Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Section 6002(b) of the	)	
Omnibus Budget Reconciliation Act of 1993	)	WT Docket No. 09-66
	)	
Annual Report and Analysis of Competitive	)	
Market Conditions With Respect to Mobile	)	
Wireless including Commercial Mobile	)	
Services	)	
	)	

COMMENTS OF
CONSUMER FEDERATION OF AMERICA, CONSUMERS UNION,
FREE PRESS, MEDIA ACCESS PROJECT, NEW AMERICA FOUNDATION,
AND PUBLIC KNOWLEDGE

Mark Cooper
Consumer Federation of America

Joel Kelsey
Consumers Union

Ben Scott
Chris Riley
Free Press

Matthew F. Wood
Parul P. Desai
Media Access Project

Michael Calabrese
Sascha Meinrath
New America Foundation

Gigi Sohn
Harold Feld
Public Knowledge

Matthew F. Wood
Parul P. Desai
Counsel for Consumers Union

Chris Riley
Counsel for Free Press

September 30, 2009

SUMMARY

The mobile wireless marketplace is not effectively competitive. Public interest groups Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge (together, the "Public Interest Commenters"), demonstrated the lack of effective competition in that marketplace earlier this year when the Commission sought comment for the preparation of its annual CMRS report. The Commission now seeks to expand the scope of its review to account for the dynamic operation of the entire mobile wireless ecosystem. The Public Interest Commenters welcome this broadening of the Commission's evaluation processes to include new data, new methodologies, and new frameworks for assessing both mobile service offerings themselves and the workings of upstream and downstream markets in the mobile value chain.

Proper application of the traditional framework for assessing competition in the mobile wireless space shows a lack of real competition in that market. Readily apparent competitive failings stem from fundamental flaws in the market structure of an ever-more-concentrated industry, and are a direct result of the incomplete information that carriers make available to customers and regulators alike about their prices and terms of service. Skewed market results and performance are an easily detectable symptom of these ills, which the Commission will need to address and resolve if it is to solve underlying problems that lead to higher prices and fewer options for consumers – all while carrier revenues increase, marginal costs fall, profits rise, and relative investment levels dip.

Despite the wireless industry's incantation each year during this evaluative process of the (always dwindling) number of service providers doing business in different swaths of the United States, traditional merger analysis shows that the market is highly concentrated. The trend

towards consolidation and vertical integration has intensified with the introduction of smartphones and other mobile broadband devices, as dominant carriers project their power from the wireline and special access spheres into the markets for mobile data services, applications, and content. Barriers to entry and growth remain high, and present evidence shows that carriers do *not* compete with each other on price or non-price terms – preferring instead to raise their prices in parallel fashion while shrouding the true costs of services sold to their customers.

The Public Interest Commenters join the Commission in calling for better data on a host of topics, and will endeavor to provide additional information during the course of this proceeding – especially with respect to consumer behavior and attitudes. Yet, it is the Commission itself that is best-placed to gather relevant granular data from carriers, on topics such as price and non-price terms at the census block group level. The Commission can and should compile relevant, carrier-supplied data on service offerings across a range of markets and service plan levels. It also should collect data on overage fees, subscriber churn broken down by service and device type, carriers' spectrum holdings and buildout timetables, and other topics concerning the operation of upstream and downstream markets.

TABLE OF CONTENTS

Before the
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In the Matter of	)	
	)	
Implementation of Section 6002(b) of the	)	
Omnibus Budget Reconciliation Act of 1993	)	WT Docket No. 09-66
	)	
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Wireless including Commercial Mobile	)	
Services	)	
	)	

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CONSUMER FEDERATION OF AMERICA, CONSUMERS UNION,
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AND PUBLIC KNOWLEDGE

The Consumer Federation of America, Consumers Union, Free Press, Media Access Project, the New America Foundation, and Public Knowledge (together, the "Public Interest Commenters") respectfully submit these comments in response to the Commission's *Notice of Inquiry* in the above-captioned docket[1] (the "*Mobile Wireless Competition Notice*" or "*Notice*"). In that *Notice*, the Commission sought additional comment on the state of competition throughout the entire mobile wireless industry, including competition not only in the Commercial Mobile Radio Service ("CMRS") market,[2] but also in a range of related and

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[1] 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. 09-66, *Notice of Inquiry*, FCC 09-67 (rel. Aug. 27, 2009) ("*Mobile Wireless Competition Notice*" or "*Notice*").

