Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Wireless Telecommunications Bureau	)	WT Docket No. 10-133
Seeks Comment On the State of Mobile	)	
Wireless Competition	)	
	)	

REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

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Dated: August 16, 2010

SUMMARY

The record in this proceeding demonstrates that the mobile ecosystem is vibrantly competitive and provides enormous benefits to the public. While a few parties have attempted to justify parochial regulatory actions by arguing that the market has failed in one respect or another, these claims rely on flawed data or flawed analyses of that data. Under these circumstances, the failure to make a finding in the *15th Report* that the market is subject to effective competition would be unreasonable and violate the FCC's statutory mandate.

Based on the voluminous data submitted by CTIA from its semi-annual survey and other sources, the mobile wireless industry has continued to grow, invest, innovate, and compete to the benefit of American consumers. While traditional voice services may be maturing, growth in new data services and intensive, targeted, marketing have resulted in continued overall expansion of the market. Against this backdrop, carriers continue to invest in and expand their 3G and 4G networks, while at the same time launching innovative new services, products, and rate plans. Additionally, handset manufacturers continue to innovate and introduce new devices into the U.S. market. By virtually any metric, the industry shows robust competitive forces at work—and comparisons to international markets show that competition has paid dividends for U.S. subscribers. The comments in this proceeding by market participants corroborate the aggregate figures provided by CTIA and offer additional examples of innovation and competition.

Against this backdrop, the *14th Report* nonetheless previously failed to make an explicit finding that the industry was subject to effective competition, presumably based on two purported "key trends:" continued industry consolidation and slowing of investment. Yet, as discussed in the attached affidavit of Professor Robert Willig—and by other commenters—these "trends" have been distorted and mischaracterized in a manner that misrepresents the realities of

competition in the dynamic wireless ecosystem. The *14th Report*'s overemphasis on Herfindahl-Hirschmann Indexes ("HHIs"), and HHIs that were incorrectly calculated and therefore overstated concentration, is misplaced. When the forces driving the minimal increases in the actual HHI are examined—changes in market share resulting from rivals' competition in a contestable market as evidenced by the over 66 million existing customers changing carriers each year, and mergers approved by the FCC as being pro-competitive—the marginal increase in HHI is clearly not probative of harmful consolidation. And, with respect to investment, the initial comments of CTIA and others documented that the comparisons drawn in the *14th Report* were inapposite, since the 2008 figures used did not include massive investments in spectrum acquisitions and spending on new greenfield builds.

As CTIA predicted, the misinterpretation of the record data in the *14th Report* due to methodological errors in the presentation and interpretation of the data have led some parties to conclude that market failures exist and regulatory "levers" should be employed to promote some parochial end. While a rational review of the data should lay those concerns—and the notion of improving the market by regulatory intervention—to rest, these same parties have compounded the problem by raising arguments that, as CTIA discusses below, rely on flawed assumptions or faulty logic. When the data is rigorous analyzed, as Professor Willig discusses, it is clear that (1) the wireless market is restrained by competitive forces and (2) invoking regulatory action based on these flawed theories would engender great potential harm to the public.

CTIA submits that the *15th Report* can only have one rational conclusion—that the wireless industry is subject to effective competition—and that the determination of effective competition by the Commission must be explicit.

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REPLY COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® ("CTIA") hereby submits its reply to comments in response to the above-captioned *Public Notice* by the Federal Communications Commission ("Commission" or "FCC").[1] As discussed below, and as amplified in the attached declaration of Professor Robert Willig,[2] the record in this proceeding demonstrates that the wireless ecosystem is vibrantly competitive and provides enormous benefits to the public. While some parties have attempted to justify parochial regulatory actions by arguing that the market has failed in one respect or another, these claims rely on flawed data or flawed analyses of that data. CTIA accordingly urges the FCC, as it reports on the facts submitted in this docket, to make the appropriate—and statutorily required—finding in the *15th Report* that the mobile market is subject to "effective competition."

1 Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition, *Public Notice*, WT Docket No. 10-133 (June 30, 2010) ("*Public Notice*").

2 *See* Declaration of Robert Willig, attached hereto as Attachment A ("Willig Declaration").

I. THE DATA IN THE RECORD DEMONSTRATES THAT THE MOBILE INDUSTRY IS VIBRANTLY COMPETITIVE

Any rational review of the data submitted in this docket confirms that the wireless ecosystem is a highly competitive market. CTIA, in fact, provided a wealth of statistics on the industry as a whole, showing continuing growth, innovation, investment, and strong consumer gains in value and variety. Multiple companies also provided more company-specific data on particular rate plans, investments, or other indicators, all of which correlate with the aggregate industry trends identified by CTIA. As stated by Mobile Future, "[c]hoice defines every corner of the U.S. wireless ecosystem."[3] While some parties did attempt to mischaracterize existing data to allege that the market is not competitive, as CTIA discusses below, those analyses are fundamentally unsound. There can be no serious dispute that the wireless market is vibrantly competitive.

A. The New Data Introduced Into the Record Demonstrate That the Wireless Market is Highly Competitive

CTIA's initial comments in this docket provided a wealth of data based on CTIA's semi-annual report. CTIA's key indicators for 2009, as discussed in its pleading, showed competition intensifying in each segment of the wireless virtuous cycle:

- Wireless providers continue to invest considerably in, build out, and upgrade their networks to better compete based on network quality. By the end of 2009, U.S. wireless carriers' cumulative capital expenditures totaled more than $285 billion, an increase of more than $20 billion from year-end 2008 despite the current recession.

- The number of 3G wireless subscribers continues to grow: there were an estimated 103 million unique 3G wireless subscribers and more than 122 million total 3G wireless subscriptions at the end of 2009.

- Driven by competitive forces, U.S. carriers have made substantial commitments to the deployment of 4G technologies, including both WiMAX and LTE. The commitment to advanced technology is also demonstrated by the fact that, while the U.S. accounts

[3] Comments of Mobile Future, WT Docket No. 10-133 at 2 (filed July 30, 2010).

for only 6 percent of the total world's wireless subscribers, the U.S. has more than 21 percent of the world's 3G subscribers, more than are found in the five largest European countries combined.

- At least 33 companies manufacture more than 630 unique devices for the U.S. market. Significantly, almost all of the hottest and most innovative devices are launched in the United States first, including the Apple iPhone, iPhone 3G, iPhone 3GS and iPhone 4; Apple iPad; Google G1; Motorola Droid and Droid X; MyTouch and Nexus One; Blackberry Storm, Bold, Pearl, Tour and Curve 8900; Samsung Instinct; Palm Pre and Pixi; Amazon Kindle; Barnes & Noble Nook, and the Incredible and EVO 4G from HTC.

- Competition among sophisticated operating system capabilities drives the push for new and innovative services and applications. The number of companies producing independent operating systems for mobile wireless devices has blossomed to at least 11, and, of note, none of these leading systems is owned by a mobile wireless carrier.

- Competition in the wireless ecosystem fuels the development of applications and promotes network openness. As of the end of 2009, U.S. consumers had access to slightly over 130,000 different apps. As of today, that number (conservatively) is well above 300,000, with the number increasing daily.

- The virtuous cycle of the wireless ecosystem has driven consumption of and demand for wireless services. As of December 31, 2009, America's more than 285.6 million active wireless subscribers generated more than 2.27 trillion minutes of use ("MOU"), 1.563 trillion text messages, and 35 billion MMS messages in 2009, all of which represent increases over 2008.

In addition to the voluminous data submitted by CTIA, a number of other carrier commenters also supplemented the record with specific facts about their own networks, or their competitors' activities, for 2009. As discussed below, that data correlates with the statistics provided by CTIA, and lends further support to CTIA's observation that the mobile market is subject to intense competition at all levels.

Notably, every entity actually participating in the mobile market agrees that the market is competitive. Sprint Nextel Corporation ("Sprint") notes that, in an environment characterized by a high level of penetration, "the retail market is likely to continue to be strong in the near term to the benefit of consumers."[4] MetroPCS Communications, Inc. ("MetroPCS") states simply that "[t]here is no question that the retail mobile wireless marketplace is competitive, with five to six retail facilities-based competitors and numerous mobile virtual network operations in most metropolitan areas."[5] Verizon Wireless, for its part, observes that "[t]he inescapable conclusion is that, under this Commission's oversight, the wireless industry, which never lacked effective competition, has seen competition intensify more than ever."[6]

Those anecdotal statements are buttressed by the actual carrier-specific facts entered into the record on growth of networks and investment. Sprint, for example, states that it "became the first national carrier to introduce 4G mobile broadband service with its launch in September 2008 of a mobile WiMAX network in Baltimore."[7] Sprint further explains that, through its partnership with Clearwire, "[at] the end of 2009, Clearwire's mobile WiMAX network was operational in 27 markets covering 34.5 million people" and that its network now "serves 44 markets covering approximately 51 million people."[8] Notably, the Clear network supports CLEAR itself, *and* a variety of resellers, including Sprint, Comcast and Time Warner Cable.[9] Sprint also has launched the HTC EVO 4G, an Android-based phone that makes use of the Clearwire WiMAX network.[10]

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4 Comments of Sprint Nextel Corporation, WT Docket No. 10-133 at ii (filed July 30, 2010) ("Sprint Comments").

5 Comments of MetroPCS Communications, Inc., WT Docket No. 10-133 at 1 (filed July 30, 2010) ("MetroPCS Comments").

6 Comments of Verizon Wireless, WT Docket No. 10-133 at 4 (filed July 30, 2010) ("Verizon Wireless Comments").

7 Sprint Comments at 3.

8 *Id*. at 3.

9 *Id*. at 3-4.

10 *Id*. at 4-5.

While Sprint may be the first to market with a 4G network, other carriers are rapidly moving forward with their own facilities-based 4G services. Verizon Wireless, for its part, states that it "plans to launch [LTE] . . . networks in 25 to 30 markets by the end of 2010, and to cover its 3G network footprint with LTE by the end of 2013."[11] Verizon Wireless also summarized the 4G plans of other competitors, noting AT&T was "[p]reparing LTE field trials in 2010 with plans to deploy in 2011" and that both Leap and U.S. Cellular "[c]onducted LTE technical trials in 2009."[12] MetroPCS stated in its comments that on September 15, 2009, it "announced that it had selected its vendors for its second half 2010 launch of 4G Long Term Evolution ("LTE") wireless services."[13]

The extremely dynamic competition in the wireless marketplace also is reflected in innovations in service plans and pricing introduced by carriers in the past year. Nowhere is this more evident than in carriers' efforts to aggressively market differentiated post-paid, pre-paid and pay-as-you-go offerings as the market matures. AT&T, for example, pointed out to the Commission that it had introduced a low cost, $29.99 per month plan directed at seniors.[14] Sprint discussed its range of pre-paid and no contract plans, including a pay-as-you-go broadband data plan, and further touted plans specially designed for those Americans negatively affected by the recent recession.[15] MetroPCS continued to reach out to non-traditional mobile users with its flat-rate unlimited plans, and noted that its transition to 4G LTE "will allow

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[11] Verizon Wireless Comments at 12.

[12] *Id*. at 68.

[13] MetroPCS Comments at 7.

[14] Comments of AT&T Inc., WT Docket No. 10-133 at 44 (filed July 30, 2010) ("AT&T Comments").

[15] Sprint Comments at 10-15.

MetroPCS to bring broadband to segments of the population which today do not receive broadband data services."[16]

Moreover, price and non-price rivalry in service plans was not restricted to the pre-paid market or niche markets. Verizon Wireless' comments documented major rate plan reductions or enhancements to the value of service offerings for voice by AT&T, Verizon Wireless, U.S. Cellular, Cricket, MetroPCS, NTELOS, SouthernLINC, Sprint, and T-Mobile.[17] Those comments provide a survey of current rate plans for broadband services, SMS, and bundled offerings that documents, if nothing else, a vast array of differentiated product offerings.[18] In fact, as Sprint observes, the absence of a price reduction does not imply value has remained constant. For example, "[w]ith respect to postpaid, term contract plans, Sprint's pricing has held steady during these difficult economic times,"[19] but at the same time, the company has "enhanced the value proposition of its plans."[20] In particular, Sprint expanded its free mobile-to-mobile calling plans to any called mobile phone—regardless of carrier—a feature that provides real actual value to subscribers.

With this acute competition, it should come as no surprise that consumers have reaped significant benefits. As noted by AT&T, "[t]he Better Business Bureau reports that, since 2004, the monthly complaint rate for the wireless industry has fallen 22%," and further that "the number of FCC complaints related to marketing, advertising, contracts, early termination fees,

16 MetroPCS Comments at 8. Verizon Wireless also noted that "Leap launched a nationwide, unlimited talk and text plan for as low as $30 per month under its Cricket brand." Verizon Wireless Comments at 3.

17 Verizon Wireless Comments at 54-56.

18 *Id*. at 59-61.

19 Sprint Comments at 22.

20 *Id*.

network quality, billing, and rates was significantly lower in 2009 than they were in 2008, even as subscribership increased," with "less than one such complaint per day for every five million customers."[21]

As summarized by AT&T, "[o]utput is up dramatically, prices continue to decline, penetration has reached over 90% and is high among all demographics, investment continues to be extremely high (which is particularly extraordinary given the recent economic recession), innovation continues at breakneck speed, and quality of service is at record levels."[22] This quantitative data plainly demonstrates highly intensive competition and rivalry among core mobile wireless market participants.

B. The Willig Declaration Confirms, Based on Record Evidence, that the Mobile Market is Highly Competitive

The data introduced into the record by CTIA and other participants in this proceeding makes clear that the wireless market is highly competitive. In his attached declaration, noted economist Robert Willig[23] conducts a sophisticated analysis of this data and reaches the conclusion that "[a] proper and rigorous application of the Commission's analytical framework

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[21] AT&T Comments at 36.

[22] *Id*. at 21.

[23] Professor Willig holds the position of Professor of Economics and Public Affairs at Princeton University, where he teaches in the Economics Department and in the Woodrow Wilson School of Public and International Affairs. He served as Deputy Assistant Attorney General in the U.S. Department of Justice, Antitrust Division, from 1989 to 1991, and was Supervisor in the Economics Research Department of Bell Laboratories. Professor Willig received his Ph.D. in Economics from Stanford University in 1973, an M.S. in Operations Research from Stanford in 1968, and an A.B. from Harvard in 1967. Professor Willig has written, lectured and consulted widely on the subjects of industrial organization, the relationships between government and business, and domestic and international microeconomic policy. He has served as a consultant and advisor to the Federal Trade Commission and the Department of Justice on antitrust policy, to the Organisation for Economic Co-operation and Development ("OECD"), the Inter-American Development Bank, and the World Bank on global trade, competition, regulatory and privatization policy, and to governments of diverse nations on microeconomic reforms.

to the wireless industry yields the conclusion that U.S. wireless customers are currently benefitting greatly from robust competition."[24] In so doing, Professor Willig's analysis highlights the flaws in the Fourteenth Competition Report's ("*14th Report*")[25] analysis that make the Commission's decision not to make a finding of effective competition "indefensible."[26]

CTIA agrees with Professor Willig that the presence of "effective competition" is established when consumers have a range of effective options and ability to switch suppliers, suppliers face competitive incentives to provide attractive products and services at reasonable prices, and that indicia of competition are functioning and produce consumer benefits.[27] Put simply, "the presence of effective competition ultimately reveals itself when and where consumers derive material benefits through the competitive dynamics operating in the industry."[28] And, as demonstrated by CTIA and others in the opening round of comments, this is clearly the case in today's wireless ecosystem.

