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March 11, 2019

VIA ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street S.W.
Room TWA325
Washington, DC 20554

Re: Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations, WT Docket No. 18-197

Dear Ms. Dortch:

This letter responds to recent filings from 4Competition Coalition ("4CC") and Competition Advocates ("CompAd"), interest-group coalitions that appear to have been formed for the sole purpose of opposing the merger of T-Mobile and Sprint (the "Applicants").[1] These organizations misleadingly argue that: (1) U.S. mobile broadband prices are among the highest in the industrialized world; and (2) European wireless mergers supposedly show that the proposed merger of the Applicants would result in even higher prices. These claims are false, as actual data before and after mergers in the European Union ("EU") demonstrates. Against this data, the opponents present only one, cherry-picked study from a pay-to-play operator that uses a bogus and results-driven methodology.

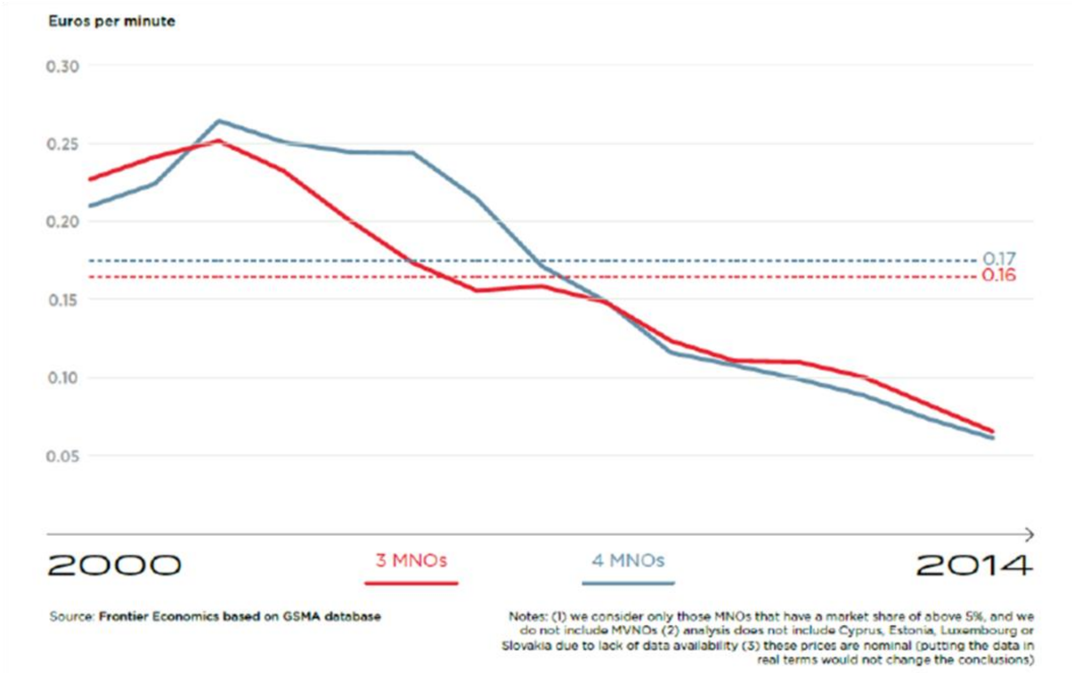
The real evidence from the EU demonstrates that "four-to-three" mergers have not resulted in higher prices for consumers. Mobile broadband prices are falling throughout the EU equally drastically in countries with four mobile network operators ("MNOs") *and* in countries with three MNOs. A recent study prepared for the European Commission found that mobile prices fell throughout Europe between 2017 and 2018, and the report characterized three-MNO countries like Italy, France, Austria, and Germany as "inexpensive" or "relatively inexpensive" for mobile broadband prices.[2] That finding echoes a study conducted by Frontier Economics and GSMA in 2015, which found that prices, as measured by the Average Revenue Per Minute ("ARPM"), had declined steadily between 2000 and 2014.[3] The GSMA analysis showed that ARPM in three-MNO countries was as low as the ARPM in four-MNO countries, as illustrated in Figure 1.

[1] 4Competition Coalition, Notice of Ex Parte, WT Docket No. 18-197 (filed Feb. 7, 2019) ("4CC Ex Parte"); Competition Advocates, Notice of Ex Parte, WT Docket No. 18-197 (filed Dec. 20, 2018) ("CompAd Ex Parte").

[2] Empirica and TÜV Rheinland, *Mobile Broadband Prices in Europe 2018* (Feb. 25, 2019), https://bit.ly/2HrX8JF.

[3] Frontier Economics, *Assessing the case for in-country mobile consolidation*, at 41 (Feb. 2015), https://bit.ly/2TCXSCj.

FIGURE 1: AVERAGE REVENUE PER MINUTE ("ARPM") IN THE EU



This submission briefly summarizes the experience of Germany, Austria, and the Netherlands before and after major MNO merger activity. The data shows how these nations' consumers enjoyed lower prices and higher quality following mergers in the wireless sector. While any cross-national comparisons must recognize the effect of market-specific conditions and circumstances, an increase in concentration among wireless operators does not inexorably increase the price of wireless voice and data. On the contrary, greater scale can—and has—led to precisely the opposite outcome where consumers pay less and get more.