[2] *See Mobile Wireless Competition Notice* ¶ 3. The Commission has a duty to report annually on competition in the CMRS market, *see id.* ¶ 1, but has expanded its analysis to view the wireless industry more broadly in recent CMRS reports. *See id.* ¶ 3 (citing 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 Services, WT Docket No. 08-27, *Thirteenth Report*, DA 09-54, ¶ 30 (rel. WTB Jan. 16, 2009) ("*Thirteenth Report*")).

adjacent markets for mobile data services, applications, devices, content, inputs, and infrastructure.[3]

INTRODUCTION

The Public Interest Commenters enthusiastically endorse the Commission's decision to improve and expand its analysis of the full mobile wireless "ecosystem," including upstream and downstream markets across the entire mobile "value chain."[4] As demonstrated in previous submissions in this docket,[5] proper application of the analytic framework the Commission has utilized in its five most recent CMRS reports[6] would reveal severe problems in what is, at base, a fundamentally uncompetitive market. The Commission must broaden its framework, gathering and analyzing its own data from a variety of sources and market participants rather than relying exclusively upon unreliable and incomplete information supplied by third parties, in order to increase its understanding of crucial market segments beyond the scope of earlier CMRS reports.

These comments briefly summarize the information and analysis recently supplied in the Public Interest Commenters' initial response and reply in the *Fourteenth Report Public Notice*

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[3] *See Mobile Wireless Competition Notice* ¶¶ 3-4.

[4] *See id.* ¶¶ 7, 9.

[5] *See* Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, the New America Foundation, and Public Knowledge, WT Docket No. 09-66 (filed June 15, 2009) ("Public Interest Comments"); Reply Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, the New America Foundation, and Public Knowledge, WT Docket No. 09-66 (filed July 13, 2009) ("Public Interest Reply Comments"). The Public Interest Commenters' prior submissions in the docket came in response to the Commission's initial public notice seeking input for what would have been the Fourteenth CMRS Report. *See* "Wireless Telecommunications Bureau Seeks Comment on Commercial Mobile Radio Services Market Competition," WT Docket No. 09-66, *Public Notice*, DA 09-1070 (rel. May 14, 2009) ("*Fourteenth Report Public Notice*").

[6] *See Mobile Wireless Competition Notice* ¶ 8 ("In the five most recent *CMRS Competition Reports*, the Commission has reviewed competitive market conditions using a framework that groups indicators into four categories: (1) market structure; (2) provider conduct; (3) consumer behavior; and (4) market performance.").

proceeding, illustrating again the dearth of competition in the mobile wireless marketplace viewed through the lens of the Commission's four-pronged CMRS report framework. The Public Interest Commenters then suggest additional data that the Commission can and should collect from wireless carriers and other sources to assess more thoroughly the status of competition in all mobile wireless market segments and adjacent markets. The Commission's review should include in-depth investigation of (1) the markets for mobile data services, that carriers either provide on a standalone basis or, more typically, bundle with statutorily defined "commercial mobile services"[7]; (2) upstream markets for mobile wireless inputs, such as towers, backhaul, and transport facilities; and (3) downstream products and markets that rely on mobile wireless services, such as mobile applications, content, and commerce.

The Commission could have concluded readily in a Fourteenth CMRS Report that competition in the mobile wireless marketplace is insufficient and ineffective. Yet, the traditional four-pronged analytic framework developed in prior CMRS reports does not capture the "full competitive dynamics and effects of the mobile wireless market."[8] There are, as the Commission supposes, other economic frameworks, models, standards, metrics, and sources of data that would provide better analytical tools for assessing the operation of that market as the Commission prepares its first full *Mobile Wireless Competition Report*.[9] The Public Interest Commenters applaud the Commission's decision to broaden the scope of its investigation into competition across the mobile wireless value chain, and provide below several detailed suggestions for the metrics and information collection methods that the Commission must employ to compile a robust and comprehensive report. The Commission's targeted data requests

[7] *See id.* ¶ 3 & n.3 (citing 47 U.S.C. § 332(c); 47 C.F.R. § 20.3).

[8] *Mobile Wireless Competition Notice* ¶ 9.

[9] *See id.* ¶ 4.

to market participants should be comprehensive but specific, and the information gathering process should be completed with all due speed so that the Commission can act in timely fashion to prevent further harm to consumers of mobile wireless services.