Professor Willig's analysis highlights a critical failing of the *14th Report*: the Commission's analysis appears to lack rigor, for had it adhered to its analytical approach and sufficiently analyzed the data presented to it, the Commission would have reached a conclusion

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[24] Willig Declaration at ¶ 5.

[25] 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 Radio Services, WT Docket No. 09-66, *Fourteenth Report*, FCC 10-81 at 11 (rel. May 20, 2010) ("*14th Report*").

[26] *See* Willig Declaration at ¶ 4 ("The resulting assessments of competition, up until the *Fourteenth Report*, yielded the correct determination that the provision of wireless services was then effectively competitive and should not then have been subject to extensive regulatory oversight. The *Fourteenth Report* departs from this history by eschewing that same conclusion. While the lack of transparency in the *Fourteenth Report* leaves unclear the Commission's specific reasons for not concluding that the wireless marketplace is currently effectively competitive, those reasons, whatever they may be, are indefensible.").

[27] *Id.* at ¶ 11.

[28] *Id.* at ¶ 12.

of effective competition.[29] Not only did the Commission fail to make the finding that the evidence clearly dictated, but the Commission's analysis also was "less than transparent," making it unclear how the Commission reached its conclusion.[30] Professor Willig's reasoned analysis, however, makes clear that had the Commission properly applied its four-prong framework, it would have found "robust" competition, as there are many indicia of competitive intensity supporting the conclusion that the wireless ecosystem is competitive and is poised to remain so in the future.[31] Professor Willig notes the competition for retail wireless services,[32] the considerable innovation and competition in the device market,[33] the "unprecedented" competitive intensity and rapid pace of innovation in the applications sphere,[34] and the significant competition among operating system developers.[35] This analysis confirms what CTIA and others have argued all along and what the Commission should have concluded in the *14th Report*: the mobile ecosystem is experiencing robust and ongoing competition.

As Professor Willig observed, the Commission's reluctance to make the factually-supported finding of effective competition suggests an "inclination to tighten [the

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29 *Id.* at ¶ 14.

30 *Id.* at ¶ 15.

31 *Id.* at ¶ 19.

32 Willig Declaration at ¶¶ 20-41 (finding that the wireless marketplace is highly competitive by examining metrics regarding provider and consumer behavior).

33 *Id.* at ¶¶ 42-45 (noting the popularity of devices with advanced features and the decrease in price for smartphones).

34 *Id.* at ¶¶ 46-48 (discussing the magnitude of applications available to wireless consumers, the growth of application stores, and measures taken by carriers to facilitate application development).

35 *Id.* at ¶¶ 49-51 (noting the competition among operating system developers and the fact that an operating system can serve as a key point of differentiation for mobile handset providers).

Commission's] regulatory control over the wireless marketplace and its participants."[36] However, "regulation, like any typical market, is rarely perfect."[37] As regulation can "impede and distort competitive interactions and progress in both intended and unintended ways,"[38] CTIA echoes Professor Willig's warning that increased regulatory control by the Commission "would be expected to distort the economic incentives of market participants and the workings of competition, thereby undermining the sector's delivery of consumer benefits."[39]

C. Commenters Arguing that the Market is Not Competitive Rely on Flawed Data or Incorrect Analyses

1. Free Press/MAP Rely on the Very Indicators From the *14th Report* that CTIA Identified as Being Misleading To Reach Flawed Market Conclusions

In its original comments, CTIA and others took issue with the characterization and misuse of certain data in the *14th Report*. CTIA argued that the flawed use of data would lead to misstatements regarding the state of competition and calls for the FCC to employ regulatory "levers" to some end that could have negative, unforeseen consequences. Sadly, that result has already transpired. The joint comments of Free Press and Media Access Project ("Free Press/MAP"), for example, rely on statements in the *14th Report* to reach incorrect conclusions about the state of the mobile industry.[40] Indeed, the Free Press/MAP comments wrongly conclude that the market lacks effective competition.

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36 *Id.* at ¶ 16.

37 *Id.* at ¶ 9.

38 *Id.*

39 *Id.* at ¶ 68.

40 Most ironically, given Free Press/MAP's failure to actually unpack and examine the data in the *14th Report*, Free Press/MAP note "[t]he Commission took strides forward in the [*14th Report*] . . . in terms of identifying the limitations of existing data, seeking to develop new and more reliable resources, and for the first time releasing a portion of the data used in compiling

As an initial matter, Free Press/MAP rely on the *14th Report* to distort the level of "continued industry concentration"[41] by emphasizing "a spate of mergers and acquisitions that the Commission approved in 2008 and that were completed, for the most part, in that same year."[42] CTIA's initial comments, as well as those of other commenters and the attached Willig Declaration, however, expose the truth regarding industry concentration. The presentation of the HHI data to claim huge increases in market concentration in the *14th Report*, in fact, was based on the greatest increases that occurred between 2003 and 2005 (a period where the Commission's annual competition reports were finding the industry subject to "effective competition"). Moreover, the "spate" of mergers cited by Free Press/MAP all received Commission approval in orders containing explicit findings that competition was not harmed.[43]

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the report in a downloadable and manipulable format." Joint Comments of Free Press and Media Access Project, WT Docket No. 10-133 at 6 (filed July 30, 2010) ("Free Press/MAP Comments"). As CTIA noted in its comments, in fact, the data underlying that report that has been made available is wholly insufficient to test the analyses in that document. Comments of CTIA—The Wireless Association, WT Docket No. 10-133 at 3 (filed July 30, 2010) ("CTIA Comments").

41 Free Press/MAP Comments at 7.

42 *Id*.

43 *Applications of Cellco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC For Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager and De Facto Transfer Leasing Arrangements and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act,* WT Docket No. 08-95, Memorandum Opinion and Order and Declaratory Ruling, FCC 08-258, at ¶ 4 (Nov. 10, 2008) ("*Verizon Wireless-ALLTEL Order*") (stating the order "prevents entirely consolidation in individual markets from advancing to a point at which it would threaten competition and potentially harm consumers"); *Applications of AT&T Inc. and Centennial Communications Corp. For Consent to Transfer Control of Licenses, Authorizations, and Spectrum Leasing Arrangements,* WT Docket No. 08-246, Memorandum Opinion and Order, FCC 09-97, at ¶ 4 (Nov. 5, 2009) ("*AT&T-Centennial Order*") (stating "competitive harm is unlikely in most mobile telephony/broadband markets as a result of this transaction"); *Applications of Sprint Nextel Corporation and Clearwire Corporation For Consent to Transfer Control of Licenses, Leases and Authorizations,* WT Docket No. 08-94, Memorandum Opinion and Order, FCC 08-259, at ¶ 4 (Nov. 7, 2008) ("*Sprint-Clearwire Order*") (stating "competitive harm is unlikely in any market, primarily because multiple other service providers in these markets would be an effective competitive constraint on the behavior of the merged entity").

Free Press/MAP also make the related, and wholly incorrect, claim that the FCC should not overlook "the thoroughly documented observations and conclusions that the [*14th Report*] . . . makes with respect to the disproportionate market share growth enjoyed over the last several years by the two largest incumbent providers of mobile wireless services, AT&T and Verizon Wireless."[44] As CTIA noted, AT&T and Verizon, while enjoying strong growth, were joined by other companies. In fact, "the growth rates of the other reported carriers—T-Mobile, MetroPCS and Leap—exceeded that of AT&T or Verizon Wireless."[45] Contrary to the gerrymandered statement in the *14th Report* that AT&T and Verizon grew while—on a combined basis—Sprint and T-Mobile shrunk, all but one of the largest carriers enjoyed strong gains in subscribers.[46]

Free Press/MAP also, based on the *14th Report*, state that the industry demonstrates "declining capital investment relative to industry size," another point refuted in the comments by CTIA and others.[47] As discussed in CTIA's comments, the data relied upon by the *14th Report* for that conclusion was incremental investment data that did not include either greenfield builds or spectrum acquisition.[48] When those factors are considered, the wireless industry continues to exhibit strong investment—even through a period of economic recession. Professor Willig, as well as other commenters, also note the inherent danger in drawing conclusions based on year-to-year trends, since the mobile industry is characterized by a "lumpy" investment cycle.[49]

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44 Free Press/MAP Comments at 7.

45 CTIA Comments at 68.

46 *Id.*; *see also* Verizon Wireless Comments at 132-33.

47 Free Press/MAP Comments at 5.

48 CTIA Comments at 66-67; *see also* AT&T Comments at 6, 33-35.

49 Willig Declaration at ¶ 64; *see also* AT&T Comments at 33-35.

The analytical errors in the Free Press/MAP comments are not limited to perpetuating misstatements from the *14th Report*. Free Press/MAP, for example, make the remarkable assertion that "[p]roviders' engage in parallel conduct – both in setting their prices and in establishing their respective service plans' terms, conditions, and limitations – and such conduct demonstrates the lack of effective competition while depriving users of the value and savings they would realize in a truly competitive environment."[50] As an initial matter, to the extent that carriers respond to changes in their competitors' pricing or non-price factors by modifying their own rate plans, that is the essence of competition. Indeed, the reverse is actually true—if the market were not competitive, no carrier would have the incentive to reduce its pricing or include more value in rate plans, yet the effective revenue per minute for voice services, and rates for data services, have continued to trend downwards. For this reason, the Supreme Court upheld the dismissal of a case alleging "conscious parallelism" as not stating a claim under Section I of the Sherman Act, noting that parallel conduct is "just as much in line with a wide swath of rational and competitive business strategy unilaterally prompted by common perceptions of the market."[51] Beyond that, the statement that parallel conduct exists is further refuted by the fact that price is not the only factor by which carriers differentiate their products. Even if it were true that packages were priced similarly (and it is not),[52] the fact that plans are distinguishable exhibits competitive forces at work.

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50 Free Press/MAP Comments at 3.

51 *Bell Atlantic v. Twombly*, 127 S.Ct. 1955 (2007); *see also* 6 P. Areeda & H. Hovenkamp, Antitrust Law ¶1433a, p. 236 (2d ed. 2003) ("The courts are nearly unanimous in saying that mere interdependent parallelism does not establish the contract, combination, or conspiracy required by Sherman Act §1"); Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 Harv. L. Rev. 655, 672 (1962) ("[M]ere interdependence of basic price decisions is not conspiracy").

52 Verizon Wireless Comments at 59-61 (providing chart showing different rate plans of national, regional, and other carriers).

In sum, there is no persuasive argument that the mobile market is not robustly competitive. It is telling that those parties who are seeking to have the Commission employ regulatory "levers" to achieve some parochial self-interested goal have used precisely the data CTIA previously identified as flawed and biased in order to reach these conclusions. A rational examination of the data, such as the analysis conducted by Professor Willig, clearly demonstrates that competition in mobile services is strong, has been strong, and is expected to remain strong in the future.

2. The U.S. Leads the World in Competitive Mobile Services, Contrary to the Implication of Free Press/MAP's Inapposite Comparison of U.S. and International Data Plans

A recurrent theme among agenda-based commenters is that customers in the U.S. somehow receive less value than their counterparts in other countries. CTIA—echoed by others—has time and again refuted these assertions with third party data demonstrating, among other things, that consumers in the U.S. benefit from the most competitive wireless market in the world. As discussed in CTIA's comments, not only does the U.S. boast "the lowest concentration among the 26 major OECD countries," the "U.S. average monthly MOUs continue to rank first of the OECD countries."[53] "Not only does the U.S. lead in wireless investment, it also leads the world in mobile broadband deployment and adoption,"[54] and "by any measure, the U.S. is the world leader in wireless communications."[55]

Against this backdrop, Free Press/MAP attempt to argue that domestic users pay higher rates than international customers for broadband data. Free Press/MAP conjure a table

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[53] CTIA Comments at iii.

[54] *Id*.

[55] *Id*.

purporting to show a range of international rate plans, which they claim "stands in contrast to the mobile Internet service offers of the two largest U.S providers."[56] This is a false comparison. Three of the four lowest priced offerings listed on the Free Press/MAP chart are for plans that are less than 5GB and one of those offerings comes from an MVNO. Additionally, Free Press/MAP compare only the U.S. providers' highest priced broadband modem data plans and fail to consider that both U.S. carriers offer lower priced smartphone data plans.

While Free Press/MAP are correct that Verizon Wireless and AT&T each have 5 GB plans that cost approximately $60 per month for broadband mobile services for laptops and modems, the chart conspicuously omits the wide array of service offerings from many other national and regional carriers,[57] which includes lower priced plans. A wide-angle view of the wireless broadband modem market, moreover, shows ever-evolving competition and innovation in pricing plans. Consumers aren't limited to choosing between AT&T and Verizon, but can comparatively shop based on price and data needs amongst Clearwire, Cricket, Sprint, T-Mobile, U.S. Cellular, and Virgin Mobile, to name a few.[58] For $40 monthly, Clearwire offers unlimited 4G mobile broadband use with the option of adding up to 5 GB of 3G use for consumers who may travel outside of 4G coverage areas for only $15 more.[59] T-Mobile and Cricket both offer unlimited data use plans starting at only $40.[60] And for consumers with specific wireless

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56 Free Press/MAP Comments at 31.

57 *See id*. at 30-34 (filed July 30, 2010).

58 For a chart of U.S. data service offerings, *see* Verizon Wireless Comments at 58-61.

59 Clear, Clear.com High Speed Mobile, http://www.clear.com/shop/services/compareplans?compare=294&mobile=1 (last visited Aug. 12, 2010).

60 T-Mobile USA, Even More Plus webConnect® Overage Free Plan, http://www.t-mobile.com/shop/plans/cell-phone-plans-detail.aspx?tp=tb1&rateplan=Even-More-Plus-

broadband modem needs, Verizon Wireless offers 100 MB per day for $15, and Virgin Mobile has a ten day, 100 MB plan for $10.[61] In sum, to portray the wireless broadband modem market as limited to two carriers for one particular service plan irresponsibly ignores the diversity of providers and value of the various service offerings that typify the U.S. wireless broadband modem market.

