations knowing that it would never allow outbound (*i.e.*, T-Mobile to rural) roaming. Higher roaming rates mean that rural carriers are either forced to raise their own retail rates or absorb the roaming charges, which comes out of the rural carrier's profits. When rural carriers pay higher roaming rates, they are forced to reduce the extent of network buildout and reduce the funds available for other operating expenses, resulting in denigrated service in rural areas. In these instances, rural consumers and rural carriers lose.

In addition, T-Mobile's preclusion of its own customers from accessing rural carriers' networks—either by blocking by location area codes (LAC) or denying the exchange of reciprocal roaming traffic—makes rural carriers more reliant on Universal Service Fund (USF) subsidies. RWA emphasizes that many of these LAC restrictions and roaming denials are not in markets where T-Mobile has its own network—they are in markets where T-Mobile has no reliable coverage of its own. If T-Mobile allowed its customers to access those networks and paid rural carriers for use of their networks, the rural carriers would have revenue to support their networks, reducing reliance on USF funding. RWA notes that T-Mobile collects a universal service fee from its own customers to support these high cost networks and then turns around and *denies* its customers access to those very same networks T-Mobile's customers subsidize.

Sprint, on the other hand, has been willing to allow its customers to roam off-network. Accordingly, if T-Mobile is allowed to merge with Sprint and continues to block access to rural carriers' networks, then tens of millions of existing Sprint customers will experience a reduction in roaming coverage availability, another major public interest harm.

Furthermore, Sprint has leased its spectrum to rural carriers in rural areas to enable them to build out networks that serve both rural Americans and those traveling in rural America. Given the difficulty that rural carriers often have in accessing spectrum, these lease agreements are critical. There is no reason to believe they will continue if the proposed merger is consummated. Specifically, RWA Members are concerned that their spectrum leases with Sprint will not be renewed by New T-Mobile, which would cause rural carriers to lose coverage and force even more consumers to go without service.

Despite T-Mobile's claims that it will expand service to underserved communities post-merger, the reality is clear: T-Mobile has neglected rural America for over 20 years. T-Mobile has focused most of its energy on urban areas. Indeed, T-Mobile's retail presence in rural America is virtually non-existent, presumably because it has little or no coverage in rural America. After all, there is no point in having a rural retail store if there is no coverage in the area.

The lack of retail stores came to light during the FCC's Mobility Fund Phase II challenge process when rural carriers sought to obtain T-Mobile devices to challenge alleged 4G LTE coverage in rural areas. To participate in the challenge process, RWA Members often had to drive two or more hours each way (over 250 miles round trip) to purchase T-Mobile devices at the closest T-Mobile retail store. The experience of RWA Members is that when T-Mobile does extend service to a "rural county," it typically builds a cell in the county seat, covers major State and federal roadways, and ignores the rest of the county. In short, T-Mobile is not focused on rural Americans, and there is no reason to believe that will change if this merger is approved.

5G Needs Fiber—An Input Both T-Mobile and Sprint Lack in Rural America

The repeated claims about the extent of New T-Mobile's future 5G rural buildout are unfounded. Rural areas are difficult to serve, and the proposed transaction does nothing to improve the challenging economics of undertaking a 5G greenfield build in rural areas. While Sprint and T-Mobile each have ample spectrum today to initiate facilities-based service in rural markets, both have elected to focus their attention on urban and suburban portions of the country. The proposed merger will not change their major market focus. Moreover, both companies lack fiber deployment in rural areas, a critical input for 5G services.

When it comes to 5G networks and some of their potential applications - autonomous vehicles, precision technology and remote health care—lowering latency is a must. The backhaul facilities needed for 5G technology cannot rely on satellite and microwave backhaul technology due to their high latency. 5G wireless cells must be placed in close proximity (300 to 500 feet) to consumers,[4] and fiber optic backhaul must be present nearby each of those cell sites. Deploying fiber takes time and money. Google, one of the best financed companies in the United States, exited the fiber business after realizing that building fiber networks is not for the faint of heart. Building fiber networks that support both wireless and wireline networks is a capital intensive and costly undertaking—one that rural telephone companies have assumed across the United States by banding together in statewide consortia to connect rural areas of their individual states. Because neither T-Mobile nor Sprint have expended resources to build out fiber networks in rural America, T-Mo-

[4] Vantage Point, *White Paper: Evaluating 5G Technology* (rel. July 10, 2017).

bile's claims of building out future 5G wireless broadband networks in rural America is without foundation absent a commitment to lay fiber in these greenfield areas.

In short, T-Mobile's acquisition of Sprint is not going to change the fact that both companies lack the fiber buildout they need to serve rural America with 5G. By keeping both T-Mobile and Sprint separate and competing, hundreds of rural broadband providers across rural America will be able to work with both to more quickly build out LTE and 5G by leveraging and expanding the rural fiber networks.

T-Mobile Has a Poor Track Record of Rural Call Completion

The harm T-Mobile has inflicted on its own customers is not restricted to denying them access to rural wireless networks—it extends to denying those same customers access to rural landline telephone networks as well. Less than a year ago—on April 16, 2018—the FCC announced that it had "reached a settlement concluding its investigation into whether T-Mobile USA, Inc. violated the Communications Act when it failed to correct ongoing problems with delivery of calls to rural consumers and whether it violated the FCC Rule that prohibits providers from inserting false ringtones with respect to hundreds of millions of calls."[5] That same day, the FCC released a *Settlement Order*,[6] which adopted a *Consent Decree*[7] entered into between the FCC and T-Mobile. In the *Consent Decree*, the FCC determined that T-Mobile inserted false ringtones into hundreds of millions of telephone calls placed by T-Mobile customers each year. The FCC's investigation revealed a pattern of this illegal practice impacting customers of rural local exchange carriers (LECs). Instead of terminating these calls, T-Mobile injected false ringtones, leading the T-Mobile customer to think that the rural LEC customers were not picking up their landline telephones. In reality, the call was passed to an intermediate provider, where it was then either placed in a never-ending loop or transferred to one or more additional intermediate providers. Eventually, the calls either dropped or the T-Mobile customers hung up. T-Mobile admitted in the *Consent Decree* that it violated the FCC's 2014 prohibition against the insertion of false ringtones and failed to correct problems with its intermediate providers' completion of calls to customers of rural LECs. T-Mobile's actions were extremely harmful to both its own wireless customers and landline customers served by rural LECs across the country. And, despite the FCC informing T-Mobile of numerous customer complaints and expressly prohibiting the practice, T-Mobile engaged in the illegal practice of inserting false ringtones into calls destined for rural consumers for four years.

Aside from blatantly breaking the law, T-Mobile severely hindered rural consumers seeking to run their businesses; communicate important and critical information to family and friends; and reach emergency service personnel, medical professionals, and law enforcement in affected rural areas. The callous behavior T-Mobile engaged in to save money on terminating rural calls underscores the fact that T-Mobile's attitude toward rural consumers is egregiously anticompetitive. T-Mobile's actions with respect to rural call completion, combined with its behavior in the context of roaming and spectrum management, demonstrate that T-Mobile has a general disregard for rural consumers and rural carriers. RWA believes that T-Mobile's anti-rural consumer behavior will continue, perhaps even more aggressively, once its rival Sprint is eliminated.

The FCC Should Investigate T-Mobile's 4G LTE Coverage Claims Before It Approves the Merger

The FCC's Mobility Fund was created to provide $4.5 billion to mobile carriers over the next 10 years to help connect rural Americans who lack quality wireless service. To make sure it knows where the money is most needed, the FCC has asked wireless carriers to submit maps indicating where each carrier offers 4G LTE coverage with speeds of 5 megabits per second download or faster. According to a study done by RWA, when T-Mobile submitted its data, the company vastly overstated its rural coverage to make its reach seem bigger than it is. When rural carriers went to test T-Mobile's claims, *95.8 percent* of their tests showed speeds below the threshold demanded by the FCC—or *no* 4G LTE service at all. In many of the places where T-Mobile certified it had coverage, cell sites had not even been put into operation. FCC acceptance of the faulty T-Mobile coverage data would mean that rural

[5] Press Release, *FCC Reaches $40 Million Settlement With T-Mobile for Rural Call Completion Violations* (rel. Apr. 16, 2018).

[6] T-Mobile USA, Inc., File No.: EB–IHD–16–00023247, *Order*, DA 18–373 (rel. April 16, 2018).

[7] T-Mobile USA, Inc., File No.: EB–IHD–16–00023247, *Consent Decree*, DA 18–373 (released April 16, 2018).

carriers who serve rural consumers would be denied funds, even though no alternative sources of service exist, causing a loss of service to customers of rural carriers who rely on this funding.

The FCC is currently investigating this issue. But, before the FCC can make a public interest determination regarding this proposed merger, it must first know that T-Mobile has been honest in its dealings with the Commission. Our Members' drive tests strongly suggest that it has not. The Commission cannot approve a merger when there is an unresolved enforcement proceeding pending against the merging parties.

Conclusion

This merger is bad for competition. It is bad for consumers, especially in rural areas, who will experience higher rates and lower quality service. It will degrade the quality of telephone service in rural areas. It should not be denied.

Mr. CICILLINE. Thank you, Ms. Bennet.

Mr. Wallsten is now recognized for five minutes.

TESTIMONY OF SCOTT WALLSTEN

Mr. WALLSTEN. Chair Cicilline, Ranking Member Sensenbrenner, and Members of the Subcommittee, thank you for the opportunity to testify on the pending merger between T-Mobile and Sprint.

My name is Scott Wallsten. I am an economist and President and Senior Fellow at the Technology Policy Institute. TPI is a nonprofit/nonpartisan think tank that focuses on the economics of innovation, technological change, and related regulation.

TPI takes no institutional position, so this testimony reflects only my views.

The key question when reviewing the pending merger is whether the expected efficiencies gained from combining the third and fourth largest wireless firms outweigh the possibility that the combined firm could harm competition.

To address this question, I make four points. First, this merger involves more than the usual level of uncertainty because it involves the nascent technology just beginning to be deployed. Because we know so little about 5G, claims regarding optimum market structure are speculative and difficult to evaluate.

Second, the empirical literature evaluating four to three wireless mergers is inconclusive. Some studies find that prices increased after such mergers, some find that prices decreased after such mergers, and some find that prices did not change.

Third, the uncertainty about new technology and the lack of evidence that four to three mergers necessarily lead to competitive harms mean the government has little basis for blocking the merger.

Fourth, because T-Mobile and Sprint may serve more than 50 percent of wholesale and low-income consumers, antitrust authorities should carefully consider the potential effects of the merger on those groups.

T-Mobile and Sprint argue that combining their resources, particularly spectrum, will allow them to build a higher-quality, more robust 5G network more quickly than either firm could on its own. Opponents contest this assertion.

Evaluating this claim and whether it would benefit consumers, if true, is difficult because we know little about 5G supply and almost nothing about demand. A market with more firms experimenting with different technological approaches and business models may yield better social outcomes.

On the other hand, given the risky nature of investing in a new technology and likelihood of making mistakes, a market with fewer but stronger firms may yield better social outcomes.

Real-world evidence of the effects of previous four to three wireless mergers finds that even with the current technology, mergers did not consistently lead to one particular outcome. One paper that reviewed 13 studies of four to three mergers found no consistent effect on prices.

In short, real-world experience provides little reason to believe one outcome is more likely than the other. That also means we do not have consistent evidence that the merger would necessarily harm consumers or competition overall. Without such evidence, the government has little reason to block the merger.

Opponents, however, have also raised concerns about low-income and wholesale consumers and the horizontal merger guidelines note that the government should consider how a merger might affect different groups of customers.

While T-Mobile and Sprint serve about 30 percent of all subscribers, available public data suggests they serve far larger shares of wholesale and low-income subscribers. Wholesale and low-income service overlap but are not identical.

Facilities-based providers sell wholesale network access to other companies who resell it under their own brands. Resellers offer traditional wireless services, often prepaid, and internet of things connectivity.

Estimates suggest that T-Mobile and Sprint currently provide more than half of all wholesale connections and their annual reports show increasing number of wholesale subscribers. Low-income subscribers probably rely disproportionately on prepaid plans but not all prepaid plans rely on wholesale networks and not all wholesale-based plans are prepaid. Low-income and wholesale services are therefore related but different.

One survey suggests that T-Mobile and Sprint directly serve almost half of consumers of annual incomes of less than $50,000. The true number is probably higher when also considering wholesale.

The combined T-Mobile/Sprint holding more than 50 percent of subscribers in these segments is not necessarily a problem. Whether it is depends on whether they could profitably raise prices without encouraging more entry by AT&T, Verizon, or others.

Antitrust authorities who presumably have access to the actual data, the proprietary data, should study these segments carefully and evaluate whether some conditions may be necessary.

The government can do a lot to promote competition. The FCC and NTIA should continue making flexible use spectrum available. The FCC should continue removing obstacles to hopeful entrants, like Low-Earth Orbit satellite broadband companies, OneWeb, SpaceX, and Telesat, and IOT wholesale Ligado.

We do not know what the 5G world will look like. That is the nature of innovation. Without evidence that the merger is likely to lead to bad outcomes, there is little reason for the government to oppose it. It should carefully consider low-income and wholesale segments where the merging companies have a particularly strong presence.

Thank you for your time. I am happy to answer questions.

[The statement of Mr. Wallsten follows:]

Written Testimony of Scott Wallsten, PhD
President and Senior Fellow, Technology Policy Institute

An Economic Analysis of the T-Mobile - Sprint Merger

Before the
Subcommittee on Antitrust, Commercial, and Administrative Law
Committee on the Judiciary
United States House of Representatives

March 12, 2019

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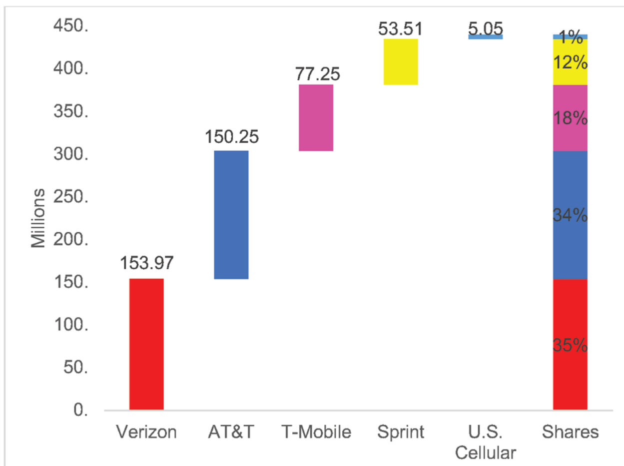
Introduction

The proposed T-Mobile – Sprint transaction is a horizontal merger that would reduce the number of major cellular wireless providers that own and operate their own infrastructure from four to three plus several very small regional companies (Figure 1). The key question facing antitrust authorities is whether the expected efficiencies gained from combining the third and fourth largest firms outweigh the possibility that the combined firm could harm competition either on its own or by coordinating with its competitors.

Figure 1: Number of Subscribers to Largest Wireless Providers



Source: Strategy Analytics and Fierce Wireless via Statista.

A useful starting point for analyzing a proposed horizontal merger is to determine the change in market concentration were the merger to occur. The most common concentration measure is the Herfindahl-Hirschman Index (HHI)—the sum of squared market shares.[1] Considering only the largest four wireless companies that own national networks and considering all wireless subscribers as a standalone market, a T-Mobile–Sprint transaction may increase the HHI of the mobile wireless market by 400-500 points to between 3250 and 3500.[2]

The Federal Trade Commission (FTC) and Department of Justice (DOJ) Horizontal Merger Guidelines note that "Mergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power. The

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[1] HHI = $\sum_i^N s_i^2$, where s is the market share of firm i, and N is the number of firms in the market.

[2] American Antitrust Institute, "Petition to Deny of the American Antitrust Institute," https://ecfsapi.fcc.gov/file/1082877863636/AAI_Sprint-T-Mobile_FCC%20Petition%20to%20Deny.pdf. 7 (OTI, 6).

presumption may be rebutted by persuasive evidence showing that the merger is unlikely to enhance market power."[3]

The Guidelines go on to note:

> The purpose of these thresholds is not to provide a rigid screen to separate competitively benign mergers from anticompetitive ones, although high levels of concentration do raise concerns. Rather, they provide one way to identify some mergers unlikely to raise competitive concerns and some others for which it is particularly important to examine whether other competitive factors confirm, reinforce, or counteract the potentially harmful effects of increased concentration. The higher the post-merger HHI and the increase in the HHI, the greater are the Agencies' potential competitive concerns and the greater is the likelihood that the Agencies will request additional information to conduct their analysis.[4]

In other words, the HHI and change in the pre- to post-merger HHI indicate that the DOJ should investigate the merger, which it is doing, but not that the government should necessarily block it. This approach is consistent with economic analysis, which has demonstrated that market structure by itself does not determine how firms behave in the market. Determining whether the expected benefits of the merger outweigh expected costs requires asking more detailed and complicated questions than concentration measures alone can answer.

The merging parties contend that the transaction will yield a net present value of $43.6 billion in savings via "cost synergies."[5] Those savings, plus "the unique combination of spectrum, sites, and equipment of T-Mobile and Sprint, will produce a network that will deliver unprecedented services to consumers, increasingly disrupt the wireless industry, and ensure U.S. leadership in the race to 5G."[6] Opponents counter that reduced competition will increase prices of existing consumer wireless services, particularly for low-income and rural customers, and slow the rollout of 5G service.

Like all merger investigations, this one involves predicting the future under two different states of the world, meaning that it is not possible to know the answers with certainty. While the Horizontal Merger Guidelines note that "certainty about anticompetitive effect is seldom possible and not required for a merger to be illegal,"[7] this merger arguably involves more uncertainty than most. The imminent arrival of 5G means the industry is on the cusp of radical changes in its underlying technology. Antitrust analysis requires some understanding of the equilibrium state of the industry or at least what we believe to be an efficient industrial organization. Nobody knows what 5G demand or supply will look like, making it especially difficult to estimate the medium- to long-term costs and benefits of the merger.

This analysis concludes that the evidence does not convincingly show why the incentives, and therefore likely behavior, of a merged firm would be different from those facing the two firms

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[3] U.S. Department of Justice and the Federal Trade Commission, "Horizontal Merger Guidelines," August 19, 2010, 19, http://www.justice.gov/atr/public/guidelines/hmg-2010.html.
[4] U.S. Department of Justice and the Federal Trade Commission, 19.
[5] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," June 18, 2018, 15.
[6] T-Mobile and Sprint, 16.
[7] U.S. Department of Justice and the Federal Trade Commission, "Horizontal Merger Guidelines," 1.

today. Empirical analysis of 4-3 mergers, meanwhile, yields no consistent result in the economic literature. In some cases, 4-3 mergers led to price increases, sometimes to price decreases, and sometimes to no price change.

The absence of consistent evidence suggesting overall competitive harm implies that merger authorities should approve the merger. Antitrust authorities should, however, pay particular attention to possible effects of the merger on low-income and wholesale consumers, since T-Mobile and Sprint serve particularly large shares of those market segments.

Meanwhile, regardless of the merger, the FCC and NTIA should move vigorously to continue bringing more spectrum to market and introducing market-based, competitive, mechanisms for distributing universal service funds.

This analysis proceeds as follows. The following section describes various aspects of the existing industry structure and market. It then turns to evaluating efficiency claims, followed by possible effects on competition. From there it discusses the inherent uncertainty in how 5G will evolve and how that uncertainty affects the analysis, distributional concerns regarding low-income and rural service, and concludes.

The Industry and Markets

Wireless service providers offer wireless network access by combining spectrum, technology, labor, and business models. Consumers then use wireless service for various purposes. Supply and demand for wireless service together yield a set of prices and services.

Economists define product markets by considering whether goods or services from different firms are substitutes or complements. In other words, a product market is based on how much products compete with each other to replace or enhance other products in the same market.

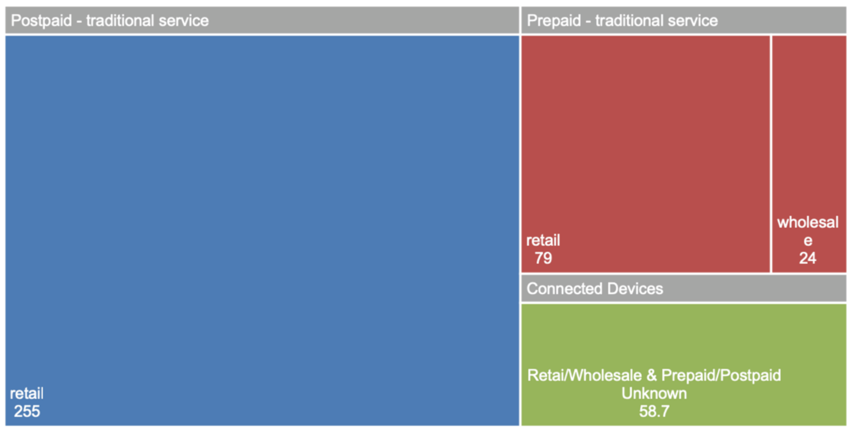
Defining relevant markets for antitrust analysis can be complicated because some aspects of each product compete with others to lesser and greater degrees. Unlimited data plans from AT&T, Verizon, T-Mobile, and Sprint compete directly with each other. If one company changes the price or features of its unlimited plans the other companies will react, or at least consider whether they need to react.[8] However, determining the extent to which a limited-data, pay-as-you-go plan competes with unlimited data plans is more complicated, requiring empirical analysis of cross-price elasticities.

As a starting point for thinking about market definition for antitrust analysis, consider various dimensions of the market. Traditional wireless services include voice, text, and data services offered to residential and business consumers. Newer services include the Internet of Things (IoT), which generally refers to connected devices that talk to each other (also called machine-to-machine, or M2M), also rely on wireless infrastructure. Providers sell retail and wholesale connectivity for traditional and newer services. For retail, the infrastructure-based carrier sells

[8] Scott Wallsten, "Is This Data's One-Rate Moment?," *Technology Policy Institute Blog* (blog), March 21, 2017, https://techpolicyinstitute.org/2017/03/21/is-this-datas-one-rate-moment/.

the service directly to the end user. For wholesale, the carrier sells network access to another firm, which resells mobile service subscriptions to end-users. Firms that resell service purchased wholesale are called "mobile virtual network operators" (MVNOs). Figure 2 shows the number of subscribers by type.

Figure 2: Number of Connections in Millions, By Type of Service, Q4 2016

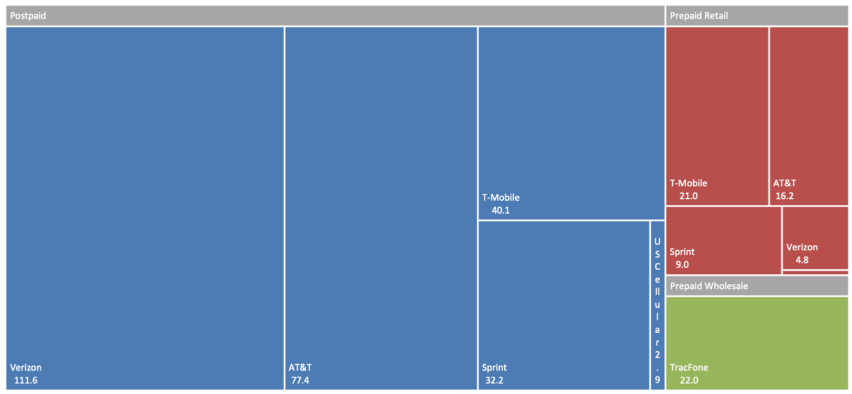


Note: 416.7 million total connections in Q4 2016. The number of connected devices by retail and wholesale connections does not appear to be publicly available.
Source: FCC Mobile Competition Report (2017)[9]

Each of these segments can be further broken down by the firms offering service, although shares of wireless provision for connected devices do not appear to be available. Traditional wireless services are sold in two ways—postpaid and prepaid. As their names imply, consumers pay for postpaid service at the end of some billing period, and for prepaid service in advance. Figure 3 shows the share of subscribers to traditional wireless service by postpaid and prepaid service. The degree to which prepaid services compete with traditional postpaid plans should be reflected in the cross-price elasticities, but I am not aware of any studies that attempt to estimate them.

[9] Federal Communications Commission, "Twentieth Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services," September 17, 2017, fig. II.B.2, https://docs.fcc.gov/public/attachments/FCC-17-126A1.pdf.

Figure 3: Number of Subscribers by Firm by Type in Millions, Q2 2018



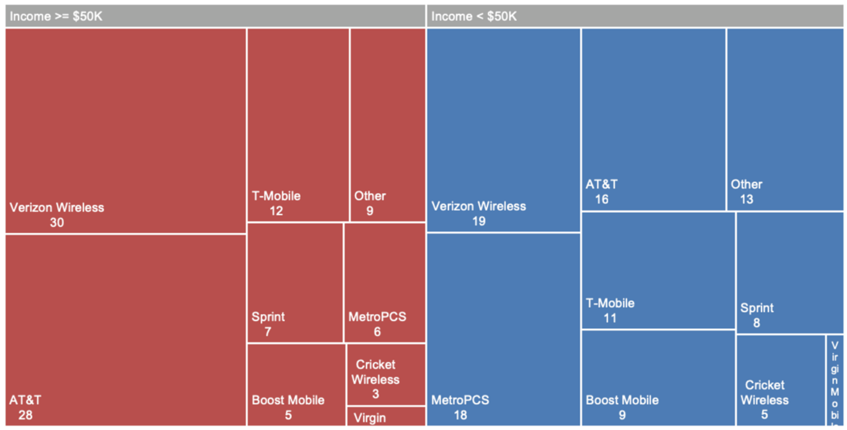
Sources: Moffett (2018a, b), Kovacs (2018), and Dano (2018).[10]
Note: Many MVNOs operate in the U.S. Only TracFone has enough subscribers to show up in this figure. US Cellular is the unlabeled rectangle below Verizon in prepaid retail.

Different product offerings, however, do not necessarily define relevant product markets. Prepaid plans are popular among low-income people, and firms offering prepaid-retail and prepaid-wholesale service compete for those customers. In contrast, postpaid plans, which can be lower priced than prepaid plans, may also be part of the relevant market for low-income people. As a result, it may be the case that share of low-income subscribers by firm is unrelated to the share of prepaid or postpaid plans offered by each firm.

Figure 4 suggests that, firms' share of low-income consumers differs from the share of firms providing prepaid service. This information does not appear to be widely available, but one survey found that among people whose incomes are under $50,000, 29 percent have service through T-Mobile, 21 percent from AT&T, 19 percent from Verizon, 18 percent from Sprint, and 13 percent from "other" providers (likely primarily TracFone).[11]

[10] Craig Moffett, "U.S. Wireless: Is This a Market in Need of 'Repair?' Downgrading Verizon to Neutral" (MoffettNathanson Research, September 4, 2018); Craig Moffett, "AT&T Q2 2018 Earnings: That's Showbiz, Folks" (MoffettNathanson Research, July 24, 2018); Anna-Maria Kovacs, "Competition in the U.S. Wireless Services Market," Georgetown Business and Public Policy Working Paper, August 2018, https://cbpp.georgetown.edu/sites/default/files/Policy%20Paper%20-%20Kovacs%20-%20Wireless%20Competition%202018-08.pdf; Mike Dano, "Wireless MVNO Straight Talk Remains the Bright Spot in America Movil's U.S. Business," *FierceWireless*, July 19, 2018, https://www.fiercewireless.com/wireless/mvno-straight-talk-remains-bright-spot-america-movil-s-u-s-business.
[11] T-Mobile total includes MetroPCS, AT&T total includes Cricket Wireless, and Sprint total includes Boost Mobile and Virgin Wireless.

Figure 4: Current Wireless Provider, by Percent of Wireless Population by Income in 2017

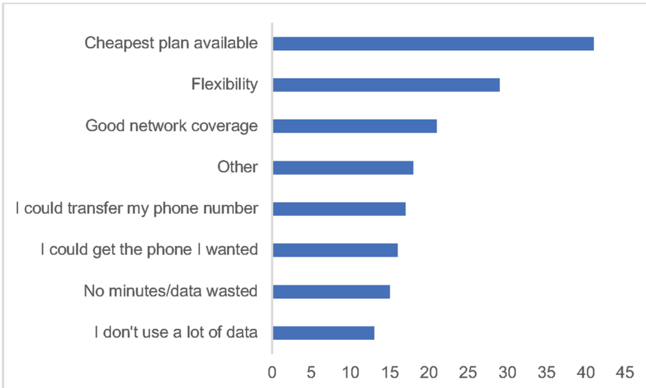


Source: Fluent (2017).[12]

Additional evidence suggests that while prepaid plans appeal to low-income people, they are not the only people who choose prepaid options. Figure 5 shows that while the most popular reason for choosing prepaid plans is because of their low prices, only 41 percent of respondents listed price as a reason for using prepaid service. To be clear, choosing other options in the survey does not necessarily mean that the respondent is in a higher income group. "No minutes/data wasted" is likely to be important to low-income people since that can also imply not spending extra money. Still, with more than half of respondents choosing plans for reasons explicitly other than price suggests that prepaid plans may appeal to a range of groups.

[12] Fluent, "Telecom Report 2017: Consumer Attitudes and Loyalty," May 2017, http://www.fluentco.com/wp-content/uploads/2017/06/Fluent_TelecomReport_2017.pdf.

Figure 5: Reasons for Choosing Prepaid Plans



Source: Fluent (2017).[13]

Merger Efficiencies

T-Mobile and Sprint claim a net present value of $43.6 billion in cost savings[14] from the merger and an ability to build out a better 5G network than either firm would have on its own. A better combined network, the parties contend, would yield not just more and better connectivity, but also "a bona fide alternative to traditional in-home broadband providers," better rural broadband service, and "thousands of additional American jobs."[15]

Cost Savings

Cost savings from ending duplicative spending are economic benefits of the merger. The $43.6 billion in cost savings will come, T-Mobile President G. Michael Sievert says, from $25.7 billion in savings from eliminating the "duplication of T-Mobile's and Sprint's existing networks…", $11.2 billion in savings from "sales, service and marketing cost-related synergies…", and $6.1 billion in savings in "back office synergies from I.T. and billing improvements and other general and administrative synergies.[16] Actual cost savings may be higher or lower than the firms claim, but efficiencies resulting in lower fixed costs are a primary rationale for horizontal mergers.

[13] Fluent.
[14] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 15.
[15] T-Mobile and Sprint, ii–iii.
[16] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations" Appendix C, Declaration of G. Michael Sievert.

A Better 5G Network

The main public interest benefit, according to the merging parties, is that T-Mobile's and Sprint's combined resources would allow the new firm "to invest in new network technology, innovation, and operations to rapidly construct and deploy the first true, nationwide 5G network."[17] The merging parties describe the consumer benefits they anticipate their network generating:

> New T-Mobile also will be positioned to use its 5G network to deliver increased competition in broadband, enterprise, and video offerings. Moreover, New T-Mobile will use the increased capacity realized by the combination of T-Mobile and Sprint's networks to deliver lower prices and allow for increased data usage by subscribers.[18]

Specifically, they argue, the combination of resources—particularly spectrum—makes a leading 5G network possible.

> The transaction will enable New T-Mobile to build a network with distinct advantages over both the standalone 5G networks planned by T-Mobile and Sprint and will provide a platform for an unrivaled nationwide 5G mobile service. On a standalone basis, neither company has enough or the right combination of spectrum or cell site resources to deliver the enormous gains in capacity that New T-Mobile will provide in the near term. By having the option to use cell sites from either company, the transaction will allow the merged entity to have almost immediate access to more cell sites than either company would have absent the merger. New T-Mobile's deployment of T-Mobile's and Sprint's combined spectrum portfolios, together with the addition of many more radios across the combined network than either party would install on its own, will create a massive increase in capacity that would not be possible but for the transaction. The merger will also enable the combined company to dedicate more spectrum to 5G much sooner than either company could do individually, while also allowing New T-Mobile to more efficiently utilize existing spectrum assets for continued and unimpaired LTE services.[19]

Thus, according to T-Mobile and Sprint, the combined firm will build a higher quality 5G network more quickly than either firm could build on its own, thereby yielding larger 5G benefits than their separate networks would. They note that the benefits include wireless service, connected devices, and additional competition for in-home broadband.

These claims are difficult to evaluate. We know almost nothing about the demand for 5G. 5G's expected benefits flow not just from faster speeds, but also from lower latency, and is variously touted as supporting better wireless consumer connections, better home connections, and massive connectivity of devices. It may do all of those things and more. But, it is also possible that the hype will prove to be unjustified, with wireless innovation continuing at its current—albeit fast—pace. It is not possible to know.

On the one hand, this uncertainty may imply that a larger number of firms investing in 5G is socially beneficial because it may mean more experimentation in how to implement the technology and business models. A larger number of wireless firms competing for 5G customers

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[17] T-Mobile and Sprint, 15.
[18] T-Mobile and Sprint, 16.
[19] T-Mobile and Sprint, 17.

may increase the odds of finding which types of networks and plans best stimulate additional innovation.

On the other hand, this uncertainty increases the chances that firms may not succeed in their initial rollout of 5G, requiring costly retrofits. Deep-pocketed firms with lower costs of capital are probably better suited to such an environment than smaller competitors.

Investment in what turns out to be the "wrong" technology has happened in the past. Sprint and Clearwire, for example, both invested in WiMax rather than LTE, requiring a costly rebuild of their 4G networks. In its first rollout of 5G-based fixed wireless service, Verizon apparently based its equipment on technologies inconsistent with certain 5G standards and will eventually have to change equipment.[20] Verizon's reliance on what turned out not to be the relevant standard may not have been a mistake, per se. The firm believed it was valuable to be first to market with 5G and was willing to invest early despite the risk. Fortunately, Verizon has the resources for course correction. Smaller companies, such as T-Mobile and Sprint as separate competitors, may not.

Aside from the uncertainty about 5G itself, there is little agreement about how antitrust analysis should explicitly incorporate technological change. The combination of real-world and theoretical uncertainty makes antitrust analysis in this case especially difficult. To reach meaningful and actionable conclusions, antitrust analysis must have some view of what constitutes "better" and "worse" outcomes. With technology so new that almost no consumers have even used it yet, we cannot predict with any accuracy how 5G will interact with current technologies, how 5G will affect prices, what 5G will mean for entry, and whether 5G's benefits are likely to flow disproportionately to any particular group of Americans.