Germany. In 2014, regulators conditionally approved the merger of Telefonica (O2) and KPN (E-Plus) to create a mobile broadband operator with similar scale as the two then-largest incumbents. The evidence shows a reduction in prices. The German Statistical Office reports that the Consumer Price Index ("CPI"), which is a measure of the change over time of what consumers pay for "wireless telecommunications services," decreased by three percent within four years of the merger.[4]

Today, facilities-based operators and MVNOs offer lower prices and considerably more value than before the merger. Several examples illustrate the point:[5]

- Both Telefonica Deutschland and 1&1, Germany's leading MVNO, increased consumers' data allowances twenty-fold, from 0.5 GB to 10 GB, while keeping prices fixed at €30 per month, including unlimited talk and text.

[4] German Statistical Office, Destatis, https://bit.ly/2ETbeTh (last visited Mar. 11, 2019).

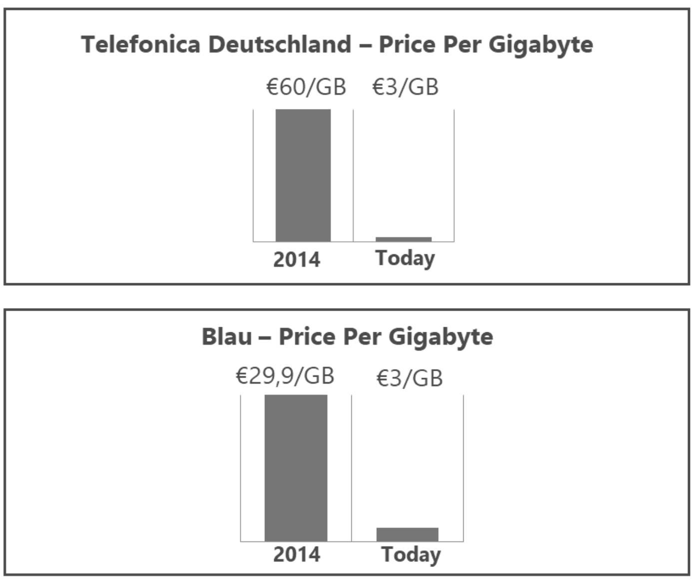
[5] Information in this section comes from *Preismonitor Mobilfunk*, Competitive Intelligence (Feb. 2014) (unpublished report, on file with T-Mobile).

- Blau, a discount brand offered by Telefonica Deutschland, offered 1 GB data and unlimited talk and text for €29.90 in February 2014. Today, Blau offers five times the data at half the price and three times the data for a third of the price.

- Aldi Talk (the brand of a leading discount supermarket chain) offers 1.5 GB and unlimited talk and text in 2018 for only €8. Six months before the merger, however, it offered only 0.3 GB at the same price. Prices not only decreased, but quality also improved substantially for the low-end segment.

- A Deutsche Telekom customer today pays nearly 45 percent less than in 2014 for a comparable product and may purchase six times more data at the same price. In February 2014, 2 GB plus unlimited talk and text cost €64, whereas 2.5 GB plus unlimited talk and text cost €37 today. Congstar offers six times more data, along with unlimited talk and text, for the same price (€30) that it offered in 2014.

FIGURE 2: GERMANY – MORE FOR LESS POST-MERGER



Source: Preismonitor Mobilfunk (February 2014)

Austria. In 2012, the European Commission conditionally approved the merger of Hutchinson and Orange, the third- and fourth- place mobile broadband operators in Austria. Prices in Austria fell sharply after the merger. In total, the post-merger mobile price index declined 10 percent until December 2018, and there has been no deviation from the price declines observed in other countries.[6]

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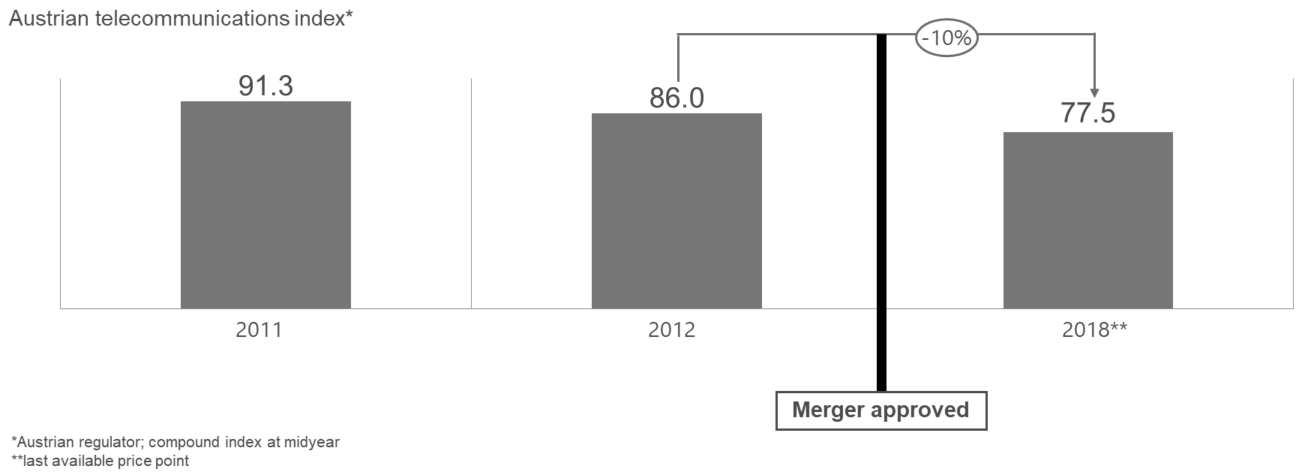
[6] Similarly, in its annual report, RTR, the Austrian telecommunications regulatory authority, reported a steady decrease in prices following the merger from 2015 onward. RTR, *Telekom Monitor Jahresbericht 2017,* at 31 (2017), https://bit.ly/2tt1Jmt.