In addition, Free Press/MAP's data pricing arguments further ignore the current nature of U.S. consumers' demand for wireless broadband and the market's response. Smartphone data plan innovation in the U.S. offers consumers the variety and choice they demand. While the *wireless broadband modem* market is thriving, a majority of U.S. wireless broadband consumers are accessing data on their *smartphones*. Thirty-one percent of all handset sales were smartphones in the fourth quarter of 2009, and at year-end 2009 almost 50 million smartphones and wireless-enabled PDAs were reported active on carriers' networks.[62] In addition to providing voice service with the lowest average revenue per minute among the 26 OECD countries,[63] U.S. service providers offer a variety of affordable data options for both smartphones and feature phones. In fact, unlimited use data plans for smartphones begin at $30.[64] Carriers

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webConnect-Overage-Free (last visited Aug. 12, 2010); Cricket Communications, Unlimited Data Plan, http://www.mycricket.com/broadband/plans (last visited Aug. 12, 2010).

61 Verizon Wireless, Mobile Broadband – Products, http://www.verizonwireless.com/b2c/mobilebroadband/?page=products_prepaidmb (last visited Aug. 12, 2010); Virgin Mobile USA, Broadband2Go Plans, http://www.virginmobileusa.com/mobile-broadband (last visited Aug. 12, 2010).

62 "The NPD Group: Smartphones Drive More Handset Sales Overall, But Lower Prices Stall Total Handset Revenue Growth," NPD Group Press Release, March 27, 2010, at http://www.npd.com/press/releases/press_100317.html (last visited Aug. 16, 2010); *see* CTIA Semi-Annual Wireless Survey.

63 As of the end of 2009, the average revenue per voice minute in the U.S. was $0.04. *See* CTIA Comments at 59.

64 *See* Verizon Wireless Comments at 60.

also offer a variety of data amounts, contract lengths, and price options to match consumers' needs.[65]

Furthermore, by offering services in bundles, such as voice with text and data services, service providers are able to offer even more value to consumers. In pre-paid plans, Boost Mobile, Cricket, MetroPCS, TracFone, and Virgin Mobile offer packages with unlimited voice, data, and texting for between $45 and $60 per month.[66] In post-paid plans, T-Mobile offers unlimited voice, data, and texting for $79.99, and Sprint offers the same for $99.99.[67] In regards to competitive pricing in wireless broadband modem service discussed above, service providers also offer affordable options for tethering, allowing consumers not only to bundle voice, text and data services into one affordable price, but to use their smartphone for wireless broadband access on their PC or netbook as well.[68]

Finally, the Free Press/MAP chart produces an inapposite "apples-to-oranges" comparison because it compares 5 GB capped plans with, in some instances, 3 GB plans, and other relevant aspects of the plans are not disclosed. When those 3 GB plans are adjusted to the

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65 *See id.*

66 *See* Boost Mobile, Pay As You Go & Unlimited Cell Phone Plans, http://plans.boostmobile.com/planhub.aspx (last visited Aug. 12, 2010); Cricket Communications, Cell Phone Plans, http://www.mycricket.com/cell-phone-plans (last visited Aug. 12, 2010); MetroPCS, Unlimited Cell Phone Plans, http://www.metropcs.com/plans/default.aspx (last visited Aug. 12, 2010); TracFone Wireless, Service Plan, http://www.straighttalk.com/ServicePlans (last visited Aug. 12, 2010); Virgin Mobile USA, Beyond Talk Plans, http://www.virginmobileusa.com/cell-phone-plans/beyond-talk-plans.html (last visited Aug. 12, 2010).

67 T-Mobile USA, Cell Phone Plans, http://www.t-mobile.com/shop/plans/Cell-Phone-Plans.aspx?catgroup=Individual&WT.z_unav=mst_shop_plans_individual (last visited Aug. 12, 2010); Sprint, Cell Phone Rate Plans, Nextel Plans, Wireless Phone Services, http://shop.sprint.com/NASApp/onlinestore/en/Action/DisplayPlans (last visited Aug. 12, 2010).

68 *See* Verizon Wireless, Mobile Broadband – Plans, http://www.verizonwireless.com/b2c/mobilebroadband/?page=plans (last visited Aug. 12, 2010); AT&T, DataPro 2 GN with Tethering – Service Details, http://www.wireless.att.com/cell-phone-service/services/serviceDetails.jsp?skuId=sku4590222 (last visited Aug. 12, 2010).

5 GB cap based on the applicable overage charges, data plans from providers O2 (UK), Virgin (UK), and Mobinil (Egypt) are substantially more expensive for 5 GB than Verizon and AT&T's comparable data plans. First, each of these carriers only offers 3 GB data plans for approximately $23 (02, Virgin) and $26 (Mobinil).[69] After the initial 3 GB, O2, Virgin, and Mobinil charge approximately $0.037, $0.022, and $0.043 per megabyte, respectively.[70] To add the additional 2 GB in order to make the comparison truly "apples-to-apples," O2, Virgin, and Mobinil customers would pay a total of $97, $67, and $112, respectively, for 5 GB.

Given the broad range of non-price factors upon which carriers compete, Free Press/MAP's limited comparison is of no real utility in determining whether U.S. customers are receiving good value. Given that the U.S. market is demonstrably more competitive than other countries, there is no basis for believing that broadband data services are somehow immune from competitive forces. The fact remains that the limited Free Press/MAP construct does not realistically represent the choices available to U.S. consumers, who have myriad options of data plans. CTIA urges the Commission to consider the entire breadth of wireless ecosystem.

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69 *See* Telefonica, O2 Mobile Broadband, http://shop.o2.co.uk/promo/o2mobilebroadband/tab/18_months (last visited Aug. 12, 2010); Virgin Mobile UK, Mobile Broadband – Tariffs, http://www.virginmobile.com/vm/mobileBroadbandProducts.do (last visited Aug. 12, 2010); Mobinil, Personal – Mobinil Services, http://www.mobinil.com/personal/services/access.aspx#Internet (last visited Aug. 12, 2010).

70 *See* Telefonica, O2 Mobile Broadband, http://shop.o2.co.uk/promo/o2mobilebroadband/tab/18_months (last visited Aug. 12, 2010); Virgin Mobile UK, Mobile Broadband – Tariffs, http://www.virginmobile.com/vm/mobileBroadbandProducts.do (last visited Aug. 12, 2010); Mobinil, Personal – Mobinil Services, http://www.mobinil.com/personal/services/access.aspx#Internet (last visited Aug. 12, 2010).

3. While CTIA Concurs with NTCA That More Spectrum Will Enhance Competition, NTCA's Conclusions Regarding Past Auction Participation Are Not Entirely Accurate

CTIA continues to be an advocate for the allocation of additional licensed wireless broadband spectrum for all providers, and in that vein concurs with NTCA that "the continued availability of spectrum for small companies is a large concern."[71] CTIA does take issue, however, with NTCA's characterization of recent auctions as having been "dominated"[72] by large carriers. As discussed below, CTIA supported licensing through a variety of market sizes for both AWS spectrum in Auction No. 66 and for 700 MHz spectrum in Auction No. 73 and has called on the Commission to bring to market spectrum in large amounts to enable as many companies as possible to purchase spectrum if they desire. CTIA believes that the results of recent auctions demonstrates two points: (1) that the 700 MHz auction was poorly conceived, making it difficult for companies to bid for fungible spectrum licenses, resulting in focused bidding on one license, the B-block, CMA-based license; and (2) that despite the flaws in the auction format, many smaller and rural carriers have been able to access spectrum.

In Auction No. 66, the FCC created a variety of license sizes, both in terms of spectrum and market area, to offer entry opportunities to the broadest range of participants. The post-auction data demonstrates that those efforts were rewarded. NTCA states that, in Auction No. 66, "the top four national wireless service providers dominated Auction 66 – accounting for 78% of all winning bids."[73] Based upon CTIA's review of the auction results, the top four

71 Comments of the National Telecommunications Cooperative Association, WT Docket No. 10-133 at 4 (filed July 30, 2010) ("NTCA Comments").

72 *Id*. at 5.

73 *Id*.

carriers accounted for 181 winning bids out of a total of 1087, only 16.7 percent of all winning bids.[74]

With respect to Auction No. 73, the Commission's own statistics indicate that 55 percent of winning bidders were designated entities.[75] The Commission also noted that 35% of the licenses that were won—a total of 379 licenses—were won with bidding credits.[76] The Commission also prepared a map showing the footprint of licenses "Won by New Entrants, Small, and Rural Providers" revealing an extensive footprint for non-nationwide carriers:

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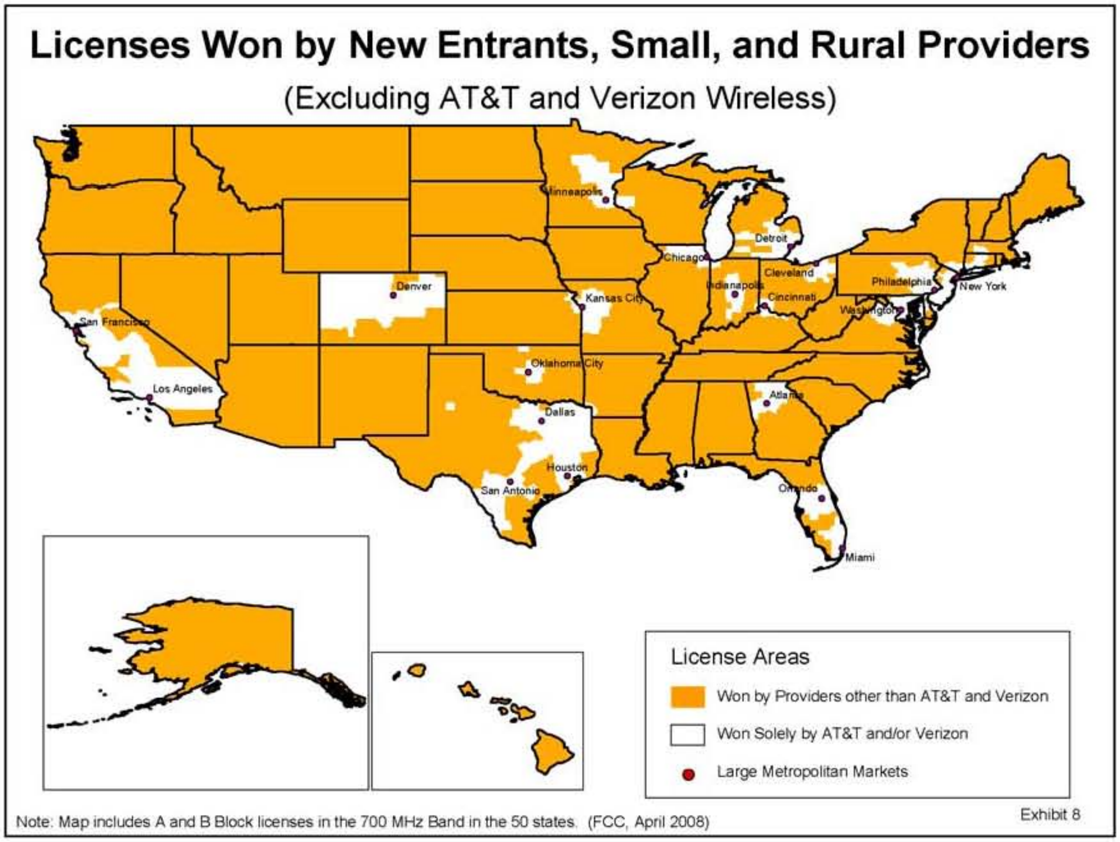
[74] T-Mobile won the largest number of licenses, accounting for 120 of 1087 licenses receiving winning bids. Cingular AWS, LLC won 48 licenses, and Cellco Partnership d/b/a Verizon Wireless won 13. Sprint did not participate, although it had a non-controlling stake—later sold—in SpectrumCo. American Cellular Corporation, which was not at the time a top four carrier, but has since been acquired by a top four carrier, accounted for another 85 bids. Given that the premise is that the top four carriers dominated the auction, including American Cellular Corporation does not appear appropriate. Even if American Cellular Corporation is included, top four carriers would have only accounted for 266 bids out of 1087, or approximately 25 percent, and only 61.2 percent of the total dollars bid. Even judging by total dollars bid, the top four carriers accounted for only 60.8 percent of the total winning bids.

[75] Written Statement of Kevin J. Martin, Chairman, Federal Communications Commission before the Committee on Energy and Commerce, U.S. House of Representatives, exhibit 1 (Apr. 15, 2008), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-281550A2.pdf. NTCA acknowledges that "55% of the winning bidders were 'designated entities.'" Without any justification, NTCA then goes on to argue that the FCC's "rules were abused in such a way as to permit a bidder with financial backing by one of the nation's largest carriers to obtain bidding credits," alleging that "truly small businesses were shut out." NTCA Comments at 5. However, to the extent that FCC rules have been "abused," there are procedures and processes for addressing that. CTIA notes, in fact, that the designated entity rules NTCA believes were abused were considerably strengthened prior to the auction. As a result, alleging that certain designated entities were not actually designated entities rings hollow.

[76] *Id.*



Notably, the FCC, prior to granting the 700 MHz auction applications, conducted spectrum aggregation analyses and found no competitive issues with the post-auction holdings of auction participants.[77]

The record also demonstrates that non-auction avenues for securing spectrum use rights are also flourishing. Verizon Wireless has provided the results of analyzing several ULS data sets which "show that the number of transfers and leases of spectrum has been growing, reflecting an effective and competitive secondary market that provides all carriers with access to spectrum."[78] The data shows that the amount of broadband PCS MHz-POPs under lease has

[77] *Applications of Union Telephone Company and Cellco Partnership d/b/a Verizon Wireless for 700 MHz Band Licenses, Auction No. 73*, File No. 0003371176 *et al*., Memorandum Opinion and Order (Nov. 13, 2008) at ¶¶ 9-18.

[78] Verizon Wireless Comments at 5.

steadily increased—from 431 million MHz-POPs in June of 2006 to 1.717 ***billion*** in June of 2010. The analysis also considered transfers and assignments as indicators of the health of the secondary market, and, after reviewing transfers of market-area and cellular authorizations from January 2009 through June 2010, found that only a small proportion of the deals were between two national carriers (10.83 percent) or from third parties to nationwide carriers (26.27 percent). In other words, *roughly two-thirds of all transactions involve smaller entities acquiring spectrum resources*.

As a final matter, secondary market functionality has also been enhanced through the emergence of companies like Spectrum Bridge, which manages a "SpecEx" wireless market exchange for spectrum. The president of the Rural Telecom Group ("RTG"), in fact, stated that "Spectrum Bridge simplified the process of finding the right spectrum to expand my clients' and RTG members' wireless networks," explaining that he "was able to quickly search through hundreds of millions of dollars worth of available spectrum and find exactly what my clients needed."[79]

NTCA has also included the results of a survey of its members, noting that "[e]ighty-four percent of survey respondents indicated that 'competition from national carriers' is a concern."[80] The survey, however, addresses the perception of competition, not whether or not competition

[79] Press Release, Spectrum Bridge, Wireless Carriers, Utilities, Railways and Others Have Made SpecEx.Com the Number One Source for Secondary Market Spectrum (Aug. 10, 2009), *available at* http://www.spectrumbridge.com/Libraries/Press_Releases/Spectrum_Bridge_surpassess_8_Million_in_Spectrum_Transactions_Forecasts_Robust_Growth_August_10_2009.sflb.ashx.