Jobs Are Not a Benefit

Mergers allow firms to eliminate duplicative jobs in order to reduce costs and operate more efficiently. In other words, net job losses from a merged firm is an economic argument in favor of merger since it means the firm has become leaner, more profitable, and more productive with less costs of labor.

Politicians, public opinion, and unions do not view the reallocation of labor as a benefit, however. The difference between political and economic perspectives leads to a curious reversal in the arguments each side makes. In this merger, T-Mobile and Sprint claim that "the incremental increases for the combined direct internal and external employees will be 9,600 more jobs relative to the standalone companies' baselines for 2021."[21] This increase in jobs would seem to negate some of the efficiency arguments described above. Some opponents of the merger argue that the merger should be denied because jobs will likely be eliminated. As one opponent said, "the proposed transaction would likely lead to substantial job losses in the United

[20] https://www.theverge.com/2018/10/2/17927712/verizon-5g-home-internet-real-speed-meaning
[21] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 9.

States…. Importantly, both companies have a history of layoffs in prior mergers."[22] The claim that a combined firm will operate with less labor supports the merging parties' efficiency claims.

Merger Competition Considerations

Antitrust authorities must balance potential efficiencies with harms from loss of competition. A key step, then is evaluating the expected effects on competition. Several issues can help shed light on this issue. First, what can we learn from other wireless or telecommunications mergers that involved going from four to three major competitors? Second, what is the role of T-Mobile as a "maverick," and is the merger is likely to change its behavior? Finally, what do we expect Sprint's future to be absent a merger, and how does that matter?

Evidence on 4-3 Mergers

In principle, economic studies of 4-3 mergers should provide significant insights into what we might expect to see following a merger of two of the four largest American wireless carriers. In one study, the Body of European Regulators for Electronic Communications (BEREC) reviewed 14 separate existing empirical studies of 4-3 mergers.[23] Some studies find higher prices after a merger, with some of those increases being persistent and other increases disappearing quickly. Some studies find decreasing prices. Some studies find no change in prices after a merger. One study found that 4-3 mergers resulted in price increases but also increased investment.[24] But the 14 empirical studies each have flaws. Most importantly, none properly addressed reasons why the merger happened in the first place (i.e., endogeneity).

[22] "Petition to Deny of Common Cause, Consumers Union, New America's Open Technology Institute, Public Knowledge and Writers Guild of America, West, Inc.," August 27, 2018, 30, https://ecfsapi.fcc.gov/file/10827862305575/T-Mobile%20Sprint%20Petition%20to%20Deny%20CC%20CU%20OTI%20PK%20WGA.pdf.

[23] Body of European Regulators for Electronic Communications, "BEREC Report on Post-Merger Market Developments - Price Effects of Mobile Mergers in Austria, Ireland and Germany," n.d., https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/8168-berec-report-on-post-merger-market-devel_0.pdf.

[24] "Using data from 28 European countries from 2002-2014, the Centre on Regulation in Europe (CERRE, 2015) investigates the effect of market structure on prices and investment. The paper finds that 4-to-3 mergers on average result in price increases and more investment per operator. The combined effects of higher investment per operator and the reduction from four to three operators result in no significant effect on total investment by all operators in the market." Body of European Regulators for Electronic Communications, 7.

Table 1: 4-3 Merger Studies Reviewed in BEREC (2018)

Table 1: Overview of Related Literature

No.	Study by	Prepared For	Scope	Specific Merger Examined?	Effects of 4-to-3 Mergers on: Price	Effects of 4-to-3 Mergers on: Invest-ment	Effects of 4-to-3 Mergers on: Quality	Effects of 5-to-4 Mergers on: Price	Effects of 5-to-4 Mergers on: Invest-ment
1	Affeldt/Nitsche (2014)	Telefónica	EU, 2003-2012	no	~/- [1)]				
2	Houngbonon/Jeanjean (2014)	Orange	World, 2000-2014	no		+			
3	CERRE (2015)		≥28 countries, 2002-2014	no	+	+/~ [2)]		~	+/~ [2)]
4	Csorba, Pápai (2015)		27 countries, 2003-2010	no	+			~	
5	Frontier Economics (2015)	GSMA	EU, 2010-2014	no	~	~			
6	Houngbonon (2015)	Orange	40 countries, q1/13-q3/14	AT, 2013	-				
7	HSBC (2015)		see 2) and 6)	AT, 2013 (price)	-	+			
8	WIK (2015)	Ofcom	12 countries	no	~	~	~	~	~
9	Aguzzoni et al / ACM, EC, RTR (2015)		AT, NL and 12 controls, 2004-2010	AT, 2006, NL, 2007	+			~	
10	RTR (2016)		AT and 10 controls, 2011-2014	AT, 2013	+				
11	BWB (2016)		AT, 2011-2014	AT, 2013	+				
12	Ofcom (2016)		25 countries, 2010-2015	no	+				
13	GSMA (2017)		AT and 17 controls, 2011-2016	AT, 2013			+		
14	Lear/DIW Berlin/Analysys Mason (2017)	EC	UK and 9 controls, 2007-2014	UK, 2010				-	+/~ [3)]

+: increasing effect, -: decreasing effect, ~: no significant effect

[1)] No evidence for positive relationship between concentration and prices; some indications that the relationship may be negative

[2)] positive effects at the operator-level, no effects at the market level

[3)] increase in total investment, no effect on investment per subscriber

Source: BEREC (2018), Table 1.

In its report, BEREC also examined three 4-3 European mergers—in Austria, Germany, and Ireland. They found weak evidence of short-term retail price increases, but the findings were not robust. An OECD study supports these generally inconsistent results with 2018 data. Today, the OECD considers Austria to be "inexpensive," Germany to be "relatively inexpensive," and Ireland to be "expensive."[25]

The bottom line is that the history of 4-3 mergers provides little guidance on future results of prices in the T-Mobile and Sprint merger. Opponents of the merger can point to the examples of price increases as evidence that the proposed merger will harm consumers, while proponents of the merger can point to examples where prices decreased or remained unchanged.

Every merger is different. The following two subsections discuss two additional aspects of this merger.

Mavericks

T-Mobile has had significant market success with its "un-carrier" approach, which includes innovations such as eliminating "termination fees and penalties for over-usage."[26] The FTC-DOJ merger guidelines note that these types of firms deserve special scrutiny in a potential merger:

> The Agencies consider whether a merger may lessen competition by eliminating a "maverick" firm, i.e., a firm that plays a disruptive role in the market to the benefit of customers. For example, if one of the merging firms has a strong incumbency position and the other merging firm threatens to disrupt market conditions with a new technology or business model, their merger can involve the

[25] http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=50378, p.33

[26] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 15.

> loss of actual or potential competition. Likewise, one of the merging firms may have the incentive to take the lead in price cutting or other competitive conduct or to resist increases in industry prices. A firm that may discipline prices based on its ability and incentive to expand production rapidly using available capacity also can be a maverick, as can a firm that has often resisted otherwise prevailing industry norms to cooperate on price setting or other terms of competition.[27]

While "maverick" has no specific definition in the FTC-DOJ guidelines, the merging parties and their opponents seem to agree that T-Mobile is one.

A 2016 study by the British telecommunications regulator Ofcom found that wireless markets with a maverick tend to have lower consumer prices than markets without one.[28] It was partly for this reason that the DOJ challenged the proposed merger of AT&T and T-Mobile in 2011, noting, "AT&T's elimination of T-Mobile as an independent, low-priced rival would remove a significant competitive force from the market."[29] Several petitions against the proposed merger cite the rejection of the AT&T—T-Mobile merger as evidence that the government should reject this merger, too.[30]

The AT&T merger, however, involved T-Mobile disappearing as a distinct, independent company and merging with one of the top two providers. The proposed merger between T-Mobile and Sprint leaves the maverick in place, but as a larger entity as a third competitor. The key question that comes from the maverick debate, then, seems to be whether the merger is likely to create incentives that cause T-Mobile to change its behavior and compete less aggressively in ways different from their approach today.[31]

In other words, the maverick debate is a variation on the 4-3 question addressed above: Will a maverick firm remain a maverick if it grows larger to compete with its two main rivals? More specifically, is the merger likely to affect the firm's costs and incentives in ways that change its approach to gaining and keeping customers? Similarly, did Sprint generate competitive pressure on T-Mobile that caused it to differentiate itself as a maverick, or was Sprint irrelevant to T-Mobile's 'un-carrier" marketing and network investments?

Economic theory does not suggest that small firms are necessarily more innovative or likely to take risks than large firms, or vice versa.[32] We do not know T-Mobile's behavior as a maverick

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[27] U.S. Department of Justice and the Federal Trade Commission, "Horizontal Merger Guidelines," 3–4.
[28] Ofcom, "A Cross-Country Econometric Analysis of the Effect of Disruptive Firms on Mobile Pricing," March 15, 2016, https://www.ofcom.org.uk/__data/assets/pdf_file/0019/74107/research_document.pdf.
[29] U.S. Department of Justice, "Complaint: United States of America v AT&T Inc. and T-Mobile USA Inc. and Deutsche Telekom AG," August 31, 2011, para. 3.
[30] See, for example, American Antitrust Institute, "Petition to Deny," August 27, 2018, https://ecfsapi.fcc.gov/file/1082877863636/AAI_Sprint-T-Mobile_FCC%20Petition%20to%20Deny.pdf.
[31] Saturday Night Live addressed the question of what a maverick does in a 2008 parody of the vice-presidential debate:
Gwen Ifill: How will you solve the financial crisis by being a maverick?
Gov. Sarah Palin: You know, we're gonna take every aspect of the crisis and look at it and then we're gonna ask ourselves, "What would a maverick do in this situation?" And then, you know, we'll do that!
[32] For an early test of firm size and innovation, see Zoltan J. Acs and David B. Audretsch, "Innovation in Large and Small Firms: An Empirical Analysis," *American Economic Review* 78, no. 4 (1988): 678–90.

will change after the merger. As with the broader 4-3 question, the maverick issue does not provide strong evidence in favor or against the proposed merger.

Sprint's Future

Sprint's future as a standalone fourth competitor is directly relevant to this analysis. If one of the firms of a merger is likely to disappear absent the merger, then the merger itself is unlikely to increase market power. The Horizontal Merger Guidelines describe this "failing firm" argument as follows:

> Notwithstanding the analysis above, a merger is not likely to enhance market power if imminent failure, as defined below, of one of the merging firms would cause the assets of that firm to exit the relevant market. This is an extreme instance of the more general circumstance in which the competitive significance of one of the merging firms is declining: the projected market share and significance of the exiting firm is zero. If the relevant assets would otherwise exit the market, customers are not worse off after the merger than they would have been had the merger been enjoined.
>
> The Agencies do not normally credit claims that the assets of the failing firm would exit the relevant market unless all of the following circumstances are met: (1) the allegedly failing firm would be unable to meet its financial obligations in the near future; (2) it would not be able to reorganize successfully under Chapter 11 of the Bankruptcy Act; and (3) it has made unsuccessful good-faith efforts to elicit reasonable alternative offers that would keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed merger.[33]

The failing firm argument is difficult to prove. Even if Sprint declared bankruptcy, it could reorganize in bankruptcy and possibly reemerge as a new competitor after recapitalization. Convincing antitrust authorities that a firm is failing for the purposes of merger review is difficult because the guidelines require the firm to meet several criteria, each of which will happen with some probability, therefore making the expected probability of all of them happening much smaller.

The merging parties do not argue that Sprint is failing,[34] although some petitioners have interpreted the merging parties' public interest statement that way.[35] Instead, the merging parties argue that Sprint is an ineffective competitor and lacks the resources to build a robust 5G network on its own.[36]

[33] U.S. Department of Justice and the Federal Trade Commission, "Horizontal Merger Guidelines."
[34] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 94.
[35] "Petition to Deny of Common Cause, Consumers Union, New America's Open Technology Institute, Public Knowledge and Writers Guild of America, West, Inc.," 19.
[36] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 94–96.

Sprint ranks last among the big four wireless providers in terms of overall coverage,[37] rural coverage,[38] speed,[39] and customer satisfaction.[40] While discussing MVNOs, one petitioner opposed to the merger noted that "[n]etwork quality is critical to attracting customers and competing against rival providers,"[41] seemingly making the case that Sprint's lower-quality network makes it a less effective competitor.

The general trend for Sprint over the 2010s has not been good. In the first quarter of 2011, Sprint had 17 percent of all wireless subscriptions in the country, but by the third quarter of 2018 had only 12 percent of wireless subscriptions. Sprint has a higher churn rate than the other providers. and, as analyst Craig Moffett noted, "strikingly, it is getting worse."[42] Sprint's free cash flow has generally been negative until the third quarter of 2016.[43] From then until the third quarter of 2018 it was somewhat positive, but not consistently so. In the fourth quarter of 2018, Sprint had between $900 million and $1.2 billion in negative cash flow.

Sprint may not be a failing firm by antitrust standards, but it is not thriving, either. Sprint's problems suggest reasons to lean towards believing the parties' claims that Sprint will not be able sustain investment required to compete, especially in the coming 5G world.

But then again, Sprint's future has looked uncertain before. In 2012, for example, one analyst believed there was "a roughly 50/50 probability of bankruptcy."[44] In 2014, T-Mobile and Sprint explored a merger on the grounds that neither alone could compete effectively with the two biggest carriers.

In short, Sprint remains a struggling firm in 2019. That does not necessarily mean it will fail or fail to stimulate competition. It probably does mean that the larger and more difficult the investments needed to build world-class 5G networks, the less likely it is that Sprint—or T-Mobile—would be able to compete effectively on its own.

Wholesale

Wholesale service is network access that infrastructure-based carriers sell to other firms, which use the access for a number of services, ranging from offering standard consumer wireless services to using connectivity and monitoring as inputs into their own services. Any firm providing service this way is considered an MVNO.

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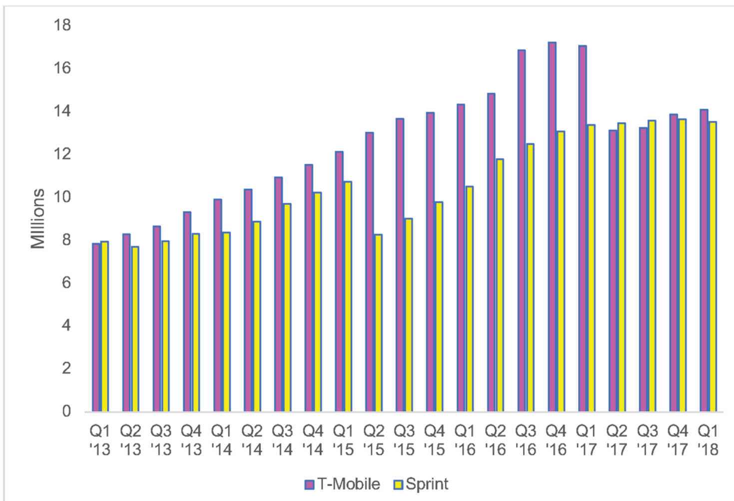
[37] Federal Communications Commission, "Twentieth Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services," 54.
[38] Federal Communications Commission, 60.
[39] Federal Communications Commission, 68–70.
[40] Market Force, "Consumer Cellular Beats Our Big Four as Consumers' Favorite Wireless Carrier, According to New Market Force Information Study," July 31, 2018, https://www.marketforce.com/2018-Market-Force-study-on-wireless-carriers.
[41] "Petition to Deny of Common Cause, Consumers Union, New America's Open Technology Institute, Public Knowledge and Writers Guild of America, West, Inc.," 16.
[42] Craig Moffett, "Sprint CQ4 2018 Earnings: Do Politics Matter?," January 31, 2019.
[43] Moffett.
[44] https://seekingalpha.com/article/444511-sprint-downgraded-on-potential-bankruptcy-fears

Wholesale may not be a market itself, but it serves two types of customers: MVNOs and machine-to-machine (M2M) connectivity, which is a large component of the "internet of things." M2M matters because many predict that a key component of 5G will be its effects on the IoT. Figure 6 shows the number of T-Mobile's and Sprint's wholesale customers.

Figure 6: T-Mobile and Sprint Wholesale Customers



Note: In 2017, T-Mobile noted in its Annual Report that "regulatory changes have made the Lifeline program offered by our wholesale partners uneconomical" and removed "Lifeline customers from our reported wholesale subscriber base resulting in the removal of 4,528,000 reported wholesale customers."[45] Similarly, Sprint stopped reporting Lifeline wholesale customers around the same time, but revised its data on wholesale customers back to Q2 2015.[46]
Sources: FCC, Sprint and T-Mobile Quarterly and Annual reports, and carriers via Statista.

As the Figure shows, the number of wholesale customers for both providers has been generally increasing. Forbes noted in 2016 that, "[T-Mobile's] wholesale subscriber base has risen from about 6 million in 2011 to close to 14 million in 2015 and we project that the number could grow to about 22 million by 2020."[47] Together, the two providers account for a significant share of wholesale connections. Harrington, et al., in a declaration for Dish, noted that T-Mobile and Sprint together "account for more than 60% of wholesale connections (i.e., 26.6 million of the

[45] T-Mobile, "2017 Annual Report," n.d., 24.
[46] Sprint Corporation, "Quarterly Report," Form 10-Q, June 30, 2017, https://s21.q4cdn.com/487940486/files/doc_financials/quarterly/2017/q1/Q1-2017-10Q.pdf.
[47] https://www.forbes.com/sites/greatspeculations/2016/07/06/a-look-at-t-mobiles-wholesale-wireless-business/#1bf539b07297

estimated 42.5 million)."[48] Common Cause, et al., put the total at 45 percent in their petition.[49] Altice estimated that "68% of the MVNO market relies on T-Mobile and Sprint today."[50]

The largest MVNO, TracFone, primarily sells prepaid service, but other MVNOs are beginning to compete for customers of postpaid services. These MVNOs include Google's Google Fi, Comcast's Xfinity Mobile, and Charter's Spectrum Mobile. Comcast reported having more than 1 million subscribers by the end of the third quarter of 2018,[51] with one analyst projecting it to have 3.3 million customers—probably about one percent of postpaid plans—by 2020.[52]

Reliable, public, data on M2M service are scarce. T-Mobile and Sprint both sell M2M services under their own brands, but note in their public interest filing that T-Mobile "offers a small number of basic consumer IoT products"[53] and that "Sprint has made recent efforts to expand its IoT offerings, but has struggled to launch competitive products in part due to its lack of low-band spectrum."[54]

The large share of wholesale service provided by T-Mobile and Sprint as well as the growing importance of M2M suggests that antitrust authorities should pay particular attention to wholesale. Being a large wholesale provider does not necessarily mean the merger would be problematic. Entry or expansion by Verizon and AT&T in wholesale may be relatively inexpensive, constraining pricing power. Still, presumably DOJ and FCC have access to proprietary data that will allow them to examine these areas more carefully.

LTE to 5G Transition

The technology transition underway complicates the questions discussed above. The main problem is that we do not know what outcome or timeline will maximize total welfare. For the next several years, the most common wireless technology will continue to be LTE. The transition means that investment and subscriptions will shift from LTE to 5G over some period of time. Ericsson estimates that the majority of wireless subscriptions will continue to be LTE through 2023 (Figure 7Figure 3).

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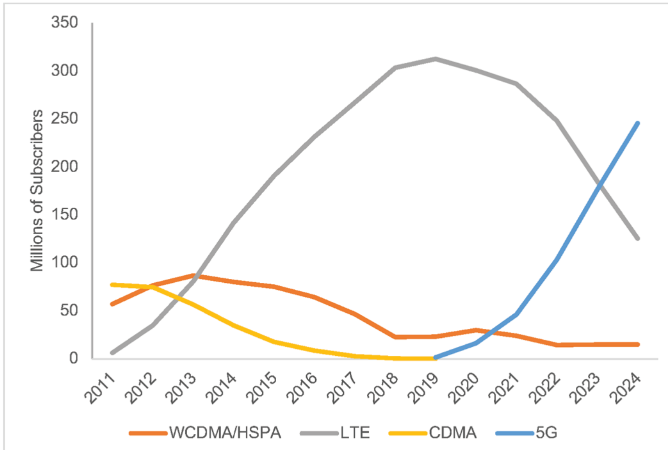
[48] Joseph Harrington et al., "Declaration of Joseph Harrington, Coleman Bazelon, Jeremy Verlinda, and William Zarakas," August 27, 2018, 38, https://ecfsapi.fcc.gov/file/108271088719800/REDACTED%20DISH%20PTD%20Sprint%20TMO%208-27-18.pdf.
[49] Common Cause, et al., "Petition of Common Cause," 28.
[50] Altice USA, Inc., "Petition to Condition or Deny," August 27, 2018, 3, https://ecfsapi.fcc.gov/file/10827968626122/Altice%20USA%20Inc%20-%20Petition%20to%20Condition%20or%20Deny.pdf.
[51] https://www.fiercewireless.com/wireless/comcast-s-xfinity-mobile-begins-to-accelerate
[52] https://www.fiercewireless.com/wireless/comcast-s-xfinity-mobile-to-grow-to-3-3m-customers-by-2020-analyst-predicts. Google and Charter have not reported subscribership data.
[53] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 56.
[54] T-Mobile and Sprint, 56.

Figure 7: Wireless Subscribers in North America by Technology Over Time



Source: Ericsson.[55]

The general working assumption by merger proponents and opponents is that a faster transition to 5G is better. But that is not necessarily true. For example, would consumers be better off with accelerated 5G deployment even if that would mean higher prices and costly handset upgrades sooner than consumers would have chosen otherwise? How should analysis weigh LTE service and prices tomorrow against 5G services and prices several years from now? Those questions have no easy answers and may affect what one views as the optimal transition plan.

Merger Distributional Effects

Antitrust authorities often consider distributional effects of the merger for public interest analysis. Economic analysis cannot determine how much weight to place on distributional effects when evaluating mergers, but it can help to identify them. In the case of the T-Mobile–Sprint transaction, a robust, interesting, debate is possible on the effects of the merger on low-income and rural service. I discuss each of these below.

Low Income

Some merger opponents have voiced concern about the effect of the merger on low-income consumers, claiming, as one group did, that the "proposed transaction would harm the prepaid and wholesale mobile wireless markets, which are critical for serving low-income consumers."[56]

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[55] Ericsson Mobility Visualizer, accessed March 7, 2019. https://www.ericsson.com/en/mobility-report/mobility-visualizer?f=1&ft=2&r=4&t=1,2,3,4,5,6,7&s=1,2,3&u=1&y=2011,2024&c=2

[56] "Petition to Deny of Common Cause, Consumers Union, New America's Open Technology Institute, Public Knowledge and Writers Guild of America, West, Inc.," 25.

However, most discussions of low-income service seem to use the prepaid and wholesale segments as proxies for low-income. That is probably not accurate, as discussed above. If the survey cited above is accurate, then although T-Mobile has the largest number of low-income subscribers, AT&T and Verizon each have more low-income subscribers than Sprint. Additionally, as discussed, not all prepaid subscribers seem to be people with low incomes.

While the prepaid market may not be the correct proxy for low-income subscribers, the shares implied by the survey cited above suggest potential cause for concern. If the Fluent survey cited above is accurate, a combined T-Mobile – Sprint would serve about 47 percent of subscribers with incomes of less than $50,000, and even more taking into account MVNO traffic that uses its network.[57]

Antitrust authorities presumably have more detailed data on the demographic characteristics of subscribers than I do. The report filed in support of the merger by Asker, Bresnahan, and Hatziaskos, for example, uses Nielsen Mobile Performance data.[58] While most of the report is redacted, the paper's table of contents suggests that these data include demographics by carrier or that the demographics can be derived. Data such as those can help officials make an informed decision, including what steps might mitigate negative effects on this group if the merger is approved.

Rural

Wireless, particularly LTE, coverage in rural areas is less robust than in the rest of the country.[59] In the latest publicly available data, the FCC noted that in December 2016 more than 98 percent of rural Census blocks had at least one LTE provider, but only 57 percent had at least four providers, compared to 96 percent of non-rural blocks.[60] Figure 8 shows LTE coverage by provider as of December 2016. The figure shows T-Mobile and Sprint with less coverage than AT&T or Verizon.

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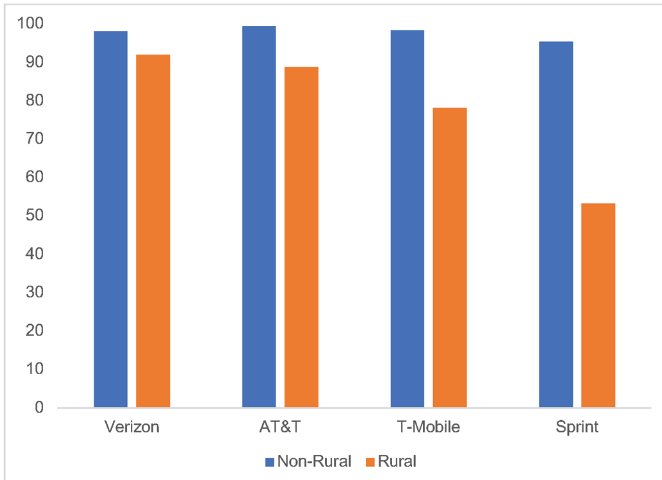
[57] Fluent.
[58] John Asker, Timothy F. Bresnahan, and Kostis Hatzitaskos, "Economic Analysis of the Proposed T-Mobile/Sprint Merger" (Cornerstone Research, November 6, 2018).
[59] Federal Communications Commission, "Twentieth Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services," paras. 79–84. The most recent public FCC wireless coverage data is from December, 2016.
[60] Federal Communications Commission, fig. III.D.12. These number may overstate coverage because, while Census blocks are fairly small, the FCC notes that "the fact that a service provider reports coverage in a particular census block does not mean that it necessarily provides coverage everywhere in the census block." Federal Communications Commission, "Twentieth Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services", note under figure III.D.13.

Figure 8: Share of Rural and Non-Rural Population with LTE Service by Provider, December 2016



Source: FCC 20th Wireless Competition Report.[61]

T-Mobile and Sprint contend that the combined firm will improve wireless coverage, quality, speeds, and "in-home service" in rural areas.[62] Contrarily, merger opponents, such as NTCA, argue that rural customers would be harmed because "T-Mobile has not traditionally focused on rural customers or markets…and the loss of Sprint as a competitor and partner [for roaming agreements]."[63]

The key question is how incentives are likely to change for rural wireless deployment as a result of the merger compared to those faced by the firms separately. Neither opponents nor proponents of the merger make especially compelling arguments as to why incentives are likely to change with a merger.

T-Mobile and Sprint state that Sprint has poor rural coverage at least in part because its 2.5 GHz spectrum is not well-suited for rural service due to its propagation characteristics. The parties somewhat inconsistently argue, however, that Sprint's 2.5 GHz spectrum will aid the New T-

[61] Federal Communications Commission, "Twentieth Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services," fig. III.D.13.
[62] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 66.
[63] NTCA - The Rural Broadband Association, "Petition to Deny of NTCA - The Rural Broadband Association," August 27, 2018, 1, https://ecfsapi.fcc.gov/file/10827780817015/08.27.18%20Sprint%20TMobile%20Petition%20to%20Deny%20(002).pdf.

Mobile's rural buildout.[64] Incentives to invest in rural coverage could improve if new technologies are less costly, expected revenues from rural 5G service provision is higher than from LTE rural provision, urban and rural areas are complementary, or more competition for high-end customers creates demand for better rural coverage by those customers.

NTCA, meanwhile, argues that T-Mobile has had little incentive to invest in rural areas and, therefore, is unlikely to invest there in the future—that is, its incentives are unlikely to change following a merger. At the same time, NTCA somewhat inconsistently also argues that a merger would change the incentives facing the combined firm in ways that would threaten existing roaming agreements and, presumably, not be replaced by something that would benefit consumers.

As with many aspects of the proposed merger, we lack sufficient public evidence to fully evaluate the likely effects of the merger on rural areas.

Potential Remedies

Competitive effects of the merger can only be predicted with a great deal of uncertainty, as discussed above. Insufficient public data exist to offer coherent remedies to potential problems here.

Nevertheless, the government has tools available to promote deployment, competition, and connectivity regardless of whether the merger occurs. To promote deployment, the government should continue making spectrum available for flexible use. The FCC should continue conducting auctions and enhancing secondary spectrum markets. The National Telecommunications and Information Administration, meanwhile, should continue finding ways to make federal agencies incorporate the opportunity cost of their spectrum into their work in order to create incentives to deploy it more efficiently, including for non-governmental use. The FCC can also continue to smooth the path for new competitors such as OneWeb, SpaceX, and Telesat, which hope to offer Low-Earth Orbit satellite broadband connections, and allow Ligado, which wants to offer a wholesale IoT network, to begin operations.

Dealing with digital divide issues—low income and rural—requires rigorous thinking. The programs administered through the Universal Service Fund of over $8 billion per year have had middling results at best over the last 20 years. In rural areas, the FCC is now running innovative reverse auctions as ways to subsidize service where there is none—those yield a far bigger bang for the buck than any previous method used and should be greatly expanded. The Lifeline program for low-income individuals, meanwhile, should be clearer on its objectives and priorities. Lifeline subsidizes low-income people but without specifically targeting people who would not be online otherwise. Policymakers should remember that Universal Service dollars are raised via a regressive tax that means that low-income people who do not qualify for subsidies pay into the fund.

[64] T-Mobile and Sprint, "Description of Transaction, Public Interest Statement, and Related Demonstrations," 65–66.

Conclusion

The key economic question, as in all mergers, is whether the expected benefits of the efficiencies of the merged entity outweigh the potential costs of reduced competition. Much of the answer hinges on 5G, but we do not know enough about it yet to provide knowledgeable predictions about the future state of the world with a merged entity versus compared to one with a separate T-Mobile and Sprint. Despite the 5G hype, we still do not know the equilibrium characteristics of 5G demand. Business plans regarding 5G investment may change as we learn more about demand, and that could affect optimal industry structure.

The DOJ-FTC Guidelines focus antitrust analysis on identifying evidence of "adverse competitive effects."[65] Given that focus, the lack of evidence showing harms suggests that the antitrust authorities should approve the merger.

The Guidelines leave room for antitrust authorities to incorporate public interest considerations in antitrust analysis, suggesting that "the Agencies consider whether those effects vary significantly for different customers purchasing the same or similar products."[66] This guideline plus distributional concerns about digital divide issues suggests antitrust authorities may need to pay particular attention to how the proposed merger may affect wholesale markets and services targeted at low-income people.

[65] U.S. Department of Justice and the Federal Trade Commission, 2.
[66] U.S. Department of Justice and the Federal Trade Commission, 6.

Mr. CICILLINE. Thank you, Mr. Wallsten.
I now recognize Mr. Yoo for five minutes.

TESTIMONY OF CHRISTOPHER S. YOO

Mr. Chair, Ranking Member Sensenbrenner, Members of the Subcommittee, I am grateful for the opportunity to testify here today.

At the subcommittee's request, my remarks will focus on the proposed merger's likely impact on rural consumers.

The key to my analysis is the growth in the demand for wireless broadband and the resulting increase in the need for wireless spectrum. Spectrum can be divided into three basic types, low band, mid band, and high band, each of which operates in a different frequency band and each one serves a different role.

Low band spectrum is typically defined as those bands found below one gigahertz. Low band signals propagate very well, typically reaching a distance of 18 miles. In addition, low band spectrum is more able to penetrate buildings than other types of spectrum and does not require direct line of sight.

Mid band spectrum consists of bands ranging from one to six gigahertz. Mid band signals typically cover a range of four miles and mid band spectrum typically requires line of sight transmission but can penetrate buildings.

High band spectrum includes frequencies higher than 20 gigahertz that have long been regarded as unusable but are now being unlocked by improvements to technology. The range of high band spectrum is quite limited, typically propagating roughly half a mile. In addition, high band spectrum requires both line of sight and does not penetrate buildings well, although higher frequencies do provide more bandwidth.

The engineering community has long recognized the deployment of 5G will depend on a mix of both low-band and mid-band and high-band macro cells and high-band and mid-band micro cells. This is particularly important in rural areas.

The 14-mile service range and good propagation characteristics of low band spectrum make it ideal for providing basic coverage for rural areas.

The problem is that because low bad spectrum covers such large areas, the bandwidth that it provides can be quickly exhausted. Although these shortages can be addressed by adding lower band spectrum, because these additional bandwidth would be needed only in population clusters within rural areas, much of that additional low band spectrum would be wasted.

The generally accepted technical solution is to meet the growing demand for bandwidth by adding small cells that will rely on higher band spectrum in those areas where they are needed.

The four-mile service range of mid band spectrum allows it to be targeted efficiently at those areas that need additional bandwidth the most. Not only does the addition of these micro cells expand the bandwidth available in the population clusters within rural areas, using micro cells to satisfy the demand generated by those clusters frees up macro cell capacity for the most remote customers for whom macro cell service is the only viable option.

The foregoing underscores the reality that successful deployment of 5G depends upon having a mix of low band and higher band spectrum. Sprint lacks the low band spectrum to be able to provide 5G in rural areas as a stand-alone company. Sprint holds three to four times less low band spectrum than other national wireless providers, as reflected in its weak coverage and performance of its current LTE network.

The lack of low band spectrum leaves Sprint in a particularly poor position to serve rural customers as a stand-alone company. The low population density of rural areas makes it unlikely that the limited geographic range of Sprint's mid band service will reach enough customers to be financially viable.

The company resulting from the proposed T-Mobile/Sprint merger is planning a very different strategy from those being pursued by other national wireless providers.

T-Mobile is already using its 600-megahertz spectrum to deploy LTE and if the merger is approved, the merged company plans to use the low band spectrum that T-Mobile obtained in the recent incentive auction to provide the macro cell foundation for its 5G service.

Because this spectrum is newly deployed, the company will be able to convert these macro cells to 5G merely by reconfiguring the relevant software, and its mid-band micro cells do not need spectrum assignments, while the other national wireless providers are following a strategy relying on high band spectrum that has not yet been allocated by the Federal Communications Commission.

Sprint's inability to provide service and 5G service in rural areas explains why a bipartisan group of 13 House Members has signed a letter supporting the transaction and makes the presence of respected advocates for rural consumers, such as the National Grange and the Attorneys General for New Mexico and Utah, supporting the merger significant. I find those gestures particularly meaningful.

I would be happy to answer any questions you have.

[The statement of Mr. Yoo follows:]

STATEMENT OF MR. YOO

Mr. Chairman and Members of the Subcommittee, I am grateful for the opportunity to testify here today. At the Subcommittee's request, my remarks will focus on the proposed merger's likely impact on rural consumers. The key issue will be the impact that spectrum holdings have on the growing demand for mobile broadband and the deployment of 5G.