RECOMMENDATIONS

In Part I below, the Public Interest Commenters review present data and record evidence that already demonstrates ineffective competition in the mobile wireless ecosystem. There also are additional, existing sources of information that the Commission can utilize to bolster its understanding of the problem, as well as data that the Public Interest Commenters or other participants in this proceeding may contribute going forward.

The Commission should not be content simply to wait for new data to materialize, however, and should take an active role in collecting information from mobile wireless providers and market participants. Part II of these comments contains detailed descriptions and justifications for various new data collections that the Commission should undertake, along with methodologies the Commission should employ in assessing that data. In addition to the type of information already assembled and the metrics already employed in the most recent CMRS reports, the Commission should require submission directly by carriers and other mobile value chain participants of the following types of verified information:

- Mobile wireless provider data at the census block group level showing advertised pricing for each service plan, level of usage, and bundled offering, as well as actual pricing on a per minute, per megabyte, *and* per message basis,[10] as applicable to voice, data, and messaging services.

- Mobile wireless provider data at the census block group level showing advertised pricing for all services made available as standalone, prepaid, pay-as-you-go, or other non-bundled offerings, as well as actual pricing on a per minute, per megabyte, and/or per message basis for each such service.

[10] *See id.* ¶ 11.

- Descriptions of market areas in which providers do or do not offer component voice, messaging, or data services on any such standalone or non-bundled basis.

- Usage limitations for any service offered, and for each component service in a bundled offering, along with detailed breakdowns for per-minute, per-message, or volume-based overage charges when limits are exceeded.

- Mobile wireless provider churn statistics, including churn segmented by type of service and subscriber (*e.g.* smartphone versus non-smartphone users).

- Comprehensive data on carriers' and other facilities-based providers' investments in networks, infrastructure, and innovation, including data showing return on investment ("ROI"), return on invested capital ("ROIC"), operating margins, capital expenditures as a percentage of revenue, and profit margins (subject to any appropriate and justifiable requests that proprietary data kept confidential by the Commission).[11]

- Provider data illustrating price and service quality differences between markets where the provider or its affiliate is an incumbent local exchange carrier or backhaul facilities provider.

- Detailed spectrum holdings on a market-by-market basis, coupled with buildout statistics and timetable illustrating current and projected service coverage within licensed territories.

- Data showing prices paid and costs incurred by, as well as terms and conditions imposed on, mobile wireless providers in upstream markets for inputs such as special access services.

- Data showing prices paid and costs incurred by, as well as terms and conditions imposed on, mobile wireless providers in market segments such as roaming services

- Data showing prices paid and costs incurred by, as well as terms and conditions imposed on, mobile value chain participants in downstream or "edge" markets for handsets, other mobile wireless devices, applications, and content.

- Data on consumer demand for new and innovative mobile wireless services, including information comparing consumer likelihood to adopt new services under open access regimes and, alternatively, closed network models.

[11] *See id.* ¶¶ 28-30.

DISCUSSION

I. THERE IS AMPLE EVIDENCE IN THE RECORD DEMONSTRATING THAT SIGNIFICANT BARRIERS TO ENTRY AND GROWTH LIMIT COMPETITION IN THE MOBILE WIRELESS MARKET

The Public Interest Commenters welcome the opportunity presented by the *Mobile Wireless Competition Notice* to provide suggestions on new areas of focus for Commission data-gathering and quantitative analysis in the mobile wireless marketplace. To understand the types of data that would be most helpful in analyzing the competitive status of the mobile wireless markets and adjacent markets, however, it will be helpful to review the symptoms of uncompetitive markets revealed by proper application of the extant four-pronged CMRS report framework. Mindful of the fact that the Commission apparently intends to incorporate into this proceeding the comments and reply comments filed in this docket in response to the earlier *Fourteenth Report Public Notice*,[12] the Public Interest Commenters offer here only a short recap of their previous analyses utilizing the four CMRS report categories for assessing competition in the commercial mobile services industry. Furthermore, because the *Mobile Wireless Competition Notice* poses the question whether that approach should suffice to "describe the full competitive dynamics and effects of the mobile wireless market,"[13] there is some chance that the Commission will retain that analytic framework going forward. Although the Public Interest Commenters believe that the adoption of more thorough economic frameworks and metrics, and the direct collection of data, would aid the Commission greatly in capturing and assessing those competitive dynamics, the Public Interest Commenters have demonstrated based on the information currently available that the commercial mobile services market is not effectively competitive according to the methodology used in the most recent CMRS reports.

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[12] *See, e.g., id.*, Statement of Commissioner Robert M. McDowell.