[80] CTIA is also unsure how to interpret some of the NTCA's survey results. NTCA notes, for example, that "only about half of NTCA's members currently offer a wireless service, or hold wireless spectrum – about the same as in 2001." NTCA Comments at 5. However, NTCA also reports that "[s]ixty-four percent of survey respondents indicated that they currently hold at least one wireless license below 2.3 GHz," and that "[s]eventy-six percent of survey respondents are providing wireless services to their customers." NTCA 2009 Wireless Survey Report at 3.

exists or does not exist. And, in fact, NTCA's survey also noted that "[s]urvey respondents are facing competition from other carriers—the average respondent indicated that their company competes with between two and five other carriers."[81] NTCA's data, therefore, supports the conclusion that competition in the mobile ecosystem is intense.

II. THE FCC MUST MAKE A FINDING OF EFFECTIVE COMPETITION

In light of the data on the record, any rational analysis compels the conclusion that the FCC must make a finding that the mobile market is subject to "effective competition."[82] Professor Willig notes, in such regard, that "[w]hile the lack of transparency in the *Fourteenth Report* leaves unclear the Commission's specific reasons for not concluding that the wireless marketplace is currently effectively competitive, those reasons, whatever they may be, are indefensible."[83] While the absence of such a finding—for the first time in six years—might be justified if actual evidence of anticompetitive actions were adduced, no such evidence exists. Under these circumstances, the FCC's failure to find "effective competition" violates its statutory mandate.

The *14th Report* argued "rather than reaching an overarching, industry-wide determination with respect to whether there is 'effective competition,' the report complies with the statutory requirement by providing a detailed analysis of the state of competition that seeks to identify areas where market conditions appear to be producing substantial consumer benefits and provides data that can form the basis for inquiries into whether policy levers could produce superior outcomes." Yet, the *14th Report* did not actually identify any areas where competition

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81 NTCA 2009 Wireless Survey Report at 9.

82 Verizon Wireless Comments at 122; AT&T Comments at 3.

83 Willig Declaration at ¶ 4.

was failing to produce substantial benefits for consumers. At most, the report identifies two "key trends"—"continued industry concentration" and "robust but declining capital investment"—that could be characterized as negative.[84] The Commission, however, has repeatedly made findings that any concentration impacts resulting from mergers and acquisitions have been in the public interest and promote competition. And, as discussed in Section III, the HHI data relied upon in the *14th Report*—and the analysis growing out of that data—is seriously flawed. Moreover, as CTIA already has explained, the conclusions regarding industry investment rely on incomplete data and fail to recognize the "lumpy" nature of capital investment in the mobile market. Under these facts, the *15th Report* must return to making the explicit finding that "effective competition" exists in the wireless ecosystem.

III. COMMENTERS HAVE UNDERSCORED CTIA'S COMPLAINT THAT THE 14TH REPORT USED FLAWED DATA AND DERIVED INCORRECT CONCLUSIONS

A. The Record Shows that the HHI Analysis in the *14th Report* Is Seriously Flawed

As several commenters and Professor Willig observe, the use of HHIs in the *14th Report* is seriously flawed. As an initial matter, as stated by Professor Willig, "it is important to understand that concentration measures such as HHIs should not be considered as standalone conclusive indicators of the presence of market power."[85] He notes that "[i]n merger review, HHIs properly are used as no more than an initial screen to determine whether a proposed transaction warrants closer scrutiny."[86] He concludes that "[g]iven the dynamic nature and

[84] *14th Report* at ¶¶ 3-4.

[85] Willig Declaration at ¶ 56. *See also* AT&T Comments at 9 (stating "[b]y exalting the HHI to a status it does not warrant and de-emphasizing the marketplace facts that demonstrate vigorous competition, the [*14th Report*] … paint[s] a distorted view of competition in the wireless marketplace.").

[86] *Id*.

complexity of the wireless industry, undue reliance on concentration measures, including HHIs, likely would lead to misguided, counterproductive regulatory decisions."[87] In fact, the minor changes in HHI that have occurred over the period of the *14th Report* could have resulted from one of two things—acquisitions and mergers where the FCC has found no competitive harm and changes in carrier market shares that result from consumers exercising their right to churn to a different provider (the latter evidenced by the fact that over 66 million existing customers change carriers each year).[88] The former cannot be antithetical to competition and the latter is the product of competition.

In part, the overemphasis on HHI changes may also have been driven by the abnormal calculation used in the *14th Report* to produce HHI-like numbers. As Professor Willig observes, "the Commission's discussion of HHIs and HHI trends suffers from a more fundamental problem concerning the method by which the Commission calculates the HHI figures it presents."[89] The methodology used in the *14th Report* "weights" HHIs calculated for individual EAs by the population of the EA to derive a national HHI.[90] As Professor Willig explains, the resultant figure overstates concentration by systematically overemphasizing small markets where HHIs may be higher. In addition, Professor Willig notes "the Commission's HHI figures are of no probative value for purposes of assessing competition at the level of individual EAs," noting that "in nine EA groupings according to population density, all but the group associated with the

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87 *Id*. at ¶ 57.

88 CTIA – The Wireless Association, *CTIA's Wireless Industry Indices, Year-end 2009 Results* at 75 (May 20, 2010).

89 *Id*. at ¶ 60.

90 As stated by AT&T, the method used by the FCC "does not produce an HHI metric at all, but rather a largely meaningless, Frankenstein statistic that of mathematical necessity will produce higher HHI metrics than properly calculated national HHI statistics." AT&T Comments at 21.

lowest population densities produced median HHIs for 2008 below the national HHI figure presented by the Commission."[91] Moreover, because the HHI-like number derived in the *14th Report* is not, in fact, an HHI, comparing that number to thresholds used by the Department of Justice in merger review—which have been calculated differently—is meaningless.

B. The Record Demonstrates that the *14th Report* Improperly, and Without Reasoned Explanation, Excluded MVNOs from the Competitive Analysis

As CTIA observed in its initial comments, the decision to reverse findings in prior reports and exclude MVNOs from competitive consideration was not justified and should be corrected in the *15th Report*. Professor Willig and other commenters have echoed this concern, noting the Commission "offers no credible reason for its sudden about-face on this issue."[92] The report also ignores other nascent (and more established) competitors, such as Wi-Fi hotspots.

CTIA, and others, have documented on the record that MVNOs exert competitive influence on the wireless market. Indeed, the decision to eliminate MVNOs from competitive analysis is all the more puzzling when Tracfone, "the largest MVNO . . . had more than 14 million subscribers at the end of 2009, making it the fifth largest mobile wireless service provider in the United States."[93] Tracfone now has over 15.45 million subscribers, and grew 31 percent in the year ended March 2010.[94] And Tracfone is not alone—there are, according to a

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91 Willig Declaration at ¶ 61.

92 Willig Declaration at ¶ 62. *See also* AT&T Comments at 23 (stating "MVNOs compete vigorously with innovative pricing plans, service offerings, customer support, devices, applications, and much else, and they routinely win customers from facilities-based providers, including their host providers"); Verizon Wireless Comments at 6 (stating "the Commission wrongly excluded MVNOs from its concentration analysis, despite ample evidence that MVNOs have competitive impact and that this impact is growing").

93 Willig Declaration at ¶ 62.

94 América Móvil, América Móvil's First Quarter of 2010 Financial and Operating Report (Apr. 29, 2010), *available at* http://www.americamovil.com/docs/reportes/eng/2010_1.pdf.

recent report, "61 MVNOs operating in the U.S., many of which are providing a wireless service targeted to a specific demographic or submarket."[95] Notably, the exclusion of MVNOs further skews the FCC's HHI data. Not only is there a primary effect in that the calculated shares do not include a competitor, there is a secondary effect that further inflates the number by adding the MVNO's market share to the underlying facilities-based carrier.

The FCC's report also fails to account for several other competitive influences on the wireless market, including networks of Wi-Fi hotspots. Increasingly for certain types of new devices, such as the Amazon Kindle, Apple iPad, or Barnes & Noble Nook, consumers are given the choice between a "3G" version and a "Wi-Fi only" version.[96] Not only are consumers able to use these devices with their own, in-home networks, they can also make use of an ever-increasing universe of commercial—and free—public hotspots. According to one estimate, in fact, "there were nearly 80,000 Wi-Fi hotspots (free or paid) in the United States as of July 27, 2010."[97]

IV. CONCLUSION

CTIA submits that any rational analysis of the factual record in this proceeding compels the conclusion that the mobile wireless ecosystem is driven by thriving competition. To the extent that negative "key trends" were identified in the *14th Report*, CTIA, Professor Willig, and other commenters have conclusively demonstrated that the disparaging characterization of those indicators was based on flawed data or faulty methodology. And, it is further clear from the data submitted herein that the key competitive indicators for the wireless market continue to show

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[95] Verizon Wireless Comments at 22.

[96] These devices also create a true "two sided" market since the wireless connection is not purchased directly by the consumer, but rather is "bundled" with the content.

[97] *Id*. at 29.

robust competition throughout 2009 and into 2010. Under these circumstances, CTIA urges the Commission to issue a *15th Report* that corrects the missteps of the *14th Report* and makes the required finding that the mobile ecosystem is subject to effective competition.

Respectfully submitted,

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August 16, 2010

ATTACHMENT A

DECLARATION OF
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I. Introduction and Executive Summary

A. Introduction

1. The Federal Communications Commission (Commission) recently solicited input and data in conjunction with the preparation of its *Fifteenth Annual Report on the State of Competition in Mobile Wireless*.[1] The Commission's stated objectives are to update the information and data presented in its *Fourteenth Report*,[2] and to sharpen and refine its current assessment of mobile wireless competition.[3] In its Public Notice, the Commission distinguishes its *Fourteenth Report* from earlier iterations on two levels: (i) the *Fourteenth Report* integrates an analysis of Commercial Mobile Radio Services (CMRS) into a broader assessment of all mobile wireless services, including voice, messaging, and broadband, and (ii) the *Fourteenth Report* examines competition across the entire "mobile wireless ecosystem," including firms operating both upstream and downstream.[4]

2. In this declaration, I provide an economic framework for the assessment of competition in the wireless industry, both among wireless service providers and among firms operating in upstream and downstream market segments. I then implement that framework to gauge the current, and likely future, intensity of competition. I also examine the economic framework articulated by the Commission as guiding the preparation of its *Fourteenth Report*, both in terms of its analytical rigor and the degree to which the Commission's implementation adhered to the relevant stated criteria for assessing competition.

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[1] Federal Communications Commission, Public Notice, rel. June 30, 2010, WT Docket No. 10-133 ("*Fifteenth Report Public Notice*").

[2] Fourteenth Report, rel. May 20, 2010, WT Docket No. 09-66 (Terminated) ("*Fourteenth Report*").

[3] *Fifteenth Report Public Notice* at p. 1.

[4] Id.

B. Summary of Conclusions

3. An economically sound approach to gauging competition in the wireless industry should reflect the following:

a. By statute, the Commission is directed to include in its annual report on the mobile wireless industry an analysis of whether there is effective competition.[5] For the policy purposes at hand, this is the appropriate determination to undertake because under conditions of effective competition the public interest is best served with little or no regulatory micromanagement of marketplace participants. That is, given a finding of effective competition, the Commission should exercise due caution when considering proposed regulatory measures purportedly intended to improve competitive outcomes.

b. Competition in a given industry ultimately should be assessed with reference to consumer benefits. The competitive interactions of marketplace participants should be studied along the numerous dimensions that create such consumer benefits, including lower prices, higher-quality products or services, dynamic innovation, and expanded consumer choice. A myopic emphasis on a single dimension can lead to distorted assessments of the state of competition, and thus to recommendations for regulatory intervention that potentially can disrupt rather than facilitate the promotion of consumer welfare.

c. In its recent annual assessments of competition among wireless service providers, the Commission has adopted an analytical framework that in principle properly accounts for the many ways in which industry participants strive to attract and retain customers. The Commission's focus upon four broad categories of economic indicia – namely (1) market structure, (2) provider conduct, (3) consumer behavior, and (4) market performance – could lead to an informed and rigorous approach to the assessment of competition.

4. Historically, the Commission examined competition in wireless services through application of a sophisticated and rigorous analytical framework that affords due weight to a number of pertinent economic indicia. The resulting assessments of competition, up until the *Fourteenth Report*, yielded the correct

[5] 47 U.S.C. 332(c)(1)(C).

determination that the provision of wireless services was then effectively competitive and should not then have been subject to extensive regulatory oversight. The *Fourteenth Report* departs from this history by eschewing that same conclusion. While the lack of transparency in the *Fourteenth Report* leaves unclear the Commission's specific reasons for not concluding that the wireless marketplace is currently effectively competitive, those reasons, whatever they may be, are indefensible.

5. A proper and rigorous application of the Commission's analytical framework to the wireless industry yields the conclusion that U.S. wireless customers are currently benefitting greatly from robust competition.

a. Market structure metrics indicate that the wireless marketplace is highly competitive. There are more than 170 wireless licensees in the U.S.[6] Four of these providers are recognized as national carriers.[7] More than 90% of the U.S. population can choose from four or more wireless voice service providers, and nearly three-quarters can choose from at least five such providers.[8] Even in the least populated areas of the country, consumers of wireless voice services can select from among, on average, 3.9 carriers.[9] In wireless broadband, 76% of U.S. consumers are served by at least three providers,[10] a roughly 50% increase over the analogous figure from 18 months prior.[11]

b. Provider conduct metrics evidence robust competition in the wireless marketplace. Market-based evidence demonstrates the presence of significant rivalry among carriers on both price and non-price dimensions. Per-minute charges to subscribers continue to decline,

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[6] *Local Telephone Competition Report: Status as of Dec. 31, 2008*, rel. June 24, 2010 ("*Local Telephone Competition Report: Status as of Dec. 31, 2008"*), at Table 17 (available at http://www.fcc.gov/Daily_Releases/Daily_Business/2010/db0625/DOC-299052A1.pdf), indicates there are a nationwide total of 175 facilities-based wireless carriers.

[7] *Fourteenth Report* at ¶ 27.

[8] *Fourteenth Report* at Table 4 (p. 37).

[9] *Fourteenth Report* at Table 38 (p. 189). Indeed, 83.1 percent of the rural area population can choose from three or more wireless voice providers. *Fourteenth Report* at ¶ 353, Table 38.

[10] *Fourteenth Report* at Table 7 (p. 39).