The Basic Principles of Low-, Mid-, and High-Band Spectrum

A key input to meeting the growing demand for wireless broadband services is spectrum. Spectrum can be divided into three basic types—low-, mid-, and high-band—each of which operates in different frequency bands and serves a different role.

Low-band spectrum is typically defined as those bands falling below 1 GHz. Low-band signals propagate very strongly, typically reaching a distance of 18 miles. In addition, low-band spectrum is less prone to environmental interference and is more able to penetrate buildings than other types of spectrum and does not require direct line of sight. Because of these attractive characteristics, the original cellular telephone service was deployed in low-band spectrum. Low-band spectrum does have some drawbacks: It does require larger antennas and provides less bandwidth than other types of spectrum. Its strong propagation characteristics make it less useful for adding capacity on a localized basis.

Mid-band spectrum consists of bands ranging from 1 GHz to 6 GHz. Base stations operating in the mid-band typically cover a radius of four miles. Mid-band spectrum typically requires line-of-sight transmission, but can penetrate buildings. It does support more bandwidth than low-band spectrum and can utilize smaller antennas.

High-band spectrum is generally regarded as including frequencies higher than 20 GHz that had long been regarded as unusable, but are not being unlocked by improvements in technology. The range of high-band spectrum is quite limited, typically propagating roughly half a mile. In addition, high-band spectrum both requires direct line of sight and does not penetrate buildings well. It does provide the highest bandwidth and permits the use of the smallest antennas.

The engineering community has long recognized that the deployment of 5G will depend on a mix of both low-band macrocells and mid- and high-band microcells.[1] This is particularly important in rural areas. The fourteen-mile service range and good propagation characteristics of low-band spectrum makes it ideal for supporting basic coverage for rural areas.

The problem is that because low-band spectrum covers such large areas and accordingly a relatively large number of users, the bandwidth that it can provide can quickly become exhausted. Although these shortages can be addressed by adding more low-band spectrum, the fact that the additional bandwidth would be needed by only in population clusters within rural areas, much of that additional low-band spectrum would be wasted.

The generally accepted technical solution is to meet the growing demand for bandwidth by adding smaller cells that rely on mid-band spectrum. The four-mile service range of mid-band spectrum allows it to be targeted efficiently at those areas that need the additional bandwidth the most. Not only does the addition of these microcells expand the bandwidth available in population clusters; diverting the demand generated by those clusters to microcells frees up macrocell capacity for the most remote customers for whom macrocell service is the only viable option.

Implications for the Proposed Merger

The foregoing underscores the reality that successful deployment of 5G depends on having a mix of low-band and higher-band spectrum. This fact underscores two realities.

The first is that Sprint lacks the low-band spectrum to be able to provide 5G in rural areas as a standalone company. As the FCC's most recent *Wireless Competition Report* demonstrated, Sprint holds no spectrum in the traditional cellular blocks (850 MHz), the spectrum auctioned following the digital television transition (700 MHz), or the spectrum distributed in the recent incentive auction (600 MHz). Its only low-band spectrum is a small sliver of Specialized Mobile Radio (SMR) spectrum that is three to four times smaller than the low-band holdings of the other national wireless providers.[2]

Sprint's lack of low-band spectrum has manifested itself in the mounting indicators of its weak operational performance. Information provided to regulators as part of the merger have revealed that Sprint's reliance on mid-band spectrum has given it a much smaller LTE coverage area than the other national wireless providers.[3] In addition, measures of bandwidth performance surveyed by the FCC reveal that Sprint's LTE networks consistently deliver significantly lower bandwidth than do other national wireless providers.[4] Although Sprint's financial condition is no longer in free fall, its current spectrum holdings make it unlikely to be able to address these shortcomings should it remain as a standalone company. The lack of low-band spectrum leaves Sprint particularly poorly positioned to serve rural consumers. The low population density of rural areas makes it unlikely that the limited geographic

[1] *See, e.g.*, Jeffrey G. Andrews *et al., What Will 5G Be?*, 32 IEEE J. ON SELECTED AREAS IN COMM. 1065, 1066–68 (2014).

[2] Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, Twentieth Report, 32 FCC Rcd. 8968, 8996–97 (2017) [hereinafter 2017 Wireless Competition Report].

[3] Ex Parte Notice on Behalf of Sprint, Applications of T-Mobile US, Inc., and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, att. C, slide 4 (Sept. 25, 2018) (WT Docket No. 18–197), *https://ecfsapi.fcc.gov/file/10926182275583/Sprint%20Ex%20Parte%20-%20Doc%20Prod.%20-%2009.26.2018%20FINAL%20-%20REDACTED.pdf*; Chaim Gartenberg, *Sprint points out its LTE network is, in fact, trash*, THE VERGE (Sept. 28, 2018, 1:11 p.m. EDT), *https://www.theverge.com/2018/9/28/17914230/sprint-lte-network-coverage-bad-tmobile-merger*.

[4] 2017 Wireless Competition Report, *supra* note 2, at 9035–37.

range of mid-band service will reach enough customers in order to be financially viable.

The second is that the company resulting from the proposed T-Mobile/Sprint merger is planning a very different strategy from that being pursued by the other national providers. The company resulting from the proposed merger plans to use the low-band 600 MHz spectrum that T-Mobile obtained in the recent incentive auction to provide the macrocell foundation for its service. Because this spectrum is not currently in use for mobile wireless services, the company will be able to deploy 5G technologies in its macrocells as well as its microcells without any concerns about cannibalizing its existing businesses. More rapid deployment of 5G in low-band spectrum can only benefit rural consumers. The addition of Sprint's underutilized mid-band spectrum would allow the merged company to deploy microcells without having to wait for additional high-band allocations. The other national wireless providers can follow the same strategy, but having largely sat out the incentive auction, they would have to repurpose low-band spectrum currently devoted to LTE to provide the base-level macrocell coverage. Their public announcements indicate that they are focusing on future releases of high-band spectrum for microcells, which remain uncertain, instead of relying on mid-band spectrum to support their microcells.

Closing Thoughts

Sprint's limited low-band spectrum holdings leave it poorly positioned to provide rural service as a standalone company in a 5G world. In addition, the fact that the company resulting from the proposed merger appears poised to follow a business model that is quite different from the one embraced by the other national wireless providers raises strong potential benefits for consumers generally and rural consumers in particular. That is why a bipartisan group of thirteen House Members have signed a letter supporting the transaction.[5]

The Subcommittee should also bear in mind that the nature of competition in the telecommunications industry has changed. Instead of simply engaging in price competition on facilities that already exist, the modern industry now competes by focusing on investments in newer, higher quality facilities. This replaces the thin price competition based on the resale of existing facilities that proved so unsuccessful under the Telecommunications Act of 1996 with one that benefits consumers by incentivizing investments in improved capacity and services.

Lastly, policymakers should always remember that market developments that improve efficiency, quality, or innovation create benefits for consumers while leaving direct competitors worse off. That is why antitrust law has long viewed competitor complaints with a skeptical eye and emphasized that importance of focusing on mergers' impact on consumers, not competitors. This makes the presence of respected advocates for rural consumers supporting the merger, including Betsy Huber of the National Grange (with whom I have the privilege of serving on the FCC's Broadband Deployment Advisory Committee)[6] as well as the Attorneys General for New Mexico and Utah[7] particularly meaningful.

Mr. CICILLINE. Thank you very much, Mr. Yoo.

Thank you all for your opening statements. We will now proceed on the five-minute Rule with questioning, and we will begin with the gentleman from Georgia, Mr. Johnson, for five minutes.

Mr. JOHNSON of Georgia. Thank you, Mr. Chair, and thank the panelists for being here today.

Mr. Legere, the day after the T-Mobile/Sprint merger was announced, nine top T-Mobile execs checked into Trump Hotel, is that correct?

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[5] Letter from 13 Members of the House of Representatives to Ajit Pai, Chainman, Fed. Commc'ns Comm'n, and Makan Delrahim, Assistant Attorney General, Antitrust Division, U.S. Dept. of Justice (Jan. 25, 2019), *https://assets.documentcloud.org/documents/5699740/Sprobile.pdf*.

[6] Letter from Betsy E. Huber, President, National Grange, to Marlene Dortch, Secretary, Federal Communications Commission, WT Dkt. No. 18–197 (Sept. 12, 2018), *https://ecfsapi.fcc.gov/file/109130913822630/T-Mobile-Sprint-Grange%20Letter%20to%20FCC-Final%209-12-18.pdf*.

[7] Letter from Hector Balderas, New Mexico Attorney General, and Sean Reyes, Utah Attorney General, to Marlene Dortch, Secretary, Federal Communications Commission, WT Dkt. No. 18–197 (Aug. 24, 2018), *https://ecfsapi.fcc.gov/file/1082488029914/2018-08-24%20Joint%20AG%20Ltr%20FCC.pdf*.

Mr. LEGERE. Thank you, Congressman, for the question. We announced our deal on April 29th, and on April 30th, we came to Washington, DC, as a leadership team for two things. One is to meet the FCC and the DOJ. The second is to announce our quarterly earnings, and that was the reason for the large group.

Mr. JOHNSON of Georgia. I understand there was a purpose in coming, but the very next day, nine top execs checked into the Trump Hotel after the announcement, correct?

Mr. LEGERE. Yes, sir, and very importantly, if I may add, I made the decision. I am a long-time Trump Hotel stayer, way before this transaction. For example,—

Mr. JOHNSON of Georgia. Okay. But the company had not paid for more than two nights at Trump Hotel prior to the announcement, correct?

Mr. LEGERE. Sir, the Trump Hotel is only in existence for about a year and, frankly,—

Mr. JOHNSON of Georgia. So, yes,—

Mr. LEGERE. —we had no reason—

Mr. JOHNSON of Georgia. —the bottom line, though, is that only two nights had been paid for by T-Mobile prior to the announcement, correct?

Mr. LEGERE. At the Trump DC but not counting—

Mr. JOHNSON of Georgia. Trump DC.

Mr. LEGERE. —tons of other hotels.

Mr. JOHNSON of Georgia. Trump DC.

Mr. LEGERE. Sir,—

Mr. JOHNSON of Georgia. Now let me—because I am running out of time now. Since the announcement, $195,000 has been spent by T-Mobile at Trump Hotel Washington, is that true?

Mr. LEGERE. That number is approximately true, and it is also—

Mr. JOHNSON of Georgia. Let me ask you—

Mr. LEGERE. —roughly ten percent of our spend in Washington, DC.

Mr. JOHNSON of Georgia. Okay. I understand, I understand. But now prior—yeah. Do you see how that looks? In other words, you don't spend any money at Trump Hotel two nights and then after the merger, you spend $195,000 at Trump Hotel?

Mr. LEGERE. Sir, that is not on that night and I would say—

Mr. JOHNSON of Georgia. No, I am saying over the last 11 months, you have spent 195,000. Do you understand the optics of that, what it looks like? It looks like what is happening is that T-Mobile is trying to curry favor with the White House.

Did it occur to you that Members of the public, Members of Congress, the FCC, and President Trump himself, did it occur that we would all see that expenditure as an attempt by T-Mobile to gain acceptance by Donald Trump and his Administration?

Mr. LEGERE. Congressman, I was, and I am a hundred percent sure that this deal will be judged by the FCC and the DOJ.

Mr. JOHNSON of Georgia. Okay. I am just talking about the optics of what happened.

Mr. LEGERE. The optics of me staying at the Trump Hotel haven't changed for 10 years.

Mr. JOHNSON of Georgia. Well, I appreciate that. It kind of doesn't pass the smell test with the American public. It looks like you are trying to purchase influence. It looks like it could be a violation of the Emoluments Clause of the United States Constitution.

Let me ask you this question. Do you know if the Trump Organization or the Trump Campaign or the Trump Administration has attempted to contact the Justice Department to talk about this merger?

Mr. LEGERE. Sir, I have no information of that at all.

Mr. JOHNSON of Georgia. Do you know, has T-Mobile had any discussions with the Trump Organization, the Trump Campaign, or the Trump Administration about approving this merger?

Mr. LEGERE. I have not, and I am not aware of any discussions by my organization.

Mr. JOHNSON of Georgia. Mr. Claure, your company contracts with broadband providers, isn't that true?

Mr. CLAURE. I don't understand your question.

Mr. JOHNSON of Georgia. Okay. The Rural Wireless Association contracts with Sprint and T-Mobile for the use of their towers when rural wireless customers are roaming, is that correct?

Mr. CICILLINE. The member's time has expired but the witness may answer the question.

Mr. CLAURE. That is correct. We provide service to rural carriers.

Mr. JOHNSON of Georgia. Those contracts will soon be expiring with those rural carriers, is that correct?

Mr. CLAURE. That is incorrect. Most of the contracts have self-renewal and they are in different timelines.

Mr. JOHNSON of Georgia. All right. Thank you.

Mr. CLAURE. Thank you.

Mr. CICILLINE. The chair now recognizes the Ranking Member, Mr. Sensenbrenner, for five minutes.

Mr. SENSENBRENNER. Thank you very much, Mr. Chair.

Where Mr. Legere and T-Mobile employees stay when they come to Washington really has no relationship whatsoever to whether this proposed merger is in the public interest or is not, and let me say I am kind of embarrassed, sitting here listening to the gentleman from Georgia's line of questions, particularly since the FCC is an independent agency.

It is not a part of the Administration, and the Commissioners of the FCC are supposed to Act independently based upon the data and the information and the testimony that is presented to them.

Now, having said that and I certainly will stand up for the independence of the FCC and these other independent agencies. Let's get down to whether this merger is in the public interest or not.

So, I want to ask the two CEOs, particularly Mr. Legere. I have been on this Committee for as long as I have been in Congress, which is 40 years. I have worked on antitrust questions, you know, including the mixed-up AT&T divestiture of the early '80s, which was supposed to divide things up and ended up putting things more back together than they were beforehand.

I conclude European countries tend to put much more emphasis on whether a company is too big and stifles competition whereas here we focus on what is best for the consumer.

So obviously going to four to three may stifle competition, it may not, but that is not what American antitrust law has been about. So, anybody that talks about four to three mergers and things like that, in Europe it is an entirely different law, and we ought to realize that.

So, I would like Mr. Legere and Mr. Claure to say what can consumers expect out of this and you say that prices will decrease as coverage, speed, and capacity continue to improve. In some ways, it looks like it is mutually exclusive, that you get a better product and you pay less for it.

It seems to me that certain mergers might deal, Number 1, with the economics of scale and Number 2, allow each of the partners of the merger who will be able to benefit from the strengths of the other and get rid of the weaknesses that they have.

So, can our two CEOs answer that in the two minutes I have left?

Mr. LEGERE. Yes, thank you, sir. The transaction will provide a 5G network capability that the United States desperately needs. The 40 billion dollars will be invested by coming together of these two companies.

A merger usually is fearful. Airlines are used many times: Where airline mergers got us less supply, less leg room, more fees, higher prices. But, iIn this case, supply will go up dramatically. Prices will go down. Services will expand. In-home broadband competition will be growing. Rural coverage will expand. Rural competition will expand, and jobs will go up.

So, every piece of what is good for consumers happens in this transaction.

Mr. SENSENBRENNER. Can you tell me what all these things have to do with where you stay when you come to DC?

Mr. LEGERE. They don't, sir.

Mr. SENSENBRENNER. Thank you.

Mr. CLAURE. Thank you. So, I think a good way to portray this is many times we try to compare this merger to others.

There has never been a merger in wireless where, by mixing two companies, because of our unique spectrum position, that you are going to create eight times the capacity. So therefore, nobody can stand here and say that we are going to increase prices.

When you have anything that you increase the capacity by eight times, we have an economic interest to basically fill that capacity and the only way the American consumer will move, AT&T and Verizon customers will move is by us lowering prices. It is that simple.

It is not what John or what I say. It is we have an economic necessity as part of our business plan to lower prices, to fill that capacity, which is going to be eight times what we will have if we were to stand alone, and the reason why it is that is because our spectrum holdings are able when put together to create eight times the capacity.

Mr. CICILLINE. You have three seconds.

Mr. SENSENBRENNER. I yield back.

Mr. CICILLINE. I thank the gentleman for yielding back.

I now recognize the gentle lady from Washington.

Ms. JAYAPAL. Thank you, Mr. Chair, and thank you to our panelists for being here today.

I have been following this proposed merger closely because T-Mobile is just outside of my district and many of the workers are in my district and I know, Mr. Legere, that you have requested a meeting with my office, and we have reached out and we hope to do that next week.

I do want to say to the gentleman from Wisconsin that there is actually reason to look at this question of what happened at the Trump Hotels because it has been clear from quite a bit of reporting that President Trump appears to have involved himself in the AT&T/Time-Warner merger and we want to make sure that this is not happening today.

So, I do want to refer to the letter that Senator Warren and I sent to you, Mr. Legere, and also to thank you for your very prompt response to that letter and so let me just run through this quickly and give you a chance to just give me quick answers on this because I want to turn to the content of the merger after this.

In 2015, you had a public Twitter dispute with now President Trump regarding the quality of Mr. Trump's hotels in New York that ended with you tweeting, and this is a quote, "I am so happy to wake up in a hotel where every single item isn't labeled Trump and all the books and TV is about him," is that correct? Just a yes or no.

Mr. LEGERE. That is correct.

Ms. JAYAPAL. Thank you. Then in August of 2017, though, you did stay at Mr. Trump's Washington, DC, hotel, correct?

Mr. LEGERE. That is correct, and many times in between, as well.

Ms. JAYAPAL. Then last April, you announced the merger. It was actually just once, according to your letter that you responded to me. It was once between then and April when you announced the merger with Sprint and you knew that the merger couldn't go forward without approval and so you stayed there one time, according to this letter you sent me, between August and April, is that correct?

Mr. LEGERE. Yes, that is true. I had much less reason to be coming to Washington. I hope that time returns at some point.

Ms. JAYAPAL. Great. Thank you. The very day after the merger was announced, you and eight of your top executives were on a list of VIP arrivals at the Trump Hotel in DC, correct?

Mr. LEGERE. I am not aware of that.

Ms. JAYAPAL. Okay. That is per a January 16th Washington Post article that has the details of that and so in my letter, one of my questions was how much T-Mobile spent at the Trump International Hotel and you very kindly gave me that number. Can you just please tell the Committee what that number was?

Mr. LEGERE. We spent $194,000 out of $1.7 million spent at hotels in DC during that period.

Ms. JAYAPAL. Understood. I appreciate you have a big budget. You have to travel around, and this was relatively small in the grand scheme of things. However, were you at all concerned that staying at the Trump Hotel so soon after the merger was announced and then again according to reporting, you hired Corey Lewandowski to consult with you, is that correct?

Mr. LEGERE. Can I answer both of those questions?

Ms. JAYAPAL. You can answer both of those questions.

Mr. LEGERE. Every consultant that we hire is completely disclosed, and we had hired Turnberry, an organization that he has been affiliated with or not affiliated with, but we have not hired Corey Lewandowski directly.

The decision to stay at the Trump Hotel again was my decision, and it was consistent with where I have stayed and how I chose hotels in the past.

Ms. JAYAPAL. Except that in 2015, you said you were never going to stay there and so, we are relying on what you have said and so I only raise this because we unfortunately have a situation where the President has not disclosed his business interests and when he has a business interest, and it appears that you might be trying to influence the President to get involved in something he really should not be involved in, that causes concern for this committee, which is the Judiciary Committee, and so I would just say to you that if you do want this to be judged on the merits of the merger, which I think you want, we would expect that there would be concern around anything that might shed a light of impropriety on the merits of the merger.

So, now let me turn to the merger itself. There are currently four big companies in the telecommunications space. Verizon has 34 percent of the market, AT&T has 33 percent, T-Mobile has 18 percent, and Sprint has 14 percent.

Mr. Legere, and I think both of you testified that critics who say that prices will go up and that jobs will be lost are wrong and so let me turn to you, Ms. Sohn.

You used to work for the FCC. You are an expert on antitrust policy, and I would like to ask you, is it your opinion that moving from four companies to three will make the telecommunications market more competitive?

Ms. SOHN. No, it will make it less competitive, and it will raise prices on consumers, as the FCC's record shows. Mr. Legere makes a lot of promises but, as the Senate says, nine Senators said in an 18-page single-spaced letter, a dynamic CEO is not a legal commitment.

Mr. LEGERE. Congresswoman, that is just false.

Ms. JAYAPAL. I am sorry, Mr. Legere. It is my time.

Mr. LEGERE. That is just false.

Ms. JAYAPAL. It is my time. I just wanted to end my testimony by saying that both the Netherlands and Austria underwent four to three mergers in the mobile wireless space. Both saw price increases.

Mr. Chair, I ask for unanimous consent to enter into the record both my letter with Senator Warren to Mr. Legere and his response back to us.

Mr. CICILLINE. Without objection.

Ms. JAYAPAL. Thank you.

[The information follows:]

MS. JAYAPAL FOR THE RECORD

Congress of the United States

Washington, DC 20510

February 5, 2019

John Legere
Chief Executive Officer
T-Mobile USA, Inc.
12920 SE 38th Street
Bellevue, Washington 98006-1350

Dear Mr. Legere,

We are writing to request additional information regarding a recent report that you and other T-Mobile U.S. Inc. (T-Mobile) executives started to regularly patronize President Trump's hotel in Washington, D.C. immediately after announcing a proposed merger with Sprint Corporation (Sprint), which must undergo review by the Department of Justice (DOJ) and the Federal Communications Commission (FCC). These transactions raise questions about whether T-Mobile is attempting to curry favor with the President through the Trump Organization and exacerbate our concerns about the President's continued financial relationship with the Trump Organization.

On April 29, 2018, T-Mobile and Sprint announced a $26 billion merger deal, "moving to create a new telecommunications giant … [that] would have more than 100 million subscribers."[1] The two companies had previously attempted to merge in 2014 but abandoned the deal after concluding that it "would never pass regulatory muster."[2]

One day after the April 2018 announcement of the merger, DOJ "opened an investigation in to the proposed merger" and has since been coordinating with the FCC in its investigative efforts.[3] That same day, staff at the Trump International Hotel were reportedly provided with a list of "'VIP Arrivals' … including [T-Mobile's] chief operating officer, chief technology officer, chief strategy officer, chief financial officer and its outspoken celebrity chief executive, John Legere."[4] Over the next few months, T-

[1] New York Times, "Sprint and T-Mobile to Merge, in Bid to Remake Wireless Market," Michael J. de la Merced and Cecilia Kang, April 29, 2018, https://www.nytimes.com/2018/04/29/business/dealbook/sprint-tmobile-deal.html.
[2] Forbes, "There'd Be No Wireless Wars Without The Blocked T-Mobile Merger, So Where Does That Leave Comcast-TWC?," Mark Rogowsky, August 27, 2014, https://www.forbes.com/sites/markrogowsky/2014/08/27/t-mobile-and-sprint-continue-to-battle-thanks-to-the-government/#490f11b31603.
[3] Letter from Scott Scheele, Chief of DOJ Telecommunications & Broadband Section to Kris Monteith, Chief of FCC's Wirelines Competition Bureau, April 30, 2018, https://ecfsapi.fcc.gov/file/1050138392831/2018%20Kris%20Monteith%2C%20Esq.%2C%20Chief.pdf.
[4] Washington Post, "T-Mobile announced a merger needing Trump administration approval. The next day, 9 executives had reservations at Trump's hotel.," Jonathan O'Connell and David A. Fahrenthold, January 16, https://www.washingtonpost.com/politics/a-place-i-feel-very-comfortable-t-mobile-executives-seeking-government-approval-for-merger-stayed-at-trumps-hotel-repeatedly/2019/01/15/6a114d3e-142c-11e9-b6ad-9cfd62dbb0a8_story.html.

Mobile executives "returned to President Trump's hotel repeatedly," reportedly spending thousands of dollars, booking "38 nights of hotel stays" at the Trump International Hotel. John Legere, T-Mobile's Chief Executive, "appears to have made at least four visits to the Trump hotel, walking the lobby in his T-Mobile gear."[5]

The decision to stay at the Trump Hotel appears to be unusual for several reasons. Your stay began one day after the merger announcement. You had a particularly high profile during your stay, walking the lobby in an outfit described as "a walking billboard for T-Mobile," posing for Instagram pictures, and, during a later stay, meeting in the lobby with former Trump campaign manager Corey Lewandowski. You also chose to stay at the Trump International Hotel in 2018 despite a "public spat" in 2015 in which you publicly complained about the service at a Trump hotel in New York and then announced that "I will obviously leave your hotel right away" and mocked the hotel after Donald Trump said your company's service was "terrible."[6]

The recent reports surrounding T-Mobile executives' decision to patronize the Trump International Hotel – which could influence administration decision making and from which the President could potentially receive financial gain – are concerning. To address these concerns, we ask that you provide answers to the following questions by February 18, 2019.

1. Prior to April 29, 2018, did you or other top T-Mobile officials stay at the Trump International Hotel?

    a. If so, please provide the dates of you stay at the hotel and the names of the executives.

    b. If not, which hotels did you and other company executives stay at in the Washington, D.C. area?

        b.i. Why did you switch your usual practices and start staying at the Trump Hotel in April 2018? Please provide any e-mails or other documentation relating to this decision and the rationale.

2. Did you or any other T-Mobile executives communicate with any administration officials that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which they occurred, and the nature of the conversation.

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[5] *Id.*
[6] *Id.*

3. Did you or any other T-Mobile executives communicate with Donald Trump, Jr., Eric Trump, or any other member of the Trump family that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which they occurred, and the nature of the conversation.

4. Did you or any other T-Mobile executives communicate with Corey Lewandowski or any other T-Mobile lobbyist or representative that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which they occurred, and the nature of the conversation.

5. Are you aware of any communication between Trump Organization officials and administration officials regarding your and/or other T-Mobile executives' stay at the Trump International Hotel?

6. What was the total amount spent by T-Mobile officials at the Trump International Hotel between April 2018 and the present? Do you have any knowledge of the disposition of these funds?

7. T-Mobile and Sprint abandoned a merger attempt in 2014, after concluding that such a deal "would never pass regulatory muster." Did the strategy to obtain approval for the merger include any attempts to contact or communicate with Trump Organization executives and/or plans to patronize Trump Organization properties?

Sincerely,

Elizabeth Warren
United States Senator

Pramila Jayapal
Member of Congress

John J. Legere
Chief Executive Officer

February 6, 2018

Dear Senator Warren and Congresswoman Jayapal,

I am in receipt of your letter addressed to me today concerning the Trump International Hotel and I wanted to respond as quickly as possible. First, let me assure you that I have the utmost respect for the regulatory review process underway concerning our pending merger with Sprint. The Department of Justice and the FCC are giving our transaction a thorough and objective analysis, as they should, and I do not believe that my hotel choices would have any impact on that review, nor should they.

I travel extensively while fulfilling my duties as the CEO of T-Mobile US and choose my hotels based on availability, security, meeting facilities and proximity to the activities scheduled in that city. Since your interest is specifically associated with Trump hotel properties, I have stayed at Trump properties in Chicago, New York and Washington, DC. In Washington, DC the Trump hotel is located close by my company office located at 601 Pennsylvania Avenue and the Department of Justice.

I take note of your reference to me as a "walking billboard for T-Mobile" and it is definitely an accurate observation. As a disruptor in the wireless industry and someone who is fighting for our customers and employees I have chosen to personally represent them and the T-Mobile brand that I am so proud of. My entire wardrobe is made up of T-Mobile clothing and it represents me and my passion for this company - and it has proven to be an effective advertising and marketing strategy.

To the best of my knowledge, I respond with specific answers to your questions:

1. Prior to April 29, 2018, did you or other top T-Mobile officials stay at the Trump International Hotel?

Answer: Yes, both I and members of my leadership team have stayed at the Trump International Hotel here in Washington, DC. Prior to April 29, 2018, I and members of my leadership have been patrons of Trump properties, including hotels in the following cities: New York, Chicago, Washington, DC.

a. If so, please provide the dates of your stay at the hotel and the names of the executives.

12920 SE 38th Street, Bellevue WA 98006 | Tel: (425) 383-8899 @JohnLegere

Answer: I along with the following members of my leadership team: Mike Sievert, President & COO; Braxton Carter, CFO; Neville Ray, CTO; David Miller, General Counsel; David Carey, EVP; Peter Ewens, EVP have stayed at the Trump International Hotel in Washington. My first stay at the Washington Trump Hotel was in August 2017 shortly after it opened. Additionally, my team and I have stayed at the following DC hotels over the years – Mandarin Oriental, Willard Hotel, Four Seasons, Phoenix Park Hotel, Sofitel, JW Marriott, Hotel Monaco, Grand Hyatt, Marriott Wardman and Hay Adams. On May 1, 2018, two days after our merger announcement we held our first quarter earnings event here in Washington, DC at the W Hotel. I will attempt to obtain the additional information on the dates of the stays by the date requested.

b. If not, which hotels did you and other company executives stay at in the Washington, D.C., area?

Answer: N/A

b.i. Why did you switch your usual practices and start staying at the Trump Hotel in April 2018? Please provide any e-mails or other documentation relating to this decision and the rationale.

Answer: N/A

2. Did you or any other T-Mobile executives communicate with any administration officials that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which the occurred, and the nature of the conversation.

Answer: No, not to my knowledge.

3. Did you or any other T-Mobile executives communicate with Donald Trump, Jr., Eric Trump, or any other members of the Trump family that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which they occurred, and the nature of the conversation.

Answer: No, not to my knowledge.

4. Did you or any other T-Mobile executives communicate with Corey Lewandowski or any other T-Mobile lobbyist or representative that you intended to or booked your hotel stays at the Trump International Hotel in Washington, D.C.? If so, please identify all such communications, the individuals involved in the discussion, the date on which they occurred, and the nature of the conversation.

Answer: No, with the exception for logistical purposes of coordinating meetings with T-Mobile legal counsel. There also were no communications with Corey Lewandowski or other lobbyists that we intended to or booked stays at the Trump International Hotel.

5. Are you aware of any communication between Trump Organization officials and administration officials regarding your and/or other T-Mobile executives' stay at the Trump International Hotel?

Answer: No, not to my knowledge.

6. What was the total amount spent by T-Mobile officials at the Trump International Hotel between April 2018 and the present? Do you have any knowledge of the disposition of these funds?

Answer: I will attempt to obtain the additional information on the total amount spent at the Trump International Hotel, Washington DC by the date you requested. We have no knowledge of the disposition of the funds you refer to in your letter.

7. T-Mobile and Sprint abandoned a merger attempt in 2014, after concluding that such a deal "would never pass regulatory muster." Did the strategy to obtain approval for the merger include any attempts to contact or communicate with Trump Organization executives and/or plans to patronize Trump Organization properties?

Answer: No.

I hope this initial prompt response helps to address your concerns.

Sincerely,

John Legere

12920 SE 38th Street, Bellevue WA 98006 | Tel: (425) 383-8899 @JohnLegere

Mr. CICILLINE. The chair now recognizes the gentleman from Florida, Mr. Gaetz, for five minutes.

Mr. GAETZ. Thank you, Mr. Chair.

I just cannot believe what we are watching. The gentle lady from Washington just talked about how the substance of this merger is critically important to her constituents because it is so nearby and then only reserved the remaining 50 seconds of her time to ask questions about the substance of the merger because we must go into what kind of hotel towels you like. I guess I should confess I once said I would never stay in a La Quinta again, and I have stayed in La Quintas subsequently. So presumably that is of some relevance.

I would like to spend the lion's share of the time on the actual substance. A Huawei employee entered T-Mobile, into a testing lab, put a proprietary robot arm into a laptop bag and then walked out.

With this in mind, Mr. Legere, does T-Mobile currently have any Chinese equipment in its existing network? Do you plan to use Huawei in the new T-Mobile 5G network, and what is T-Mobile itself doing to secure its network?

Mr. LEGERE. Yes, thank you for the question, sir. T-Mobile has no Huawei or ZTE in the core of its network. We have no Huawei or ZTE plans. They will not be in our network now or ever.

There was a robotic arm that was stolen in a lawsuit that we filed with Huawei, and we are very pleased by the things that the government is doing to ensure the safety around Huawei.

Mr. GAETZ. Ms. Bennet, do your Members contain Huawei or ZTE equipment?

Ms. BENNET. Yes, we have about 25 percent of our Members that have those two Chinese vendors in their networks. They did it because they had universal service funds to spend. They were trying to look for a low-cost economical way to spend their money and they did deploy those back in 2010–2011, before it became known that it was a problem, and our Members—

Mr. GAETZ. So, for the sake of cost, your Members do have Huawei and ZTE parts. Does Huawei sit on your board?

Ms. BENNET. We do have a member, a Huawei representative on our board in a non-voting capacity and has no influence over our Public Policy Committee or our board.

Mr. GAETZ. It has come to my attention that some of your member companies also use Huawei equipment and have sites or towers in close proximity to military bases, is that correct?

Ms. BENNET. I believe that that is correct, yes.

Mr. GAETZ. So, as we move to 5G, what plans do your member companies have to remove Huawei equipment and how quickly do you plan to address the national security concerns that these questions raise going forward?

Ms. BENNET. It is a very good question and thank you. We plan to do what the Federal Government says that we should do. To the extent that that equipment needs to be replaced, we plan to replace it. Of course, we are going to need funding to do that, and we have been in discussions with both Members of Congress, the FCC, and the Administration on how to go about that without harming the rural Americans that live in that area by having them have no access to public safety services by putting the equipment out of order.

Mr. GAETZ. Mr. Legere, will T-Mobile be requesting any additional government assistance to accommodate your plans to not use the lower cost Huawei and ZTE equipment?

Mr. LEGERE. No, sir, we wouldn't, and frankly, I think we have even offered to play a role with the Rural Wireless Association to help them possibly use some of our pricing power to purchase alternative equipment.

Mr. GAETZ. So, as I understand it, some of the rural providers oppose the merger. If the merger were to take place, there would be more connectivity that would come not from their providers but from T-Mobile in that circumstance and that would result in not having as much ZTE and Huawei equipment utilized in our technology transfers of information and you wouldn't require any additional government assistance, like the rural carriers have just said they would require?

Mr. LEGERE. Right. The existence of it in their networks concerns us.

Mr. GAETZ. Mr. Chair, I seek unanimous consent to enter into the record a CNN article, March 11th, 2019, entitled *Huawei Connects Rural America: Could It Threaten the Country's Most Sensitive Military Sites?*"

Mr. CICILLINE. Without objection.