FIGURE 3: AUSTRIAN PRICES FELL POST-MERGER



Quality-adjusted prices have declined even more considerably.[7] Subscribers to Telekom Austria's discount brand BOB still pay €14.90/month but receive 15 times more data than they did pre-merger. Consumers also enjoy unlimited talk and text instead of 1000 minutes and 1000 texts. Subscribers to A1, another major wireless carrier in Austria, also saw steep drops in quality-adjusted prices. In June 2012, A1 subscribers paid €39.90 for 3000 minutes, 1000 texts, and only 1 GB of data. Today, A1 subscribers get unlimited talk and texts and 8 GB of data for the same price.

Consumers received not only lower prices and more data following the merger, but also better coverage and greater speeds. Due to the combined entity's increased scale and network synergies, consumers saw the accelerated rollout of 4G in Austria (20–30 percent within the first two years), faster upload and download speeds from the merging parties (increases of 7 Mbps and 3 Mbps, respectively, in the first two years), and a general improvement industry-wide in Austria's upload and download speeds.[8] A 2015 study, moreover, found a post-merger decrease in the unit price of mobile data plans by $6 per gigabyte.[9] That trend, which predated the merger, did not change after the transaction was approved.[10]

Netherlands. In 2007, regulators unconditionally approved the merger of T-Mobile NL and Orange NL; the combined entity became the third largest mobile operator in the Netherlands. ACM, the Dutch competition regulator, found a decreasing trend in prices for

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[7] The underlying information in this paragraph is on file with T-Mobile.

[8] Xavier Pedrós et al., *Assessing the Impact of Mobile Consolidation on Innovation and Quality: An Evaluation of the Hutchison/Orange Merger in Austria*, at 31 (July 2017), https://bit.ly/2RQEOQK.

[9] Georges Vivien Houngbonon, *The impact of entry and merger on the price of mobile telecommunications services,* 26th European Regional Conference of the International Telecommunications Society (ITS), Madrid, Spain, at 3 (June 2015), https://bit.ly/2NY9drp.

[10] HSBC Global Research, *Enigma: Unravelling the fate of Europe's telecoms mergers*, at 37 (Jan. 2019).

mobile services from 2010 to 2016, all of which occurred following the 2007 merger.[11] As ACM noted, Merrill Lynch also found in a March 2017 report that the price of mobile telecommunication services in the Netherlands fell by 60 percent between 2013 and 2016.[12] According to the Dutch government's Consumer Bureau of Statistics, the CPI for "wireless telephone services" decreased by approximately 50 percent between January 2011 and February 2019.[13]

These results are consistent with a subsequent four-to-three merger in the Netherlands, too. Following the unconditional approval of the merger between T-Mobile NL and Tele 2 NL, CPI declined by nearly 4 percent between November 2018 and February 2019. The CPI for mobile communications appears below, in orange, from the Consumer Bureau of Statistics website:

FIGURE 4: NETHERLANDS CPI POST-MERGER

* * *

Against this body of evidence, 4CC and CompAd's unsupported claims about so-called "four-to-three" mergers and cross-country comparisons are wrong. These groups rely on a report from Rewheel Oy, a Finnish advocacy outfit that has been known to deliver (or withhold) its findings on a pay-to-play basis in exchange for support in the relevant merger review proceeding.[14] The Rewheel report has not been peer reviewed, cherry picks the relevant data,

[11] Autoriteit Consument & Markt, *Advies multibandveiling 2019,* at 27 (Oct. 10, 2017), https://bit.ly/2Gu6d4V.

[12] *Id.*

[13] *See* Consumer Bureau of Statistics, *Consumer prices; price index 2015=100* (category 083020), https://bit.ly/2HcGUVt (last visited Mar. 11, 2019). The expenditure category "wireless telephone services" includes national calls, including voice and video calls; international calls, including voice and video calls; messages, including voice, text (SMS), and multimedia (MMS) messages; other mobile telephone services; wireless telephone equipment; the cost of telephone equipment if included in subscription costs; and mobile phones included as part of the service plan package.

[14] Rewheel Oy, *The State of 4G pricing–2H2018 Digital Fuel Monitor 10th release, October 2018*, (Oct. 2018),

says little about prices in the United States relative to other countries, and contains no transaction-specific analysis of the proposed merger of T-Mobile and Sprint.