[11] *Fourteenth Report* at ¶ 47.

and carriers have introduced a broad assortment of calling plans tailored to meet the widely varying needs of consumers. In addition, carriers today offer a number of handsets at a low or zero price (by subsidizing the cost of the phone in exchange for a service contract commitment from the subscriber), as well as a growing number of smartphones with increasingly rich sets of features and capabilities and ever expanding applications marketplaces. Non-price-based competition similarly is thriving. Wireless service providers spend heavily on advertising, and their investments in network upgrades and expansion and customer service have yielded unprecedented levels of subscriber satisfaction.

c. Consumer behavior metrics further support a conclusion that the wireless marketplace is effectively competitive. Wireless consumers are well-informed about available service and handset options, due to information and purchasing tools available through carriers and third-party sources. Consistent with the trend of increasing reported levels of customer satisfaction, subscriber churn declined in 2009.

d. Marketplace performance metrics point to vigorous rivalry in the wireless industry. In addition to the declining price trends already noted, growth in various measures of output are consistent with an effectively competitive marketplace. The number of wireless subscribers as of year-end 2009 exceeded 285 million, representing a year-over-year increase of more than 15 million.[12] Wireless minutes continued to increase steadily, to almost 2.3 trillion in 2009, from 2.2 trillion in 2008 and 2.1 trillion in 2007.[13] Text messaging volume increased 56% in 2009[14] relative to a year earlier, and MMS messaging volume more than doubled over the same time period.[15] Mobile wireless high-speed subscribership reached approximately 100 million by December 2009, greater than four times the count as of year-end 2006.[16] And finally, to put some of these figures in perspective, a survey of 26 OECD countries determined that U.S. consumers enjoy, on average, the lowest per-minute cost of wireless usage of any OECD

[12] CTIA – The Wireless Association, *CTIA's Wireless Industry Indices, Year-end 2009 Results ("CTIA's 2009 Wireless Indices")* at p. 22.

[13] *CTIA's 2009 Wireless Indices* at Table 83 (p. 198).

[14] *CTIA's 2009 Wireless Indices* at Table 90 (p. 210).

[15] *CTIA's 2009 Wireless Indices* at Table 92 (p. 212).

[16] ComScore MobiLens Market Viewer, Subscribers by Generation (2010) (database last accessed August 13, 2010).

> country, while consuming, on average, more than twice the number of minutes on a monthly basis than consumers in any other OECD country.[17]

6. A number of marketplace indicators point to intense competition in the area of mobile handsets. More than 630 wireless devices are manufactured for, and sold in, the U.S. marketplace.[18] The smartphone segment of the marketplace has exhibited extraordinary growth and accounted for 44% of handset sales in the U.S. in the third quarter of 2009.[19] Moreover, the success of Apple's iPhone has sparked a wave of innovation that has produced dozens of competing devices, and promises to deliver even more in the future. The most notable of these are the numerous handsets that run on Google's Android operating system and that are designed to compete with the iPhone.[20]

7. Similarly, outcomes in the applications marketplace evidence effective competition and thus argue forcefully against regulatory oversight. Applications stores are operated by handset manufacturers, third-parties, and service providers, and many offer thousands, or even tens of thousands, of applications, including the vast majority that are offered at little or no charge. Consumers are downloading applications by the billions on an annual basis, and the store operators have undertaken a variety of measures to facilitate the development of new applications. Although not every application is distributed through every possible channel, such patterns of distribution should not trigger regulatory intervention. There is no indication from the marketplace that a lack of available

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[17] Glen Campbell, *Global Wireless Matrix 2Q10: Data remains strong, voice decline eases*, Bank of America Merrill Lynch Research, July 9, 2010, at Tables 1-2 ("*Global Wireless Matrix 2Q10*").

[18] *See Ex parte* Letter from Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 09-66 *et al.*, Attachment, ("*Christopher Guttman-McCabe Letter*") at p. 3.

[19] *Fourteenth Report* at Chart 44 (p. 169).

[20] Carew, Sinead, "Verizon and Motorola to battle iPhone with Droid X," *Reuters*, June 24, 2010 (available at http://www.reuters.com/article/idUSTRE65M5VM20100624).

distribution channels has impeded either the supply of innovative applications or competition in the applications marketplace. As a result, regulatory intervention in this area is unwarranted, and quite plausibly would frustrate the workings and dynamics of competition.

8. With respect to spectrum, it is important to note as an initial matter the substantial degree of rivalry among wireless carriers. Through new spectrum auctions, spectrum acquisition, and a developing secondary marketplace for spectrum, carriers have been able to expand their footprints to address the growing demand for broadband services. Nevertheless, given projections of significant additional demand for broadband services in the future, the Commission should examine whether it can take particular steps going forward that would facilitate continued growth in the competitive supply of spectrum.

9. Finally, as the Commission undertakes its assessment of wireless industry competition and considers various regulatory proposals, it is critical not to lose sight of the fact that regulation, like any typical market, is rarely perfect. Regulation can impede and distort competitive interactions and progress in both intended and unintended ways, and it is thus important to evaluate regulatory proposals in terms of their expected net effect on competition. In a marketplace that is characterized by vigorous competition and dynamic innovation, it is generally best policy for consumer welfare carefully to limit regulatory intervention so as to avoid distorting and suppressing competitive incentives and operations.

II. An Economic Framework to Assess Competition Issues in the Wireless Marketplace

10. Pursuant to the Communications Act, the Commission is required to prepare an annual report that examines “competitive market conditions” in the

provision of CMRS and that determines "whether or not there is effective competition."[21] While the term "effective competition" might appear to be somewhat abstract or imprecise, in the current context it reasonably can be calibrated as competition sufficiently robust to render unnecessary (and likely counter-productive) public-utility style regulatory intervention. Or stated somewhat differently, where there is a finding of effective competition, consumer welfare and the public interest are better advanced by permitting the unfettered operation of market forces rather than subjecting marketplace participants to regulatory micromanagement.

11. In my view, the presence of effective competition is established through the following market indicia and outcomes:

a. Consumers have a range of effective options that enable them to switch suppliers in the event their current supplier ceases to offer products or services that satisfy their demands for functionality and quality on reasonable terms.

b. Suppliers justifiably are concerned about a significant loss of business to rivals in the event they fail to provide attractive products or services at reasonable prices. Such concerns are justified, and serve to have a disciplining effect on marketplace conduct, when viable substitutes are available and consumers in sufficient numbers do not confront substantial barriers in conjunction with switching to such substitutes. Such concerns also are warranted when extant suppliers can, in a timely manner, expand and refine their offerings to serve unsatisfied demand, or when new suppliers can enter the marketplace with innovative products or services to meet the requirements of dissatisfied consumers.

c. It is important that the dynamics of competition presented in points (a) and (b) above are shown to be operative, i.e., that the industry not only exhibits indicia of competition, but also that those indicated forces are seen to be functioning and producing consumer benefits. Here, one examines the following categories of evidence:

[21] 47 U.S.C. § 332(c)(1)(C).

i. *Active rivalry*. Assessment of the rivalrous interactions among marketplace participants on all pertinent price and non-price dimensions, and consumer movements in response.

ii. *Supply dynamics and diversity*. Consideration of the number of sources of supply readily available to consumers, the degree to which there are ready possibilities of expansions and/or repositioning by incumbent suppliers, and opportunities for new entry.

iii. *Impact on the marketplace and consumers*. Examination of the degree and pace of innovation in products and services, along with the pace at which quality-adjusted prices change over time, relative to pertinent economic costs

12. As made concrete by the analytical approach just proposed, the presence of effective competition ultimately reveals itself when and where consumers derive material benefits through the competitive dynamics operating in the industry.[22] Such benefits typically arise in the form of lower prices, higher-quality products or services, heightened innovation, and/or greater variety. Because consumer benefits can arise in numerous forms, it may be important to emphasize that it would be shortsighted, and possibly counterproductive to the promotion of competition, to examine the rivalrous interactions of marketplace participants along only a single dimension, for example prices or network reliability. Rather, an economically sound assessment of competition must account for the many ways in which firms vie for consumers, as well as the numerous forms consumer benefits can take.[23]

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[22] Numerous public policies, including antitrust enforcement and the Telecommunications Act of 1996, promote competition because of the consumer benefits generated therefrom. (Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996)).

[23] Although harm to consumers is a relevant concern within the goal of promoting competition, harm to competitors is not. Intense rivalry that delivers material consumer benefits often can weaken or eliminate certain firms that are less efficient or whose offerings diminish in value in the eyes of consumers. Such weakening or even exit of rivals is a natural part of the process of robust competition and should not be treated as an indication that regulatory intervention is needed.

13. In the *Fifteenth Report Public Notice*, the Commission notes that the *Fourteenth Report* presented an assessment of competitive conditions based upon four broad categories of economic factors: "(1) industry structure; (2) provider conduct; (3) market performance; and (4) consumer behavior."[24] These factors are consistent with the framework I set out above, and can be assessed by employing well-established metrics to gauge competitive performance. Consequently, it is a central conclusion of my analysis that the Commission should utilize its current analytical approach in its assessments of competition in the wireless industry. In addition, the Commission should apply its analytical approach transparently and rigorously to derive ultimate conclusions that are its responsibility to determine.

14. On this score, the *Fourteenth Report* leaves ample room for improvement and raises serious concerns by declining to reach a conclusion as to whether the wireless industry is effectively competitive.[25] As I demonstrate in the next section, adherence to the analytical approach articulated by the Commission convincingly demonstrates that the wireless marketplace is effectively competitive and that consumers derive significant benefits from the rivalrous interactions of marketplace participants.

15. The Commission's *Fourteenth Report* is less than transparent in terms of describing the analytical process followed by the Commission. The Commission purports to provide a detailed study of the state of competition that seeks to identify areas where competition is robust and generating substantial consumer benefits, and to highlight areas warranting investigation into whether regulatory intervention potentially could result in improved marketplace outcomes.[26] It is

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[24] *Fifteenth Report Public Notice* at p. 2.

[25] *Fourteenth Report* at ¶ 3.

[26] Id.

the case that the *Fourteenth Report* presents a wealth of data and information pertaining to each of the four broad categories of economic indicia included in its overall analytical framework. However, nowhere does the Commission identify the particular *indicia* that may have raised issues and ultimately persuaded it to eschew reaching a conclusion as to whether the wireless marketplace is effectively competitive. Thus, while my own assessment of the marketplace demonstrates the presence of effective competition, and by extension that the Commission should have so concluded, the opacity of the Commission's analytical process obscures any intended basis for its failure to reach the conclusion that effective competition exists in the mobile wireless marketplace.

16. Finally, insofar as the Commission's indecisiveness might signal inclination to tighten its regulatory control over the wireless marketplace and its participants, it bears emphasizing that regulation, like competition, is rarely perfect. Consequently, the costs and benefits of intervention should be evaluated and weighed before a regulatory regime is installed, including both the intervention's administrative costs and its potentially deleterious impact on market performance. In other words, it is not enough that a regulatory proposal, if implemented, is deemed likely to deliver certain benefits. Implementation of the proposal is only efficiency-enhancing if its net effect is positive.[27]

17. Before turning to the details of the analysis, it is important to emphasize how multidimensional is competition in the wireless marketplace, with consumer benefits sensitive to elements of innovation, quality, reliability of service, and terms of pricing, as well as price itself. For example, most recently

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[27] Economists and policy makers have long recognized that the very process of regulating a market is costly and can (in intended or unintended ways) create its own distortions in resource allocation. *See, e.g.*, Noll, R.G., The Politics of Regulation, chap. 22 in R. Schmalansee and R. Willig (eds.), *Handbook of Industrial Organization* (Vol. 2), North Holland (1989); Carlton, D. and J. Perloff, *Modern Industrial Organization* (4th ed.), chap. 20, Addison-Wesley (2004).

handset innovation has been a prominently important dimension of competitive interaction. The development and introduction of innovative handsets benefit consumers in several ways, including the expansion of consumer choice and the availability of new features or greater functionality, as well as the amplification of the incentives of rival handset manufacturers to invest in their own innovation efforts. Such innovation is evident in the on-going introduction of new smartphones and feature phones that offer enhanced capabilities, such as broadband internet and messaging-oriented devices.

18. On the carrier side, the introduction of innovative handsets may require significant investments in network expansion and upgrades to support new features and functionality, as well as significant expenditures relating to promotion and customer support. As is the case with the introduction of new handsets, a particular carrier's investments in network expansion, promotion, and customer support deliver clear direct consumer benefits, and also engender indirect benefits by strengthening the incentives of rival carriers to undertake similar efforts.

III. Application of Framework to the Wireless Industry

A. Introduction

19. Application of the Commission's existing four-prong framework, along with my own consistent template for the assessment of effective competition that I described above, demonstrates that competition both in wireless services and in other elements of what the Commission terms the "mobile wireless ecosystem" is robust today and is poised to remain so in the future. Below, I discuss the evidence and many indicia of competitive intensity that support this conclusion.

B. Competition for retail wireless services

Market structure metrics indicate that the wireless marketplace is highly competitive.

20. At present, there are roughly 170 facilities-based providers of wireless service in the U.S.,[28] including at least four nationwide operators[29] and a total of seven providers each serving more than four million subscribers.[30] In addition, there are more than 60 Mobile Virtual Network Operators (MVNOs) that lease airtime from facilities-based operators.[31] Many carriers, through varying combinations of their own networks and roaming agreements, offer nationwide coverage. Based upon nationwide subscriber counts, no single carrier has a market share above roughly 32%.[32] Moreover, as discussed below, newer entrants have been successful at quickly acquiring substantial subscriber populations.

21. With a multitude of providers serving the wireless marketplace, all but a small fraction of U.S. wireless customers are able to choose from among several competing facilities-based carriers. According to the *Fourteenth Report*, more than 96% of the U.S. population can obtain service from at least three wireless carriers, 91% of the population can select from among at least four carriers, and

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[28] *Local Telephone Competition Report: Status as of Dec. 31, 2008*, op cit.

[29] *Fourteenth Report* at ¶ 27.

[30] Id. at Table 3 (p. 31).

[31] "Global MVNO market Surpasses 600 in Q2 2010," *WIRELESS INTELLIGENCE*, June 24, 2010, https://www.wirelessintelligence.com/analysis/2010/06/global-mvno-market-surpasses-600-in-q2-2010.