[The information follows:]

MR. GAETZ FOR THE RECORD

CNN politics

Huawei connects rural America. Could it threaten the country's most sensitive military sites?

By Alex Marquardt and Michael Conte | March 11, 2019

(CNN) Outside Malmstrom Air Force Base in central Montana, spread across 13,800 square miles of open plains, more than 100 intercontinental ballistic missiles stand at the ready, buried deep underground in missile silos. These Minuteman III rockets are capable of delivering nuclear warheads at least 6,000 miles away and are part of the U.S. Strategic Command, which oversees the country's nuclear and missile arsenal.

A Triangle Communication cell phone tower near Moore, MT

Nestled among these silos are clusters of cell phone towers operated by a small rural wireless carrier. According to FCC filings, those cell towers use Chinese technology that security experts warn could allow China to gather intelligence while also potentially mounting network attacks in the areas surrounding this and other sensitive military installations.

Huawei, the Chinese company that makes the tower technology, is shunned by the major US wireless carriers (including AT&T, which owns CNN parent company WarnerMedia) and the federal government over national security concerns. Yet its technology is widely deployed by a number of small, federally-subsidized wireless carriers that buy cheaper Chinese-made hardware to place atop their cell towers. In some cases those cellular networks provide exclusive coverage to rural areas close to US military bases.

In congressional testimony last year, the heads of six major US intelligence agencies -- including the FBI and CIA - warned Americans against using Huawei devices and products. Security experts say that having its technology deployed so close to the nation's arsenal of ICBMs could pose a far greater threat.

"We know the Chinese are engaged in a massive espionage campaign against the US," said James Lewis, director of the Technology Policy Program at the DC-based think tank The Center for Strategic and International Studies. "We know that the Chinese engage in massive surveillance against their own population. You put two and two together and say, how comfortable do I feel having Huawei on the phone systems around my most important military bases?

Potential threats

Huawei is engaged in a pitched battle with the US government. The company is banned from bidding on US government contracts, and federal employees are forbidden from using its products. On March 7, Huawei sued the US government, arguing the ban is unconstitutional.

Huawei has extensive US and international operations and has vowed that it would never install or allow others to install so-called 'backdoors' into its equipment.

But experts fear the company, whose founder and CEO served in the Chinese military, could be susceptible to influence from Beijing. If China chooses to weaponize Huawei's radio transmitters and receivers placed on towers in sensitive areas, there's a long list of possible scenarios and types of information they could glean. Even if the military installations themselves aren't vulnerable, personnel working on or around them could be.

"It's a way to suck in data and carry out ISR (Intelligence, Surveillance and Reconnaissance)," says a former senior Pentagon information security official. "It's quite intrusive actually. I have no evidence [the Chinese] are doing it. But the potential, the opportunity, wow."

"What the overall status of the missile fields are, which are active, which are in maintenance status," he continued, "it may seem like innocuous data but this is a big deal."

A weaponized cell tower could shut down service, send out malign text messages and launch a denial of service attack, security experts tell CNN.

"The Chinese could decide to interfere with ICBM command and control, or with ICBM personnel, the people manning the missile silos," said Lewis from CSIS. "That's not a risk that you can dismiss. You have to say, it's a new strategic capability for China. Not one we expected. It's not military. It's not a weapon. It's not your traditional attack."

As scary as it sounds, Lewis admits it's unlikely that an outside radio transmitter would be able to penetrate the closed encrypted systems that control the missile installations.

"ICBMs are supposed to be pretty hard. That might not be easy to do," said Lewis, a former Foreign Service officer who was an adviser to the military. "But that doesn't mean our opponents won't try and figure out if they can do it."

Lewis points to a national intelligence law China passed in 2017 that gives the government sweeping powers under the pretext of national security. "If they ask Huawei, turn off the phones, tell us what people are doing, scramble the data going over it, block calls, make random phone calls, there's nothing we could really do to stop that," said Lewis.

Huawei says that law doesn't apply to telecom equipment providers that operate outside China, such as itself. "It doesn't allow the Chinese government to willy nilly put backdoors in products," said Andy Purdy, chief security officer for Huawei in the US.

In addressing the broader concerns, Purdy pointed to the extensive security measures they take to safeguard their clients' system. "Huawei does not operate or maintain the equipment and networks of our customers," said Purdy, while allowing that, "Nearly all networks and systems around the world are subject to penetration efforts, sometimes successfully, by sophisticated, well-resourced malicious actors such as a nation state." Still, to some, having any Huawei technology operating in the US is too much.

"It would be great if there wasn't a shred of Huawei anywhere in the United States," said Marcus Sachs, the former vice president for National Security Policy at Verizon who also served on the Defense Department's Joint Task Force for Computer Network Defense. He said the use of Huawei presents "critical national security implications."

"In theory, any piece of equipment could have the capability to do 'man in the middle.' It will know about every call placed, track all the internet traffic, what's going where," Sachs said. "The unencrypted information would be intercepted and sent back to China."

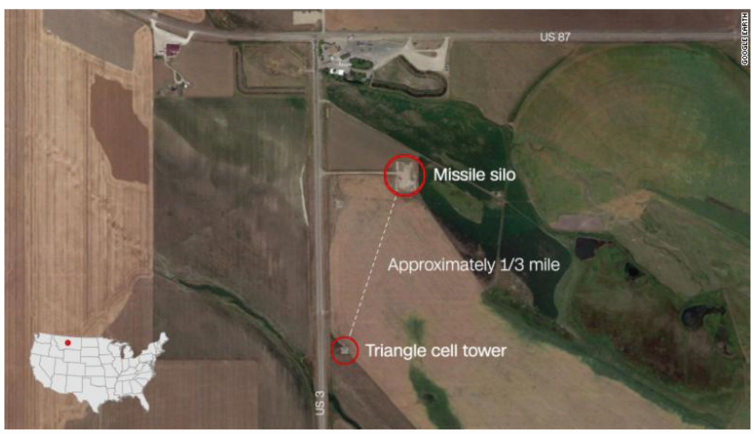
A Triangle Communication cell phone tower in rural Montana, less than half a mile from a fenced-in ICBM silo

Rural Wireless

Across the US there are vast, rural expanses where signals from the country's major wireless carriers do not reach. In their place residents and visitors rely on smaller independent carriers.

Those federal dollars used to subsidize those carriers come out of the multi-billion dollar Universal Services Fund, which helps fund wireless and broadband connectivity to poor and rural communities. Last year, FCC chairman Ajit Pai proposed a rule that would prohibit carriers from using USF funds to buy equipment from Huawei and other companies deemed to be national security threats.

The company operating the towers among the Montana missile fields is called Triangle Communication Systems. Their FCC filings make clear that part of their towers' radio network is manufactured by Huawei. At least five cell phone towers operated by Triangle in Montana are less than three miles from ICBM silos as well as, in at least one case, a launch control center, according to the FCC filings and data from the Federation of American Scientists (FAS).



Triangle Communication Systems network is in part equipped by Huawei, according to engineering documents submitted to FCC. Their towers are partially scattered among missile fields

More than 600 miles to the south, the F.E. Warren Air Force Base oversees ICBM fields that cover parts of Wyoming, Nebraska, and Colorado. In southeastern Wyoming, portions of the silo field are covered by a carrier called Union Wireless. The company operates two sites around the 12,000-square mile silo field in addition to at least 53 other towers across

Wyoming. At least one of those sites is less than six miles from two missile silos, according to FCC filings and FAS data.

In a public statement to the FCC last June, Union's Chief Technical and Operations Officer Eric Woody said that Huawei manufactures "approximately 75%" of Union's equipment. It's unclear whether Huawei gear is used at Union towers that are close to the silos.

Neither Triangle nor Union responded to requests for comment. Both companies are members of the Rural Wireless Association, a trade group of small wireless carriers with fewer than 100,000 subscribers each. A quarter of RWA's roughly 60 member companies use Chinese technology, the groups says. A Huawei official, US vice president of sales William Levy, sits on the RWA board of directors.

RWA says there has been no direction from the Pentagon over how to mitigate any risk posed by the carriers' Chinese technology. Nor has there been any offer to help replace the gear, which is up to 40 percent cheaper and could cost as much as $1 billion to switch out, the group says.

"My members are concerned and they want to do the right thing. So, to the extent that there's information that could be shared with them they'd like to do what's right," RWA's general counsel Carri Bennet told CNN. "Ripping the equipment out from their perspective isn't really going to be in the cards because these networks will not be functional."

"If anyone pointed out to them that this is harmful, they would comply, they would get rid of it," she continued. "They would hope the government wouldn't throw the baby out with the bathwater and try to come up with something to fix it."

A spokesman for STRATCOM declined to go into detail about its relationship with the rural carriers, or what precautionary measures are taken, saying only: "As a part of our force posture, we maintain a concerned awareness of activities within proximity of our installations and sites."

The Department of Defense would not clarify its relationship or what if any conversations it has had with rural carriers around the issue of Huawei. Acting Secretary of Defense Patrick Shanahan told CNN in a statement that the Pentagon "is working closely with our industrial and research partners to develop comprehensive and innovative solutions for both the Department and commercial industries. The United States and our allies and partners must demand nothing less than robust, trusted, and secure next-generation communications systems."

The issue over Chinese technology being deployed near military installations has come up before. In 2012, the Obama administration blocked a Chinese company, Sany Group, from building a wind farm near a naval facility in Oregon out of concerns for national security. At the time, President Barack Obama said there was "credible evidence" that the Chinese group "might take action that threatens to impair the national security of the United States."

Said Lewis, "The Pentagon knows that using Huawei creates risk. And they are struggling over how best to deal with that."

Mr. GAETZ. I want to also ask about emergency response. I come from North Florida. We have been dealing with the aftermath of Hurricane Michael, and I have seen in trips that we have taken, bipartisan trips, where cities that have 5G technology have amazing capabilities in the event of disasters, especially for vulnerable populations, like people in hospitals and nursing homes.

Can you speak specifically to how 5G will help our local communities respond to disasters?

Mr. LEGERE. Yes, Congressman, that is a very, very important question. Resiliency is a combination of backhaul power, tower design, and restoration capability, and we have significantly invested in those areas to now, and that is a core part of the deployment of the New T-Mobile 5G Network.

In fact, in Hurricane Michael, the restoration capability and the power investments we made allowed us to virtually have our entire network up throughout the disaster. That is a core principle of the design of the New T-Mobile network.

Mr. GAETZ. What would be an example of how 5G could save lives in a disaster?

Mr. LEGERE. The 5G network, most importantly, the reach and the breadth, and the coverage will provide capabilities that are far more resilient and far more pervasive than their coverage.

Mr. GAETZ. Thank you, Mr. Chair. Yield back.

Mr. CICILLINE. Thank you.

The chair now recognizes the gentleman from Maryland, Mr. Raskin, for five minutes.

Mr. RASKIN. Mr. Chair, thank you very much.

I am going to start with you, Ms. Sohn. Mr. Legere said that 16 of 19 State agencies reviewing the merger have already approved the transaction, but I know there are still ongoing State AG investigations.

Are those 16 agencies that Mr. Legere cited as having approved the merger, are they responsible for determining if the merger violates antitrust laws related to the question before the FTC and the Justice Department?

Ms. SOHN. Yeah. When the PUCs, the Public Utilities Commissions, and the State Public Service Commission's review this merger, they are not actually looking at the mobile wireless market. That is not in their jurisdiction.

Mr. RASKIN. What are they looking at?

Ms. SOHN. They are looking at wire line, the small amount of wire line capacity that is involved in this merger.

Mr. RASKIN. Under State antitrust principles?

Ms. SOHN. That is correct, but they do not look at what is the main event in this merger, which is the mobile wireless market. So, with all due respect to State PUCs and PSCs, the review is kind of irrelevant.

Mr. RASKIN. Okay. Ms. Bennet, let me ask you. You are my constituent, I think. You live in Carroll County?

Ms. BENNET. That is correct.

Mr. RASKIN. Which is the most rural part of my district and a beautiful part of my district, and you are here on behalf of the Rural Wireless Association, representing 50 or more wireless carriers, right?

Would this merger lower prices or increase prices and why and what would the impact be in the rural areas, such as where you live?

Ms. BENNET. From a rural American's perspective, it will increase prices and the reason is because of the roaming agreements. Each carrier has in a rural market, we only serve the very small areas that are little islands in rural America. When rural Americans leave those areas to go travel to cities, they have to use a bigger carrier's network.

In the case of Sprint, my Members have reported that their roaming arrangements with Sprint are often 20 times lower than those with T-Mobile. So, the fear is that if the merger takes place and the agreements that are in a place right now that some of them, contrary to what Mr. Claure said earlier, they are starting to expire, they don't automatically renew, and T-Mobile has not indicated that they will renew those agreements. They have said that we can select those agreements but if they are going to expire in a couple months, we are very concerned about that.

The pricing would go up—

Mr. LEGERE. Sir, for the record,—

Ms. BENNET. Please let me finish. The pricing would go up for those rural consumers. So, we are going to have a situation we fear where rural consumers will have really good service at home with their local carrier and use the phone there for that service, but when they travel, they will have to purchase another phone which means rural consumers will end up paying double, one for their local home service and one for their travel service, so two phones to carry around.

Mr. RASKIN. Thanks. Mr. Legere, can you respond to that?

Mr. LEGERE. Yeah. Just for the record, several times now people are referring to what is going to happen to my prices. I am going to be the CEO of the New T-Mobile. I have already taken a business plan to the rating agencies and the financial markets. Prices are going down. It is in my business plan. It is also promised in the commitments that I made to the FCC.

From a roaming standpoint, we have made it very clear that we will honor the agreements that both Sprint and T-Mobile have. Remember, 70 percent of all the roaming agreements T-Mobile has are reciprocal and we are a $25 million net payer.

Anybody that wants a roaming agreement that is reciprocal at zero, we will sign that right now. Whether the rural carriers pass those prices on to their customers, that is a different story. But, Ninety-six percent of rural America will be covered by the New T-Mobile network, which is significant, contrary to the point that Mr. Shelton made.

Mr. RASKIN. Mr. Shelton also testified that the transaction would result in lower wages and thousands or tens of thousands of layoffs, perhaps hundreds of millions of dollars lost to CWA workers.

Are you willing to make the same promises to the workers that you are making to the customers? When you say prices are going to go down, are you promising that those workers are not going to lose their jobs, or do you concede that they will?

Mr. LEGERE. Thank you, sir. I mean, I would just have to categorize everything Mr. Shelton said as bad assumptions, bad math.

The last time we were here in a hearing, Mr. Shelton said wages would go down but when asked what the wages were at T-Mobile and Sprint, he said, "I don't know. We don't have an agreement with them." So, he has no—

Mr. RASKIN. Can you just explain?

Mr. LEGERE. Wages did not go down.

Mr. RASKIN. Can you explain as a matter of economic theory that if you have the two businesses across the street from each other and you take over the other business, why doesn't it logically follow that half of the people are going to lose their jobs?

Mr. LEGERE. If there is a Sprint and a T-Mobile store in close proximity to each other, even if we take one of the geographies and close the real estate, it is highly likely that we will need both sets of employees because of our foot traffic and share of gross ad requirements.

The other thing I would tell you is that we are offering a job to every T-Mobile and Sprint employee. We also have at Sprint retail stores, a 60 percent attrition rate annually and a 19 percent attrition rate at T-Mobile. So, this is something that we can take into consideration—

Mr. RASKIN. Thank you.

Mr. LEGERE. —and handle without—

Ms. RASKIN. Mr. Chair, could I give Mr. Shelton just a chance to respond, just in fairness to him?

Mr. CICILLINE. Your time has expired, but if Mr. Shelton wants to answer the question.

Mr. SHELTON. As far as promising employees a job, there are so many loopholes there, it is amazing, but when you look at what those stores are actually, 84 percent of them are authorized dealers who are not employees of T-Mobile and have no promise even from Mr. Legere that will not be kept with authorized dealers because they are not T-Mobile employees. That is some 88,000 people in the United States.

Mr. LEGERE. With all due respect, sir, when Metro–PCS was acquired, Mr. Shelton said we would decline 10,000 jobs. I added 23,000 jobs, and in my tenure as CEO, I have added 75,000 jobs, in addition to the 16,000 from Metro–PCS. So, my track record speaks for itself.

Mr. CICILLINE. Thank you.

The Chair now recognizes Mr. Buck—

Mr. BUCK. Before my—

Mr. CICILLINE. —and I'll actually give you an extra minute, if you need to, since the witness on this side took an extra minute.

Mr. BUCK. Actually, I just wanted a ruling from the chair, if I may. I had dinner at the Trump Hotel three weeks ago. My steak wasn't cooked properly, and I sent it back and it was then returned cooked really well and I am just wondering if I have a conflict of interest.

Mr. CICILLINE. I think only if you are involved in a merger of two large companies.

Mr. BUCK. Okay.

Mr. CICILLINE. If you are not, I think you are safe.

Mr. NADLER. Wait a minute, Mr. Chair.

Mr. CICILLINE. Yes.

Mr. NADLER. That means he cannot speak at this hearing.

Mr. CICILLINE. Yes, that is true. I think they are trying to say perhaps you shouldn't speak during the hearing. No.

[Laughter.]

Mr. CICILLINE. Mr. Buck is recognized.

Mr. BUCK. Thank you very much. I appreciate that.

First, Mr. Chair, I would like to introduce a letter for the record from a constituent of mine, Frank DiRico, who is the CEO of Viareo Wireless and writes about the effect of this merger on rural broadband and he is very excited about this merger and continuing to work with T-Mobile. Mr. Chair, is there any objection to entering this?

Mr. CICILLINE. Without objection.

[The information follows:]

MR. BUCK FOR THE RECORD

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March 11, 2019

The Honorable David N. Cicilline,
Chairman
Subcommittee on Antitrust, Commercial and Administrative Law
House Committee on the Judiciary
2233 Rayburn House Office Building
Washington, DC 20515

The Honorable James Sensenbrenner,
Ranking Member
Subcommittee on Antitrust, Commercial and Administrative Law
House Committee on the Judiciary
2449 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cicilline and Ranking Member Sensenbrenner:

NE Colorado Cellular, Inc., d/b/a Viaero Wireless ("Viaero") appreciates the Subcommittee's commitment to promoting a vibrant and innovative wireless industry that serves the interests of the American people. Viaero operates in Colorado, Nebraska, Kansas, South Dakota and Wyoming, working tirelessly to bring mobile broadband service to underserved and rural communities.

As you may know, when T-Mobile's customers leave the T-Mobile service area, they often roam on Viaero's network in our service area. Likewise, many of our customers depend on T-Mobile's network when they travel outside of our service area to access mobile voice and broadband services. For nearly 20 years, T-Mobile has been our roaming partner, and we fully expect T-Mobile to continue our mutually productive roaming relationship for as long as Viaero is operating.

The merger of T-Mobile and Sprint will directly benefit consumers and rural carriers like Viaero.[1] The merged company's expansive 5G network will leverage complementary spectrum assets held today by T-Mobile and Sprint. We expect that excess capacity in the merged network will drive down roaming prices for rural carriers such as Viaero.

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[1] **See, Comments of NE Colorado Cellular, Inc., d/b/a Viaero Wireless, WT Docket No. 18-197 (Aug. 23, 2018), available at:**
https://ecfsapi.fcc.gov/file/10823765702540/Viaero%20Comments%20Supporting%20TMobile%20signed%208.23.2018.pdf.

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Page 2

Accordingly, Viaero supports the merger of T-Mobile and Sprint.

Respectfully submitted,

Frank DiRico

NE Colorado Cellular, Inc.

cc: Members of the U.S. House Subcommittee on Antitrust, Commercial and Administrative Law, Committee on the Judiciary

Mr. BUCK. Thank you.

Then I wanted to just comment, Ms. Sohn, that between the two of you, I am going with T-Mobile just because he has better shoes. I don't know if you have seen them but those—

Mr. CICILLINE. He is counting on that.

Ms. SOHN. I have better glasses, though.

[Laughter.]

Mr. BUCK. They are cool glasses, I give you. If they were a little pinker. I wanted to ask the two gentlemen from T-Mobile and Sprint whether you are planning on buying more spectrum as a result of this merger.

Mr. LEGERE. The answer is yes. Currently, we are participating in a millimeter wave spectrum auction as we speak and there will be a lot more spectrum that is needed, in addition to what we are going to get together with these two coming together, these two companies.

Mr. BUCK. Do you plan on buying that from current holders of spectrum or in the market, other areas of the marketplace?

Mr. LEGERE. Yeah. The significant amount of the spectrum that we need to run this new company will come from the integration of the low-band, mid-band, and high-band spectrum portfolios that we have. There will continually, as 5G advances, be a need to buy and there are government auctions that we are involved in.

Mr. BUCK. You have made promises about pricing and I am wondering, based on those promises, do you believe that there is any role for any government agency in the pricing that you will be setting?

Mr. LEGERE. I believe my commitments are enforceable, and I have made it clear. Two things: I have a business plan that has prices declining. I have supply going up significantly. I have an 87 percent reduction in the unit cost of a gigabit of data that is being sold. So, I have huge supply. I have a significant price decline capability, and I committed that to the FCC in writing for the first three years.

Mr. BUCK. Okay. So, I took an economics class in college and I immediately went into law.

[Laughter.]

Mr. BUCK. I wanted to just ask you to explain to the American public why three big companies makes for better competition in the marketplace than two big companies and two small companies.

Mr. LEGERE. Right. Thank you, sir. I think you categorized that well. Amongst the ways that I look at this merger is going from two to three and, by the way, after the Number 3 and Number 4 players come together, we will still be a much smaller Number 3 to the economic power of AT&T and Verizon. Why this makes sense is that we will be able to significantly increase supply and bring competition greatly to those other two.

The last thing I would also say, we continue to ignore that the cable monopolists are in wireless. Comcast added more phone customers in the last year than AT&T and Verizon together. Comcast, Charter, now Altice. DISH owns a massive amount of spectrum that will come in, and Tracfone happens to be largest prepaid player in the market.

So, there are more than just the three players but going from two to three makes more sense than just having two.

Mr. BUCK. Do you agree with that?

Mr. CLAURE. One hundred percent. We talk about the U.S. market being a competitive market. It is not. AT&T and Verizon today have over 70 percent market share, but what is worse is they control over 93 percent of the cash flow in this industry.

So, think about it. How could you compete when you are competing against two companies that are generating 93 cents of every dollar of profit? So, the only way we are going to be able to compete is when we put our two companies together, we build a better product, we lower our prices, we cover every corner in America, and this is the first time that AT&T, Verizon, Comcast, and Charter are really going to feel the competition.

So, we are going to make this market more competitive, and this merger is pro-consumer because everybody benefits, whether you are postpaid customer or whether you are prepaid customer. Better product at lower prices, that is the basics of business.

Mr. BUCK. So, have the two of you put your head together and figured out which color this new entity will go with?

Mr. LEGERE. That would be magenta.

Mr. BUCK. I yield back. Thank you.

Mr. CICILLINE. Thank you.

The chair recognizes the Chair of the Full Committee, Mr. Nadler, for five minutes.

Mr. NADLER. Thank you. Before I start my questions, Ms. Sohn, you look very eager to respond to the last question. So, could you take just a moment to do that?

Ms. SOHN. I am very eager. So, Mr. Legere keeps talking about unit price and I think that is really important because what he is saying is the New T-Mobile will give you more. He is not saying what they are not going to do, but on a per unit price, you will either pay the same or less. So, you will get faster speeds, better quality, but in absolute terms, you are going to pay more, but on a per unit, that is the words you just used. Okay.

Number 2, if I hear excess capacity, excess capacity one more time, I think my head is going to explode. Okay. That is seldom the primary, the only determinant of a pricing decision. A market-dominating entity can reduce output because it is more profitable to do so.

Carnegie owned all the railroads. He had lots of capacity, but he was still a monopolist. So, the capacity is meaningless when it comes to setting prices.

Mr. NADLER. Thank you. Okay. Now the questions that I have for Mr. Shelton.

Economic concentration in every sector of the economy almost has reached historic levels. Last week, Professor John Kwoka of Northeastern testified in front of the Senate that concentration has been steadily rising and competition declining in a great many sectors of the economy, raising "legitimate concerns about increasing market power in large swaths of the U.S. economy."

What effect has decades of consolidation, rising employer market power, and declining organization rates had on workers?

Mr. CICILLINE. Please use your microphone, Mr. Shelton.

Mr. SHELTON. Obviously, it has put a downward spiral on wages. The loss of unions has put probably a bigger downward spiral on—

Mr. NADLER. The loss of unions aside, you think the concentration has put a downward spiral?

Mr. SHELTON. Right. It has increased competition for labor and when you increase competition for labor, the labor prices go down and that is what—

Mr. NADLER. You mean decreased competition for labor?

Mr. SHELTON. Increased. I am sorry. Did I say decreased? Increased.

Mr. NADLER. It has increased competition for labor?

Mr. SHELTON. No, decreased. I am sorry.

Mr. NADLER. Okay. Then the prices go down is what you are saying?

Mr. SHELTON. Right.

Mr. NADLER. As you note in your written, you discuss both T-Mobile's and Sprint's "long history of ignoring workers' rights in violating federal labor laws," noting that T-Mobile in particular has been the subject of more unfair labor practice charges per employee than any other big business in the United States. That is a quote from you.

How could the Sprint and T-Mobile merger affect New T-Mobile's ability to engage in unfair labor practices?

Mr. SHELTON. They will become much more powerful. This is a company that has been found guilty by various and sundry courts and the NLRB on already doing unfair labor practices and if you put them together, they will be more powerful and they will do everything they can to try to take unions out and they will continue to.

Mr. NADLER. They will have more power, and if you put them together, albeit they are more powerful, they would not have less desire to do so?

Mr. SHELTON. I don't think they would have more desire because they want to keep unions out. The only way that their employees have a voice is through collective bargaining and they don't want any part of collective bargaining.

Mr. NADLER. That wouldn't change?

Mr. SHELTON. No.

Mr. LEGERE. Mr. Chair, could I comment?

Mr. NADLER. I have one more question for someone else. Then if we have time.

Ms. Scurato, in your testimony, you note that the proposed Sprint/T-Mobile merger would disproportionately cause harm to low-income communities and people of color. What are the harms that low-income communities and people of color are likely to experience as a result of the Sprint/T-Mobile merger and why do you think that they would experience those harms?

Ms. SCURATO. Thank you for the question. They are going to experience higher prices. If you look at the FCC record and these companies' economic studies, they actually show that prices are going to increase, and I am going to quote here—

Mr. NADLER. They show the prices are going to increase because of consolidation?

Ms. SCURATO. Yes, absolutely, and actually DISH economics have concluded that T-Mobile and Sprint's own economists predict significant price increases, the harms of which are going to disproportionately fall on lower-income subscribers.

Mr. NADLER. Who did you say predicted that?

Ms. SCURATO. Yes, their own economists, and this is—

Mr. NADLER. T-Mobile's economists?

Ms. SCURATO. Absolutely.

Mr. LEGERE. DISH, one of the objectors.

Mr. NADLER. Okay. DISH's economists?

Ms. SCURATO. DISH's economists concluded that Sprint and T-Mobile's own economists predicted that, and that is what is in the FCC's record.

Mr. NADLER. Okay. Thank you.

Mr. CLAURE. Let me just intercede once. I am Mr. Claure.

Mr. NADLER. Who wanted time to reply? Mr. Legere asked for time to reply, too.

Mr. LEGERE. I cede to Marcelo.

Mr. CICILLINE. He is ceding his authority. Okay.

Mr. CLAURE. So—

Mr. NADLER. Would you reply to both those questions, what you wanted to reply to and what Mr. Legere wanted to reply to?

Mr. CLAURE. We cannot understand why when we are here under oath and somebody says that we have said we are going to get higher prices—

Mr. NADLER. No, I think she said that—she quoted DISH's economists as quoting your economists.

Mr. CLAURE. Correct. So, let's make sure that we are very clear. We have made a commitment that we are going to lower prices. We went above and beyond. In other mergers, people go and make a filing with the FCC. We did that voluntarily. Nobody asked us to do that. We are making a commitment because we have eight times the capacity, which is something substantial.

Just remember one thing. We are going to lower the price or the cost of our product by 87 percent of the manufacturing cost of a gig. Of course, we are going to lower prices. If any industry in the world where you lower the cost, you lower your cost by 87 percent, therefore, we have excess capacity and we made a commitment to have lower prices.

Mr. CICILLINE. Okay. Thank you.

Mr. NADLER. Thank you. My time has expired.

Mr. GAETZ. Mr. Chair?

Mr. CICILLINE. Yes, I recognize the gentleman from Florida for unanimous consent request.

Mr. GAETZ. Thank you, Mr. Chair. Seek unanimous consent to enter into the record a letter from Northeast Colorado Cellular, Inc., directed to you and Mr. Sensenbrenner.

Mr. CICILLINE. Without objection.

[The information follows:]

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March 11, 2019

The Honorable David N. Cicilline,
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House Committee on the Judiciary
2233 Rayburn House Office Building
Washington, DC 20515

The Honorable James Sensenbrenner,
Ranking Member
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House Committee on the Judiciary
2449 Rayburn House Office Building
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Dear Chairman Cicilline and Ranking Member Sensenbrenner:

NE Colorado Cellular, Inc., d/b/a Viaero Wireless ("Viaero") appreciates the Subcommittee's commitment to promoting a vibrant and innovative wireless industry that serves the interests of the American people. Viaero operates in Colorado, Nebraska, Kansas, South Dakota and Wyoming, working tirelessly to bring mobile broadband service to underserved and rural communities.

As you may know, when T-Mobile's customers leave the T-Mobile service area, they often roam on Viaero's network in our service area. Likewise, many of our customers depend on T-Mobile's network when they travel outside of our service area to access mobile voice and broadband services. For nearly 20 years, T-Mobile has been our roaming partner, and we fully expect T-Mobile to continue our mutually productive roaming relationship for as long as Viaero is operating.

The merger of T-Mobile and Sprint will directly benefit consumers and rural carriers like Viaero.[1] The merged company's expansive 5G network will leverage complementary spectrum assets held today by T-Mobile and Sprint. We expect that excess capacity in the merged network will drive down roaming prices for rural carriers such as Viaero.

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[1] **See, Comments of NE Colorado Cellular, Inc., d/b/a Viaero Wireless, WT Docket No. 18-197 (Aug. 23, 2018)**, available at: https://ecfsapi.fcc.gov/file/10823765702540/Viaero%20Comments%20Supporting%20TMobile%20signed%208.23.2018.pdf.

Accordingly, Viaero supports the merger of T-Mobile and Sprint.

Respectfully submitted,

Frank DiRico

NE Colorado Cellular, Inc.

cc: Members of the U.S. House Subcommittee on Antitrust, Commercial and Administrative Law, Committee on the Judiciary

Mr. CICILLINE. I now recognize the gentle lady from Florida, Ms. Demings, for five minutes.

Mrs. DEMINGS. Thank you so much, Mr. Chair. Thank you to all our witnesses for being here with you.

As I sit here and listen to all my colleagues, I guess it is necessary for some to try to find humor when we are talking about American workers potentially losing their jobs and people of color once again potentially being taken advantage of and persons who live in rural communities potentially losing adequate coverage.

For some reason, I am struggling to find the humor in that and with all due respect to my colleagues who feel like where you stay is irrelevant, I do associate myself back to the comments originally made by my colleague from Georgia because when we are talking about mergers that cost millions of dollars, billions of dollars, excuse me, I do believe a compromise or the appearance of compromise or undue influence is relevant to this conversation.

Mr. Legere, I am going to start with you. In your testimony, you said that this proposed merger would, and we referred to this quite a bit, lead to lower costs, it would be a tremendous job creator and would create thousands of more jobs.

So, under those circumstances, when I hear what you say and what I hear what Mr. Shelton says, it appears to me that that would be a marriage made in heaven but apparently obviously the workers do not feel that way.

So, if you would just please, if you have already done it, do it again for me because I don't see it quite yet and I am really struggling to see it, how does the merger actually lower costs? How does it become a tremendous job creator, and how will you create thousands of jobs that should make American workers, and the unions that represent them, extremely happy but they're not?

Mr. LEGERE. Thank you very much, Congresswoman. I am sure the topics that you outlined, that you said we're finding humor in, I find no humor. We are the largest provider to people of color in low-income and will be, and they will be top beneficiaries of this transaction. Rural America will be, as well.

Jobs, we are going to create 5,000 new retail jobs. We are going to onshore 5,600 customer care jobs. We are going to have 1,800 network integration jobs, and we are going to have 11,000 new positions. We will have 3,600 more employees in the first year than the two separate companies combined and 11,000 by 2024. So, jobs are going up.

Again, Mr. Shelton's track record is when AT&T tried to buy T-Mobile, he predicted it would increase jobs 96,000. When T-Mobile bought Metro–PCS, he said it would decrease 10,000. I would submit that those are related to whether he has a union agreement, and he would be very happy in this job creation if, in fact, we were a union-created organization. Jobs will go up every single day of this new company.

Mrs. DEMINGS. Mr. Shelton, would you respond to that, please?

Mr. SHELTON. Yes. Mr. Legere is talking about jobs going up 5,500 or 5,000 call center jobs. Right now, T-Mobile ships call center jobs overseas every moment of every day. There is a tape wandering around the internet where his vice President of something is telling the people in the Philippines that work for T-Mobile in call centers that they are doing a great job because a year ago, there was none of them and now there is a thousand of them.

Mrs. DEMINGS. Mr. Legere, is the merger an American job creator or an American job destroyer?

Mr. LEGERE. It is a significant American job creator, and I would just say to Mr. Shelton, I do have some offshore jobs, and I will have some—

Mrs. DEMINGS. Do you ship American jobs overseas every day as he indicated?

Mr. LEGERE. That is absolutely not true. Jobs in America are going up significantly every day in the New T-Mobile.

Mr. SHELTON. If I may, when you consider that 84 percent of the stores that are operated by authorized dealers, not employees of T-Mobile but authorized dealers, and then you consider that after this merger, if this merger goes through, T-Mobile/Sprint will have twice the number of stores that either AT&T or Verizon has, what do you think is going to happen to those stores?

Mrs. DEMINGS. I know exactly what I think. Thank you. Ms. Sohn, would you please go ahead with the last few seconds?

Ms. SOHN. Thank you so much. I just want to list the promises I have heard today.