Rewheel's studies are artful misinterpretations of pricing data around the world, as others have observed.[15] First, the Rewheel study does not examine the effects of actual four-to-three mergers or address the particular facts of the mergers described above. Instead, Rewheel compares markets that have four carriers against markets that have three. That faulty reasoning ignores the reality that mobile wireless services in countries differ for many reasons other than market structure. Offering wireless services in countries with lower population densities and higher labor costs is more expensive than offering wireless services in countries with higher population densities or lower labor costs. Low population density and high labor costs require more scale or price increases to reach profitability. Likewise, consumers' demand for data will vary by country. In countries where consumers demand more data allowances (as measured in gigabytes) and higher speeds (as measured in megabits per second), more traffic will exert a greater strain on network resources and cost more per gigabyte to support. Thus, putting its other methodological issues aside, if the Rewheel study is measuring anything, it is the obvious and well-accepted point that the market features that make wireless service more expensive to offer lead to higher prices. (And, indeed, that point bolsters the conclusion that, because New T-Mobile will have a lower cost of serving customers, it will have lower prices.)

Second, Rewheel's method for determining the "price" in a given country is arbitrary. Chief among the organization's methodological errors is comparing imaginary bundles of services that do not exist in the United States or most anywhere else. In its study, Rewheel attempts to record the monthly recurring charge and data allowance for a smartphone plan at predetermined prices points (*e.g.*, €5, €10, €15, €20, €25, €30, €40, €50, €60, etc.). For each price point, Rewheel then ranks all studied countries according to the one plan that offers the most data at that price. For each price plan, moreover, Rewheel divides the monthly recurring charge by the monthly data allowance and then ranks the studied countries according to the price per megabyte of the middle plan. Rewheel misleadingly labels this the "median" price per megabyte to give it the air of statistical sophistication, when it is nothing of the sort: it has nothing to do with the plan that the median *subscriber* may actually be purchasing. Rewheel's so-called median price per unit does not reflect what consumers see or purchase in the real world—as do, for example, other summary measures such as average revenue per user ("ARPU")—and therefore does not say anything meaningful about prices in a country, much less about relative prices in different countries.

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https://bit.ly/2FHcAkd ("Rewheel Study").

[15] Communications Chambers, a firm specializing in telecom, media, and technology, concluded, for example, that an earlier version of the Rewheel study had "overstated prices by as much as 50%," and suffered from multiple other critical omissions. Robert Kenny and Tom Broughton, *A critical analysis of the Rewheel paper, EU27 mobile cost data competitiveness report – May 2013*, Communications Chambers, at 2 (June 17, 2013), https://bit.ly/2FJNYYh. Communications Chambers also criticized Rewheel's inconsistent approaches across the study countries and concluded that price differences between countries could not be explained by Rewheel's "complex theories of market behaviour." *Id.* at 3. Other commentators similarly explained that Rewheel connected "two clearly separated concepts, price levels of a carrier . . . and price changes based on data volume," leading to inconsistent study results. *See* Solchaga Recio & Asociados, *Rebuttal of the mobile internet prices analysis using the incremental gigabyte*, Telefónica, at 3 (Apr. 2015), https://bit.ly/2CpWHvo.

Nearly as damning, Rewheel fixates on price to the virtual exclusion of every other dimension of mobile service.[16] Rewheel compares bundles of services that do not exhibit the same capacity, throughput, quality of service, security, latency, coverage, error correction, retail accessibility, customer service, internetworking, device selection, or other attributes. The study, for instance, treats all plans with a voice allowance of more than 1,000 minutes and a download speed of more than 3 Mbps as fungible.[17] But whether one plan is "cheaper" than another depends not only on the data allowance, but also on how consumers value the different plan attributes.

And yet CompAd and 4CC compound their flawed assumptions by following Rewheel in attributing ostensible differences in median per gigabyte pricing to one and only one factor: the number of competitors in a market. This conclusion is unwarranted and simplistic. Due to the numerous variables involved, cross-country wireless comparisons are notoriously complex and often unrevealing. That is especially true where, as here, the Commission has a statutory obligation to examine *this transaction*, not other transactions in other countries, many of which happened years earlier. Reductive bromides about "four-to-three" say nothing about the present transaction, where the two smallest nationwide mobile network operators will create tens of billions of dollars in consumer-friendly efficiencies through merging and yet remain smaller than the two largest nationwide operators.

Consistent with the reality that the details of particular mergers matter, the Applicants have outlined in this proceeding why New T-Mobile's business plan calls for a decrease—not increase—in prices.[18] To verify the economic sense of New T-Mobile's business plan, the Applicants have submitted numerous economic studies demonstrating that the cost reductions and performance improvements that the combination unlocks will give New T-Mobile the incentives to do exactly that.[19] And, as even further confirmation, John Legere, CEO of T-Mobile, has unequivocally committed that New T-Mobile will make available the same or better rate plans as those offered by T-Mobile or Sprint as of February 4, 2019, for three years following the merger, the time during which New T-Mobile will be migrating the legacy Sprint customer base and integrating the networks.[20] T-Mobile has built its brand on offering affordable wireless service, and it would not destroy that hard-earned reputation by abandoning its business strategy or by breaking its commitment to the Commission and the public.