[32] As of year-end 2009, Verizon Wireless had the highest share of subscribers nationwide, at 31.9%. (*Global Wireless Matrix 2Q10*, at Table 144 (p. 191).) Although concerns have been raised about the size of the largest carriers in the U.S., and the industry's level of concentration more generally, it is worth pointing out that national concentration in the U.S. is low relative to other countries. The *Global Wireless Matrix 1Q10, A modest recovery, Asia in the lead*, April 13, 2010, demonstrated that, at the end of 2009, the wireless industry in the U.S. was the second-least concentrated among the 26 OECD countries examined. With the merger in 2010 of the third and fourth largest carriers serving the UK, the U.S. wireless industry presumably now is the least concentrated among the 26 OECD countries in Bank of America Merrill Lynch's study. (Glen Campbell, *Global Wireless Matrix 1Q10, A modest recovery, Asia in the lead*, April 13, 2010, ("*Global Wireless Matrix 2Q10*") at Tables 1-2.).

almost three quarters of the population enjoy at least five carrier options.[33] Even in the least populated counties – defined as those with 100 or fewer people per square mile – consumers enjoy, on average, 3.9 wireless carriers from which to choose.[34]

22. Conditions of entry and mobility provide further compelling support for the conclusion that the wireless marketplace is effectively competitive and that it will remain so in the future. In recent years, Commission decisions to release additional spectrum have paved the way for entry by Clearwire,[35] cable companies including Comcast and Cox,[36] and other providers,[37] as well as expansion by existing carriers in terms of their network coverage, breadth of service offerings, and service reliability.

23. Moreover, market outcomes demonstrate that new entrants and smaller providers can grow rapidly and succeed. For example, since emerging from bankruptcy in August 2004, Leap Wireless has achieved significant growth and today ranks as the seventh largest wireless carrier in the U.S.[38] The company recently introduced a nationwide service plan, and serves all of the top 125 cities

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[33] *Fourteenth Report* at Table 4 (p. 37).

[34] *Fourteenth Report* at Table 38 (p. 189).

[35] *See, e.g.*, "Clearwire Introduces CLEAR™ 4G WiMAX Internet Service in 10 New Markets," September 1, 2009 (available at http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle_print&ID=1326282&highlight=).

[36] Bidding as "Cox Wireless" Cox won 22 licenses in the recent 700Mhz auction, and bidding as part of a joint venture it also won licenses in the AWS auction. Cox appears to have had some delays in rolling out its wireless voice product. (Reardon, Marguerite, "Cox wireless coming in March," *cnet News*, January 14th, 2010 http://news.cnet.com/8301-30686_3-10434831-266.html); Reardon, Marguerite, "Comcast to offer 4G wireless broadband service," *cnet News*, June 29, 2009 (available at http://news.cnet.com/8301-1035_3-10275324-94.html).

[37] For example, BendBroadband is a recent entrant. "BendBroadband Launches Nation's Fastest Wireless Internet Service," December 15, 2009 (available at http://www.bendbroadband.com/residential/abb_press_room.asp?pageID=abbb&subID=apr.

[38] http://www.leapwireless.com/l1_about_leap.htm.

through a combination of its own network and roaming agreements.[39] In 2009, Leap's net subscriber additions reached their highest level ever.[40]

24. Another example is MetroPCS, which launched its wireless service in the U.S. in 2002 and today boasts a subscriber population of more than 7.6 million.[41] The company currently owns or has access to wireless licenses covering roughly 146 million consumers,[42] and plans to introduce its 4G LTE network in selected metropolitan areas in the second half of 2010.[43] At year-end 2009, MetroPCS served more than 6.6 million subscribers, an increase of more than 1.2 million from year-end 2008.[44] The company has continued to post impressive growth in 2010, as reported subscribers grew by 1.4 million between the end of June, 2009 and the end of June, 2010.[45]

25. Mobile virtual network operators (MVNOs) represent a further source of competition in the provision of wireless service to consumers. As noted by the Commission in the *Fourteenth Report*, Tracfone, with more than 14 million subscribers, ranks fifth among all providers of wireless service,[46] and continues to enjoy substantial growth.[47] A number of MVNOs compete for subscribers by

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[39] "Cricket Launches New Nationwide Coverage in all 50 States as part of Enhanced Value-Driven, Simplified Service Plans," March 23, 2010 (available at http://phx.corporate-ir.net/phoenix.zhtml?c=191722&p=irol-newsArticle_Print&ID=1405180).

[40] http://www.leapwireless.com/ar2009/pdf/Leap 09 10Kletter.pdf.

[41] http://investor.metropcs.com/phoenix.zhtml?c=177745&p=irol-IRHome.

[42] Id.

[43] "MetroPCS Reports Second Quarter 2010 Results," August 5, 2010 (available at http://investor.metropcs.com/phoenix.zhtml?c=177745&p=irol-newsArticle&ID=1456731&highlight=).

[44] "MetroPCS Reports Fourth Quarter and Year End 2009 Results," February 25, 2010 (available at http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MzMxOTB8Q2hpbGRJRD0tMXxUeXBlPTM=&t=1).

[45] Id.

[46] *Fourteenth Report* at ¶ 33.

[47] Tracfone added one million subscribers in the first quarter of 2010 and more than 3.5 million on a year-over-year basis. *See* "Global MVNO Market Surpasses 600 in Q2 2010," Wireless Intelligence, June 24,

(footnote continued …)

employing business models that target specific consumer segments. For example, Firefly Mobile targets kids and tweens, TuYo Mobile focuses on the Hispanic population, Jitterbug markets its service to senior citizens, and Cbeyond specializes in serving small business customers.[48]

26. Evidence of consumer choice among carriers discussed above, as well as the demonstrated ability of new providers to enter the marketplace and quickly attain a substantial base of subscribers, provide strong indications that the wireless marketplace is effectively competitive.

27. Before turning to the competitive *indicia* related to provider conduct, it is worth noting that an assessment of factors relating to market structure properly is treated as nothing more than a starting point for a rigorous and sophisticated analysis of competition. In particular, concentration measures should not be relied upon to determine the need for regulatory intervention. Ultimately, the state of competition in the industry is best gauged with reference to the delivery of consumer benefits, along with an understanding of how those benefits come about.

Provider-conduct metrics evidence robust competition in the wireless marketplace.

28. Factors pertaining to provider conduct center around the price and non-price dimensions of competition among carriers. With regard first to price,[49] U.S. wireless carriers continue to devise and offer voice and data plans that

(… footnote continued)

2010 (available at https://www.wirelessintelligence.com/analysis/2010/06/global-mvno-market-surpasses-600-in-q2-2010).

[48] Telecompaper Mobile MVNO/SP List, available at http://www.telecompaper.com/research/mvnos/index.aspx?cc=227; http://www.cbeyond.net/small-business-solutions/mobile/.http://www.telecompaper.com/research/mvnos/index.aspx?cc=227.

[49] It is important to note that all of the price declines discussed in this paragraph are presented without adjusting for improvements in service quality. Quality-adjusted prices would exhibit even more pronounced downward trends.

effectively lower the prices paid by consumers on a per-unit of usage basis. The per-minute price of voice services declined by roughly 50% from 2003 to 2008, moving from $0.10 to $0.05,[50] and then declined further in 2009, to $0.04.[51] Industry information similarly demonstrates recent price declines for data services. For example, the average revenue per text message fell from $0.036 in 2006 to $0.011 by the end of 2008,[52] and prices for data services overall, when adjusted for traffic volumes, fell in 2009 relative to 2008.[53] Moreover, these declines do not reflect more recent wireless price wars (discussed below), which likely exerted further downward pressure on average prices and revenues.

29. Price-based competition is also revealed in the many innovative service plan configurations and features that have been introduced by wireless carriers, including friends and family plans; national and local calling plans; unlimited voice, data, and messaging options; unlimited flat-rate calling plans; "pay-as-you-go" plans; pre-paid plans; free-rollover minutes; free in-network calling; and numerous others. For example, in June 2010, AT&T began offering its smartphone customers two different data plans based on the amount of data used; previously, AT&T offered only flat-rate plans where charges did not vary with usage.[54] According to AT&T, these new offerings will save 98% of data customers either 15% or 50% on their data plans.[55] The significant expansion of service plan configurations and features evinces a marketplace in which the

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[50] *Fourteenth Report* at Table 19 (p. 112).

[51] *Global Wireless Matrix 1Q10* at p. 46.

[52] *Fourteenth Report* at ¶ 192.

[53] Comments of Verizon Wireless, In the Matter of 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 No. 10-133 ("*Verizon Comments*") at p. 48.

[54] Hickey, Matt, "New AT&T Data Plans for iPhones, iPads, more," *cnet News*, June 2, 2010 (available at http://news.cnet.com/8301-17938_105-20006534-1.html).

[55] Id.

carriers compete intensively to appeal most effectively to the myriad tastes of subscribers.

30. Price competition is also evident for mobile handsets. A quick review of carrier websites demonstrates that there is a wide array of handsets available at a low or zero price.[56] For example, AT&T currently offers 18 different handsets at no charge[57] and a total of more than 20 for $50 or less.[58] A wide selection of inexpensive or free phones is also available through smaller carriers. Appalachian Wireless offers any of 16 phones out of 20 total for $.01 in extra cost.[59] Similarly, nTelos offers 5 phones for $.99 and 15 under $50.[60] Moreover, individual handset prices exhibit a pronounced downward trend.[61] At its launch a little over three years ago, the least expensive iPhone, a 2G device with 4GB of storage, was priced at $499;[62] today, a 3GS device with 8GB of storage can be purchased for $99, and iPhone4, which includes features such as video calling and multitasking not available on earlier models, sells for $199 for the 16GB version and $299 for the 32 GB version.[63] Similarly, the BlackBerry Curve 8530

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[56] These handset numbers do not count different colors of the same model or refurbished and new phones of the same model as different phones. Prices are net of applicable rebates.

[57] http://www.wireless.att.com/cell-phone-service/cell-phones/cell-phones.jsp?feacondition=allphones&feafree=free&feapaytype=standard&startFilter=false&allTypes=on&allManus=on.

[58] http://www.wireless.att.com/cell-phone-service/cell-phones/cell-phones.jsp?_DARGS=/cell-phone-service/cell-phones/cellPhonesBodyB.jsp.

[59] http://www.appalachianwireless.com/?page=phones.

[60] https://my.ntelos.com/ntelos/viewCategoryProducts.action?catId=cat50029&segment=consumer&_requestid=607227.

[61] Handset prices exhibit downward trends post-launch because of the availability of close substitutes, and also because of the pace of innovation, *i.e.*, the introduction of new, more advanced and feature-rich devices exerts downward pressure on the prices of relatively older devices.

[62] "AT&T and Apple Announce Simple, Affordable Service Plans for iPhone," June 26, 2007 (available at http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=24018).

[63] http://store.apple.com/us/browse/home/shop_iphone/family/iphone.

launched in November 2009 at a price of $99.99[64], and can now be purchased for $19.99.[65] Handsets are available at these low prices due to carrier subsidies, and typically require the subscriber to agree to a two-year service contract. Customers who do not wish to enter into such agreements typically can obtain the handset at the non-subsidized market price.

31. The wireless industry also exhibits intensive rivalry along non-price dimensions. With respect to advertising spending, Nielsen reported that advertising in the wireless telephone services category was almost $3.4 billion in 2009.[66] In 2009, Verizon, AT&T, and Sprint Nextel ranked second, fourth, and eighth, respectively, among all companies in terms of spending on advertising.[67] Although there was a slight decline in spending on advertising in 2009, wireless providers increased their spending relative to other industries – in other words, wireless providers' share of all advertising spending increased in 2009.[68]

32. The success of carrier efforts to improve service quality is evident in recent surveys that examine call quality performance and customer satisfaction levels. For example, in a survey conducted in the second half of 2009, J.D. Power reported that continued investments in customer service have decreased "hold time" and increased the percentage of problems resolved with only one call to customer service.[69] The American Customer Satisfaction Index determined that

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[64] Cha, Bonnie, "Hands on with the RIM BlackBerry Curve 8530," *cnet News*, November 19, 2009 (available at http://www.cnet.com/8301-17918_1-10401906-85.html?tag=contentMain;contentBody;2n).

[65] http://www.verizonwireless.com/b2c/store/controller?item=phoneFirst&action=viewPhoneDetail&selectedPhoneId=5091&capId=&phoneTopRated=.

[66] "U.S. Ad Spend Falls Nine Percent in 2009, Nielson Says," February 24, 2010 (available at http://blog.nielsen.com/nielsenwire/consumer/u-s-ad-spend-falls-nine-percent-in-2009-nielsen-says/).

[67] "Kantar Media Reports U.S. Advertising Expenditures Declined 12.3 Percent in 2009," March 17, 2010, (available at http://www.kantarmediana.com/news/03172010.htm).

[68] *Fourteenth Report* at ¶ 129.

[69] "2010 Wireless Customer Care Volume 1," (available at http://www.jdpower.com/telecom/articles/2010-Wireless-Customer-Care-Volume-1).

in the first quarter of 2010 an unprecedented 72%, up from 69% in 2009, of wireless consumers were satisfied with their service.[70]

33. Data on subscriber complaints compiled by the Commission further confirm the significant strides the wireless industry has made in improving service quality and the overall customer experience. For 2009, the Commission reported 18,989 carrier-related wireless complaints.[71] To put this figure into context, there were an average of 278 million wireless subscribers in the U.S. in 2009, thereby generating an annualized complaint rate of around 0.0068%.[72] Moreover, the complaint volume in 2009 was four percent lower than in 2008 in absolute terms, even as the subscriber population and average usage rates increased.[73]

34. The substantial capital investments undertaken by wireless providers represent another non-price dimension along which competition occurs. In 2009, despite continued macroeconomic difficulties, wireless carriers in the U.S. collectively reported capital expenditures of $20.4 billion.[74] It should be noted that this figure only includes investment in currently operational systems,

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[70] "May 2010 and Historical ACSI Scores," May 18, 2010 (available at http://www.theacsi.org/index.php?option=com_content&task=view&id=205&Itemid=218).

[71] "Quarterly Inquiries and Complaints Reports" (available at http://www.fcc.gov/cgb/quarter/welcome.html).

[72] Subscriber numbers are the simple average of the number of subscribers at the beginning and end of 2009. *CTIA's Wireless Industry Indices* reported 270.3 million subscribers at year-end 2008 and 285.6 million at year-end 2009. *CTIA's Wireless Industry Indices* at Table 11, (p. 27).

[73] These complaint figures omit Telephone Consumer Protection Act (TCPA) related complaints filed with the FCC in each year, as these complaints are not lodged against carriers, but against unauthorized parties contacting consumers *via* their wireless devices. *See, e.g.*, Fourth Quarter 2009 Report on Informal Consumer Inquiries and Complaints, released August 12, 2010, available at http://www.fcc.gov/Daily_Releases/Daily_Business/2010/db0812/DOC-300794A1.pdf. Prior quarterly complaint reports are available on the Commission's website at http://www.fcc.gov/cgb/quarter/welcome.html.

[74] *CTIA's 2009 Wireless Indices* at Table 54 (p. 133).

excluding greenfield builds,[75] and does not include spectrum purchases which reached almost $19 billion in 2008.[76] AT&T, T-Mobile, and smaller carriers have announced plans to invest heavily in their 3G broadband networks to increase download speeds and reach more subscribers.[77] In addition, AT&T, Verizon, Clearwire, Cox, and MetroPCS are in the process of building and expanding 4G networks.[78] Sprint Nextel also has invested heavily in the development of 4G networks through its $3.3 billion investment in Clearwire.[79]

35. Finally, carriers compete for subscribers through the diversity of their respective handset offerings. At present, there are more than 630 wireless devices manufactured for, and sold in, the U.S. marketplace that offer a rich array of functions and capabilities.[80] There are a substantial number of devices that offer Internet access, integrated Wi-Fi capability, Bluetooth capability, and

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[75] Id. at pp. 131-132.