On wholesale access, prices, Lifeline, in-home broadband, and jobs, like every day there is a new promise, but my question is who is going to enforce these vague promises? I agree with the Assistant Attorney General Makan Delrahim that behavioral remedies don't work. They didn't work in the Comcast/NBC merger. They didn't work in other mergers. Who is going to enforce all these promises? That is the problem. Nobody is the answer, and nobody is equipped.

Mrs. DEMINGS. Thank you so much, Mr. Chair. I yield back.

Mr. CICILLINE. Thank you.

The chair now recognizes the gentleman from North Dakota, Mr. Armstrong, for five minutes.

Mr. ARMSTRONG. Thank you, Mr. Chair.

Mr. Legere, we talk a lot about the race to 5G and we have talked about it today and we all recognize that when we are competing in this, we are competing with China and there is no real private business in China and they have a sense and a unity of purpose as a country in these types of scenarios that we don't.

My question is, what does it mean for the U.S. to win the race to 5G? I mean, we are talking about short-term in jobs and those types of things but a longer view of economics of what this means and that is before we get into national security questions.

Mr. LEGERE. Thank you very much, sir. The statistics from CTIA suggest that there are three million American jobs at stake with 5G leadership. That being that if we don't retain and take leadership in 5G, as we did with 4G, we can lose those jobs. It would be $350 billion of investment and a half a trillion of economic impact.

Right now, the U.S. is behind China and South Korea in the deployment of 5G, as you say, heavily because the country of China has a massive state-run budget to deploy 5G as a critical national priority. With what we are going to do with the New T-Mobile—the $40 billion worth of investment, the creation of the new network, and forcing AT&T and Verizon to not just have short-term focus on millimeter wave and small geographies—together we can lead the country to 5G and attain that critical position.

Mr. ARMSTRONG. When we get into this technology, I think it is important to recognize, too, we will pay $800 for a phone but not if there is one available for $740. I mean that is the nature of the American consumer.

So when we start talking about where these processes are made and those types of things, but basic economics tells us more capacity should relate to lower prices, but the 5G dates are 2021, 2024, and those dates—I mean for everybody, those dates seem like a long way off, but can we expect to see improvements in speed and performance and I suppose most critically capacity before then?

Mr. LEGERE. Yes, the New T-Mobile's network is going to have median speeds by 2024, 450 Mbps. By 2021, it will be a 150 Mbps median speeds across the whole country, and as I said, we are aspiring to cover 96 percent of all rural America.

The promise of 5G, by the way, is a hundred times the speed and a hundred times the number of devices and 10 times better latency. So, it is a major transformational step but even as we migrate to it, the New T-Mobile speeds are going to be 15 times faster.

Mr. ARMSTRONG. In my never-ending quest to educate people about North Dakota, we have the best rural broadband in the entire country and when you deal with the success story for that, North Dakota is it, but we do recognize that rural America is significantly underserved across the entire country.

So, I guess my question for Mr. Claure would be, do you think Sprint can no longer continue viably as a nationwide competitor, especially as we transition to 5G, under the current structure?

Mr. CLAURE. There will be a different Sprint. For Sprint to be able to offer 5G in our current coverage, which is about half of AT&T's and Verizon's coverage, we will have to spend close to $25 billion.

As you know, Sprint already has $40 billion in debt and we don't make any money. We barely break even. We will basically have to borrow that money from the bank and potentially must increase prices and we would only be to offer 5G in selected areas. The promise of 5G needs to be coverage end to end, so we can enable the new technology that would come with 5G. So, Sprint will be a very different company.

Now, why this is extremely relevant is today, AT&T and Verizon, again like I said before, they have 93 percent of the profit generated and 70 percent of the market. If you shrink Sprint to be a smaller company, then basically the market share of AT&T and Verizon will grow more and the market dominance or the market abuse that they have will eventually grow.

So, the way to make this market more competitive is by allowing Sprint and T-Mobile to merge, to create one third viable competitor that will bring competition to America.

Mr. ARMSTRONG. Thank you, and I think you and I can probably have a longer conversation than 20 seconds will allow about what happens, what potential pitfalls exists if Sprint does shrink and raise prices and how that looks to your current economic outlook. The type of company you are now versus the type of company you'd foresee in four years.

Mr. CLAURE. It will be a smaller company, as I said, and, more importantly, it will make the other two much, much stronger. As we talk about market dominance, they will actually become a lot more dominant if that would be the case.

Mr. ARMSTRONG. Thank you.

Mr. CICILLINE. Thank the gentleman.

I now recognize the gentle lady from Pennsylvania, Ms. Scanlon, for five minutes.

Ms. SCANLON. Thank you. So, the major purpose of our antitrust laws is to address the impact of corporate consolidation on the public. So, I wanted to try to focus my time on the impact of the proposed merger on the consumers and workers in my district, which is Pennsylvania 5. It is South Philadelphia, all of Delaware County and part of Montgomery County, Pennsylvania.

So, Ms. Scurato, and I note that you are a Villanova Law grad, which is in my district, your testimony that you submitted talks about the harm to price-conscious customers in low-income communities and communities of color. Would that also include seniors?

Ms. SCURATO. Yes, to the extent that they are price-conscious customers, it would include seniors.

Ms. SCANLON. Okay. You talk about—I am sorry. Losing my place here. You have got a chart on Page 11 of your testimony that looks at major markets and the percentage of market held by Sprint and T-Mobile.

Can you explain the significance of that chart with respect to the Philadelphia region?

Ms. SCURATO. Sure, absolutely. So, this is a percent of the market that Sprint and T-Mobile owned as a company or they own as a wholesale partner. It actually shows what percentage of the market they actually have in that district, in Philadelphia.

Ms. SCANLON. What is the impact of a merger on the Philadelphia region if they have, what did you say, 40–46 percent of the market?

Ms. SCURATO. So, the impact is that the price-conscious customer doesn't have that robust competition between Sprint and T-Mobile in order to keep prices low.

Ms. SCANLON. Is this what you would describe as a highly-concentrated market?

Ms. SCURATO. Absolutely.

Ms. SCANLON. Okay. As I understand it, your testimony is that in a highly-concentrated market, that elimination of choices is what tends to drive prices up?

Ms. SCURATO. Correct.

Ms. SCANLON. Okay. Mr. Shelton, you kindly attached Exhibit A to your testimony that has the distribution of Sprint and T-Mobile's postpaid and prepaid stores in various regions and one of them that you have highlighted there is Philadelphia.

Mr. SHELTON. Yes.

Ms. SCANLON. You have that? Does that also show there is fairly highly-concentrated Sprint and T-Mobile coverage and retail stores there?

Mr. SHELTON. Excuse me. I didn't hear you.

Ms. SCANLON. Does your graph indicate with respect to the Philadelphia region and the concentration of T-Mobile and Sprint retail stores?

Mr. SHELTON. Yes.

Ms. SCANLON. What is the impact in your estimation of the merger on retail workers if the merger goes through?

Mr. SHELTON. Well, obviously, as you can see, these stores are very close together in most of these places. Not only that, but as I said before, 84 percent of all their stores are owned by authorized dealers, owned, and operated by authorized dealers. So, when T-Mobile says that they are going to offer a job to employees, that doesn't mean anything to authorized dealers' employees and when you have this many stores, as I also said before, twice what AT&T or Verizon would have if this merger goes through, obviously they are going to get rid of some of those stores and those stores are probably going to be authorized dealer stores and the employees in those stores.

Ms. SCANLON. Okay. Thank you. So, we do have these concerns about the impact on consumers that less competition could lead to higher prices and consolidation of stores could lead to less jobs.

So, Mr. Legere, how are these four to three mergers so different from traditional mergers where we have the concern about lessening competition?

Mr. LEGERE. Thank you very much for the question. I think I have tried to be very clear that going from two to three is going to increase competition. In cities that have a high concentration of share, we run this business on nationwide advertising, nationwide pricing. We don't price particularly down to a neighborhood and in the lower end of the market, when we bought Metro–PCS, where the main concern was the same, Metro–PCS customers had 12 times increase in the data usage and a four percent decline in price. So, the low end of the market has been a high beneficiary and we would expect that to be here.

Mr. Shelton keeps talking about the authorized dealers. Boost, Virgin, and Metro are pretty much heavily concentrated in authorized dealers, and we have made it clear we are going to run these brands as businesses as the way they are now. We can't make job offers to employees that aren't ours, but we can run these businesses. We can segment the market so that Metro and Boost and Virgin all have a clear role to play, and with Sprint and T-Mobile stores, we can offer jobs to every person.

Ms. SCANLON. I think Ms. Sohn was looking to respond.

Ms. SOHN. Yes, this is not a two to three merger. This is a four to three merger. We don't have to have three equal-sized players to compete. A Sprint and T-Mobile—by the way, T-Mobile became T-Mobile after the Justice Department blocked the merger of AT&T and T-Mobile. That is when they became the un-carrier and wisely hired this man to my right.

You know, they are mavericks. They not only compete with AT&T and Verizon, but they also compete with each other, and as we have seen not only in Europe and I don't know why Europe is different, it is actually smaller, so I would think that if you are shrinking from four to three in Europe and it is bad and you have double digit price raises, it is going to be worse in the United States.

There is no Rule that says that everybody has got to be the same size and, in fact, three is an invitation to collude rather than compete.

Mr. LEGERE. Can I make one final comment since the word "collude" was used?

Mr. CICILLINE. The time has expired, but we are going to get back to you.

I am going to go to Mr. Neguse from the great State of Colorado for five minutes.

Mr. NEGUSE. Thank you, Mr. Chair.

Mr. Claure, I want to talk a little bit about Mobile Virtual Network Operators. So, you can kind of correct me if I am wrong here. My understanding is that Sprint is one of the largest providers of roaming contracts in rural America. Is that a fair characterization?

Mr. CLAURE. We provide it to both mobile—as you call it, MVNOs and to rural America. They are our customers.

Mr. NEGUSE. So, I represent a district that is both urban and rural, quite a few rural counties in my district in the Second District in Colorado, and while I understand that T-Mobile has made a commitment with respect to legacy rate plans for the New T-Mobile in terms of maintaining those plans for three years after the merger, am I correct that that commitment does not extend to MVNOs that currently rely on Sprint for wholesale service?

Mr. CLAURE. So, I would let Mr. Legere answer that since he is going to be running the new company, but there is one enormous MVNO in the United States and that is a company called Tracfone. I think they have something liked 20 something million customers. Tracfone basically has endorsed this merger. They sent a letter saying this merger is good for consumers.

Mr. NEGUSE. I understand that. I don't mean to interrupt you, Mr. Claure, but I guess I will just give it to Mr. Legere.

I am trying to get to this question of whether that price commitment will extend to this piece of the market, since that piece is such a huge component of the ability for folks in rural America to be able to access.

Mr. LEGERE. Thank you, Congressman. I will go even one step further.

Not only will we honor the agreements that both Sprint and T-Mobile have, if there is any MVNO that is concerned about them not having the ability to get the rates that they have now, I will lock in a contract with any one of them that wants to take their rates now and lock it in for as long as they want.

Prices are going to go down in that market, as well, especially since I can't think of an MVNO agreement where prices ever went up or stayed flat. For somebody who wants to lock it in, I am your guy. I will meet right out in the hallway here.

Mr. NEGUSE. Thank you for your answer, Mr. Legere.

Mr. Claure, I want to follow up—use the remaining time I must follow up on a question that my friend from North Dakota posed around kind of the reasoning for this merger, particularly as it relates to Sprint's standing in the market.

My sense, based off what I have read, is you have made statements previously that the path that Sprint is on, is not sustainable in terms of the path forward. I think you referenced to the gentleman from North Dakota that Sprint would have to be a smaller company. Am I characterizing your statements accurately?

Mr. CLAURE. That is correct.

Mr. NEGUSE. Okay. So, what I am struggling to reconcile is from your January 31st, 2019, press release detailing the first quarter results in 2018 of Sprint, and I will just go through some of these.

Postpaid service revenue grew year over year for the first time in five years. Prepaid service revenue grew year over year for the fifth consecutive year. Net operating income of 479 million, 12th consecutive quarter of operating income, sixth consecutive quarter of net additions, 10th consecutive quarter of net additions in the business market.

I mean, those don't sound like metrics of a company that would be getting smaller. It sounds like a company that is getting larger and maybe you can adduce.

Mr. CLAURE. Sir, with all due respect, the only metric that matters in business is whether a business has the ability to generate cash or not and if you continue reading the press release, Sprint is expected to generate a negative free cash flow of a billion dollars this year.

A company that doesn't generate free cash flow doesn't have the ability to invest. A company like Sprint has $40 billion in debt and the only way we can continue to invest is if we borrow more money and if we borrow more money, the only way to pay for it is we are going to have to increase prices and I have said that prior to this merger, the only way Sprint will continue is basically by increasing its prices.

Mr. NEGUSE. Well,—

Mr. CLAURE. Now just to finish, we do not—as I said, we are generating negative free cash flow. That means we spend more money than money that is coming into the company.

Mr. NEGUSE. I am going to give the witness a chance to respond to that, but I would just follow up to say—and again part of this is just reconciling the statements that the company has made with respect to its financials with the justifications for the merger, because what I am trying to glean from your written testimony focused on the need to be able to make more capital investments, and yet in your press release, you talk about the fact that network investments year to year have doubled, which I understand were reduced drastically in the years prior, but nonetheless, are now on the rise.

There has been a lot of conversation about 5G. I read a letter that Sprint issued in the New York Times just yesterday essentially to customers far and wide with respect to one of your competitors and in that letter, it made clear to me that the Sprint—its plan is to be the first carrier in the United States that has mobile 5G later this year. So, again, I am trying to understand that difference between the position of the company and your testimony.

So, if you will indulge me to give the witness a chance to respond to that.

Mr. CICILLINE. The gentleman's time has expired, but the witness may answer the question.

Mr. CLAURE. Great. So, we do plan to deploy 5G in a very limited area. We said it. It is specific cities around the country, but we do not have the capability to offer a true nationwide 5G because we lack low band spectrum to do it throughout the country.

Now when you see the metrics that you see, yes, Sprint has been getting better. When we started Sprint in 2014, we used to lose $5 billion. Today's company is barely break even and generating minus $1 billion. So that limits our ability to invest going forward.

Mr. CICILLINE. Thank you.

The chair now recognizes the gentle lady from Georgia, Ms. McBath, for five minutes.

Mrs. MCBATH. Thank you and thank you to all that are here sharing your views on this proposed merger.

We have heard a lot of talk today about the potential effects of this deal and obviously I am not an antitrust lawyer, but it doesn't take an antitrust lawyer to see that there are real reasons to be concerned about how this proposed merger might harm consumers and workers.

Our economy relies on robust competition and my constituents in Georgia don't need a law degree to tell them the difference between having four phone plans to choose from or just three. You don't need an economist to tell you that a company doesn't need two phone stores on the same block or that if you work at one of those stores, it is about to close and that you are going to need a job, and as it was stated here earlier by the Communication Workers of America, they project that 28,900 jobs would be lost due to this merger.

So, my question for you, Mr. Legere, is, on February 4th, T-Mobile committed to make available the same or better rate plans as those offered by T-Mobile or Sprint for three years. So why not four or five years, and why do we need this promise if this deal is to be such a good deal to consumers?

Mr. LEGERE. Thank you very much for the question, and I am happy to explain that. My business plan has prices going down the whole time. The panel has said several times that our own modeling showed prices going up in the first three years. That is not true.

What happened is the build-out of the network takes three years. An economist inserted price pressure in the first three years as a theory as to what could happen before the capacity would go up. That is not my business plan. So, what I decided to do is make the commitment to the FCC. I will keep every rate plan that everybody has and keep it for three years because at the three-year point when the capacity is significantly built, there was no question from all the theoretical economists about what would happen to price.

Mrs. MCBATH. Ms. Sohn, do you have any response to that answer?

Ms. SOHN. I want to repeat what I said earlier in my testimony, that this pricing commitment, which, as you mentioned, is good for a limited time only, is an admission that post-merger, there is not going to be enough competition in the wireless market to constrain price increases. He is basically saying I have got to do this. I have got to make this promise and I will get back to promises, promises. Who is going to enforce these vague promises?

I will also make another point. After the February 4th letter several people filed with the FCC showing how many loopholes there were in this pricing commitment and T-Mobile had to file an eight-page letter explaining why this was simple and ironclad.

Now if you have got to take eight pages to explain why your pricing commitment is ironclad, it ain't ironclad.

Mrs. MCBATH. Thank you. Mr. Shelton, Sprint and T-Mobile have promised to offer employees new jobs if they are affected by a store closure.

What kinds of jobs might those be and tell us from your research, what kinds of jobs would those individuals be asked to take?

Mr. SHELTON. There is no way to tell what kind of jobs they might be. There is no way to tell what kind of wages they might make. There is no way to tell where they are going to work. There is no way to tell where they will be forced to transfer to go to work, and we still have 88,000 people who work for authorized dealers that haven't been promised anything and those stores are going to close, mark my words.

Mrs. MCBATH. Thank you so much. I would like to yield the rest of my time to Mr. Neguse.

Mr. NEGUSE. I thank the gentle lady from Georgia.

Ms. Sohn, if you care to opine on the kind of colloquy Mr. Claure and I had previously, I just wanted to give you a chance to be able to.

Ms. SOHN. Thank you so much. So, it is true that in the third quarter of 2018, Sprint had negative cash flow of $908 million but that is because they built up a large reserve of cash and now they are spending it on CAP–X. They spent $1.4 billion in the immediate prior quarter—oh, excuse me. They spent $1.4 billion on their network in the third quarter. That is why they had negative cash flow. In fact, in the prior quarter, so Q2, Sprint had positive cash flow of $525 million.

Let me say one other thing. Nobody has talked about SoftBank. SoftBank is like overflowing with money. It has got $31 billion in cash and cash equivalence across its portfolio. Its Vision Fund has more than $90 billion in capital which it invests in cutting edge technology companies and there is more on the way. They are going to have an IPO of their Japanese Mobile Division and they are listing the offering at $30 billion. So, there is money there. It just needs to be spent.

Mr. NEGUSE. I yield back.

Mr. LEGERE. Can I reply now?

Mr. CICILLINE. The time of the gentleman has expired. I am going to recognize myself for five minutes.

So, I want to start with, there has been a suggestion somehow, and I wasn't good in math, but there has been a suggestion that we are going from two to three, which just seems to me a really silly claim.

I mean, T-Mobile currently represents 18 percent of the market and Sprint represents 14 percent of the market. That, going from two to three, acts as if those are non-existent players in the market and it seems to me that this is clearly not true. This is a very substantial part of the market and so I think you need to be honest.

This is a transaction that takes four companies and makes it three, and the other question is, what is the impact on consumers and workers and costs, from my perspective.

So, I want to start with, first, there has been a lot of discussion about the projected impact on consumers in terms of costs, and I take Mr. Legere at his word that he intends as CEO to keep costs down for the first three years, but, of course, this is not just something decided by a single individual. There is a market that will have some impact on whether that happens or not.

You have shareholders that you are responsible to and you simply can't say, look, I am just going to keep my prices lower, and we are going to lose money because I want to do that personally. There are a bunch of duties you have, fiduciary duties, and market conditions, and what I really want to focus on is the testimony of Ms. Scurato, who references testimony from T-Mobile's economist, a firm called Cornerstone, that acknowledged that price increases are likely and that that was referenced in the DISH filing.

So, I want to start really with you, Ms. Scurato. It seems like that was a conclusion that is consistent with other history in this sector and the reduction from four to three. Would you just explain a little bit about their response, and then I want to ask Mr. Legere to respond?

Ms. SCURATO. Sure. Thank you. So, in the Cornerstone study, it actually speculates that lower-income customers may be more willing to pay for better service than higher-income customers because they rely on smart phones for their only access to the internet. So that is part of the Cornerstone study, and again, DISH's economist, when looking at this study, they have concluded that Sprint and T-Mobile's own economists have predicted significant price increases and that those harms are going to disproportionately impact low-income consumers.

Mr. CICILLINE. So, Mr. Legere, I applaud both T-Mobile and Sprint have been, most people would recognize, scrappy, aggressive players in this market and it has resulted in maybe not better experiences for workers, according to Mr. Shelton, but at least better experiences for consumers, lower costs, more innovation, more choices. That is what competition is intended to promote.

So, it is hard to understand, both in terms of your own economic conclusions of your economists that prices are going to go up and what we know about antitrust law and competition broadly, that less companies is less competition which produces higher prices. Why isn't this presumptively anticompetitive and not in the best interests of consumers, American jobs, or prices? It seems kind of—

Mr. LEGERE. Thank you, Mr. Chair. Several things. You did refer in the beginning in your comments about being a CEO with a fiduciary obligation to shareholders, and I made it very clear that the business plan that I have shown to shareholders, that I have taken to rating agencies, has price declines from day one down.

Not what we keep hearing about here is giving credence to DISH doing economic modeling.

Mr. CICILLINE. It is not—I am sorry to interrupt, but it is not DISH doing it. It is your economists, a firm called Cornerstone.

Mr. LEGERE. DISH's interpretation. I will tell you one of the reasons that the FCC shot clock is currently stopped is that we provided tremendous amount more information about the years '19 to '21 because this was such a question.

Prices are going down and, sir, if you will give me that chance on the collusion comment because she made it, if I can just make this comment,—

Mr. CICILLINE. Sure.

Mr. LEGERE. —which was, T-Mobile's done a great job as a young carrier, but it didn't just come with hard work. We got $3 billion worth of cash and spectrum from the AT&T breakup and we did a merger with Metro–PCS. So sometimes those things are required.

The un-carrier's brand is all about taking it to AT&T and Verizon. Those two wouldn't even speak to me if I was in a dark room alone with them and the whole brand—

Mr. CICILLINE. Mr. Legere, I understand that. Our goal here is not whether you get to take it to AT&T and Verizon. Our goal in deciding whether this merger makes sense, is in the public interests, is if it is good for consumers, it is good for American jobs, and whether it will result in more choice and lower prices. So, I get the sort of competition view as the CEO of the company, but that is actually not part of the equation.

The equation really from my view is does it produce more choice, more competition, and lower prices for consumers?

Mr. LEGERE. Which it has, sir, in the years that I have been CEO of the 75,000 jobs—

Mr. CICILLINE. No, I understand. I guess the other thing I want to ask is you keep saying this three-year window. So, I take it that even you aren't able to make a representation that after this three years—

Mr. LEGERE. Prices are going down.

Mr. CICILLINE. Forever?

Mr. LEGERE. Prices are going down.

Mr. CICILLINE. But forever.

Mr. LEGERE. Business plan for the entirety of this plan.

Mr. CICILLINE. Forever?

Okay. That doesn't seem credible to me. Forever, you are not going to be there forever. I guess that is what was worrisome to me, is I don't think we should be looking at transactions like this and basing an approval or disapproval on your personal judgment or assessment that you are going to behave in a certain way as—

Mr. LEGERE. From here to 2024, there is going to be an eightfold increase in capacity. There is going to be an 87 percent decline, and the unit cost is going to go up.

Mr. CICILLINE. I got that.

Mr. LEGERE. They are going to have 10 times more data, six percent decline.

Mr. CICILLINE. So, I am going to just indulge myself for a couple minutes.

Ms. Sohn, could you respond to this idea? I know in your testimony you spoke about the representations that were made by T-Mobile and Sprint to Wall Street and how that ought to be relied upon, but also how it conflicts with your own analysis of this, and then I have one final question for Mr. Shelton.

Ms. SOHN. Yes, thank you. I mean, look, it is axiomatic that companies seeking to merge will tell Wall Street that everything is wonderful and tell DC that everything is falling apart, and we talked about that specifically with Sprint and Mr. Neguse which did a really great job of talking about how 2018 was a banner year and the third quarter we delivered solid financials.

Mr. LEGERE. That would be a leap.

Ms. SOHN. That is just one example, also, we didn't talk about the 5G because the promise of 5G, which both companies have been making, that is not merger-specific.

Both companies have been promising pre-merger a nationwide 5G network. That is what they have been telling Wall Street. Now they are going to tell you it is deeper, stronger, bigger use your adjective, but that is what they have been telling Wall Street before this merger was concerned.

Mr. LEGERE. Both totally false.

Ms. SOHN. If I could, Mr. Legere , I wouldn't mind just finishing. I think it is important to note that both are putting their money where their mouths are.

They are committing $5 to $6 billion annually until 2020. That pretty much equals—comes pretty damn close to the $$0 billion that they talk about if this merger is consummated.

One last point, if I could. There is so much talk about the race to 5G, the race to 5G. Well, ask AT&T, ask Chair Pai, who I rarely agree with, and ask ABI Research, which is a leading research company in this space, and they all say the U.S. is winning. They are going to win, and they are going to be winning it at least for the next two years.

So, I would not worry, Mr. Armstrong, about losing a race to 5G because we are winning because these companies are investing boatloads of money.

Mr. LEGERE. Mr. Chair, I just have to say I find the comments that were made about public company CEOs saying whatever they need to say to Wall Street markets being insulting. It is a legal obligation we have to say exactly what is taking place in the business, and the 5G integration of the two companies is dramatically different than what—

Mr. CICILLINE. I understand that. I think we are trying to reconcile two very different presentations.

I want to just ask Mr. Shelton. You have made reference to the impact of this transaction on jobs and particularly you made reference to people being unrepresented in these companies, and I will disclose my own bias, that I think we can see clearly, that when people are represented by a union, they earn better wages and better benefits, and we don't want to just preserve jobs. We want to preserve good-paying family-supporting jobs.

So, I wonder if you would just, as my final question, talk about what is the impact on jobs and your assessment—I know there is an assessment that was done by economists for CWA that demonstrates significant job loss and that the aggregate may be as much as $543 million in losses to workers.

I think one of the big priorities of this Committee and this Congress is doing everything we can to protect good-paying American jobs, and if you could speak a little bit on that, I will give Mr. Legere an opportunity to respond.

Mr. SHELTON. First, on the jobs, we believe that there will be 30,000 jobs lost if this merger goes through. We are not alone in that. There are some Wall Street firms that maybe not 30,000 but 20,000 jobs will be lost if this merger goes through.

The merger is based on $43 billion in synergies. Synergies, as everybody knows, is a euphemism for job cuts and what is going to happen in these stores if this merger goes through is absolutely job cuts, because they are not going to be able to live with stores across the street from each other all over the country when they will have twice the stores that AT&T or Verizon has. It is just not going to happen and to believe that it is going to happen, I have a nice bridge I would like to sell you in New York.

Mr. CICILLINE. Thank you. Mr. Legere.

Mr. LEGERE. Yeah. Thank you. Again, as it has been all day, bad assumptions, bad math.

Mr. Shelton should be ashamed of himself with some of these—

Mr. CICILLINE. I will ask you to refrain from comments like that.

Mr. LEGERE. Yeah. I withdraw that statement, but I would say T-Mobile, every single employee is a shareholder. I give them stock every year. They are all owners. We have won every award as the top places to work in America and that is because of the way we treat our employees.

Our employees have the right to unionize if they choose and, in fact, one of our stores has, but the rest have significantly found that the relationship with—

Mr. CICILLINE. So, Mr. Legere, as you sit here today, Mr. Claure, would you be willing to commit as part of this transaction to not interfere with efforts by your employees to organize?

Mr. LEGERE. We don't interfere.

Mr. CLAURE. We don't do it today. Our employees have made their choice that they don't want to be part of a union, but that has always been an option.

I want to add one last thing since I have not had a chance. It is crazy to say that we are going to fire 30,000 people. Sprint has 28,000 people. Do the math.

Number 1, It is absolutely impossible.

Number 2, the gentleman to my left, I appreciate what you do in terms of protecting the American workers. You are contractually obligated to support AT&T, and it is AT&T behind this to try to block this merger because they know what is going to come.

Third, I don't appreciate the comments, the bullying intimidation tactics, what you said. We don't. When employees come to work, they like working for Sprint and T-Mobile, and what John said is perfectly fine. Talk to employers in America. So, that is pretty much the fact. But saying that we are going to take out 28,000 employees or 30,000 employees, that is irresponsible because this causes fear among our employees who are watching right now, who know that it is absolutely not true.

Mr. CICILLINE. Mr. Shelton, you want to respond before I ask my very last question?

Mr. SHELTON. Thank you, Mr. Cicilline. They keep using the word "employees" and they are going to—there is no doubt—there can't be any doubt in anybody's mind they are going to take these authorized dealers and they are going to slash and burn and those are American jobs that they are going to cut and they are going to cut 30,000 of those jobs and as far as Sprint and T-Mobile employees or at least T-Mobile employees being able to join unions, because that is what Mr. Legere just said, they went as far and have been found guilty of forming a company union to stop the union from organizing people at T-Mobile and that hasn't been done in this country since the 1930s. So, that is how much they are against their employees becoming unionized.

Mr. CICILLINE. Thank you, Mr. Shelton.

I am going to ask unanimous consent that a number of letters, both in support and opposition to the merger, be made a part of this record, and also a letter that I received and Ranking Member received from *freeconferencecall.com*, Mr. Erikson.

[The information follows:]

MR. CICILLINE FOR THE RECORD

FreeConferenceCall.com®

March 7, 2019

The Honorable David Cicilline
Chairman
Subcommittee on Antitrust, Commercial, and Administrative Law
House Committee on the Judiciary
2138 Rayburn House Office Building
Washington, DC 20515

The Honorable F. James Sensenbrenner
Ranking Member
Subcommittee on Antitrust, Commercial, and Administrative Law
House Committee on the Judiciary
2138 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cicilline and Ranking Member Sensenbrenner:

First, I would like to applaud the House Judiciary Committee's Subcommittee on Antitrust, Commercial, and Administrative Law for convening the upcoming hearing regarding the proposed merger of T-Mobile and Sprint.

One issue that I believe merits the Subcommittee's attention is T-Mobile's anticompetitive "Out-of-Plan Program," which is designed to get a subset of its subscribers to stop making calls— calls to run their businesses, calls to pray, calls for support. It is designed to destroy free conference calling and other dial-in applications. Worse yet, T-Mobile has deceived the public about the existence of this program and the reasons it was put in place. T-Mobile has remained the outlier in this discriminatory pricing policy – despite implementing it for nearly two and half years, no other mobile, fixed, or cable telecommunications provider has followed suit.

I am greatly concerned that a merger of T-Mobile and Sprint may proliferate this anticompetitive practice across the new, combined company. While FreeConferenceCall.com is agnostic about the merits of the merger itself, the negative market effects of the "Out-of-Plan Program" deserve the scrutiny of the House Judiciary Committee.

T-Mobile's discriminatory pricing program quietly launched in October 2016, with the sole intent of stopping its subscribers from making calls to certain domestic telephone numbers. This T-Mobile pricing program indirectly targets immigrants, religious groups, non-profit organizations, federal, state, and local government agencies, and small business owners that rely upon the "unlimited" calling plans T-Mobile marketed to them. After deceiving the public into purchasing unlimited wireless plans, and in some cases long-term contracts, T-Mobile instituted a policy to start charging an additional $.01 per minute for calls to a select number of free calling applications.

The ongoing, nebulous T-Mobile incremental pricing policy creates a category of telephone numbers that T-Mobile deems as "out-of-plan numbers." When a T-Mobile unlimited subscriber calls a telephone number that T-Mobile has deemed "out-of-plan", T-Mobile interrupts the call with a recorded message, notifying the caller that they are calling a telephone number that is "out-of-plan" and that an extra charge of one cent per minute will be incurred. The message then encourages the caller to avoid the charge by "hanging up." This is what occurs for the T-Mobile subscriber who purchased a post-paid plan, paying a monthly fee for unlimited domestic long distance calls. T-Mobile subscribers who purchase pre-pay plans, who tend to be consumers with far less credit and typically poorer than post-paid consumers,

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hear a different message. Those subscribers are notified that the call cannot be completed unless the subscriber purchases an additional special plan at a substantially higher monthly cost. The call is then disconnected.

The first time a T-Mobile subscriber learns of this policy is usually when they are trying to make a call. There is no list of "out-of-plan" numbers publicly available or even provided upon request. T-Mobile customer service representatives have informed its subscribers that "the list of out-of-plan numbers can change on a daily basis" and that the only way to know for sure if a fee will be assessed is if the interrupting message is played. The interrupting message is the lynchpin of the program because it causes the consumer, who is likely financing the purchase of a cell phone via contractual payments and not expecting any additional charges to be assessed, to hang up.

The little information T-Mobile provides to the public about this policy is false and misleading. Immediately before the launch of the "Out-of-Plan Program" T-Mobile updated its Terms and Conditions to vaguely allude to the fact that T-Mobile could charge a subscriber extra for "certain calls" without any detail or explanation as to when and why. The "FAQ" webpage on T-Mobile's website claims that calls to certain telephone numbers have always been considered as "out-of-plan." This is not true, as the Terms and Conditions were updated only the month before the creation of this "out-of-plan" concept.

T-Mobile's website also claims that calls to out-of-plan numbers, which it describes as calls to "services like chat lines, conference calls and radio broadcast lines," tend to cost more for T-Mobile to complete. This assertion is greatly misleading. Given the economy of intercarrier compensation designed and governed by the FCC, every single call a T-Mobile customer makes outside the T-Mobile network will require T-Mobile to pay a per-minute charge to terminate the call. Thus, the more calls a customer makes under an "unlimited plan", in its own estimation the less profitable T-Mobile is on that customer.

The "Out-Of-Plan Program" is discriminatory in its design and the harm is two-fold. The telephone numbers that T-Mobile considers to be "Out-of-Plan" are those associated with a select number of successful businesses that run content-oriented or free conferencing applications, such as FreeConferenceCall.com. These applications partner (in many cases) with local phone companies to connect calls to the applications. The "Out-of-Plan Program" greatly harms these businesses and the phone companies who rely upon the revenue derived from connecting these calls. By some measures the volume of T-Mobile calls has been reduced by over 50% to these phone companies and the businesses running the conferencing and other applications. It is noteworthy that T-Mobile designates a number to be "Out-of-Plan" based on the type of application being called and the company providing the application. For example, a conference call using FreeConferenceCall.com is "Out-of-Plan" whereas a conference call using AT&T or Verizon or Webex conferencing are not "Out-of-Plan", even when the conference call access numbers for all of these services are from the identical area codes. Audaciously, T-Mobile will remove a number from the "Out-of-Plan" designation if the targeted application moves to host its services with one of T-Mobile's strategic telecommunications hosting partners. T-Mobile is therefore using consumer pricing to determine which applications should live or die, and which application hosting companies should thrive.