* * *

[16] *See* Letter from International Center for Law and Economics to Hons. Jerrold Nadler, et al., House Judiciary Committee, at 8-9 (Feb. 28, 2019), *attached hereto* as Attachment A.

[17] Rewheel Study at 10.

[18] *See, e.g.*, Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer Control of the Licenses and Authorizations, WT Docket No. 18-197, Description of Transaction, Public Interest Statement (filed June 18, 2018) ("PIS"), App. D: Decl. of Peter Ewens at ¶ 8 ("the financial model projects passing scale benefits on to customers in the form of an over 6 percent reduction in ARPU . . . for a network that will be significantly faster, higher capacity, and lower latency").

[19] *See, e.g.*, PIS, App. H: Joint Decl. of Professor Steven C. Salop and Dr. Yianis Sarafidis.

[20] *See* Letter from John Legere, Chief Executive Officer of T-Mobile US, Inc., to Ajit Pai, Chairman, Federal Communications Commission, WT Docket No. 18-197 (Feb. 4, 2019).

In short, the evidence from Europe does not support the claim that "four-to-three" mergers lead to higher prices for consumers. The evidence, if anything, suggests that the opposite is true. And the "study" to which CompAd and 4CC cite is an outcome-driven advertising piece that deserves no weight in this proceeding. It has not been peer reviewed. And it contains basic logical errors that cast doubt on all of its conclusions. The remainder of 4CC and CompAd's filings rehash the usual kitchen-sink arguments that the Applicants have already refuted in the record,[21] and these arguments need not be revisited here.

This letter is filed pursuant to section 1.1206(b) of the Commission's rules governing *ex parte* communications. Please direct any questions regarding this submission to me.

Respectfully submitted,

/s/ Trey Hanbury

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[21] *See, e.g.*, PIS at 42-43 (explaining how the companies' standalone 5G plans pale in comparison to the speed, coverage, latency, time-to-market, and other performance characteristics that New T-Mobile's 5G network would deliver); Joint Opposition of T-Mobile US, Inc. and Sprint Corporation, WT Docket No. 18-197, at 93-98 (filed Sept. 17, 2018) ("Joint Opposition") (explaining that increased coverage and better speeds in rural areas are merger-specific benefits); Joint Opposition at 9-13 (explaining how experts have found that DISH's economic modeling suffers from serious shortcomings because, among other things, it fails to consider the efficiencies that the merger would generate); Joint Opposition at 73-85 (demonstrating that the merger would intensify prepaid competition while explaining that there is no separate prepaid "market" for the purpose of a proper competition analysis); Joint Opposition at 85-92 (explaining that the increase in network capacity that the merger enables will drive down the wholesale rates that MVNOs pay); Joint Opposition at 24-25 (correcting opponents' misrepresentations of what the spectrum screen means).

Attachment A

February 28, 2019

VIA EMAIL

The Honorable Jerrold Nadler, Chairman
House Judiciary Committee

The Honorable Doug Collins, Ranking Member
House Judiciary Committee

The Honorable David N. Cicilline, Chairman
Antitrust, Commercial and Administrative Law Subcommittee
House Judiciary Committee

The Honorable F. James Sensenbrenner, Ranking Member
Antitrust, Commercial and Administrative Law Subcommittee
House Judiciary Committee

Re: **The proposed T-Mobile/Sprint merger and the state of the relevant economic literature**

Dear Congressmen Nadler, Collins, Cicilline, and Sensenbrenner:

The International Center for Law and Economics (ICLE) is a nonprofit, nonpartisan research center whose work promotes the use of law & economics methodologies to inform public policy debates. We believe that intellectually rigorous, data-driven analysis will lead to efficient policy solutions that promote consumer welfare and global economic growth.[1]

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[1] ICLE has received support from telecom firms with diverse and often-divergent interests in the outcome of this merger review. We have also received support from non-telecom companies with similarly divergent interests in the merger. With few exceptions, all ICLE support is general support, and no company's donation represents more than 10% of our budget. This letter reflects the views of its authors and does not necessarily reflect the views of ICLE's board, donors, scholarly affiliates, or academic advisors.

We write to address a crucial question relevant to your upcoming, March 12 hearing 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": the likely effects on consumer welfare that a "4-to-3" merger among the largest US mobile carriers would have. We are currently working on a comprehensive literature review of economic studies looking at such mergers in other developed countries. Although that review is not yet completed, this letter shares several notable preliminary conclusions for consideration by the Subcommittee.