[76] "Auction 73," (available at http://wireless.fcc.gov/auctions/default.htm?job=auction_summary&id=73).

[77] Herrman, John, "AT&T's Super-fast HSPA+ Network Will Cover 250 Million People By the End of the Year," May 14, 2010 (available at http://gizmodo.com/5539391/atts-super+fast-hspa%252B-network-will-cover-250-million-people-by-the-end-of-the-year); Hachman, Mark, "T-Mobile to Launch HSPA+ Phone," July 21, 2010 (available at http://www.pcmag.com/article2/0,2817,2366810,00.asp); "U.S. Cellular Expands Network in Foyil Area" July 13, 2010 (available at http://www.uscellular.com/uscellular/common/common.jsp?path=/about/press-room/2010/expands-network-foyil.html).

[78] "AT&T Selects LTE Equipment Suppliers," February 10, 2010 (available at http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=30493); Nosowitz, Dan, "Leaked: Verizon 4G Set to Roll Out to 30 Cities This Year," July 19, 2010 (available at http://www.fastcompany.com/1671541/leaked-verizon-4g-set-to-roll-out-to-30-cities-this-year); "Cox Successfully Demonstrates the Delivery of Voice Calling, High Definition Video via 4G Wireless Technology," January 19, 2010 (available at http://www.cox.com/sandiego/newsroom/press/2010/20100119.asp); Godinez, Victor, "MetroPCS to launch 4G service later this year," *Dallas Star*, March 25, 2010, (available at http://www.dallasnews.com/sharedcontent/dws/bus/industries/techtelecom/stories/DN-metropcs_25bus.ART.State.Edition1.3db74dc.html); Comments of Sprint Nextel, In the Matter of 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 No. 10-133 ("*Sprint Comments*") at 2.

[79] *Sprint Comments* at p. 2.

[80] *Christopher Guttman-McCabe Letter* at p. 3.

the ability to act as a Wi-Fi hotspot.[81] The distribution of smartphones also has grown significantly – smartphones accounted for 44% of all handsets sold in the third quarter of 2009, up from 27% in the second quarter of 2008.[82]

36. In sum, a number of indicia related to provider conduct compel a finding that the wireless marketplace is effectively competitive. Prices for voice and data services continue to decline; carriers are developing new service plan configurations to meet consumer requirements better; and to minimize churn, carriers have successfully taken steps to increase customer satisfaction. In addition, carriers continue to invest considerable sums in network innovation and expansion, in part so that their subscribers can more fully utilize the ever expanding capabilities and functionality of their mobile handsets.

Consumer behavior metrics further support a conclusion that the wireless marketplace is effectively competitive.

37. The observed behavior of wireless consumers is consistent with an intensely competitive marketplace. To begin with, wireless consumers are well-informed about available carriers and service plan pricing and options. A multitude of sources are available to help consumers navigate the many options available to them and to determine which particular handset and/or service plan will best satisfy their requirements. For example, numerous wireless carriers have adopted CTIA's "Consumer Code for Wireless Service," which requires carriers to offer on-line mapping tools that provide consumers with service information in specific geographic areas, both with respect to voice coverage and

[81] Cha, Bonnie, "HTC Evo 4G now on sale," *cnet News,* June 4, 2010 (available at http://www.cnet.com/8301-19736_1-20006808-251.html?tag=mncol;4n); Giggs, Brandon, "Palm unveils phones that create Wi-Fi hotspots," January 8, 2010 (available at http://www.cnn.com/2010/TECH/01/07/ces.palm.pre.plus.pixi/index.html); Cha, Bonnie, "Motorola Droid X Officially Unveiled," *cnet News*, June 22, 2010 (available at http://www.cnet.com/8301-19736_1-20008424-251.html?tag=mncol;8n).

[82] *Fourteenth Report* at p. 169.

wireless data applications.[83] Numerous independent sources, including PC World and PC magazine, also review products and offer advice relating to the selection of a wireless carrier and handset.[84]

38. Subscriber churn rates provide a further indication of significant competition. Carriers compete along numerous dimensions to ensure high levels of customer satisfaction and thereby minimize their churn rates. As of the second quarter of 2009, monthly customer churn across wireless subscribers stood at 2.1%, or about 25% on an annualized basis.[85] These figures are down from prior years,[86] a trend that is consistent with improvements in customer satisfaction found by consumer surveys noted above. Declining churn rates also are consistent with the fact that wireless carriers have invested heavily to improve call quality, customer service, and other pertinent aspects that drive customer satisfaction levels.

39. But regardless of their trends over time, it is clear that churn rates are sufficiently high to indicate that consumers move from carrier to carrier with enough volume to discipline severely carriers' offers. With some 25% of their customers churning out on average over a year's time, it would be disastrous to any given carrier's business if it did not succeed in offering services with enough appeal to attract a significant number of new subscribers on an ongoing basis. As a consequence of subscribers' proven dynamically changing choices of

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[83] http://www.ctia.org/content/index.cfm/AID/10623; http://www.ctia.org/content/index.cfm/AID/10352.

[84] "Smartphone Tests: Performance Results for 13 U.S. Cities," *PC World* (available at http://www.pcworld.com/zoom?id=189592&page=1&zoomIdx=2"; Segan, Sascha, "Battle of the 3G Networks," *PC Magazine*, June 5, 2009 (available at http://www.pcmag.com/article2/0,2817,2348207,00.asp).

[85] *Fourteenth Report* at pp. 9-10.

[86] Id. at p. 245; Thirteenth Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, rel. January 16, 2009, WT Docket No. 08-27 (Terminated) at pp. 180-181.

suppliers, carriers are under continual powerful pressure to offer appealing competitive packages of price, quality, reliability and innovation.

Marketplace performance metrics point to vigorous rivalry in the wireless industry.

40. Market outcomes provide further support for the proposition that the wireless marketplace is effectively competitive. As noted earlier, prices for both services (voice and data) and handsets continue to fall, even as quality continues to increase. In addition, a variety of output measurements exhibit upward trends, as summarized below:

a. The number of wireless subscribers topped 285 million at the end of 2009, an increase of more than 15 million from a year earlier.[87] The 2009 subscriber count represented wireless penetration of 91.3% in the U.S., up from 87.2% as of the end of 2008.[88]

b. Despite a general industry-wide migration from voice to data, wireless voice minutes of use in 2009 climbed to almost 2.3 trillion. Analogous figures for 2008 and 2007 were 2.2 trillion and 2.1 trillion, respectively.[89]

c. Text messaging volume grew substantially from 2008 to 2009, rising from 1.0 trillion to almost 1.6 trillion. [90]

d. MMS messaging volume exceeded 34 billion in 2009, more than double the 15 billion MMS messages in 2008.[91]

e. Mobile wireless high-speed subscribership has exhibited a substantial upward trajectory, increasing from about 22 million at the end of 2006, to 76 million year-end 2008, and then to more than 100 million by December 2009.[92]

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[87] *CTIA's 2009 Wireless Indices* at p. 22.

[88] Id. at Table 13 (p. 30).

[89] Id. at Table 83 (p. 198).

[90] Id. at Table 90 (p. 210).

[91] Id. at Table 92 (p. 212).

[92] ComScore MobiLens Market Viewer, Subscribers by Generation, op cit.

41. Finally, it is worth noting that prices and usage in the U.S. wireless marketplace compare favorably to other industrialized countries. In both the fourth quarter of 2009 and the first quarter of 2010, the cost per-minute of wireless usage in the U.S. was the lowest among the 26 Organization for Economic Co-Operation and Development (OECD) countries tracked by Bank of America Merrill Lynch, and 60% lower than the average cost in these countries.[93] In terms of output, the average U.S. subscriber used 824 minutes per month in the fourth quarter of 2008, and 814 minutes per month in the first quarter of 2010, more than twice the average usage in every other OECD country and more than three times the average usage in all but two other OECD countries.[94]

C. Competition for Devices

42. Numerous marketplace indicators point to robust competition in the area of mobile handsets. As noted above, devices from more than 30 manufacturers, more than 630 such devices in total, are sold in the U.S.[95] Wireless carriers offer a wide range of handsets, from no-frills models targeting limited-use customers, to smartphones capable of running broadband applications. Service providers continue to offer a significant number of phones at little or no charge, and prices for smartphones have declined substantially over the past couple of years. Price declines, as well as significant advances in functionality, have contributed to dramatic growth in the smartphone segment, which today accounts for more than 40% of handset sales in the U.S.[96]

43. Another significant factor driving the substantial upward trajectory in smartphone sales and the proliferation of devices is the success of Apple's iPhone. Following the iPhone's launch in 2007, 67 other Smartphone devices

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[93] *Global Wireless Matrix 1Q10* at Tables 1 and 2, and *Global Wireless Matrix 2Q10* at Tables 1 and 2.

[94] Id.

[95] *Christopher Guttman-McCabe Letter* at p. 3.

[96] *Fourteenth Report* at p. 17.

were introduced from March 2008 to January 2010.[97] In recent months, numerous phones offering functionality similar to and in some cases arguably surpassing the iPhone 4 have been introduced. For example:

a. The HTC Evo 4G, launched by HTC in June 2010, is the first phone to operate on Sprint's next generation WiMax network which promises faster wireless browsing.[98]

b. In July 2010, Verizon released the Droid X, an Android based device that has an 8-megapixel camera, HD video recorder, a 4.3 inch touch screen, and the ability to use Adobe Flash.[99]

c. Windows Phone 7 Series, announced in February, 2010, will allow users to aggregate multiple social networks and sync with other popular Microsoft products such as Office, Bing Maps, and X Box Live.[100]

44. Of course, the iPhone itself has continued to evolve into a more powerful and feature-rich device. The latest generation iPhone, the iPhone 4, became available in June, 2010 and offers a number of new benefits and features, including better speed and performance, a longer battery life, higher resolution screen, video calling, and a new operating system, iPhone iOS 4.[101] And not surprisingly, other handset manufacturers are poised to continue to compete with Apple with their own new models. This competition is best illustrated by phones running the Android operating system, whose share of smartphone sales

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[97] Id. at pp. 224-233.

[98] "HTC Evo 4G now on sale," http://www.cnet.com/8301-19736_1-20006808-251.html.

[99] "Motorola Droid X Officially Unveiled," http://www.cnet.com/8301-19736_1-20008424-251.html.

[100] Mies, Ginny, "Windows Phone 7: An In-depth Look at the Features and Interface," *PCWorld*, Feb 15, 2010 (available at http://www.pcworld.com/article/189347/windows_phone_7_an_indepth_look_at_the_features_and_interface.html).

[101] "Compare iPhone Models" (available at http://www.apple.com/iphone/compare-iphones/).

has increased from two percent to 27% in the past year, overtaking Apple's 23% share of sales in the process.[102]

45. Mobile handsets represent an important dimension along which wireless carriers strive to attract and retain subscribers. The substantial degree of rivalry among handset manufacturers, and the dizzying pace of handset innovation, provides further compelling evidence that the wireless marketplace is effectively competitive.

D. Competition for Applications

46. Coincident with the significant growth in smartphone penetration, the mobile handset applications marketplace has reached an unprecedented level of competitive intensity. Moreover, the current pace of innovation, coupled with the many available channels through which applications can obtain distribution, strongly suggest that competition in the applications segment will remain robust. Consequently, there is no sound economic support for the proposition that regulatory intervention at any level would improve outcomes in the applications marketplace, or in the wireless marketplace more generally. Rather, observed competition in applications, along with the rate of innovation, should contribute to a determination that this downstream market segment enhances the effective competition that marks the mobile wireless ecosystem.

47. The magnitude of applications available to wireless service customers, and the downloading activity of these customers, are two persuasive indicators of a highly competitive applications marketplace. As discussed in detail in Verizon's comments, a number of handset manufacturers, wireless service providers, and

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[102] "Android Soars, but iPhone Still Most Desired as Smartphones Grab 25% of US Mobile Market" August 2, 2010 (available at http://blog.nielsen.com/nielsenwire/online_mobile/android-soars-but-iphone-still-most-desired-as-smartphones-grab-25-of-u-s-mobile-market/).

third-parties operate applications stores.[103] These stores offer thousands, tens of thousands, or even hundreds of thousands of applications, with a significant number available for download at little to no charge.[104] Equally impressive is the rate at which applications stores have added content. For example, Apple launched its applications store on July 10, 2008 with 500 third-party applications available for download.[105] By July 2009, only one year later, the store offered more than 65,000 applications;[106] the applications count today exceeds 244,000.[107] Moreover, download activity at these stores is substantial. For example, it was reported in June of 2010 that cumulative downloads from Apple's app store exceeded five billion.[108]

48. Consistent with their economic incentives, operators of applications stores have undertaken measures to foster innovation on the development side. For example, to facilitate the development of third-party applications, Apple provides software development kits and related support to independent programmers.[109] Similarly, AT&T offers support to programmers in a number of ways. AT&T's devCentral program provides developers with numerous tools such as development guides, payment processing and sales reports.[110] In addition, AT&T recently held a contest for new applications, awarding the winner

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[103] *Verizon Comments* at pp. 110-111.

[104] Id. at p. 112.

[105] "iPhone 3G on Sale Tomorrow," July 10, 2008 (available at http://www.apple.com/pr/library/2008/07/10iphone.html).

[106] Perez, Marin, "Apple's App Store passes 1.5 Billion Downloads," *Information Week* (available at http://www.informationweek.com/news/internet/ebusiness/showArticle.jhtml?articleID=218500402).

[107] "App Store Metrics" (available at http://148apps.biz/app-store-metrics/?mpage=catcount).

[108] Kim, Ryan, "Live Blogging the Apple WWDC," *SFGate*, June 7, 2010 (available at http://www.sfgate.com/cgi-bin/blogs/techchron/detail?blogid=19&entry_id=65182).

[109] http://developer.apple.com/iphone/index.action.

[110] http://www.wireless.att.com/about/alliances/consumer-developer.jsp.

in each category $10,000 and co-marketing opportunities.[111] Verizon Wireless,[112] Sprint Nextel,[113] and T-Mobile all have launched similar programs to encourage the development of services and applications on their networks.[114] From the above, I do not mean to suggest that any particular application can obtain distribution through every available channel. Certain platforms, Apple's iPhone being one example, employ pre-certification procedures before accepting applications for distribution. However, the presence of such procedures in no way indicates the need for regulatory intervention. First, there may be legitimate reasons underlying the decision by an applications store owner to assume this role – for example, to protect against viruses or other security threats, to ensure efficient operation of the device, or to guard against distribution of objectionable or poor-quality content.[115] Beyond that, it is undeniable that there exist a number of available channels through which an application can secure distribution. The sheer numbers of applications available today in the marketplace, together with the frenzied pace of innovation, provide ample evidence of widespread distribution alternatives and thriving competition in the applications marketplace.