The harm to the public and the organizations that rely on the applications T-Mobile has targeted is staggering. For example, many different churches and religious organizations use FreeConferenceCall.com to hold daily or weekly prayer sermons to followers around the world. Prayer

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calls have all but stopped as a result of the T-Mobile "Out-of-Plan Program" because the extra charge has greatly deterred participation. Grassroots organizations across the political spectrum cannot coalesce remotely the ways they once did. Political campaigns, government agencies, and most notably small businesses have lost a vital tool to communicate. The discriminatory nature of T-Mobile's program is evident in the harm it causes to dial-up radio broadcast applications as well. These applications are extremely popular with immigrants who rely upon these applications for news and information from their native country. As has been the case recently with crises in Haiti, dial-up radio was the mainstream source for Haitians in the diaspora to understand events impacting their families. Because T-Mobile's pricing program targets calls to these very applications, immigrants no longer have the access to the information they seek.

Finally, T-Mobile has used the discriminatory pricing program as a tool to coerce favorable business deals. T-Mobile knows the devastation that befalls a business or organization when its telephone numbers deemed "Out-of-Plan." It uses the program as a carrot, coercing local phone companies hosting such applications to enter into direct deals with T-Mobile on terms most favorable to T-Mobile in order to be exempted from the "Out-of-Plan Program."

I appreciate the Subcommittee's consideration of this very important matter that currently affects millions of consumers. The "Out-of-Plan Program" is as devastating to FreeConferenceCall.com and its employees, as it is to other targeted companies and applications. If the proposed merger is approved, this discriminatory pricing policy will likely spread to the "New T-Mobile," and directly impact the 54 million Americans who currently subscribe to Sprint's services. Should the program become the policy of the "New T-Mobile," its damage will become more widespread. I submit that it is critical that the Subcommittee consider and attempt to offer remedy to current pricing practices that, if not rectified, can truly hurt economic growth, productivity, and even the freedom of Americans to assemble.

If you, or other Members of the Judiciary Committee or the Subcommittee on Antitrust, Commercial, and Administrative Law have additional questions or need additional information on this important topic, I stand ready to assist in any way that I can.

Sincerely,

David Erickson
Founder and CEO

STATEMENT FOR THE RECORD OF

GEORGE P. SLOVER
SENIOR POLICY COUNSEL

JONATHAN SCHWANTES
SENIOR POLICY COUNSEL

CONSUMER REPORTS

BEFORE THE

SUBCOMMITTEE ON ANTITRUST,
COMMERCIAL, AND ADMINISTRATIVE LAW

HOUSE COMMITTEE ON THE JUDICIARY

ON

THE STATE OF COMPETITION IN THE WIRELESS MARKET: EXAMINING THE IMPACT OF THE PROPOSED MERGER OF T-MOBILE AND SPRINT ON CONSUMERS, WORKERS, AND THE INTERNET

MARCH 12, 2019

Consumer Reports submits this statement to assist the Subcommittee in its examination of the proposed merger of T-Mobile and Sprint, to explain our concerns regarding how the merger would impact the hundreds of millions of American consumers who increasingly rely on access to mobile phone service to conduct their lives, stay in touch with friends and family, get information they need, find goods and services, and get help in an emergency.

Since our founding more than 80 years ago, Consumer Reports has worked to ensure that the marketplace works for consumers. One key to that is ensuring that consumers get the benefit of competition that empowers them with meaningful choice, so businesses are motivated to provide more affordability, better quality, and new innovative thinking, in response to consumers' wants and needs. That is why, from our founding days, we have been strong supporters of the antitrust laws, including effective merger enforcement as an essential protector of competition.

Cell phones are now virtually ubiquitous – 95 percent of American adult consumers have a mobile phone, and 77 percent of them have a smartphone.[1] One in five of them use their phones for all their internet access.[2]

The wireless marketplace is dominated by four giant nationwide carriers: Verizon, AT&T, T-Mobile, and Sprint. The Big Four account for over 98% of the market.[3] Still, with these four alternatives, and especially with the maverick pressure flexed by T-Mobile and Sprint, consumers are currently benefiting from a substantial amount of competition.[4] This merger would significantly curtail this competition, leaving consumers paying more and getting less.

By the usual measurements, the proposed merger of Sprint and T-Mobile is presumptively anti-competitive in violation of the Clayton Act. Under the Herfindahl-Hirschman Index calculation – widely used for half a century in merger investigations – taking the sum of the squares of all the market shares, a number above 2500 shows the market is highly concentrated – the highest designation the agencies use, short of absolute monopoly. The wireless telecommunications market is already above 2800. Under the antitrust agencies' Horizontal Merger Enforcement Guidelines, in a highly concentrated market such at this, any merger that would increase that number by more than 200 is presumed to cross the line.[5] This merger would increase the number by more than twice that amount – by more than 400. These concentration levels are well into the red zone.

[1] Mobile Fact Sheet, Pew Research Center, Feb. 5, 2018, http://www.pewinternet.org/fact-sheet/mobile/.
[2] *Id.*
[3] https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/.
[4] U.S. Wireless Price Wars Having A Big Impact On Consumers, Forbes, June 27, 2017, https://www.forbes.com/sites/greatspeculations/2017/06/27/u-s-wireless-price-wars-having-a-big-impact-on-consumers/#56ec136a60ca.
[5] *See* Horizontal Merger Guidelines, section 5.3, https://www.justice.gov/atr/file/810276/download.

The merging corporations are attempting to overcome that strong presumption by explaining why those numbers don't really tell the story. And that's what T-Mobile and Sprint are attempting to do, with the Justice Department, the Federal Communications Commission, this Subcommittee, and the public.

Typically, the claims of merging corporations fall into five or six categories:

- First, a claim that their merger will provide important new benefits to the marketplace – ultimately, to consumers.

- Second, a claim that their merger will create cost-saving efficiencies – or, as merging companies often refer to them, synergies – that they say will flow, ultimately, to consumers.

- Third, a claim that unless their merger is allowed, one or both of the companies is going to fail and go out of business anyway, so allowing or denying their merger will not ultimately make any difference in the amount of competition;

  Or a variation on (3), a claim that other market players are so big and so dominant that these two firms also need to get bigger in order to stay in the game.

- Fourth, a claim that even after the merger, the market will remain open to new competition that will come from others, as yet unseen.

- And fifth, a claim that the market is actually bigger, and the market shares actually smaller, because consumers have other choices that are not being taken into account, or other competitors are poised to jump in and offer meaningful new choices.

  Or a variation on (5), a claim that there is actually vigorous competition that defies the usual real-world experience reflected in the high market share numbers, and that that vigorous competition will survive the merger, and will not be harmed by the further market concentration that will result.

And indeed, Sprint and T-Mobile have been making all of these claims. But their claims need to be held up to scrutiny – with a healthy skepticism that recognizes that a corporation is ultimately in business to make profits, and that increasing profits is its objective in seeking a merger. Under its obligations to shareholders, that has to be its objective in any business decision. That motivation is not inappropriate for a business; but it needs to be taken into account in evaluating, with all due skepticism, the claims being made by Sprint and T-Mobile.

We'll briefly address each of these claims.

<u>Promised benefits are uncertain. and may not require the merger, and the harm to competition seems all-too-clear</u>.

First, promised benefits always lead the justifications that are put forward for a merger under scrutiny. But the promises need to get a hard look. To begin with, there needs to be a hard look at whether these promised benefits really cannot be achieved without the merger. The bedrock premise of the Clayton Act, and of market competition, is for companies to strive independently. A merger can be a convenient shortcut for the companies, but it comes at the expense of eliminating one of those independent strivers.

And here the loss to competition seems clear. Sprint and T-Mobile have by turns spurred rivalry that eventually spread as the other of them, and then Verizon and AT&T, were forced to respond. Just three years ago, for example, in August 2016, T-Mobile jumped out in front to offer unlimited voice, text, and data plans. The very next day, Sprint upped the ante with its own unlimited voice, text, and data plan, priced at $100 for two lines. Six months later, Verizon and AT&T began offering similar plans.[6]

As the Horizontal Merger Enforcement Guidelines explain, in a competitive marketplace, companies are always watching each other in assessing whether they need to adjust and offer a better deal to keep the customers they have and try to get even more. Their hope is that they don't have to adjust too much; but competition generally pushes them to offer more than they otherwise would. But as the number of major competitors gets down small enough, the actions and reactions of the handful of companies gets easier for each other to predict, and anti-competitive coordination begins to kick in, through what the Guidelines refer to as "accommodating reactions."[7] When Sprint and T-Mobile no longer have to watch each other, the rewards of becoming an accommodating reactor will get stronger, and harder to resist.

We can see real-world evidence of this playing out just across our northern border, in Canada, where three wireless companies, Bell, Telus, and Rogers, dominate the market, with a combined 89 percent market share.[8] And there are strong indications of competitive complacency and "accommodating reactions." Canada's mobile phone rates are among the highest in the world.[9] And when Bell hiked its monthly plans by $5 per month in January 2016, Telus and Rogers followed suit with their own hikes within a week – the opposite of what we

[6] Cecilia Kang and Michael J. de la Merced, How Would a T-Mobile-Sprint Merger Affect Your Cellphone Bill?, NY Times, Apr. 30, 2018, https://www.nytimes.com/2018/04/30/business/t-mobile-sprint-cellphone-bill.html; *see also* FCC 19th Annual Wireless Report, http://wireless.fcc.gov/competition-reports/mobile-wireless/mw-19/index.html.
[7] *See* Horizontal Merger Guidelines, section 7.
[8] https://www.statista.com/statistics/460099/total-number-of-mobile-subscribers-by-provider-canada/.
[9] https://mobilesyrup.com/2017/12/12/international-telecom-pricing-study-shows-canadians-still-pay-more-than-everyone-else/.

saw happen in our country.[10] As one tech analyst put it, the Canadian carriers raise prices "because they can."[11]

The big benefit Sprint and T-Mobile are promising with this merger is development and deployment of 5G wireless network technology. But that's just the latest shiny new object. And there's no indication that Sprint and T-Mobile need to merge in order to give it to us. Tellingly, AT&T and T-Mobile gave the same pitch for why they needed to merge in 2011 – except then it was 4G. The merger was challenged, and dropped, and as we know, 4G ended up being built anyway – not only by AT&T, and Verizon, but by T-Mobile and Sprint.

Furthermore, a merger is forever. Consumers need the benefits of competition in spurring the development of future innovations – 6G, 7G … and beyond.

<u>Cost-saving efficiencies are uncertain, and may not be shared</u>.

Second, the cost-saving efficiencies that Sprint and T-Mobile are envisioning may not be so easy to achieve. Completely integrating two separate networks into one presents a lot of technological challenges that can be all-too-easily discounted in the corporate boardroom until the actual hard work has to begin. Sprint has already had a similar experience with the challenges and frustrations of integrating two networks, following its 2005 merger with Nextel, later referred to in hindsight as the "deal from hell."[12] Sprint eventually had to write off nearly $30 billion in relation to those integration costs, essentially the entire price it paid for Nextel.[13]

But even assuming that some – or even all – of the efficiencies envisioned are actually achieved, who benefits from that besides T-Mobile? Why would any of those savings be shared with consumers, unless competition forces that?

Although efficiencies are recognized in the Merger Guidelines as potentially relevant, rarely if ever in practice are they deemed sufficient to justify a merger that would otherwise harm competition in violation of the Clayton Act.

For one thing, in order for claimed efficiencies to register, the antitrust agency has to determine that they are real. And for another, that the merger is the only way to achieve them.

And for another, it must be confident that net benefits will actually reach consumers. That means more than just that consumers will get some short-term cost savings – and even that won't happen unless there is still enough effective competition for consumers to have leverage.

[10] http://nationalpost.com/news/canada/why-canadian-cell-phone-bills-are-among-the-most-expensive-on-the-planet.
[11] *Id.*
[12] Heidi N. Moore, Sprint Nextel: Officially a 'Deal From Hell,' Wall St. J., Feb 28, 2008, https://blogs.wsj.com/deals/2008/02/28/sprint-nextel-officially-a-deal-from-hell/.
[13] *Id.*

But it also means there must be broader, enduring benefits for consumers in the post-merger marketplace, into the future.

Efficiencies are easy to claim – and routinely are. But they are harder to substantiate.

And it should be noted that here, a substantial part of the supposed efficiencies are cost savings resulting from eliminating jobs that T-Mobile and Sprint expect to become redundant after the merger. But those jobs are not "redundant" in any sense that resonates with either consumers or competition. In fact, the opposite is true. The jobs in question are an essential manifestation of the existence of two companies competing with each other. The jobs can be eliminated only as a by-product of eliminating that competition and harming consumers.

Sprint and T-Mobile are not headed for failure, and do not need to get bigger to provide attractive choices to consumers.

Third, neither of these companies is headed for imminent failure. They have both been competing fiercely, and setting the bar for Verizon and AT&T. They each have tens of millions of subscribers, and assets valued at tens of billions of dollars.

In fact, neither seems to be seeking to actually revive T-Mobile's claim in 2011 that it needed to merge (then, it was a merger with AT&T) in order to survive. Making such a claim would be quite a stretch. And even if a claim of imminent demise could be proved, merging with a competitor would not be automatically justified under antitrust law. The merger would have to be the absolute last resort, after proving that every less harmful option was attempted. That's what the "failing firm" defense actually requires, as a legal matter.

So instead of claiming that they need to merge in order to *survive*, Sprint and T-Mobile are trying to make a similar-sounding but actually different claim – that they need to merge in order to *thrive*, that they are stuck in a 4G world, and are going to be left behind in the race to 5G, unless they can combine assets and forces.

But both carriers have made clear that they are each independently committed to building a full 5G network. In fact, their plans are already well underway.[14] They don't need to combine forces to do that.

[14] *See, e.g.*, Kris Holt, Sprint is bringing 5G to New York, Phoenix and Kansas City in 2019, The first wave of Sprint's 5G rollout will now extend to nine cities, Engadget, May 15, 2018, https://www.engadget.com/2018/05/15/sprint-5g-new-york-phoenix-kansas-city/ (Sprint's announced initial 5G rollout now includes Atlanta, Chicago, Dallas, Houston, Kansas City, Los Angeles, New York, Phoenix, and Washington, D.C.; T-Mobile's announced plans to launch 5G service in Dallas, Las Vegas, Los Angeles, and New York City in early 2019).

Granted, doing it together might give them a convenient shortcut to create wider 5G coverage faster – or it might not, depending on whether the integration challenges turn out to be a bigger impediment than they expect. The T-Mobile and Sprint claims about the limits of their current spectrum and other assets, why combining them would speed up the 5G process, and how the integration would be managed, have been seriously disputed and are being held up to scrutiny by other technical experts. The Justice Department and the FCC will ultimately determine if those claims hold any water.

But even assuming their accuracy, as a technical matter, that still leaves the question about whether the two of them combining in order to be able to get a more rapid deployment of 5G is of as much importance to consumers as it is to their own business plan. It's not clear that consumers need or want their wireless carrier to have 5G coverage – much less wanting to pay extra for it.

Sprint and T-Mobile might want it. But the whole premise of merger enforcement under the Clayton Act is that it is better for consumers, and for the economy, for companies who want something more to *build* it, not *buy* it – to *compete* with each other, not to *combine* with each other. Making a company stronger faster does not justify making the marketplace weaker.

From the competition perspective, T-Mobile and Sprint do not have to be as big as AT&T and Verizon in order to have a significant impact in the marketplace. Both have nationwide networks and, as we have seen, each of them can – and has – forced AT&T and Verizon to pay more attention to consumers and to offer better and more affordable service. And T-Mobile and Sprint have each been a particular competitive spur to the other.

We can't assume we can count on new competition coming; we need to keep the competition we've got.

Fourth, instead of resting our hopes on new competition appearing later, better to keep what we've got. If these two giant companies, who have the experience and know-how that comes from competing in the wireless marketplace for many years, tell us that it's just too hard to make a go of it on their own, how can they say we should expect a new upstart to start from scratch and climb up to where they already are?

Sprint and T-Mobile say a revolutionary market convergence is upon us, with tech giants poised to enter and completely upend mobile phone service as we know it. "Here comes Comcast! And Google!" Maybe. Let's see. We've heard those same kinds of confident predictions offered to justify telecom mergers at various times over the past 30 years. Some of those predictions have come to pass, though generally not on the predicted schedule.

We should not let go of the bird in hand of competition we *are* benefitting from now, for the speculative prospect of convergence that *could* bring new competition should it arrive sometime in the future. Better to wait till that future is here, or is close enough that it is no longer speculative, and can be appropriately factored in based on reliable evidence – on facts. It is premature to count on it now.

Moreover, any new competitor that might arrive at some point would need to connect with and make use of the existing national networks, especially in getting off the ground. That will be far more difficult – and less likely – to accomplish if there has been a major reduction in the networks available to provide competing options.

Again, the understandable desire of Sprint and T-Mobile to get bigger and stronger, and deliver more profits for their shareholders, does not necessarily translate into benefits for consumers, or for the marketplace and the economy as a whole.

The market is four wireless carriers; there is no substitute for mobile phone service.

And fifth, we know the metes and bounds of this market. There is no substitute for mobile phone service. And we know that even with Sprint and T-Mobile both aggressively looking for new plays, competition is not always as vigorous as we'd like, and it would only be harmed by the exit of one of the four main choices now available.

Other potential providers of equivalent service may be coming. As just explained, it is premature to count on that now; and this merger would make that development more difficult, and more unlikely.

Special concerns about harm to prepaid wireless consumers.

Alongside the broader concerns about harm to wireless competition generally, the impact on prepaid service consumers would likely be particularly severe. There are roughly 50 million of these consumers. Many of them have trouble affording the cost of a regular monthly mobile phone plan, and depend on the lower cost of prepaid service with limited use. The resellers, referred to as "mobile virtual network operators," or MVNOs, buy network access from the Big Four carriers at negotiated wholesale rates.

Sprint and T-Mobile are the lowest-cost sellers of network access to MVNOs, and also the dominant sellers, with almost 60 percent market share between them. Currently, they compete vigorously in the prepaid market. For example, last year Sprint's own Boost Mobile MVNO announced it was offering two months' free service to any customer of T-Mobile's MetroPCS MVNO who switched. Hours later, MetroPCS made the same offer.[15]

[15] Edward C. Baig, Boost Mobile founder is against the T-Mobile-Sprint merger: Here's why, USA Today, May 22, 2018, https://www.usatoday.com/story/tech/columnist/baig/2018/05/21/boost-mobile-founder-and-ex-ceo-says-no-t-mobile-sprint-merger/624708002/.

AT&T and Verizon have shown to be not as interested in pursuing the prepaid resale market, which means that, perhaps even more than with monthly plans, Sprint and T-Mobile are each other's main competitors. If they merge, that would be expected to sharply reduce incentives to offer low wholesale rates.[16]

Conditions are not likely to be effective.

Finally, we don't see how the serious competitive concerns with this merger can be addressed with pledges that a merged New T-Mobile will refrain from using its new power to raise prices to consumers, cut corners on quality, cut off or impair access by other mobile service providers, or harm competition and consumers in other ways. What matters is not what T-Mobile and Sprint will promise, even if we grant them the best of present intentions. What matters is what the merged corporation's inherent incentives would be – how they would be altered by the merger from what they are now. And that change will be deep, and enduring.

As Assistant Attorney General Makan Delrahim has noted – and he was far from the first – when there are significant concerns with a merger, expecting that imposing behavioral requirements can fix those concerns unrealistically depends on the merged corporation making daily business decisions, day in and day out, and over the long haul, that run counter to its profit-maximizing incentives – that run counter to its basic business DNA.[17] That's simply not sustainable.

Conclusion

Vigorous competition from – and between – Sprint and T-Mobile has brought tremendous benefits to consumers, in greater choice and affordability. We want to preserve and protect that.

T-Mobile and Sprint describe a number of supposed benefits they see coming from this merger. And those claimed benefits are being weighed carefully by the FCC and the Antitrust Division, and a number of State AGs, in the course of a thorough investigation – against the backdrop of a presumptively unlawful merger. To us, it has become increasingly evident that the claimed advantages from giving Sprint and T-Mobile a shortcut to supposed increased capabilities are not enough to overcome the harms to competition and consumers that would result.

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[16] *See* Capitol Forum, T-Mobile/Sprint: Deal Would Raise Prices in Wholesale Markets, MVNO Executives Say, May 22, 2018, http://thecapitolforum.cmail20.com/t/ViewEmail/j/65DA39A25D6324622540EF23F30FEDED/6061584FF3F54908A0F01D70678E0DEE.

[17] https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar.

March 11, 2019

The Honorable David Cicilline
United States House of Representatives
2233 Rayburn House Office Building
Washington, DC 20515

The Honorable Jim Sensenbrenner
United States House of Representatives
2449 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cicilline, Ranking Member Sensenbrenner, and Members of the House Judiciary Subcommittee on Antitrust, Commercial and Administrative law:

We understand that the Subcommittee will hold a hearing on March 12th entitled "The State of Competition in the Wireless Market: Examining the Impact of the Proposed merger of T-Mobile and Sprint on Consumers, Workers, and the Internet." **We believe that the proposed transaction between T-Mobile US, Inc. and Sprint Corporation is consistent with existing antitrust law because it will be greatly beneficial to consumers. We therefore favor the transaction's completion.**

This merger will promote healthy competition for broadband across the board, both wireless and wireline, in terms of prices, customer service, and deployment of the Fifth Generation (5G) wireless network. This administration has its eye on a nationwide 5G network, and the best way for America to regain its lead is through competition.

Americans can look forward to more competitive pricing for mobile broadband. T-Mobile has a history creating pressure in the wireless market to lower prices and improve service offerings. Without government instruction, they lowered prices and offered innovative services. It was the first company to get rid of phone contracts and contract penalties. The company offers customers choice with unlimited data plans, and video and music streaming as part of its service, while keeping retail costs low.

The New T-Mobile will continue this trend as it competes for subscribers. In a letter to the Federal Communications Commission, Legere explained that "New T-Mobile will make available the same or better rate plans for our services as those offered today by T-Mobile or Sprint."[1]

Their combination bolsters competitiveness in the wireless industry. While both T-Mobile and Sprint would, without the merger, continue to serve their customers; upgrade their networks; and, push towards 5G service, they will be nowhere near as effective without combining their assets. The combined company plans to invest almost $40 billion between 2019 and 2021 to construct its post-merger 5G — three times as much as T-Mobile could have invested alone.[2] According to the companies: "By 2024, the New T-Mobile network will have approximately double the total capacity and triple

[1] John Legere to FCC Chairman Ajit Pai. February 04, 2019.
[2] Public Interest Statement of T-Mobile US, Inc. and Sprint Corporation (June 18, 2018) at 15, available at https://goo.gl/7QeHaJ.

the total 5G capacity of T-Mobile and Sprint combined, with 5G speeds four to six times what they could achieve on their own."[3]

Currently, T-Mobile and Sprint rank 3rd and 4th respectively for wireless subscribers. A post-merger T-Mobile will have 126 million subscribers, making it a closer competitor to Verizon's 150 million subscribers and AT&T's subscribership of 142 million.

Having more robust, cheaper and widely available 5G offerings will also pressure today's wireline providers to improve service, and to invest more heavily in building their own wireless networks to offer customers the mobility they increasingly demand. This will make the wireless market even more dynamic than it would have been without the merger.

We encourage you to assess the broadband market holistically. Wireless 5G and even the current 4G LTE services, are competitive with wireline broadband services. We can expect the speed, capacity, and low consumer cost for 5G service to accelerate "cord-cutting," as Americans increasingly opt for mobile broadband. 5G wireless services promise speeds over 100 Mbps. The combined company plans to provide this kind of service to 90 percent of the country by 2024, but with the two companies trying to deploy two separate networks, reaching that goal would cost an additional $43.6 billion[4] — making this timeline impossible. Combining the two companies' spectrum assets, tower locations and investment in network upgrades will allow the network to have the breadth and depth necessary to deploy 5G throughout the country – in rural and urban areas.

Increased competition among wireless and wireline broadband providers will produce enormous customer benefits. The industry competitive response is expected to result in as much as a 55 percent decrease in price per GB and a 120 percent increase in cellular data supply for all wireless customers. As a result, Americans will not only benefit from better service, but also by paying lower prices for that improved service. In addition, T-Mobile will launch innovative services to serve business, home, and the IoT markets.

In general, when private businesses decide to join forces, government should not stand in the way — absent compelling evidence of actual demonstrable harms to consumers.

The proposed combination will bring undeniable benefits to customers, increase competition for broadband of all kinds, and help maintain America's global leadership in mobile broadband. Thus, the merger should be approved without conditions and without delay.

---

[3] *Id.* at 72.
[4] *Id.*

Regards,

Americans for Tax Reform
President
Grover G. Norquist

James L. Martin
Founder
60 Plus Association

Saulius “Saul” Anuzis
President
60 Plus Association

Steve Pociask
President
American Consumer Institute
Center for Citizen Research

Thomas Schatz
President
Citizens Against Government Waste

Andrew F. Quinlan
President
Center for Freedom and Prosperity

Jeffery Mazzella
President
Center for Individual Freedom

Olivia Grady
Senior Fellow
Center for Worker Freedom

Katie McAuliffe
Executive Director
Digital Liberty

Adam Brandon
President
FreedomWorks Foundation

George Landrith
President
Frontiers of Freedom

Pete Sepp
President
National Taxpayers Union

Mary Adams
Chair
Maine Center Right Coalition

Paul Gessing
President
Rio Grande Foundation

David Williams
President
Taxpayer Protection Alliance

Berin Szoka
President
TechFreedom

RURAL SCHOOLS ASSOCIATION OF NEW YORK STATE
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December 19, 2018

Hon. Kathleen H. Burgess
Secretary to the Commission
New York State Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

RE: Case 18-C-0396 T-Mobile/Sprint Merger

Dear Secretary Burgess:

The Rural Schools Association of New York is a member-driven organization representing the specific needs and particular interests of the small and rural school districts in New York State. We are a state affiliate of the National Rural Education Association, which recently sent a letter to the FCC in support of the T-Mobile and Sprint merger that is attached for your reference.

Our organization was formed to better advocate for rural schools, which are frequently underfunded and politically marginalized. A primary goal of ours is to inform those in state leadership positions of ways to improve educational opportunities in rural school districts. Many of our issues are ongoing, such as how to address declining enrollment and maintain adequate funding levels.

The merger of T-Mobile and Sprint would have a positive, long-term effect on rural schools and the students who attend them. Rural America suffers from underinvestment in mobile broadband. Roughly 14 million Americans still lack access to mobile LTE broadband at download speeds of 10 Mbps, and access to speeds of at least 10 Mbps has remained flat in rural areas over the last several years even as urban areas have seen steady improvements in broadband performance and reach.

Rural educators have talked about closing this digital divide for two decades. But the divide has only grown worse over time and has now begun to manifest itself in new ways as students who lack reliable Internet access at home face new barriers to completing school assignments. This "homework gap" is at its most pronounced between students in rural and urban areas and, today, poses one of the most intractable challenges rural educators face.

The economics of investing in geographically distributed, sparsely populated regions with heterogeneous terrain conditions is inherently unfavorable. Broadband deployment requires assembling spectrum assets, laying fiber, building towers, and acquiring backhaul – activities that require scale and sophistication that far exceeds the efforts of any school district or, candidly, all but the largest wireless broadband operators.

The proposed merger of T-Mobile and Sprint will provide New T-Mobile with a compelling business case to invest in rural America. New T-Mobile has said it expects to invest nearly $40 billion more in its 5G network, much of it in rural America. The combined company can expand services more broadly into rural communities because it can spread the costs of deployment across a larger number of customers. And New T-Mobile can improve the quality and coverage of its service in rural areas by taking the best of each standalone company's individual assets. T-Mobile's low -band spectrum provides excellent coverage, but limited capacity. Sprint's mid-band spectrum provides excellent capacity, but limited coverage. Combined, the two companies' assets promise immense capacity gains at a cost low enough to make covering rural America an affordable – and even attractive – business proposition. New T-Mobile's commitment to investment and unique mix of spectrum assets promises to encourage the incumbents to step up their investments in rural areas as a means of retaining existing subscribers and attracting new ones.

From our vantage point, the competitive rivalry we see growing from the merger of T-Mobile and Sprint promises to go a long way toward closing the digital divide. And by extending high-speed wireless to rural communities, we may make a dent in the homework gap, too. Students in New York can enjoy the full benefit of broadband access, including at home to do homework or research a project, and finally provide rural students with some of the critical tools they need to succeed.

We understand that the Commission's review of the merger is limited to examining the effects on Sprint's wireline services and the subsequent change in control of those assets. But given the significant disparity in online access rural students in New York experience, we wanted to highlight what is perhaps a less-frequently considered benefit of the merger. We sincerely hope that this comment is considered as you deliberate this issue.

Sincerely,

David A. Little, Esq., Executive Director
Rural Schools Association of New York State

WGAW WRITERS GUILD OF AMERICA WEST

March 11, 2019

The Honorable Jerrold Nadler
Chair, Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Doug Collins
Ranking Member, Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

The Honorable David N. Cicilline
Chair, Subcommittee on Antitrust,
Commercial and Administrative Law
House Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

The Honorable F. James Sensenbrenner
Ranking Member, Subcommittee on Antitrust,
Commercial and Administrative Law
House Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

Dear Representatives Nadler, Cicilline, Collins and Sensenbrenner:

The Writers Guild of America West, a California labor organization representing more than 10,000 professional writers of motion pictures, television, radio, and Internet programming, is writing to express our opposition to the proposed merger of T-Mobile and Sprint. If approved, this merger would leave 98 percent of the national wireless market in the hands of just three companies. The reduction from four to three wireless providers in an already highly concentrated market poses significant harm to consumers and content creators. We ask the Energy and Commerce Committee to thoroughly examine this merger and to urge the FCC to reject it.

After AT&T and Verizon, T-Mobile and Sprint are the next largest operators in a highly concentrated market.[1] Once merged, Sprint-T-Mobile would have 131 million subscribers and significantly less incentive to compete with AT&T and Verizon than the separate companies have now. The three major wireless carriers would collectively have greater ability to raise prices, limit consumer data, and exercise gatekeeper power over online video, harming mobile video markets.

The Internet has created new programming choices and increased content competition, but this merger would threaten the pro-consumer growth of video consumption on wireless networks. While new over-the-top (OTT) content providers and online video offerings from traditional networks, combined with growing consumer adoption of Internet-connected devices, have spurred the growth of the mobile video market, the high cost of wireless data plans has limited mobile video consumption on wireless networks, and instead most consumers use Wi-Fi

[1] Roger Entner, *Industry Voices—Entner: Putting some context behind the T-Mobile, Sprint merger*, FierceWireless, Apr. 30, 2018, https://www.fiercewireless.com/wireless/industry-voices-entner-putting-some-context-behind-t-mobile-sprint-merger.

connections to watch video.[2] Sprint and T-Mobile, as smaller providers, have competed aggressively with Verizon and AT&T through network improvements, lower pricing and other pro-consumer features. In 2017, actions taken by Sprint and T-Mobile prompted all four major wireless companies to offer new unlimited data plans, allowing consumers to watch more mobile video content.[3]

The loss of competition from the smaller, maverick firms will increase the ability of a combined Sprint-T-Mobile along with AT&T and Verizon to raise prices for consumers, limit data, and exercise gatekeeper power over online video providers who wish to reach wireless consumers. The result will be greater constraints on mobile video usage and reduced competition in mobile video markets.

Online video is also vulnerable to interference from Internet service providers in the form of throttling[4] or pricing features like data caps that prioritize affiliated content.[5] With only three giant wireless firms rather than two large and two smaller, the likelihood of tacit coordination or "accommodating reactions" among the wireless providers greatly increases. For example, the three wireless companies that dominate the Canadian market raise prices at the same time and keep prices significantly higher than in the U.S.[6] We have seen competition among providers spur innovation and lower prices for consumers, but eliminating a major competitor would likely reverse that trend.

We believe the harms of this merger greatly outweigh the purported benefits touted by the companies, many of which are not merger-specific or may fail to materialize. We urge you to closely examine these harms at the Energy and Commerce Committee Hearing on February 13th and convey your opposition to this merger to the FCC.

Sincerely,

Corrina Freedman
Political and Legislative Director
Writers Guild of America West

cc: Members of House Committee on the Judiciary

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[2] A 2015 study found that 73% of consumers who watch mobile TV at least once a week use a Wi-Fi connection. See *Wi-Fi and Mobile TV: A RomCom with a Happy Ending?,* NCTA (July 24, 2015) https://www.ncta.com/whats-new/wi-fi-and-mobile-tv-a-romcom-with-a-happy-ending.

[3] Chaim Gartenberg, *Why every US carrier has a new unlimited plan,* The Verge (Feb. 17, 2017), https://www.theverge.com/2017/2/17/14647870/us-carrier-unlimited-plans-competition-tmobile-verizon-att-sprint.

[4] Olga Kharif, *YouTube, Netflix Videos Found to Be Slowed by Wireless Carriers,* Bloomberg (Sept. 4, 2018), https://www.bloomberg.com/news/articles/2018-09-04/youtube-and-netflix-throttled-by-carriers-research-finds.

[5] Kate Cox, *AT&T Exempts AT&T-Owned DirecTV App from Mobile Data Caps,* Consumerist (Sept. 7, 2016), https://consumerist.com/2016/09/07/att-exempts-att-owned-directv-app-from-mobile-data-caps/.

[6] Tristan Hopper, *Why Canadian cell phone bills are among the most expensive on the planet*, National Post, Sept. 18, 2017, http://nationalpost.com/news/canada/why-canadian-cell-phone-bills-are-among-the-most-expensive-on-the-planet.

Nebraska State Legislature

SENATOR TONY VARGAS

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COMMITTEES

Appropriations
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Committee on Committees

March 12, 2019

The Honorable Jerrold Nadler
Chairman
U.S. House Judiciary Committee
2138 Rayburn House Office Building
Washington, DC 20515

The Honorable Doug Collins
Ranking Member
U.S. House Judiciary Committee
2142 Rayburn House Office Building
Washington, DC 20515

The Honorable David N. Cicilline
Chairman, Antitrust, Commercial and Administrative Law Subcommittee
U.S. House Judiciary Committee
2138 Rayburn House Office Building
Washington DC 20510

The Honorable F. James Sensenbrenner
Ranking Member, Antitrust, Commercial and Administrative Law Subcommittee
U.S. House Judiciary Committee
2142 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Nadler, Ranking Member Collins, Chairman Cicilline, and Ranking Member Sensenbrenner:

I am writing to express my support for the merger of T-Mobile and Sprint. I represent Downtown and South Omaha in the Nebraska Legislature, and I am confident the merger will benefit many of my constituents, as well as consumers and businesses in Omaha, Nebraska, and throughout rural America.