I. The consumer welfare effects of mobile communications mergers cannot be assessed by looking only at price

When analyzing mergers, the question at the heart of the enforcement inquiry is whether a transaction's potential benefits to consumers outweigh its potential costs. The most obvious potential cost is price increases, and these are, of course, central to the analysis. But increased prices are by no means inevitable, and they may be offset by other benefits, such as improvements in efficiency, reliability, and other qualitative factors. As the commentary on one recent study notes:

> [A] merger can be justified if there are large efficiency gains from the merger (e.g., because investments in the broadband networks increase). Hence, it is important to assess empirically the existence of this potential trade-off between efficiency gains and increases in prices charged to consumers.[2]

A fundamental tenet of most critics of this merger is that increased concentration will lead to higher prices. **But the only thing that can be concluded with certainty from the myriad findings of previous mobile carrier merger studies is that the relationship between concentration and price is simply not amenable to such facile inferences.**

Studies show a range of effects from telecom mergers in countries with different regulatory regimes, geographies, input prices, demand, and the like. These studies conclusively demonstrate only one thing: **a merger's effects on consumer welfare is a function of a great many factors other than simply the number of firms in a given market.** These other characteristics simply wouldn't loom so large in the studies

[2] Francesco Drago, Discussion of Christos Genakos, Tommaso Valletti & Frank Verboven, *Evaluating market consolidation in mobile communications*, 33 (93) ECON. POL'Y 86, 87 (2018).

we've reviewed if concentration were the sole, or even the most significant, determinant of an industry's competitiveness.

As the authors of one study conclude:

> [T]he main pay-off from an understanding of the expected efficiencies arising from a horizontal merger is likely to be the insights this gives about the nature of competitive rivalry in an industry, which in turn will assist in gathering evidence on market dynamics and likely supply-side responses. Such evidence should not be an after-thought. It deserves a central role in a unilateral effects assessment that justifies a departure from the constraints imposed by simple theoretical static models.[3]

Overall, enforcers and policymakers have to be careful drawing conclusions from cross-country comparisons. Some things *can* likely be inferred from the weight of the literature, but such inferences must account for differences that may suggest completely different effects would be seen in other countries. Because mobile carriers operate in markets facing their own unique set of regulations, costs, and market conditions, it is crucial to identify research that attempts to control for these factors. Thus, decisions should be informed by statistical analyses that properly account for these variables, rather than on narrative-driven anecdotes reported in trade journals or the popular press.

II. Overview of our preliminary review of the literature

Our initial review of the literature has revealed a number of important insights. In general, the literature appears to describe dynamic markets of steadily increasing consumer welfare driven by innovations that improve network quality and data speeds, expand coverage, and reduce prices. Each market faces its own unique set of regulations, costs, and market conditions. It is impossible for any single study to control for all of these factors, and the literature is a patchwork of research in which each study attempts to isolate the subset of factors that are of particular interest to the researchers.

Attempting to generalize from such a literature is a fraught endeavor.

Several variables can affect the outcome of a cost-benefit analysis of a 4-to-3 merger. Based on our initial literature review, particularly salient factors include:

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[3] Christos Genakos, Tommaso Valletti & Frank Verboven, *Evaluating market consolidation in mobile communications*, 33 (93) ECON. POL'Y 45, 85 (2018).

- Differing characteristics of relevant regulatory regimes
- Industry characteristics that vary across jurisdictions
- Costs of network deployment in terms of the size of the network and the presence of scale economies
- Differential levels of expected and actual capital expenditure

Overall the studies find mixed results from the evaluated mergers, without any clear consensus concluding that increased concentration in mobile communications markets leads to higher prices.

Moreover, the consumer welfare effects of mobile industry mergers appear to be largely dependent on the specific market conditions (like the regulatory environment) in which a merger takes place, the size of the merging firms, and a number of other factors.[4]

- This is consistent with a study performed by the Body of European Regulators for Electronic Communications ("BEREC"), which found that the effect of mergers on relevant metrics, like price, are mixed, with several mergers resulting in *price decreases*.[5]
- Similarly, after controlling for capital expenditures (a measure of quality) and GDP (a measure of demand), a 2014 study found no statistically significant difference in prices among European markets with three carriers compared to those with four.[6] And the authors of that study found that markets with higher average prices were also markets with higher capital expenditures by carriers.
- Meanwhile, a 2015 study found that a 4-to-3 merger in Austria was associated with a *decrease* in the unit price of mobile data plans, while the entry of a fourth

[4] BODY OF EUROPEAN REGULATORS FOR ELECTRONIC COMMUNICATIONS (BEREC), REPORT ON POST-MERGER MARKET DEVELOPMENTS – PRICE EFFECTS OF MOBILE MERGERS IN AUSTRIA, IRELAND AND GERMANY 6-10 (June 15, 2018), https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8168-berec-report-on-post-merger-market-developments-price-effects-of-mobile-mergers-in-austria-ireland-and-germany.

[5] *Id.*

[6] Pauline Affeldt and Rainer Nitsche, *A price concentration study on European mobile telecom markets: Limitations and insights*, European School of Management and Technology Working Paper #14-07 (2014), https://www.esmt.org/pub/price-concentration-study-european-mobile-telecom-markets-limitations-and-insights. In fact, the authors' alternative statistical model found lower prices in markets with three carriers compared to those with four.

carrier in France was associated with an *increase* in unit price.[7] These results directly contradict a claim that 4-to-3 mergers necessarily result in price increases.

In addition to price effects, factors such as network coverage, investment, and speed of rollout are important considerations for mobile mergers.