E. Competition for Operating Systems

49. Contributing to the proliferation of increasingly feature-rich mobile devices, and the applications that they run, is the significant competition observed

[111] "AT&T Open Call-Apps for All! Contest" (available at http://developer.att.com/developer/index.jsp?page=event&id=6.3_v1_9700324).

[112] http://developer.verizon.com/.

[113] http://developer.sprint.com/site/global/home/p_home.jsp.

[114] http://developer.t-mobile.com/site/global/home/p_home.jsp.

[115] An applications store owner legitimately might also decline to distribute an application because it competes directly with the store owner's products. Consistent with sound economics, antitrust policy in the U.S., except in delimited circumstances, imposes no duty upon a firm to deal with its rivals. There is no reason for the FCC to stray from this policy and generally mandate openness requirements in the applications marketplace.

among operating system developers. Today there are more than ten operating systems competing to serve as the technology platform for mobile devices, including Blackberry OS, BREW (Qualcomm), Android (Google), Apple iPhone OS, Symbian (Nokia), bada (Samsung), WebOS (Palm), and Windows Mobile (Microsoft).[116] Notably, none of the leading operating systems is owned by a wireless carrier, and two of the most recent entries – iPhone OS and Android – are in total installed on more than 30% of all smartphones in use in the U.S.[117]

50. The operating system can serve as a key point of differentiation for mobile handset providers, as it determines a device's functionality and the choice of applications available to a consumer. To take one example, Palm's WebOS was first introduced in June 2009 and offered multitasking capabilities that the iPhone OS only recently has added. In addition, WebOS eliminated the need for a tethered connection in order to transfer data to a handset. In particular, a smartphone running WebOS can dynamically collect and aggregate a user's contacts from G-Mail, Facebook, and other sources. When WebOS was introduced, competing operating systems, including iPhone OS, Blackberry OS, and Windows Mobile, all required a cable interface to a computer in order to accomplish such data transfers.[118]

51. Other operating systems available in the marketplace similarly seek to differentiate themselves in order to obtain placement as a device's technological platform. Devices based on Windows Mobile seamlessly sync with corporate Windows environments, the Blackberry OS has been noted as offering the most reliable email capabilities, and the iPhone OS is recognized as the platform on

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[116] Comments of CTIA, In the Matter of 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 No. 10-133 ("*CTIA Comments*") at p. 27.

[117] *Fourteenth Report* at Table 33 (p. 166).

[118] http://hubpages.com/hub/Smartphone-Operating-Systems-Palm-Web-OS.

which the greatest variety of applications are designed to run.[119] In short, competition among "downstream" operating system developers has helped to spur handset innovation and ultimately increase the effective competition among wireless carriers to attract and retain subscribers, all to the benefit of wireless consumers.

F. Competition for Inputs

52. In response to the *Fifteenth Report Public Notice*, Free Press and Media Access Project contend that market conditions in spectrum result in a lack of effective competition in the provision of wireless services downstream,[120] and similarly, the NTCA references spectrum as an area where the Commission should take steps to enhance competition.[121]

53. Specific indicia from the marketplace suggest that competition among service providers has not been impeded by competitive issues relating to spectrum supply. The Commission already has taken actions intended to make additional spectrum available in the future. As part of its National Broadband Plan, the Commission determined that 300 MHz of additional spectrum should be released for wireless use by 2015, and another 200 MHz should be released by 2020 for mobile, fixed, and unlicensed broadband use.[122] And it appears that Commission policies have fostered the availability of spectrum through

[119] "Smartphone Operating Systems," http://www.geek.com/smartphone-buyers-guide/operating-system/.

[120] Comments of Free Press and Media Access Project, In the Matter of 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 No. 10-133 at pp. 15-19.

[121] Comments of NTCA, In the Matter of 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 No. 10-133 at pp. 4-6.

[122] Id. at pp. 33-34. The National Broadband Plan laid out a series of recommendations for how the initial 300 MHZ of this spectrum would be sourced and released. *See,* Federal Communications Commission, National Broadband Plan, Recommendations 5.8.1 – 5.8.4 (available at http://www.broadband.gov/plan/5-spectrum/.)

secondary markets. As one example, Verizon plans to lease its 700MHz spectrum to rural carriers.[123]

IV. Arguments that the Wireless Marketplace Is Not Effectively Competitive Are Misplaced and Should Not Foster Additional Regulatory Intervention

A. Introduction

54. Competition in the wireless industry has emerged and thrived over time, encouraged by a procompetitive, minimally intrusive regulatory approach. The fact that past policies emphasizing competition over regulation have worked so well means that new requests for regulatory oversight should be viewed with great skepticism, and ultimately rejected, absent compelling evidence that there exists a significant and persistent market failure that likely will derail a continuing state of effective competition.

55. As noted earlier, the *Fourteenth Report* does not explicitly articulate the reasons underlying the Commission's decision to avoid a conclusion as to whether the wireless industry is effectively competitive. Nevertheless, the Commission presents several analyses that seem to motivate its posture. In the remainder of this section, I discuss and critique these analyses, along with comments provided by certain parties who contend that the wireless marketplace is not effectively competitive.

B. Industry Concentration

56. According to the Commission, concentration in the wireless industry, measured by HHI levels,[124] has increased 32% since 2003 and 6.5% in the most

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[123] Id. at pp. 34-35.

[124] The HHI, or Herfindahl-Hirschman Index, is equal to the sum of the squares of the market shares of each firm in a market. For example, if a market has four firms each with a 25% share, the market HHI is equal to 2,500 (*i.e.*, 25^2*4).

recent year for which the Commission had available data.[125] Setting aside for the moment the validity of the Commission's analysis and calculations, it is important to understand that concentration measures such as HHIs should not be considered as standalone conclusive indicators of the presence of market power. In merger review, HHIs properly are used as no more than an initial screen to determine whether a proposed transaction warrants closer scrutiny.[126] Similarly, in the current context, HHIs may inform an assessment of wireless industry competition, but only as one element of a thorough study of industry performance, provider conduct, and consumer outcomes.[127]

57. Given the dynamic nature and complexity of the wireless industry, undue reliance on concentration measures, including HHIs, likely would lead to misguided, counterproductive regulatory decisions. The rapid pace of technological change in the wireless industry also renders unreliable HHIs and other static concentration metrics as indicators of market power. Finally, rigid attention to static measures of concentration can be especially problematic in technologically dynamic and nascent businesses such as wireless broadband. Snapshots of market share or concentration metrics at a point in time often are poor indicators of current competitive and longer-run conditions in such markets, and thus do not inform the development of sound regulatory policy.

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[125] *Fourteenth Report* at ¶¶ 4 and 51.

[126] In past decisions, the Commission has recognized the limited role of HHIs in merger review. *See, e.g.*, Memorandum Opinion and Order, Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation; For Consent to Transfer Control of Licenses and Authorizations, 19 FCC Rcd. 21522, ¶ 96 (2004) (Concentration measures "are the beginning, not the end, of the competitive analysis" because their utility is limited to the provision of "information as to which markets need more in-depth, multidimensional analysis of potential anticompetitive effects.").

[127] On this point, the Commission appears to agree. *See, Fourteenth Report* at ¶ 48 ("[Industry concentration measures] can be useful indicators when evaluated together with firm conduct and actual industry performance.").

58. Irrespective of the actual weight placed by the Commission on its analysis of industry concentration, any reliance is problematic given the shortcomings in that analysis. First, as the *Fourteenth Report* makes clear, the vast majority of the 32% increase in HHI since 2003 occurred over the period 2003 to 2005,[128] during which the Commission consistently determined that the wireless marketplace was effectively competitive. Between 2005 and 2008, the HHI increased at a modest compounded annual rate of roughly 1.7%. Moreover, the 6.5% increase between 2007 and 2008 is, as the Commission notes, attributable in part to several wireless industry mergers that required and received Commission approval.[129]

59. Another major factor contributing to the 6.5% increase is share shifts among industry participants. As noted earlier, such movements in share, including share increases by leading providers, is a natural outcome of the competitive rivalry discussed at length in the previous section, and the Commission has not demonstrated any actual competitive problem due to these shifts in share.

60. Second, the Commission's discussion of HHIs and HHI trends suffers from a more fundamental problem concerning the method by which the Commission calculates the HHI figures it presents. To derive industry HHIs, the Commission calculates an HHI for each Economic Area ("EA") in the U.S., and then aggregates the EA-specific HHIs using the EAs' populations as weights. One problem with this method is that it will generate systematically higher HHIs relative to those that would be generated from carriers' national shares of subscribers, because the weighting by EA population is dominated by the squaring of shares in the HHI calculation. In other words, even when weighting by population, smaller EAs

[128] *Fourteenth Report* at Chart 2 (p. 42).

[129] Id. at ¶ 51.

with relatively high HHI levels disproportionately affect the calculated weighted average. To illustrate, consider the following example:

	EA 1	EA 2
Population	100	20
Firm A Subs	25	10
Firm B Subs	25	10
Firm C Subs	25	0
Firm D Subs	25	0
EA-specific HHI	2,500	5,000
National HHI[130]	**2,569**	
Commission HHI[131]	**2,917**	

61. In addition to providing a distorted measure of industry concentration at the national level, the Commission's HHI figures are unreliable for purposes of generally assessing competition at the level of individual EAs. As shown in the *Fourteenth Report*, in nine EA groupings according to population density, all but the group associated with the lowest population densities produced median HHIs for 2008 below the national HHI figure presented by the Commission.[132] Thus, the Commission's HHI figures exaggerate concentration levels for the majority of EAs across the country, relative to the level of competition indicated by the structure of the marketplace .[133]

62. Finally, the Commission's analysis of industry concentration, without a sound economic basis, excludes MVNOs. The Commission asserts that MVNOs

[130] Calculated as: $((35/120)^2)*2 + ((25/120)^2)*2$.

[131] Calculated as: (2,500*(100/120)) + (5,000*(20/120)).

[132] *Fourteenth Report* at Chart 4 (p. 43).

[133] A further problem with the Commission's methodology arises when it compares its calculated HHIs with HHI thresholds utilized by the Department of Justice and Federal Trade Commission in their reviews of proposed mergers. Because neither agency uses the Commission's methodology to calculate HHIs, such a comparison is inapt.

have a limited disciplining effect on competition because (i) they purchase wireless services from facilities-based providers and then resell those services to consumers, and (ii) they do not compete in the marketplace through network investments.[134] There are conditions under which wholesale customers are constrained in their ability to compete with their suppliers in a downstream market, but whether such a conclusion is warranted in any given setting should be determined through an assessment of actual marketplace outcomes. Here, the Commission acknowledges that MVNOs and facilities-based providers compete for subscribers[135] and also highlights the fact that the largest MVNO, Tracfone, has had great success in doing so: the company had more than 14 million subscribers at the end of 2009, making it the fifth largest mobile wireless service provider in the United States.[136] The Commission in past annual reports has included MVNOs as a part of the competition landscape in the wireless industry,[137] and it offers no credible reason for its sudden about-face on this issue.

C. Capital Investment

63. The Commission characterizes wireless industry capital investment as "robust,"[138] but at the same time observes that investment may have declined in recent years on an absolute basis,[139] and without question did decline as a percentage of industry revenues.[140] The Commission's analysis of capital

[134] *Fourteenth Report* at ¶ 32.

[135] Id.

[136] Id. at ¶ 33.

[137] *See, e.g.*, Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Radio Services, Twelfth Report, WT Docket No. 07-71, FCC 08-28 (rel. February 4, 2008) at ¶ 21.

[138] *Fourteenth Report* at ¶ 4.

[139] Id. at ¶ 210

[140] Id. at ¶ 212.

investment is flawed in several respects, and should not undermine a finding of effective competition in the wireless industry.

64. First, capital investments often exhibit "lumpiness," which means there is no reason to expect an uninterrupted upward trajectory over time, and similarly no reason to draw conclusions regarding the intensity of competition from an observed year-over-year reduction in the level of capital investment. Data on annual capital expenditures undertaken by wireless providers are consistent with a "lumpy" pattern, *i.e.*, they exhibit a mixture of year-over-year increases and decreases,[141] suggesting that a decrease from 2008 to 2009, even if it occurred, should not be viewed by the Commission as evidence of declining competition.

65. Second, the Commission's own analysis shows that the capital expenditures of AT&T, Verizon, and T-Mobile all increased in 2009 relative to 2008, and similarly increased in 2008 relative to 2007.[142] Moreover, the Commission declines to note that over the period 2007 to 2009, the capital expenditures of MetroPCS, Leap Wireless, and Clearwire increased by 8%, 39%, and 223%, respectively.[143]

66. Third, the Commission's conclusion that total industry capital expenditures have been declining as a percentage of total industry revenues is based on capital investment data taken from CTIA and the Census Bureau.[144] As CTIA points out in its Comments, its reported capital investment figures are limited to incremental investment in currently operational systems;[145] the CTIA data do not

[141] *CTIA Comments* at p. 8.

[142] *Fourteenth Report* at Chart 33 (p. 123).

[143] Comments of AT&T, In the Matter of 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 No. 10-133, at p 33-34.

[144] *Fourteenth Report* at ¶ 212 and Chart 32 (p. 122).

[145] In other words, investments in upgrades to new generation technology and in network expansions, until they are actually activated, are not included in the CTIA's reported data.

capture significant categories of investment activity, including spectrum acquisition costs.[146] Consequently, the Commission's reliance on wireless industry capital investment data reported by CTIA is misguided insofar as these data present an incomplete picture of industry-wide capital expenditures. Using capital expenditures for structures and equipment data from the Census Bureau and Commission auction revenue data, CTIA in its Comments presents a chart showing that total industry capital investment in 2008 was at a record high.[147]

V. Concluding Remarks

67. Historically, the Commission has examined competition in wireless services through application of a sophisticated and rigorous analytical framework that affords due weight to a number of pertinent economic indicia. The resulting assessments of competition, up until the *Fourteenth Report*, yielded the correct determination that the provision of wireless services is effectively competitive and should not be subject to extensive regulatory oversight. While the lack of transparency in the *Fourteenth Report* makes unclear the Commission's specific reasons for not concluding that the wireless marketplace is effectively competitive, those reasons, whatever they may be, are indefensible.

68. Application of the current framework to today's wireless industry leads to the conclusion that the marketplace is effectively competitive, both in the provision of wireless services and in other sectors within the wireless ecosystem. Consequently, the Commission should resist any temptations to impose greater regulatory controls, as doing so would be expected to distort the economic

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[146] *CTIA Comments* at p. 66.

[147] Id. at p. 67.

incentives of market participants and the workings of competition, thereby undermining the sector's delivery of consumer benefits.

Date: August 16, 2010

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