The merger of T-Mobile and Sprint will increase competition and deliver more connectivity, higher-quality service, and lower prices for rural consumers in Nebraska and beyond. Over the past few years, T-Mobile has made significant investments in infrastructure in Nebraska. First, T-Mobile covered the state in 4G LTE. But it didn't stop there—T-Mobile started deploying its 600 MHz spectrum, and expanded deeper, broader coverage further into underserved and rural areas than before. The merger will only enhance access to high-quality connectivity for Nebraska and our neighboring states. Combining T-Mobile's coverage-rich 500 MHz spectrum with Sprint's capacity-rich 2.5 GHz spectrum will allow the New T-Mobile to blanket more of the underserved parts of my state, and the rest of the country, with 5G than either company could do on its own. For example, the New T-Mobile will deliver download speeds of at least 10 Mbps to 74% of rural residents, and will increase outdoor coverage to reach 95.8% of the nation's rural population. Nebraska is ready to reap the benefits of the New T-Mobile's supercharged 5G network post-merger.

The New T-Mobile network will also have significantly more capacity, which will push prices down for both carrier partners and consumers. This means rural partners will get access to a better nationwide 5G network, and rural consumers will pay less as the New T-Mobile's 5G network brings competition to underserved parts of America. The New T-Mobile has even committed to make available the same or better rate plans for the New T-Mobile's services as those offered today by T-Mobile or Sprint in the three years following the merger. Lower costs and increased data supply are especially important attributes of the merger for the fixed income consumers I serve.

Rural America will also benefit from the thousands of jobs the merger will create. The New T-Mobile has committed to open 600 new retail stores and up to five new customer care centers in small towns and rural areas. Just a few years after the merger, the New T-Mobile will have created over 12,000 jobs in rural areas as a result of the deployment of its superior 5G network.

The New T-Mobile will also offer innovative services that will benefit rural consumers especially. For example, the New T-Mobile's in-home broadband service will expand high-capacity coverage to large swaths of difficult-to-serve areas, overcoming obstacles to extending traditional wireline access to those customers. The New T-Mobile's in-home broadband offering is expected to serve more than 2 million rural consumers and save them up to $50 per month.

Rural Americans need high-quality, affordable access to connectivity. The New T-Mobile promises to build on T-Mobile's demonstrated commitment to Nebraska and rural communities throughout the country by delivering 5G sooner that otherwise possible, at lower costs to consumers. Therefore, I support this merger and I encourage you to do the same.

Sincerely,

Tony Vargas
District 7, State Senator
Nebraska Legislature

AMERICANS FOR
LIMITED GOVERNMENT

10332 MAIN STREET, BOX 326 · FAIRFAX, VA 22030 · PHONE: 703.383.0880 · FAX: 703.383.5288 · WWW.GETLIBERTY.ORG

March 8, 2019

The Honorable Jerrold Nadler
Chairman
U.S. House Judiciary Committee
2138 Rayburn House Office Building
Washington, DC 20515

The Honorable Doug Collins
Ranking Member
U.S. House Judiciary Committee
2142 Rayburn House Office Building
Washington, DC 20515

The Honorable David N. Cicilline
Chairman
U.S. House Judiciary Subcommittee on Antitrust,
Commercial and Administrative Law
2138 Rayburn House Office Building
Washington, DC 20515

The Honorable Jim Sensenbrenner
Ranking Member
U.S. House Judiciary Subcommittee on Antitrust,
Commercial and Administrative Law
2142 Rayburn House Office Building
Washington, DC 20515

To whom it may concern,

Ahead of the March 12 hearing of the U.S. House Judiciary Subcommittee on Antitrust, Commercial and Administrative Law on the proposed merger of T-Mobile U.S., Inc. and Sprint Corporation, Americans for Limited Government expresses support for the merger and hopes that the committee will see fit to endorse it as well.

To get to 5G, the U.S. needs to allocate a lot of spectrum. Approval by the Federal Communications Commission and the U.S. Department of Justice Antitrust Division of the proposed merger helps achieve that goal by ensuring that T-Mobile and Sprint together can utilize their respective 600 MHz and 2.5 GHz spectrum across the low and medium bands, making it easier to handle high-band spectrum above 3 GHz in the near future.

Once the merger is complete, T-Mobile and Sprint will have three times the 5G capacity compared to on their own, which will be 4 to 6 times faster than the stand-alone networks.

The merger of T-Mobile and Sprint will be a boon to the U.S. economy. Accenture has estimated that 5G will create 3 million new jobs in the U.S. and boost the economy by more than $500 billion. [1]

FCC Chairman Ajit Pai has described the necessity of U.S. leadership in 5G as a "national imperative for economic growth and competitiveness." While China races ahead in 5G with its command and control economic approach, threatening U.S. intellectual property, the U.S. has continued to achieve unparalleled innovation over the past century through robust competition. T-Mobile and Sprint joining forces will create more competition in the 5G market

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[1] https://www.accenture.com/t20170222T202102__w__/us-en/_acnmedia/PDF-43/Accenture-5G-Municipalities-Become-Smart-Cities.pdf

versus AT&T-Time Warner and Verizon — helping the U.S. to stay ahead of its foreign adversaries.

This approach also benefits consumers by creating more competition with direct-line broadband, allowing those who want to the cut the cord to utilize wireless Internet on their cellular plans. This will help expand high-speed Internet access into more rural areas and help bring down prices, too. It's a win-win for U.S. consumers.

T-Mobile and Sprint together is a part of how the U.S. is going to lead the world into the 5G future, making the Internet of Things, smart cities, driverless vehicles and robots all possible by combining each company's spectrum assets. 5G is an area where more competition is urgently needed, and together T-Mobile and Sprint will help the U.S. realize its 5G potential — and all that it means for the future.

Sincerely,

Richard M. Manning
President
Americans for Limited Government

AMERICANS for TAX REFORM

Grover G. Norquist
President

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March 11, 2019

The Honorable David Cicilline
United States House of Representatives
2233 Rayburn House Office Building
Washington, DC 20515

The Honorable Jim Sensenbrenner
United States House of Representatives
2449 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cicilline, Ranking Member Sensenbrenner, and Members of the House Judiciary Subcommittee on Antitrust, Commercial and Administrative Law:

T-Mobile and Sprint's histories show that the companies innovate without government instruction. They have lowered prices and offered innovative services. T- Mobile was the first company to get rid of phone contracts and contract penalties – without the government telling them to do it.

Companies should be able to merge or split without government permission. Therefore, I write in opposition to any government intervention in the merger between T-Mobile US, Inc. and Sprint Corporation. Doom and gloom rhetoric should not stand in the way of innovation and job creation.

Because America deployed 4th generation wireless technology first, American innovation exploded across the globe. Jobs around App creation were unforeseen and allow more Americans to work for themselves. Video or photo blogging is a career choice because of 4G and the devices that run on it. **5G will create new industries and employment opportunities because of enhanced connectivity.**

Having additional robust, cheaper and widely available 5G offerings will also pressure today's wireline providers to improve service, and to invest more heavily in building their own wireless networks to offer customers the mobility they increasingly demand. The market benefits from more competitors, and this shift is an increase from 2 competitors to 3, not a competitive reduction from 4 to 3. The wireless market will become even more dynamic than it would have been without the merger.

The merger is poised to create thousands of new jobs. To sustain the combined infrastructure and expansion, the company needs employees. Some speculate that combining the two companies will result in a loss of 28,000 jobs and claims Sprint's Kansas City headquarters will be eliminated. Sprint alone has roughly 30,000 employees. If the New T- Mobile eliminated 28,000 jobs, it would not be able to sustain the combined infrastructure and expansion that the merger would require. Instead of closing the doors on the current Sprint headquarters, the New T-Mobile will expand it with 5,600 new customer care jobs across 5 locations.

AMERICANS *for* TAX REFORM

While I do not believe any merger or split needs to be blessed by government, the action plan set out by T-Mobile and Sprint, stating how jobs will be created and competition increased, should give regulators more certainty that the New T-Mobile will benefit Americans.

If you should have any questions or comments, please contact me or Katie McAuliffe by phone, 202-785-0266, or email, kmcauliffe@atr.org.

Onward,

Grover G. Norquist

California Hispanic Chambers of Commerce · Est. 1978

March 11, 2019

Honorable David N. Cicilline
Chairman, House Judiciary Subcommittee: Antitrust, Commercial and Administrative Law
2132 Rayburn House Office Building
Washington, D.C., 20515

Dear Chairman Cicilline:

The California Hispanic Chambers of Commerce is the largest regional ethnic business organization in the U.S. We represent more than 800,000 Hispanic business owners in the state of California, and we are submitting this letter to the Subcommittee on Antitrust, Commercial and Administrative Law to convey our support for the merger of T-Mobile with Sprint.

Last year, we submitted a comment during the FCC filing period indicating the reasons for our support. We are enclosing that letter, as it provides significant detail as to how we believe this merger will be a positive for our membership.

In summary, we believe that the merger will boost economic activity throughout the state. Jobs will be created. As noted in the FCC letter, jobs will be created during the build-out phase and from the business opportunities that will grow once 5G is available. Since the sending of that letter, T-Mobile has announced that it will locate a new Customer Experience Center in California's Central Valley, bringing 1,000 new jobs to the state.

Benefits of 5G will also flow to individual consumers, as their mobile devices will be faster than ever, enabling mobile commerce in ways we cannot even predict. This too will help our membership, as customers everywhere are online now.

The California Hispanic Chambers of Commerce believes the merger will provide minority businesses with opportunities to grow, flourish, and reach new customers. We are pleased to support T-Mobile in their efforts, and are looking forward to a 5G future.

Sincerely,

Julian Cañete
President & CEO, California Hispanic Chambers of Commerce

Attachment

1510 J Street, Suite 110 I Sacramento, CA 95814 I www.cahcc.com I (916) 444 - 2221

CALIFORNIA
HISPANIC
CHAMBERS OF COMMERCE

September 17, 2018

VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Applications of T-Mobile US, Inc. and Sprint Corporation, WT Docket No. 18-197

Dear Ms. Dortch,

The California Hispanic Chambers of Commerce is the largest regional ethnic business organization in the U.S., representing more than 800,000 Hispanic business owners in California. We work to promote and support Hispanic and minority-owned businesses throughout the state, and part of our mission is to advocate for programs and policies that will help strengthen and improve the business climate in California.

We write to you today to express our support for the merger of T-Mobile with Sprint. This merger will change the wireless landscape in the U.S., with the potential to affect positive change for the Hispanic business community. Most of this change will center on the launch of a 5G network.

First, there are the jobs created during the build-out and installation phase, which creates demand for local services in communities. Second, and perhaps even more significant are the opportunities for businesses once 5G wireless is available.

Very few businesses today operate without some need for wireless or internet services, which of course includes the business members of the California Hispanic Chambers of Commerce. Listing out all of the ways in which our varied membership uses internet connectivity would require significantly more space than a letter provides—uses range from vendor payments and banking to ordering supplies and daily communications and advertising work.

What a 5G network would offer is the ability to do even more, and take advantage of the many innovative technologies that are internet-enabled. The future of business is closely linked to our tech infrastructure, particularly wireless. Hispanic consumers are doing their reading, research, connecting, and shopping using their mobile devices. In order to grow their businesses and succeed, our members need to be where their customers are, and that increasingly means online and wireless—and it follows that our wireless networks need to be sufficient to handle this increase. A 5G network would provide additional speed and capacity, and the room for growth that is required.

We believe that this merger provides minority businesses with the opportunity to grow and succeed in an environment that is increasingly dependent upon fast, reliable wireless.

Signed,

Julian Cañete
President & CEO
California Hispanic Chambers of Commerce
Sacramento, CA

Christine Schweininger
President
Central Valley Hispanic Chamber of Commerce
Modesto, CA

Brandi Carpenter
President
Central California Hispanic Chamber of Commerce
Fresno, CA

Maria Shahib
President
Hispanic Chamber of Commerce of Northern California
Chico, CA

Cathy Rodriguez Aguirre
President & CEO
Sacramento Hispanic Chamber of Commerce
Sacramento, CA

Maria Urena
Chairwoman
Greater Riverside Hispanic Chamber of Commerce
Riverside, CA

Dr. Manolo Cevallos
President & CEO
U.S. Latino Chamber of Commerce
Los Angeles, CA

Teresa Barahona
President
Southern California Hispanic Chamber of Commerce
Los Angeles, CA

Juan Carlos Hernandez
President
San Diego County Hispanic Chamber of Commerce
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COMPETITIVE ENTERPRISE INSTITUTE
Advancing Liberty from the Economy to Ecology

March 11, 2019

The Honorable David N. Cicilline
United States House of Representatives
Committee on the Judiciary
Subcommittee on Antitrust,
Commercial and Administrative Law
2233 Rayburn House Office Building
Washington, DC 20515

The Honorable F. James Sensenbrenner
United States House of Representatives
Committee on the Judiciary
Subcommittee on Antitrust,
Commercial and Administrative Law
2449 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Cicilline, Ranking Member Sensenbrenner, and Members of the Subcommittee:

In light of the rescheduled hearing of the United States House of Representatives Judiciary Committee's Subcommittee on Antitrust, Commercial and Administrative Law to gather information on the state of competition in the wireless market, I re-submit for your consideration the attached letter from February 14 by my colleague, research fellow and regulatory counsel Ryan Radia.

Radia makes clear, "Economic theory, empirical evidence, and the record materials submitted by T-Mobile and Sprint to the FCC all demonstrate that the proposed transaction has a substantial likelihood of enhancing consumer welfare." Indeed, I would emphasize two points as you collect information to inform policy discussions on the wireless communications marketplace.

1. The critical element of analysis is not concentration, it is the measure of competitive effects seen by consumers. Concentration is not the same as competition, nor are the two terms economic opposites. Do not be fooled. In the market at issue, consumers come out ahead when policies increase the probability of significant network investments.

2. In any discussion where "the public interest" is invoked, I urge you to quickly and clearly demand a definition for such an open-ended invitation to government intervention. In the case of the proposed merger of T-Mobile and Sprint, the market is succeeding by likely bringing new resources to bear for consumer benefit. Government interventions – in the form of a merger denial or conditions placed on the merger – are likely to produce long-term market distortions and failures.

Please do not hesitate to contact me if I, or any of my colleagues at the Competitive Enterprise Institute, can be of further assistance.

Respectfully,

Kent Lassman

to six times" faster than what the firms could achieve independently.[3] Building a large 5G network requires, among other things, a substantial portfolio of spectrum licenses, a dense network of cell sites, and access to considerable capital. The merged firm's combined spectrum holdings and cell-site footprint would enable the deployment of a 5G network that is far superior to what either company could build by itself.[4] And the merged firm's free cash flow and EBITDA will come significantly closer to the two leading U.S. mobile carriers—Verizon and AT&T—than either T-Mobile or Sprint comes today.[5]

This proposed transaction comes at a precarious time for Sprint, which has been struggling for years as the nation's fourth-largest wireless carrier. As the most highly leveraged S&P 500 company, with $32 billion of net debt, Sprint faces an uncertain future as a nationwide wireless carrier capable of competing with larger rivals.[6] Sprint's overall revenue and revenue per user have fallen considerably in recent years, forcing the company to reduce its network investment to what it describes as "historically low levels."[7] Merged with T-Mobile, however, Sprint's improved liquidity profile would likely result in the combined firm enjoying a higher credit rating and, with it, access to more affordable capital.[8] This, in turn, would enable the combined carrier to continue to borrow money as needed to finance the construction of its nationwide 5G network. Conversely, if the proposed transaction is not consummated, whether Sprint will remain viable as a nationwide wireless carrier in the coming years as consumers begin to expect 5G service is far from certain.

Although the merger of T-Mobile and Sprint would reduce the number of nationwide wireless carriers in the United States from four to three, at least for the foreseeable future, this decrease would not necessarily reduce competition among the major carriers. Some commenters argue that the transaction would harm consumer welfare by increasing concentration in the U.S. national wireless market,[9] thus creating an "oligopoly" that would depress competition and disruption.[10] But the presence of market concentration, by itself, is not a basis to conclude that consumer harm is likely; indeed, "[t]he evolution of unilateral effects analysis in modern merger thinking is that market concentration is not a good predictor of effect."[11]

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3. *Id.* at 72.
4. *Id.* at 17–20.
5. *Id.* at 86.
6. *See id.* at 97.
7. *Id.*
8. *See, e.g.*, Molly Smith, *T-Mobile's Tie-Up With Sprint Would Make Junk-Bond Behemoth*, BLOOMBERG (Apr. 30, 2018, 1:45 PM), https://www.bloomberg.com/news/articles/2018-04-30/t-mobile-s-tie-up-with-sprint-would-create-a-junk-bond-behemoth.
9. *See, e.g.*, Petition to Deny of Free Press at 25, *available at* https://ecfsapi.fcc.gov/file/10830804104889/18082902-4.pdf.
10. *See* Petition to Deny of American Antitrust Institute at 3, *available at* https://ecfsapi.fcc.gov/file/1082877863636/AAI_Sprint-T-Mobile_FCC%20Petition%20to%20Deny.pdf.
11. Geoffrey A. Manne, *Assuming More Than We Know About Innovation Markets: A Review of Michael Carrier's* Innovation in the 21st Century, 61 ALA. L. REV. 553, 555 (2010).

Empirical evidence on the relationship between prices and concentration in the wireless marketplace in particular suggests that a reduction in the number of competing firms does not threaten consumer welfare. In a 2011 study, the economists Gerald R. Faulhaber, Robert Hahn, and Hal Singer examined the U.S. wireless marketplace, concluding that no "statistically significant relationship" existed between wireless prices and market concentration.[12] Given the presence of an important input constraint in the wireless market—the limited quantity of spectrum available for flexible, licensed use—economic theory suggests that an increase in concentration may actually *improve* the industry's performance by enabling the remaining competitors to invest in higher-capacity networks and offer lower prices.[13]

Economic theory, empirical evidence, and the record materials submitted by T-Mobile and Sprint to the FCC all demonstrate that the proposed transaction has a substantial likelihood of enhancing consumer welfare. If the carriers must remain separate, however, there is a real risk of consumer harm—not only because of the serious impediments each firm faces in deploying its own nationwide 5G network, but also due to the realistic prospect that Sprint will not remain a viable nationwide wireless carrier as the next generation of mobile broadband networks are rolled out.

In numerous recent transactions involving large telecommunications providers, the FCC has approved merging firms' applications while tacking on a variety of conditions.[14] In some of these transactions, the accompanying conditions have addressed policy matters unrelated to alleged transaction-specific harms.[15] When the FCC routinely saddles such transactions with conditions that the merging parties have little meaningful choice but to accept, it can effectively regulate entire sectors without regard to the statutory limits placed by Congress on the agency's authority.[16] And when the agency places conditions on license transfer applications, it often does so by issuing a final

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12. Gerald R. Faulhaber, Robert W. Hahn & Hal J. Singer, *Assessing Competition in U.S. Wireless Markets: Review of the FCC's Competition Reports*, at 1 (2011), *available at* http://ssrn.com/abstract=1880964.

13. T. Randolph Beard, George S. Ford, Lawrence J. Spiwak & Michael Stern, *Wireless Competition Under Spectrum Exhaust*, PHOENIX CENTER POLICY PAPER SERIES, No. 43, at 4 (2012), *available at* http://www.phoenix-center.org/pcpp/PCPP43Final.pdf ("our analysis finds that under a binding spectrum constraint, competition among few firms will produce lower prices and possibly increase sector investment and employment than competition among many firms.").

14. *See, e.g.*, Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees, *Memorandum Opinion and Order*, Appendices F–H, 26 FCC Rcd 4238, 4430–4509 (2011), *available at* https://transition.fcc.gov/FCC-11-4.pdf.

15. *See, e.g.*, Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to Transfer Control of Licenses and Authorizations, MB Docket No. 15-149, *Memorandum Opinion and Order*, 31 FCC Rcd 6327, 6529, para. 452 (2016), *available at* https://docs.fcc.gov/public/attachments/FCC-16-59A1_Rcd.pdf (conditioning Charter-Time Warner Cable-Bright House transaction on a "low-income broadband program" after finding that the proposal was not a "transaction-specific benefit").

16. For an extensive discussion of the FCC imposing conditions on media and telecommunications mergers, see Bryan N. Tramont, *Too Much Power, Too Little Restraint: How the FCC Expands Its Reach Through Unenforceable and Unwieldy "Voluntary" Agreements*, 53 FED. COMM. L.J. 49 (2000), and T. Randolph Beard, George S. Ford, Lawrence J. Spiwak & Michael Stern, *Eroding the Rule of Law: Regulation as Cooperative Bargaining at the FCC*, at 14–31 (Phoenix Ctr. for Advanced Legal & Econ. Pub. Policy Studies, Phoenix Center Policy Paper No. 49 2015), *available at* http://www.phoenix-center.org/pcpp/PCPP49Final.pdf.

order without first publicly proposing a list of conditions under agency consideration. This tactic sidesteps public participation and circumvents the notice-and-comment process prescribed by the Administrative Procedure Act.[17] Here, the FCC has not suggested imposing any conditions on the applications of T-Mobile and Sprint, nor has the agency sought comment on whether any particular conditions are desirable.[18] In approving the parties' applications, therefore, the agency should not require the merged company to abide by specific conditions. Nor should the Department of Justice threaten to seek to enjoin the transaction as a violation of U.S. antitrust laws unless the merging firms agree to divestitures or other merger-related commitments.

Respectfully submitted,

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17. 5 U.S.C. § 553–554 (administrative procedure governing agency rulemaking and adjudication).

18. *See generally* T-Mobile US, Inc., and Sprint Corporation Seek FCC Consent to the Transfer of Control of the Licenses, Authorizations, and Spectrum Leases Held by Sprint Corporation and its Subsidiaries to T-Mobile US, Inc., and the *Pro Forma* Transfer of Control of the Licenses, Authorizations, and Spectrum Leases Held by T-Mobile US, Inc., and its Subsidiaries, *Public Notice* (2018), *available at* https://docs.fcc.gov/public/attachments/DA-18-740A1.pdf.

access education opportunity

CALASIAN chamber of commerce

February 8, 2019

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Proceeding Numbers: A.18-07-011 and A.18-07-012

To the Commissioners:

The CalAsian Chamber of Commerce is the state's largest statewide ethnic chamber, representing more than 600,000 Asian Pacific Islander (API) businesses in California. We are committed to advancing programs and policies that help our members grow their businesses.

Our interest in the merger of T-Mobile with Sprint is the positive impact it stands to have on our members from two perspectives: it will help them in their business ventures, and it will also benefit them on a more personal level.

The business case is a straightforward one to make. Technology has a substantial impact on businesses large and small—virtually every type of company. It doesn't matter if you are a large global business, a small brick-and-mortar retail store, or an individual proprietor selling online, you need Internet access to run a business in the 21st century, and that Internet connection must be reliable and fast. One of the primary benefits of the merger is that it will enable the combined company to build a fast, nationwide 5G network with much greater capacity and better speed and performance than the standalone companies could provide.

This is exactly the type of commitment to improving wireless infrastructure that we need to see. There has been a dramatic increase in mobile commerce, and mobile networks need to keep up. Building a 5G network is needed, and New T-Mobile's efforts will spur other major carriers to dedicate resources in this area as well, creating a competitive cycle that will accelerate deployment.

Technological leadership is critical to California's economy, and the CalAsian Chamber of Commerce recognizes this, which is why technology and innovation consistently find a place on our list of policy priorities.

Equally important but perhaps not as obvious are the benefits to our members on a more personal level. Healthcare is another important policy priority for our membership. Many in the API community are affected by chronic health conditions such as heart disease, hypertension, and diabetes. When you own a business, carving out time to care for your health often takes a back seat—especially when it means taking hours out of your day, away from your work, to spend at doctors' offices. Telehealth services present an attractive alternative for our members, but these services require fast, reliable Internet on both sides of the connection. If a medical provider has a fast connection but the patient doesn't, telehealth falls short of its promise.

The benefits this merger will bring are critically important to our members, especially those that currently lack access to high-speed broadband. We feel strongly enough about this merger and

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its potential that we have made a point to attend all three of the CPUC public hearings on the topic, and have also participated in the CPUC technical workshop.

Thank you for extending the opportunity to participate on all of these occasions. We value the chance to convey our thoughts on this important issue, and are hopeful that our contributions will encourage the CPUC to vote in favor of the merger of T-Mobile and Sprint.

Sincerely,

Pat Fong Kushida

Pat Fong Kushida
President & CEO
California Asian Pacific Chamber of Commerce

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INCOMPAS
THE FUTURE OF COMPETITION

2025 M STREET, NW, SUITE 800
WASHINGTON, DC 20036

March 26, 2019

The Honorable David N. Cicilline
U.S. House of Representatives
Committee on the Judiciary
Subcommittee on Antitrust, Commercial and Administrative Law
Washington, D.C. 20515

Dear Mr. Chairman:

INCOMPAS, the Internet and competitive networks association, is the leading trade association advocating for competition policy in the communications marketplace. Competition is a catalyst for creating economic growth and improving the quality of life of all Americans through technological innovation, new services, and greater choices for consumers and businesses.

As the Subcommittee on Antitrust, Commercial and Administrative Law continues its examination of the proposed merger between T-Mobile and Sprint, I am writing to express INCOMPAS' concerns that the merger of the third and fourth largest wireless carriers in the United States will undercut the competitive wireless ecosystem that has, up to this point, been the lodestar for competition and choice.

By way of background, it is important to recognize that in 1993 Congress adopted a policy to promote competition among mobile wireless networks when it required the FCC to auction mobile spectrum licenses. As a result, the U.S. went from a duopoly in the then-cellular market to up to seven competitors per local geographic area. Indeed, since the break-up of Ma Bell and the introduction of long distance competition, and then local competition in the telecommunications marketplace—the U.S. policy has been to promote network competition. An important aspect of the development of that network competition has been wholesale access to networks—which has allowed new entrants the opportunity to introduce their services in areas where they do not have their own network. In doing so, wholesale access has advanced retail competition, bringing new innovative services to consumers and businesses, enabling competitive providers to invest in and build out their own networks. In the wireless industry, this wholesale access includes roaming and Mobile Virtual Network Operator ("MVNO") or resale arrangements that have enabled small and regional providers to compete. As a result of this competitive dynamic, we have seen the mobile industry build four generations of networks in just over two decades, with the promise of the fifth generation around the corner.

In the current ecosystem, Sprint is a leader in the wholesale market. Dozens of smaller companies rely on Sprint for wholesale roaming and/or MVNO arrangements. The availability of wholesale arrangements ensures that more companies are well positioned to innovate on pricing, service plans, and products in the retail marketplace. Removing a nationwide competitor from the marketplace that is willing to engage in reasonable wholesale arrangements will harm the wholesale marketplace, as well as those who rely on that access to enable more retail competition.

T-Mobile rests its argument for the merger on the false premise that the merger's scale and consolidation of assets will allow it to build its 5G network faster and with increased capacity. However, T-Mobile and Sprint do not own and are not building the necessary last mile fiber networks to connect the antennae that will bring the country 5G. Indeed, 5G networks will require a more dense fiber infrastructure for backhaul than the previous generations of mobile networks. We expect that numerous companies—competitive fiber and incumbent telco and cable, will have opportunities to deploy the extensive fiber that will be needed for 5G backhaul. However, without the presence of Sprint who has been a critical wholesale network for new entrants and small and regional players, we are concerned that the fiber backhaul market may not be as robust.

Finally, Sprint and T-Mobile posit that the proposed merger is justified because Sprint is a failing firm. However, their financial success over the last year belies this assertion, and there are many other potential partners in the market that would not lead to the reduction of the number of national wireless carriers from four to three. Other options exist, such as partnerships with other telcos, cable, or technology firms, that would not require further consolidation of the market and which would preserve a market structure that performs better for consumers and better for the advancement of new networks and technologies.

We encourage the Subcommittee to incorporate our concerns in its communications with the Department of Justice and the FCC. Should you have any questions, concerning the foregoing, please do not hesitate to contact me.

Sincerely,

Chip Pickering
CEO

Mr. CICILLINE. Mr. Legere, I have actually heard this concern from a number of people about whether or not these free conference call programs are still going to be available because, I guess, currently they are considered out of plan with T-Mobile, and there is a lot of anxiety about whether in a merged company that kind of service would still be available. I don't know if you are in a position to answer that, but—

Mr. LEGERE. I will follow up.

Mr. CICILLINE. Great. I will be sure to provide you a copy of the correspondence we got.

Thank you all. I know this has been a long hearing, but it has been incredibly informative, and I think particularly helpful to Members of the committee. You have nothing else, Mr. Armstrong? With that, we will adjourn the hearing and again thank you to the witnesses.

[Whereupon, at 5:24 p.m., the Subcommittee was adjourned.]

APPENDIX

BROOKINGS

Report

Enabling opportunities: 5G, the internet of things, and communities of color

Nicol Turner Lee Wednesday, January 9, 2019

Executive summary

Fifth-generation (5G) mobile networks are expected to be the next big leap in mobile broadband. Peak download speeds as high as 20 gigabits-per-second will enable specialized tasks like remote precision medicine, connected cars, virtual and augmented reality, and a wide array of internet of things (IoT) applications.

Nationwide, resilient 5G networks will be needed to accommodate the growing demand for high-speed mobile broadband. While some researchers and analysts suggest that existing 4G Long-Term Evolution (LTE) technology is sufficient for the majority of IoT use cases, this paper argues that only high-speed, high-capacity, low-latency 5G broadband networks will meet the demands of increasing data-intensive applications. Moreover, 5G will support the massive numbers of devices that will simultaneously access the network, which will be far more than 4G LTE can handle. As 5G enables IoT applications, like health care, education, energy and transportation, it is imperative that they operate as anticipated, without fail, every time.

Further, 5G will be a determining factor in whether or not mobile-dependent users fully partake in the global digital economy, especially as smartphones, cell phones, and other wireless-enabled devices become the *only* gateway to the internet for certain populations. For communities of color that often lack reliable broadband access, 5G represents increased economic opportunity through improved access to social services, such as health care, education, transportation, energy, and employment. While lower-income African-Americans and Hispanics have similar levels of smartphone ownership as whites in the United States, they are more likely to depend on mobile services for online access, which is why 5G networks must be widely available, affordable, and able to support emerging technologies that address public interest concerns.

One area for optimized 5G use will be IoT that can offer tremendous benefits to communities of color whose members are often on the wrong side of the digital divide. This paper explores the relationship between 5G networks and IoT applications, especially as more of these functions become enabled through advanced mobile networks. In this paper, I argue that 5G networks must be nationwide, affordable, and resilient to ensure that these populations benefit from emerging technologies.

By providing both ubiquity and some level of digital equity for marginalized groups, robust 5G networks will ensure these populations are not left behind.

This paper concludes with three policy and programmatic proposals for both government and the private sector to collaborate in the deployment of 5G, while deepening their capacity and reach to communities in the most need of high-speed broadband access. By providing both ubiquity and some level of digital equity for marginalized groups, robust 5G networks will ensure these populations are not left behind.

Introduction

Fifth-generation (5G) mobile networks are expected to be the next big leap in mobile broadband. With expected peak download speeds as high as 20 gigabits-per-second, 5G users will be able to download a full-length movie in seconds and enable specialized tasks and functions, including remote precision medicine, connected cars, virtual and augmented reality experiences, as well as the internet of things (IoT).

More than 500 billion IoT devices, from sensors, to actuators, to medical devices, will be connected to the internet by 2030, according to research from Cisco.[1] The data collected, aggregated, and analyzed by IoT devices will deliver insights across a wide variety of platforms and services, from health care to artificial intelligence innovations. 5G networks will be needed to meet the requirements of these data-intensive IoT devices and related cloud services.

Nationwide, resilient 5G networks will also be needed to accommodate the growing demand for high-speed mobile broadband. While some researchers and analysts suggest that existing 4G Long-Term Evolution (LTE) technology is sufficient for the majority of IoT use cases, this paper argues that only high-speed, high-capacity, low-latency 5G broadband networks will meet the demands of data-intensive applications. High-capacity and high-throughput operations will also be supported through 5G networks, making scaled IoT deployments even more cost effective. As 5G and IoT are broadly applied to life-saving devices and applications in the areas of health care, energy and transportation, it is imperative that they operate as anticipated, without fail, every time.

Further, access to 5G networks will be a determining factor in whether or not mobile-dependent users fully partake in the digital economy, especially as smartphones, cell phones, or other wireless-enabled devices have become their *only* gateway to the internet.

Further, access to 5G networks will be a determining factor in whether or not mobile-dependent users fully partake in the digital economy, especially as smartphones, cell phones, or other wireless-enabled devices have become their *only* gateway to the internet. Currently, 95 percent of Americans own a cell phone and 77 percent have smartphones, according to the Pew Research Center.[2] Ownership cuts across demographic groups with

African-Americans and Hispanics showing high levels of mobile device ownership. For low-income segments of these populations, wireless connectivity is most likely their only online access.

While IoT and related applications are just one of many use cases powered by next-generation mobile networks, I argue that they offer the most promise for eliminating the disadvantages resulting from the digital divide, especially for certain segments of African-Americans and Hispanics who are severely marginalized or socially isolated. Exploring the relationship between 5G and IoT by drawing upon existing use cases, this paper makes the case for why the United States needs nationwide 5G networks to leverage access to both services and opportunities for these populations.

First, I will explore how access to high-speed broadband can benefit communities of color. Next, the capabilities of 5G networks will be discussed, followed by an overview of the numerous IoT and 5G-enabled applications that, if applied, can greatly benefit online minority users. Finally, the paper will outline three policy and programmatic proposals where the government and private sector can work collaboratively to prioritize nationwide deployment of 5G networks, while broadening their capacity and reach to communities in the most need of high-speed broadband access. Data from a national online poll of 2,000 respondents that I conducted will also be shared in the paper to highlight consumer opinions around 5G deployment and use.[3]

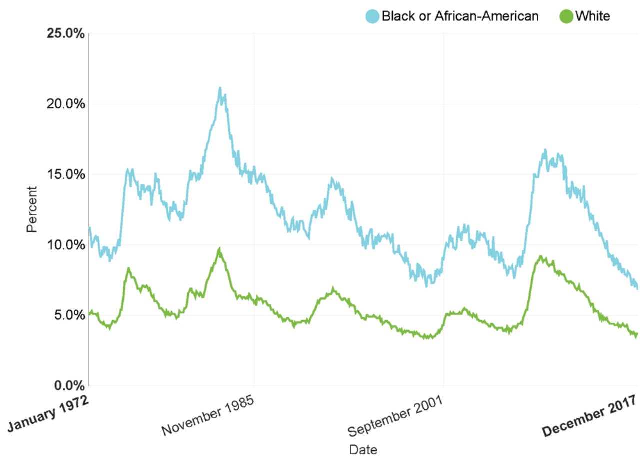
Broadband access for communities of color

Twenty-four million Americans lack access to fixed, residential high-speed broadband services, according to 2018 data from the Federal Communications Commission (FCC).[4] This includes 13 percent of African-Americans, 11 percent of Hispanics, 35 percent of those lacking a high school degree, 22 percent of rural residents, and 37.2 percent of households that speak limited English.[5] In this accounting for differences in income, age, education and other factors, many racial and ethnic groups also continue to lag behind whites in residential broadband adoption.