- Several studies have found that 4-to-3 mergers have resulted in greater network quality, data speeds, network access, capital expenditures, and/or consumer welfare. For example, one study found that a 4-to-3 merger led to faster roll-out of 4G in Austria, increased upload and download speeds for the merging parties, and a general improvement industry-wide in Austria's upload and download speeds.[8]
- In other words, it is important to take account of the preferences of consumers—not merely to incorporate a regulator's abstract preference for lower prices irrespective of other qualitative effects. To this point, the authors of one study noted a potential pitfall for coverage and rollout when too many facilities-based competitors enter a particular market.[9]
- In line with this finding, other studies found that some 4-to-3 mergers can lead to more investment in buildout and coverage.[10]
- A recent review of the Hutchison/Orange merger in Austria specifically sought to evaluate the relevance of these quality effects on consumer welfare. It noted that, on average, consumers in Austria rate quality-related factors more highly than cost-related factors.[11] The review found that these quality-related factors improved following the merger: 4G network coverage increased 20-30 percent and 4G download and upload speeds increased. By this measure, and in this

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[7] Georges Vivien Houngbonon, *The impact of entry and merger on the price of mobile telecommunications services,* 26th European Regional Conference of the International Telecommunications Society (ITS), Madrid, Spain, 24-27 (2015), http://hdl.handle.net/10419/127148.

[8] Xavier Pedros, Kalvin Bahia, Pau Castellas, Serfino Abate, *Assessing the Impact of Mobile Consolidation on Innovation and Quality: An Evaluation of the Hutchison/Orange Merger in Austria* (July 2017), https://bit.ly/2RQEOQK.

[9] Georges Vivien Houngbonon and Francois Jeanjean, *Is there a level of competition intensity that maximizes investment in the mobile telecommunications industry?*, 25th European Regional Conference of the International Telecommunications Society (ITS), Brussels, Belgium, 22-25 (2014), https://www.econstor.eu/bitstream/10419/101384/1/795228635.pdf.

[10] *See, e.g.*, HSBC Global Research, *Supersonic: European telecoms mergers will boost capex, driving prices lower and speeds higher* (Apr. 2015), https://www.orange.com/fr/content/download/33263/1086075/version/2/file/Supersonic+13.04.15.pdf.

[11] Xavier Pedros, Kalvin Bahia, Pau Castellas, Serfino Abate, *supra* note 8. By contrast, on average, consumers across all EU28 countries rated cost-related factors more highly than quality-related factors. In other words, consumer preferences vary across markets.

market, the merger appears to have improved consumer welfare in ways that a single-minded focus on price would miss.

- One notable recent analysis found that while a hypothetical 4-to-3 merger might lead to price increases (based on the authors' specific assumptions of market conditions), it would also be associated with significant efficiency improvements and increases in per-firm investment.[12]

Yet even with the complexities evident from the mixed results across different jurisdictions, some common themes are likely to emerge that can help guide the analysis of the T-Mobile/Sprint merger.

Notably, it appears that—contrary to the presumption that the presence of a larger number of carriers is always more desirable than fewer—there may in fact be an *optimal* number of carriers in a market for a given set of cost, demand, and regulatory factors.[13] For example, two studies conclude that there is an inverted U-shaped relationship between the "intensity" of competition and investment by mobile carriers.[14]

III. The pitfalls of some cross-country comparisons

Critics of the present merger often point to Canada as a cautionary example of a market served mostly by three carriers.[15] However, the Canadian market is very different from other markets, including the US. Canada is a large country with a small population. Population density in Canada is approximately 10 persons per square mile, while the US has more than 85 persons per square mile. In addition, Canadian regulations make it more difficult for mobile virtual network operators (MVNOs) to enter the market. **These and other factors that render market conditions in Canada substantially different than those the US, and, absent a**

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[12] Christos Genakos, Tommaso Valletti & Frank Verboven, *supra* note 3.

[13] *See generally* Rabah Amir, *Market structure, scale economies and industry performance*, CORE Discussion Paper 2003/65 (2003), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=995721 ("[O]ur results indicate that in the presence of scale economies… social welfare decreases if the number of firms exceeds some socially optimal level.").

[14] *See* HSBC Global Research, *supra* note 10; Georges Vivien Houngbonon and Francois Jeanjean, *supra* note 9.

[15] Testimony of Phillip Berenbroick, Senior Policy Counsel, Public Knowledge, Before the U.S. House of Representatives Committee on Energy & Commerce Subcommittee on Communications & Technology, *Protecting consumers and competition: An examination of the T-Mobil and Sprint merger* (Feb. 13, 2019), at 7.

much more careful analysis than we've seen, it is impossible to conclude that this merger would result in the same prices (and other outcomes) experienced there.