Despite these disparities, mobile access has converged among many of these subgroups. Seventy-seven percent of whites, 75 percent of African-Americans, and 77 percent of Hispanics own a smartphone, according to the Pew Research Center.[6] For many higher-income whites, access to the internet via a smartphone supplements a high-speed, in-home broadband connection, while lower-income populations, less-educated, and younger Americans tend to be more smartphone-dependent, relying on mobile broadband as their primary and oftentimes sole connection to the internet.[7] Further, 35 percent of Hispanics and 24 percent of African-Americans have no other online connection except through their smartphones or other mobile devices, compared to 14 percent of whites.[8] Thirty-one percent of individuals making less than $30,000 per year regularly rely on their mobile device for internet access.[9] Finally, urban residents also tend to be more smartphone-dependent at 22 percent compared to 17 percent of rural and suburban residents.

Many of these smartphone-dependent populations overlap with those impacted by higher rates of unemployment, disparate educational attainment and limited economic mobility. For example, unemployed and under-employed African-Americans may face challenges in meeting current workforce demands due to limited digital skills, training, and access to online job openings. Despite advances in education since the 1970s, African-Americans experience higher rates of unemployment, potentially attributed to the lack of digital access in an information-rich economy (Figure 1).

Figure 1: Black and white unemployment rates, 1972-2017



Source: *Bureau of Labor Statistics via FRED economic data.*

These disadvantages are compounded by an inability to interact with medical providers, complete homework assignments, and engage government services. As a result, certain African-Americans, like other vulnerable populations, are locked out of opportunities that could enhance their social and economic mobility. Meanwhile, providers who are unable to maintain contact with these populations may find themselves incapable of regularly monitoring chronic diseases, connecting clients to job opportunities in real-time, or assisting students with homework and research assignments in the absence of a physical classroom or library access.

Thus, 5G networks can unleash opportunities across a number of different dimensions for vulnerable populations and, at the most basic level, offer a reliable wireless connection that can reduce the less than desirable impacts of social isolation and disadvantage, which affect certain consumers of color. The next section explores 5G's capabilities.

5G and the capabilities of next-generation mobile broadband

Each generation of mobile technology has ushered in faster and more reliable cellular and mobile internet connections, enabling a new suite of functional innovations for users. First-generation (1G) cell phones enabled mobile voice communications, while second-generation mobile networks (2G) facilitated more efficient and secure calling services, along with widely adopted mobile messaging services, or short message service (SMS). High-definition video streaming on smartphones and other multimedia applications were made possible by 3G and 4G LTE networks.

These new communications functionalities created new markets and immense value for the U.S. economy. Between 2006 and 2016, the digital economy grew at an average rate of 5.6 percent, accounting for 6.5 percent of the current dollar GDP, according to the Bureau of Economic Analysis.[10] 4G LTE contributed to this growth by supporting new digital enterprises, including shared economy apps like Uber, Lyft, and others. Ride-sharing service Uber used 4G LTE to drive its platform, leveraging the GPS location and navigation capabilities of smartphone devices. In its early stage of business, the company gave 4G-enabled handsets to its drivers to ensure the reliability and functionality of navigation systems.[11] Since then, the company's mobile platforms have supported customer reviews, shared itineraries, among other services.

Each generation of mobile technology has ushered in faster and more reliable cellular internet connections, enabling a new suite of functional innovations for users. (Credit: KC Alfred/Reuters)

Social media platforms, including Facebook, have also experienced major growth with the availability of advanced mobile technologies. Facebook's expansion to mobile in 2007 led to more profitable advertising revenue and increased online subscribership.[12]

Compared to 4G LTE, 5G will bring *higher bandwidths*, *lower latency*, and *increased connectivity* to mobile broadband. That is, 5G will allow more data to travel faster over wider coverage areas. 5G bandwidths are projected to be 10 times higher than 4G LTE, which will contribute to the faster transmission of data, images and videos. Lower latency will also enable high-speed virtual and augmented reality video without delays or glitches. Mobile connectivity will be strengthened through "small cell" infrastructure, which will densify 5G wireless signals and improve their movement through concrete buildings, and walls. Small-cell antennas, which can be the size of a pizza box, will also enhance wireless service supporting more devices on the same network at the same time.

IoT use cases and people of color

Not surprising, IoT can be optimized on next-generation mobile networks. By definition, IoT refers to physical things connected to each other using wireless communications services.[13] As a global data infrastructure, IoT devices will generate massive amounts of data, which can be used to streamline and improve a wide variety of services and industries. 5G will be an important input for IoT, especially for devices and applications that require high reliability, strong security, widespread availability, and in some cases, ultra-low latency.

Because 5G's technical features can simultaneously support massive numbers of devices, certain segments of African-American and Hispanic populations may be able to access services that are insufficiently available in certain urban and rural communities.

Because 5G's technical features can simultaneously support massive numbers of devices, certain segments of African-American and Hispanic populations may be able to access services that are insufficiently available in certain urban and rural communities.

When applied to the verticals of health care, education, energy use, and transportation, IoT can reduce the cost of service delivery, make more accurate decisions around outputs (including costs), and empower consumers around individual and community concerns. Many of the advanced technologies will be promising for more isolated and mobile-dependent populations, potentially solving some of their challenges. The remainder of this section describes these IoT use cases more generally.

A. Health care

In the U.S., one-in-two American adults suffer from a chronic disease, while one-in-four American adults have multiple chronic diseases.[14] Compared to whites, people of color are disproportionately affected by a range of chronic diseases, especially heart disease and diabetes. For example, between 2011 and 2014, African-Americans were more likely to be afflicted by diabetes than whites (18 percent compared to 9.6 percent).[15] Forty percent of African-Americans are also more likely to have high blood pressure with very little management and control of its treatment.

The life expectancy at birth for African-Americans, 75 years, is four years lower than for whites.[16] For African-Americans in particular, IoT has the potential to facilitate remote diagnosis, foster adherence to prescribed interventions and medications, and assist in the administration of medical services, including appointment scheduling, insurance management, and treatment plans. For example:

- Home health sensing, a critical intervention for chronic disease patients, uses the microphones in smartphones to replicate spirometers, which measure air flow in and out of lungs for patients with chronic obstructive pulmonary disease (COPD). The data collected is used by doctors to monitor the disease's progression in patients in real-time.
- Novartis, Qualcomm, and Propeller Health are also tackling COPD by connecting an inhaler device to a digital platform via a sensor that passively records and transmits usage data for patients.
- Proteus Digital Health has developed ingestible sensors that aid in treatment adherence. This sensor generates a signal after medicine is taken, which relays the data to a smartphone application and eventually to the medical provider.[17]

In these examples, having the ability to transmit results to health care providers means fewer trips to the hospital and improved health monitoring for patients. While data is not available on how African-Americans and Hispanics are specifically engaging these IoT applications, it is worth noting that each of these innovations are attempting to remedy the health care gaps caused by the physical or social isolation of patients. When matched with the historical data on certain chronic diseases affecting African-Americans and

Hispanics, IoT health care applications can help address the disparate conditions that restrict access to primary and supportive patient care. Next-generation mobile networks can also spur the development of other emerging health care devices and applications.

B. Education

Historically, students of color have faced persistent educational disparities that unfortunately reflect differences in their socioeconomic status. While educational gaps have narrowed between whites and people of color on fourth and eighth grade math tests and fourth grade reading tests (benchmarks for student performance), African-Americans have lagged behind whites and Hispanics in educational attainment.[18] Further, three-fourths of minority students attend schools where a majority of their classmates qualifies as poor or low-income compared to one-third of whites.[19]

IoT educational solutions can potentially contribute to more vibrant and robust school learning environments.

These statistics, coupled with the "homework gap," or the barriers that students face when they don't have broadband at home, further stifle educational attainment for disadvantaged populations. Data from my national survey shows that use of the internet for homework is lowest among Hispanic (2.4 percent) and African-American (2.5 percent) respondents, which could be attributed to an insufficient or non-existent broadband connection. Universal service programs, such as Lifeline and E-Rate, can help to alleviate some of the barriers to low-income broadband adoption, but they are not wholly sustainable by themselves to level the playing field for students of color.[20]

In line with the argument in this paper, IoT educational solutions can potentially contribute to more vibrant and robust school learning environments, including:

- Interactive whiteboards;

- eBooks;
- Tablets and mobile devices;
- 3-D printers;
- Student ID cards; and,
- Student tracking systems.[21]

IoT can also personalize the learning experience for students by tailoring lessons to the student's pace and style of learning, and capturing more data about the factors that boost their performance with every lesson.[22] One such application is the result of IBM's partnership with the textbook publisher Pearson to create software that allows students to ask questions, provides helpful feedback to the student, and keeps instructors updated on student progress.[23] But, these applications and others require high-bandwidth connections, which are often not available or consistent in lower-income neighborhoods.

IoT technologies can also expand the possibilities for what and where students learn. Leveraging IoT, students of color can collaborate with each other and teachers in real time regardless of distance.[24] For example, using virtual reality headsets, students in remote locations can place themselves in a classroom with their peers or transport teachers and students anywhere in the world (or universe) that the curriculum takes them, from inside the human body to the far reaches of the solar system.[25] For students of color in less digitally connected schools, these technologies can make a marked difference in educational outcomes.

IoT and 5G technologies can expand educational access for students in need. (Credit: Adam Hunger/Reuters)

In addition to these classroom possibilities, some schools are also engaging IoT applications to:

- Embed RFID chips in ID cards to track the presence of students, enabling tracking of tardiness and absenteeism and logging of students' presence on campus.[26]
- Deploy GPS-enabled bus systems where routes can be tracked so parents and administrators know where a given bus is at any time. Students can also be notified when the bus is near their pickup location to avoid long waits.
- Activate wireless key lock systems in classrooms to ensure student safety.

While these applications can operate over today's 4G LTE networks, the affordability, scalability, and accessibility of 5G is projected to make these tools even more effective and precise.

C. Transportation

Another noteworthy utility is 5G's capacity to support machine-to-machine communications. This is crucial for the deployment of safe, reliable, and efficient autonomous vehicles, which need vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications support. Intelligent vehicles have been shown to reduce traffic congestion, road accidents, and improve consumer mobility–all benefits of particular interest to African-American and Hispanic populations because of various factors:[27]

- Hispanics and African-Americans experienced a higher rate of pedestrian deaths from 2005 to 2014 (1.40 and 1.74 per 100,000 people, respectively) than whites or Asian-Americans (both .93 deaths per 100,000 people).[28] 5G-enabled smart vehicles can significantly reduce such accidents owing to their enhanced sensors.
- An observational study conducted by the University of Alabama-Birmingham showed that significant disparities in mobility exist between older African-Americans and whites, which propel disparities in functional ability and physical performance.[29] For elderly people of color—in particular those who live in more rural and remote areas— autonomous vehicles can be a part of the process of aging-in-place by offering some level of independence.
- People of color are more likely to be affected by high levels of air pollution due to residential location. Overall, nitrogen dioxide concentrations for nonwhites were 37 percent higher than for whites in 2010.[30] Autonomous vehicles communicating over 5G networks with each other and with smart transportation infrastructure are projected to reduce traffic congestion.[31] The less time that vehicles spend idling in traffic the fewer pollutants are emitted, leading to better health outcomes in communities where minorities live.

For elderly people of color—in particular those who live in more rural and remote areas— autonomous vehicles can be a part of the process of aging-in-place by offering some level of independence.

But, autonomous vehicles need wide area network infrastructure to operate.[32] In the absence of 5G networks with the low-latency to support these transportation solutions, low-income customers in both urban and rural communities are more likely to become victims, rather than beneficiaries of these emerging transportation technologies, simply because their communities are unable to deploy reliable and resilient communications networks.

D. Energy

5G can support wider adoption of clean energy by enabling smart grids that integrate wind, solar, and other renewable sources into existing grids.[33] Because wind and solar power are more decentralized and weather-dependent, electricity grids will need fast and reliable communications over 5G networks to switch power sources dynamically based on availability. Smart grids can expand access to renewable energy sources to all electricity customers without the price increases associated with customers exiting the grid, which disproportionately affects low-income communities of color.[34]

The gap in availability of clean energy between low-income communities of color and others will also have devastating consequences if IoT and 5G technologies are not equitably deployed. Generally, African-American and Hispanic households spend 7.2 percent of household income on utility services, or three times more than other households (2.3 percent).[35] Thus, the deployment of 5G-enabled smart grids and smart household meters must anticipate and avoid potential income disparities in access to new energy technology.

5G's direct impact on employment

African-Americans and Hispanics are also positioned to directly benefit from the workforce opportunities resulting from 5G deployment and use.

African-Americans and Hispanics are also positioned to directly benefit from the workforce opportunities resulting from 5G deployment and use. A recent report from Accenture estimates that the transition to 5G will create 50,000 new construction jobs in the U.S. to install new wireless infrastructure over a seven-year period.[36] During a public event, FCC Commissioner Brendan Carr stated that small-cell deployment would create 27,000 jobs.[37] These numbers do not include additional economic growth from expanding broadband access to Americans. The adoption of 5G technology into the broader economy could also create an additional 2.2 million jobs.[38] Available 5G networks will also be able to connect job seekers to more diverse labor opportunities by enabling more telecommuting through videoconferencing and other remote applications. And, faster connection speeds can help individuals learn new skills through online courses and certifications. This will be critical in ensuring people of color are not further disadvantaged due to a lack of digital or other relevant skills.

In conclusion, high-speed, next-generation broadband networks and IoT, along with the technologies and applications they will enable, could greatly benefit people of color and position them for the emerging pathway to economic and social opportunities.

Policy recommendations

Looking ahead to 5G deployment, this next section outlines three policies, which should be priorities as the government and the private sector seek to realize the full value of advanced mobile services and ensure that certain segments of African-American and

Hispanic populations are not left behind.

1. **5G solutions must be able to bolster capacity, speed, and coverage to reach more populations of color.**

Efforts to deploy 5G networks must focus on achieving ubiquitous service to minority populations that offers high capacity and speed. Several wireless carriers have already announced plans to launch 5G within certain U.S. cities.[39] Whether the product is being pushed as a substitute for fixed broadband or a complementary mobility solution, emerging 5G networks are expected to offer services beyond traditional mobile services and video, which are two popular use cases for consumers.

While some industry leaders are experimenting with millimeter-wave or higher spectrum frequencies, these bands alone may not be sufficient to penetrate urban structures or go the distance in rural communities, where some of these lower-income consumers live. Because millimeter-wave spectrum transmits at frequencies between 24-79GHz, one of the shortcomings of these higher-frequencies is the reduced ability to travel through buildings, foliage, rain, or other obstacles, as well as go an adequate distance even in unimpeded spaces. Addressing these coverage challenges will be crucial in expanding national broadband access and allowing users to seamlessly take advantage of 5G, IoT, and other next-generation applications.

Given the limitations of millimeter-wave signals, there is a case for the greater use of low-band, or 600–700 MHz spectrum and cellular Specialized Mobile Radio, especially for improved in-building and more rural coverage. Models that embrace a multi-band spectrum approach that leverages both high-, mid-, and low-bands would best serve minority populations and their use of IoT applications and devices by providing greater coverage. This is particularly significant to low-income communities of color, who receive 15 percent less cell phone coverage than their wealthier counterparts, which can largely be due to where they live and their choice of wireless providers.[40] By promoting efforts to ensure that wireless carriers have adequate access to combined mid- and low-band spectrum, policymakers can promote some level of broadband coverage in both urban and rural communities.

Policymakers can also encourage the expeditious deployment of small cells, which will also be critical in serving minority populations who are vastly concentrated in urban areas. Local governments should support the streamlining of siting and permitting processes and standardize pricing on pole attachments. Slow and expensive permitting could not only stifle 5G deployment in these communities, but also lead to slower network upgrades, resulting in lags in the functions of critical IoT applications in health care, public safety, and other areas. In the end, cities run the risk of foreclosing on the opportunities presented by 5G networks through delayed and stalled small-cell rollouts.

Slow and expensive permitting could not only stifle 5G deployment in these communities, but also lead to slower network upgrades, resulting in lags in the functions of critical IoT applications in health care, public safety, and other areas.

From an infrastructure perspective, combined spectrum opportunities that broaden both the capacity and coverage in all communities, along with the blanketing of small-cell antennae, are both reasonable measures that promote both ubiquity and some level of digital equity for marginalized populations and their communities.

2. **5G must be affordable for consumers, despite massive telecom investments and costs.**

5G investments are speculated to increase GDP by $500 billion.[41] However, 5G networks will be expensive to deploy, particularly as wireless carriers are projected to invest in multiple network inputs, including spectrum, radio access network (RAN) infrastructure, transmission, and core networks. Telecom companies alone are expected to invest $275 billion over the next seven years in building out 5G networks.[42] Some analysts have suggested that about $200 million will be spent in the 5G deployment in the first few years of service, while other analysts are projecting a $2.4 trillion spend between 2020 and 2030. [43] The largest expenditure for many wireless carriers will be in small cells to drive wireless capacity.

These massive investments may prompt wireless carriers to either subsidize 5G investments, at least in the short-term, or consider passing these costs on to consumers, which could deter widespread adoption.

In the national online survey of 2,000 respondents that I conducted as part of this paper, 47 percent of respondents shared that they would not pay more to double or triple their current speeds. Given this finding, service providers will have to exercise more flexibility in pricing and data caps to ensure affordability and to drive consumer demand for faster networks.

Since 5G will allow for a multiplicity of functions, opportunities should exist for tiered or pre-paid pricing structures that can account for possible cost savings to consumers. For example, some of these savings could come from new market opportunities, including home video or cloud-based services, while other savings could result from 5G's ability to operate in licensed and unlicensed spectrum, which could offer deeper and more flexible coverage that also results in reduced costs to consumers.

In addition, massive IoT and greater capacity to support scaled deployments of devices is expected to result in lower unit costs. Private sector solutions that leverage multiple spectrum bands, as previously discussed, could also reduce 5G costs by covering more areas and making services available to more low-income users—increasing the volume of subscribers.

Although 5G will require massive investments, it must remain affordable for consumers. (Credit: Thilo Schmuelgen/Reuters)

There is also a chance that many mobile users will likely reach their monthly cap if data consumption trends escalate as projected. Given these possibilities, it will be important for wireless providers to offer a range of mobile service plans, including unlimited data options, bundles, or pre-paid programs, to ensure affordability for consumers. In the move from 3G to 4G/LTE, subscribers used more data, largely due to the growth of internet-based applications. A 2013 study from Mobidia found that the data usage of 100,000 Android LTE users in the U.S., South Korea and Japan was higher with 4G/LTE.[44] That is, LTE users consumed far more data than those using 3G. According to the study, LTE smartphone users in Korea used on average 2.2GB of data per-month compared to just under 1GB on 3G smartphones—a difference of 132 percent, compared to a 36 percent increase in the U.S. (or, around 1.3 GB LTE data compared to 956MB on 3G).

Overall, the Mobidia study concluded that the greater availability of data would lead to increased usage.[45] The availability of 5G is already anticipated to fuel mobile data traffic growth. By 2021, a 5G connection will generate 4.7 times more traffic than the average 4G connection, according to research conducted by Cisco.[46]

Generally, consumers of color have benefited from pre-paid plans over the years, suggesting similar results could occur if these options were extended to 5G customers. For many smartphone owners, the monthly cost of maintaining a device can be a financial hardship, with 23 percent of subscribers having to cancel or shut off their service for a period of time due to cost.[47] In fact, 44 percent of smartphone owners who make under $30,000 per year have done so, and African-Americans and Hispanics are twice as likely as whites to have done the same.[48] When it comes to mobile service, lower-income smartphone users tend to subscribe to relatively low-cost plans (including pre-paid) and often find themselves cancelling their service due as a result of affordability concerns.[49]

While the monthly cost of 5G mobile service is not yet determined for consumers, *more* pre- and post-paid plans, and not less, should be encouraged in the marketplace to guarantee ubiquity in use. Further, more flexibility in data plans and not just rigid caps may be a more viable solution for consumers where cost matters.

While government programs, such as Lifeline, can also alleviate the economic burden for consumers, the discounts must be applied to mobile services, especially as they become the primary conduit to the internet.[50] Once fully deployed, 5G services should be eligible for government subsidies targeted to mobile access to ensure the participation of historically disadvantaged and vulnerable populations in the digital economy.

3. **5G networks must serve the public interest.**

Much of this paper is focused on advancing some of the public-good applications of 5G and IoT technologies, such as health care and education. In the race to launch 5G networks ahead of international competitors, including China and Korea, government and industry leaders must keep promoting innovation and growth by emphasizing that next-generation mobile networks will help improve, if not save, the lives of millions of Americans by cultivating better access to social and institutional services.

In the race to launch 5G networks ahead of international competitors, including China and Korea, government and industry leaders must keep promoting innovation and growth by emphasizing that next-generation mobile networks will help improve, if not save, the lives of millions of Americans.

The recent White House memorandum on spectrum policy appears to be in sync with the national efforts to deploy 5G networks.[51] Requesting the coordination of federal agencies on spectrum availability and sharing opportunities, the administration is at least suggesting the removal of federal and regulatory red tape to expedite build-out. The memorandum further designates a spectrum task force drawn from federal agency stakeholders to increase the sharing of scarce spectrum resources among federal agencies and the private sector so that more spectrum is available for commercial 5G wireless networks. The White House's strategy will also enhance spectrum management through flexible-use licenses that allow for temporary use of spectrum bands.

The FCC has also been working to address outdated regulatory processes and barriers within local bureaucracies that stifle the deployment of local cell sites and other communications infrastructure. Similar to the White House, the agency is working to develop the optimal national criteria for advancing next-generation, mobile networks.[52]

These governmental efforts are critical in freeing up the resources required to operate reliable, resilient and nationwide 5G networks. With this type of support, companies can focus on 5G solutions and applications that advance the public good, whether through making dents in health and wellness disparities or helping students gain access to more equitable learning environments and communities. In either case, the increased availability of spectrum will create the allowances for more strategic and purposeful IoT applications that can support communities of color and other vulnerable populations.

Conclusion

5G represents increased economic opportunity through improved access to social services, such as health care, education, transportation, energy, employment, and even public safety for communities of color—and, frankly, any other vulnerable group—that lacks access to a reliable broadband connection. This attribute is particularly important for African-Americans and Hispanics who have become increasingly reliant on mobile networks for broadband connectivity, while experiencing a degree of isolation from institutional and social services.

5G represents increased economic opportunity through improved access to social services for communities of color—and, frankly, any other vulnerable group—that lacks access to a reliable broadband connection.

5G access will not only provide an online gateway, but it will also expose certain populations to myriad benefits, including those enabled by IoT, which can ultimately improve the quality of their lives.

As efforts to advance the new technology become more prominent among legislators, communications providers, and even some citizen groups, U.S. policymakers must work diligently to identify and support 5G network deployment and adoption nationwide, especially in ways that bring exponential benefit to Americans in need. Without these actions, certain populations will remain relegated to the wrong side of the digital divide, failing to realize the power and potential of existing and emerging technologies.

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Footnotes

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QUESTIONS AND ANSWERS FOR THE RECORD

Questions for the Record of the Honorable Ted W. Lieu for

Mr. John Legere, Chief Executive Officer, T-Mobile

1. What is the purpose of the "out-of-plan number program"?
2. How are "out-of-plan" numbers different from numbers that are included in your plans?
3. How many telephone numbers are deemed "out-of-plan" by T-Mobile?
4. Does T-Mobile notify consumers of which telephone numbers are deemed "out-of-plan" prior to signing contracts with T-Mobile?
5. How are numbers deemed "out-of-plan"?

Mr. John Legere, Chief Executive Officer and President, T-Mobile US

The Honorable Jim Sensenbrenner (R-WI)

1. During the course of the hearing, there was confusion about whether data submitted by T-Mobile's economists demonstrated that prices would rise should the merger with Sprint be completed. T-Mobile has claimed that its economists' data has been misinterpreted. Can you provide additional information concerning this issue?

   Response: T-Mobile's economists have documented that consumers will benefit from competition and lower prices under conservative assumptions and considering a wide range of different data sources. There is nothing ambiguous or unclear about this showing. The only confusion is caused by false statements by DISH that have been parroted by Free Press and others.

   As we show in our submissions to the FCC on December 18, 2018, February 7, 2019, and March 14, 2019, DISH has repeatedly misinterpreted and mischaracterized our economic analyses. Our analyses have been rigorous, in line with academic literature, and based on actual detailed consumer behavior data. DISH's criticisms, however, have been incomplete and internally inconsistent and ignore fundamental demand estimation and merger simulation methods. Moreover, as we showed in our March 14, 2019 submission to the FCC, DISH has presented an economic study that fabricates harms on low income consumers where none exist. We have called for the FCC to exclude that report from the record because of the serious false statements it contains.

Mr. John Legere, Chief Executive Officer and President, T-Mobile US

The Honorable David N. Cicilline (D-RI)

1. During the hearing, I shared a concern regarding T-Mobile's current policy of "Out-of-Plan" domestic phone numbers, where T-Mobile Unlimited customers are charged an incremental penny-per-minute for dialing a phone number that has been deemed by T-Mobile to be "Out-of-Plan."

   I have concerns that T-Mobile continues to be the only wireless or wireline provider with such a policy, and it seemingly targets specific calling applications, such as FreeConferenceCall.com. The lack of consumer information of this pricing policy is a slippery slope that can seemingly lend itself to frequently increasing the pool of "Out-of-Plan" numbers, a de-facto price increase. It's also my understanding that there is no public notice as to which telephone numbers are "Out-of-Plan" and why such telephone numbers are "Out-of-Plan" and thus, such price increases appear to be done without notice to consumers.

   In your testimony, you underscored a going-forward business plan to freeze price increases, and also that the "New T-Mobile" would honor pricing arrangements that pre-exist with Sprint, both on the consumer side, as well as wholesale arrangements such as roaming and MVNO contracts.

   Considering your repeated commitments on these issues, will New T-Mobile continue its "Out-of-Plan" domestic phone numbers for Unlimited customers, since Sprint does not have this pricing policy in place today?

   Response: The "out-of-plan" or OOP program provides an important safeguard for consumers that we would continue following the merger.

   Some companies inflate or "pump" traffic for their own financial benefit. These companies partner with a high-cost provider in return for kickbacks. In 2012, the FCC described these practices as arbitrage that raises costs, hurts consumers, and requires customers who don't use the services to pay for them. T-Mobile's OOP program exists to defray the costs created by companies whose business model is to stimulate large call volumes to higher-cost connections. Our OOP program ensures that T-Mobile does not pass along these high costs onto the vast majority of customers who are not interested in them, while at the same time allowing the less than one percent of customers that want these services to get them at a one cent charge.

   T-Mobile has always been clear that its plans that include talk and text offer unlimited direct communications between two people, so calls to chat lines, radio broadcast lines, and similar services may not be included in our plans. Fewer than three out of every 1,000,000 telephone numbers are included in our OOP

Program. Customers who do want to call a number in the OOP program are notified of the $0.01 per minute charge when they dial but before they incur the charge. Those terms are clearly disclosed online and in our terms and conditions (see T-Mobile Support, Out-of-plan phone numbers, https://support.t-mobile.com/docs/DOC-33322; T-Mobile Terms and Conditions, https://www.t-mobile.com/responsibility/legal/terms-and-conditions), so consumers can consider them before signing up for one of our plans.

As explained in our pricing commitment, New T-Mobile will honor its current plans, and Sprint's current plans, for the next three years.

Attachment—Additional Questions for the Record
Page 4

Mr. John Legere, Chief Executive Officer and President, T-Mobile US

The Honorable Ted W. Lieu (D-CA)

1. What is the purpose of the "out-of-plan number program"?

   Response: The "out-of-plan" or OOP program provides an important safeguard for consumers. T-Mobile's OOP program exists to defray the costs created by companies whose business model is to steer call volume to higher cost connections. These companies partner with a high-cost provider in return for kickbacks. In 2012, the FCC described these practices as arbitrage that raises costs, hurts consumers, and requires customers who don't use the services to pay for them. Our OOP program ensures that T-Mobile does not pass along the high cost incurred by these kinds of services onto the vast majority of customers who are not interested in them, while at the same allowing the less than one percent of customers that want these services to get them at a one cent charge.

2. How are "out-of-plan" numbers different from numbers that are included in your plans?

   Response: T-Mobile's OOP program covers numbers, called by a very small portion of T-Mobile customers, that are not identified with a person, but rather with a chat line or similar service, and impose additional, higher costs on T-Mobile and its customers.

3. How many telephone numbers are deemed "out-of-plan" by T-Mobile?

   Response: Fewer than three out of every 1,000,000 telephone numbers are included in our OOP Program.

4. Does T-Mobile notify consumers of which telephone numbers are deemed "out-of-plan" prior to signing contracts with T-Mobile?

   Response: Yes. Customers are notified which telephone numbers are identified as "out-of-plan" in T-Mobile's disclosures, and customers are given further specific notice upon dialing any of those numbers.

5. How are numbers deemed "out-of-plan"?

   Response: T-Mobile determines which numbers are out of plan by considering the costs associated with calls to that number and other characteristics (e.g., abnormally high call durations).

Questions for the Record submitted by Ranking Member Sensenbrenner

Questions for the Record for John Legere:

1. During the course of the hearing, there was confusion about whether data submitted by T-Mobile's economists demonstrated that prices would rise should the merger with Sprint be completed. T-Mobile has claimed that its economists' data has been misinterpreted. Can you provide additional information concerning this issue?

Questions for the Record for Carri Bennet:

2. During the course of the hearing, there was confusion about whether data submitted by T-Mobile's economists demonstrated that prices would rise should the merger with Sprint be completed. T-Mobile has claimed that its economists' data has been misinterpreted. Can you provide additional information concerning this issue?

Response: RWA has not participated in the review or analysis of T-Mobile's pricing model or the debate among the economists related to the numerous revisions to that model, nor did RWA provide testimony on this issue. RWA members have reported that T-Mobile's roaming prices are 20 times higher than Sprint's in many instances and that T-Mobile's promise to allow a rural carrier to select which roaming agreement it will use after the merger is a meaningless promise, since most of these agreements are set to be renegotiated in less than a few years' time. Consequently, eliminating Sprint as a nationwide roaming option for small rural carriers will lead to price increases for manysmall rural carriers and their customers.

Questions for the Record submitted by Congressman Matt Gaetz

Questions for the Record for Carri Bennet:

1. In October 2010, Senators Jon Kyl, Joe Lieberman, Susan Collins; Rep. Sue Myrick (Source, including full text of the letter: https://www.hsgac.senate.gov/media/minority-media/congressional-leaders-cite-telecommunications-concerns-with-firms-that-have-ties-with-chinese-government) raised concerns about the security of the U.S. Communications grid in a letter to FCC Chairman Genachowski naming both Huawei and ZTE. Please disclose the dates on or after October, 2010 that your members deployed Huawei/ZTE equipment (including upgrades, contract renewals or extensions), or utilized Huawei/ZTE employees for network maintenance or upgrades.

Response: RWA does not track this information on behalf of its members.

I am questioning your statement that RWA members deployed Huawei BEFORE it was known to be a national security threat. In looking back, we believe it is reasonable to conclude that October 2010 is when it was indisputable that concerns were widely known (see link to letter mentioned above).

Response: RWA does not have knowledge of whether its members are aware of the letter linked above or, if they are, when they became aware of the letter.

2. Your firm biography describes your as being "known as a spunky outspoken advocate" who offers RWA members "a strong voice in Washington, DC." You are general counsel of RWA. In your role as general counsel of RWA – including your testimony before Congress and appearance before members of the House, Senate, administration and regulatory bodies – is it your intention to influence public policy?

Response: It is my intention to be truthful and provide information regarding the plight of small rural carriers who are trying to provide broadband services to rural Americans that would otherwise not have access to broadband connectivity.

3. A) What is the role of the RWA board of directors?

Response: The RWA Board of Directors makes all organization-wide decisions in furtherance of its purpose, which is promoting wireless opportunities for rural telecommunications companies through advocacy and education in a manner that best represents the interests of its members.

B) What role do non-voting directors play in RWA's decision making?

Response: Non-voting board members educate the Board and staff on a variety of wireless industry issues in which they have particular expertise.

C) Do non-voting directors offer advice and guidance?

Response: Yes, on a variety of wireless industry issues based on their respective expertise.

D) Has the advice and guidance of non-voting directors affected any decision you have made?

Response: Yes. We rely on all of our board members to offer advice and guidance on a variety of wireless industry issues based on their respective expertise.

If yes, please describe any such decisions in which Huawei's non-voting board member played a role.

Response: There is no specific decision that I can recall where Huawei's non-voting board member played a dispositive role.

If not, please describe in detail the role and function of non-voting board members.

Response: See above.

4. A) Are you aware that Huawei Technologies USA, Inc. is financed and controlled in major part by Huawei China?

Response: I am aware of what has appeared in major publications.

B) Are you aware RWA director William Levy is employed by Huawei Technologies USA, Inc.?

Response: Yes

C) Are you aware Huawei China finances and controls Huawei Technologies USA, which in turn pays William Levy's salary?

Response: I am only aware of what has appeared in major publications.

5. Have you registered as a foreign agent under FARA?

Response: No.

If so, when did you register as a foreign agent under FARA?
If you have not registered, what is the basis of your decision not to so register?

Response: Registering as a foreign agent under FARA is not required. Huawei (US) is an associate member of RWA, and RWA does not represent Huawei's interests before the U.S. Government. I am retained by RWA to represent the interests of its rural carrier members, all of whom are U.S. companies. I do not represent Huawei.