One critic of the merger cites the European Commission's analysis of a mobile carrier merger in the Netherlands and reports that the four to three merger between T-Mobile and Orange "led" to prices rising "as much" as 17 percent higher than they would have been otherwise.[16] This criticism fails to mention that this result applied only to the "high basket" of usage, with insignificant or small impacts in smaller "baskets" of usage. In fact, the Commission notes that prices actually decreased after the merger—albeit by less than in "control" countries studied. This is one reason that the Commission concluded that "some of the estimated price increase may not be causally linked to the T-Mobile/Orange merger."[17]

IV. The Rewheel study should not be relied upon

In his testimony before the House Committee on Energy & Commerce ,Subcommittee on Communications & Technology, Phillip Berenbroick of Public Knowledge referred to "[a]n October 2018 report from Finnish research firm Rewheel[, which] found that consumers in markets with three facilities-based providers paid twice as much per gigabyte as consumers in four firm markets."[18] **However, the Rewheel Study that Mr. Berenbroick relied upon appears to have a number of significant flaws**, including:

- The Rewheel study is essentially limited to price effects alone which, as we note above, can mislead the analysis by missing, among other things, innovation and quality effects.
- Rewheel's analysis is not based on an impartial assessment of relevant price data. Rather, it is based on two hypothetical measures: (1) the maximum amount of gigabytes of data an individual could purchase for €30 a month, and (2) the median price per gigabyte of data for plans with at least 1,000 minutes and

[16] *Id.* at 6.

[17] Directorate General for Competition, *Ex-post analysis of two mobile telecom mergers: T-Mobile/Tele.ring in Austria and T-Mobile/Orange in the Netherlands*, European Commission (2015), http://ec.europa.eu/competition/publications/reports/kd0215836enn.pdf.

[18] Philip Berenbroick, *supra* note 15, *citing*: Rewheel/research, *The state of 4G pricing – 2H2018*, Digital Fuel Monitor 10th Release (Oct. 26, 2018) at 6, http://research.rewheel.fi/downloads/The_state_of_4G_pricing_DFMonitor_10th_release_2H2018_PUBLIC.pdf.

3Mbit/s for HD video. Such comparisons say nothing about the plans chosen by consumers or the actual prices paid by consumers in those countries, rendering Rewheel's comparisons virtually meaningless. As Pauline Affeldt and Rainer Nitsche note in their assessment of the effects of concentration in mobile telecom markets:

> Such approaches are taken by Rewheel (2013) and also the Austrian regulator rtr (when tracking prices over time, see rtr (2014)). Such studies face the following problems: They may pick tariffs that are relatively meaningless in the country. They will have to assume one or more consumption baskets (voice minutes, data volume etc.) in order to compare tariffs. This may drive results. Apart from these difficulties such comparisons require very careful tracking of tariffs and their changes. Even if one assumes studying a sample of tariffs is potentially meaningful, a comparison across countries (or over time) would still require taking into account key differences across countries (or over time) like differences in demand, costs, network quality etc.[19]

- The Rewheel study bases its comparison on dissimilar service levels by not taking into account, for instance, relevant features like comparable network capacity, service security, and, perhaps most important, overall quality of service.

Ultimately, the Rewheel study elides far too many relevant distinctions between countries to make its data useful.

V. Conclusion

Looking at price effects alone in assessing mergers is troubling not only because different factors can lead to different price effects from mergers, but also because superficially higher prices may mask real competitive benefits. As one theorist explains:

> An alternative explanation for price increases or decreases instead may be that the merger led to changes in the quality of the merged firms' products. Thus, rather than market power, price increases may reflect

[19] Pauline Affeldt and Rainer Nitsche, *supra* note 6, at 3.

> quality improvements; and rather than cost reductions, price decreases may reflect quality degradation.[20]

Moreover, several studies that have looked beyond the simplistic concentration-price relationship have found that apparent price increases following mergers in several industries were offset by efficiency gains that ultimately led to lower prices.[21]

Our preliminary assessment of available studies suggests that it would be inappropriate to conclude that consumers would be harmed by a 4-to-3 merger. Indeed if, as appears to be the case in this merger, the resulting market structure is closer to the "optimal" structure, consumers stand to benefit considerably from improvements in access and quality, as well as continuing reductions in price.

However, cross-country comparisons may be of limited relevance to the assessment of any particular transaction because conditions can vary widely in ways that can decisively alter outcomes. **We caution against drawing simplistic conclusions regarding the possible effects on price based on inappropriate comparisons from other jurisdictions that fail to take into account relevant local factors**.

Respectfully submitted,

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[20] Michael D. Whinston, *Antitrust policy toward horizontal mergers*, in 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 2369, 2432 (Mark Armstrong & Robert H. Porter eds., 2007).

[21] *See, e.g.*, Orley Ashenfelter, *et al.*, *Efficiencies brewed: pricing and consolidation in the US beer industry*, 46 RAND. J. ECON. 328 (2015) (finding that "[a]ll else equal, the average predicted increase in concentration [from the 3-to-2 merger of brewers Miller and Coors] led to price increases of 2%, but at the mean this was offset by a nearly equal and opposite efficiency effect"); Dario Focarelli & Fabio Panetta, *Are mergers beneficial to consumers? Evidence from the market for bank deposits*, 93 AM. ECON. REV. 1152 (2003) (finding "strong evidence that, although [banking industry] consolidation does generate adverse price changes, these are temporary. In the long run, efficiency gains dominate over the market power effect, leading to more favorable prices for consumers").