[13] *See id.* ¶ 9.

A. As the Public Interest Commenters Have Shown Previously, Proper Application of the Commission's Four-Pronged CMRS Report Analysis Reveals Limited Competition at Best in the Mobile Wireless Market

1. The Structure of the Mobile Wireless Market Limits Effective Competition

The *Thirteenth Report* suggested that concentration levels in the CMRS market were relatively low when compared to levels in other countries and other product markets, as well as virtually unchanged in 2007 from 2006 levels, and implied that measurements of such concentration showing a weighted national average Herfindahl-Hirschman Index ("HHI") of 2674 reflected a competitive marketplace.[14] The Public Interest Commenters' initial submission in this docket noted, however, that typical antitrust analysis and governmental merger guidelines classify markets with HHI levels above 1800 as "highly concentrated."[15] Those initial submissions also suggested that HHI levels likely would continue to rise, based on growth in market share for companies introducing popular smartphones with the type of broadband data capabilities that were driving most of the mobile wireless market's growth in a weak economy.[16]

The litany of consolidation and firms exiting the market in the *Thirteenth Report*, listing the great many service providers that had failed or been bought out by the four nationwide

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[14] *See Thirteenth Report* ¶¶ 44-50.

[15] *See* Public Interest Comments at 4 (citing Department of Justice and Federal Trade Commission, *Merger Guidelines,* 1997, § 1.5; Neil B. Cohen and Charles A. Sullivan, *The Herfindahl-Hirschman Index and the New Antitrust Merger Guidelines: Concentrating on Concentration*, 62 Tex. L. Rev. 453, 461 (1983)).

[16] *See* Public Interest Comments at 4-6. The Public Interest Commenters noted then that "growth in the wireless market as a whole is driven by growth in mobile Internet access services, particularly in a rough economy," such that "any limits on competition in the mobile Internet access and broadband markets are particularly significant, and have ancillary impact on the ability of providers to compete in the mobile voice market." *Id.* at 6 (citing Om Malik, "Downturn or Not, Mobile Broadband is Growing Fast," *GigaOm* (Mar. 17, 2009), at http://gigaom.com/2009/03/17/downturn-or-not-mobile-broadband-is-growing-fast/; AT&T, "AT&T Investor Update," at 7, April 22, 2009, at http://www.att.com/Investor/Financial/Earning_Info/docs/1Q_09_slide_c.pdf).

carriers, should increase concentration levels as well.[17] The *Thirteenth Report* opined that "consolidation does not *always* negatively impact consumers" and that it "*may* enable providers to achieve economies of scale and increased efficiencies."[18] Yet, a careful review of HHI levels in the 171 large Economic Area ("EA") geographic regions studied by the Commission indicate that the economies of scale to be expected from providing service to densely populated urban areas have not resulted in the materialization of new competitors to these overly acquisitive nationwide carriers.[19] In a truly competitive market, such alarmingly high HHI levels should signal potential market growth opportunities and encourage additional investment and new entrants, but rather than more competitors there are fewer and fewer. Instead of new entry and the downward pressure on pricing that should be expected from an effectively competitive market, the mobile wireless industry shows signs of increasing concentration and continuing immunity to price decreases that would reflect carriers' declining marginal costs in various market segments.[20]

Moreover, the Commission's focus on concentration levels alone does not elucidate certain intractable problems in the present mobile wireless market structure. As the Commission expands its understanding of the mobile wireless market, it may conclude that certain anti-consumer and anti-competitive practices can arise regardless of the number of competitors in a

[17] *See Thirteenth Report* ¶¶ 53-62 (discussing two major AT&T acquisitions, of Dobson and of Aloha Partners' licenses; T-Mobile's acquisition of SunCom and that carriers 1.1 million customers; Verizon Wireless's acquisitions of RCC and Alltel, netting 17.7 million customers; and the Sprint Nextel strategic partnership with Clearwire).

[18] *See id.* ¶ 51 (emphases added).

[19] *See* Public Interest Comments at 5. Breaking down HHI figures by EA reveals that precisely one such region had an HHI under the 1800 level typically considered reflective of a highly concentrated market, while many other many EAs registered substantially higher than average HHIs ranging from the 4000s into the low 6000s. *See Thirteenth Report* ¶ 46 & Tbl. 3; *id.*, App. A, Tbl. A-3.

[20] *See, e.g.*, *infra* Part I.A.2 (describing parallel increases in text message pricing).

particular geographic market. For example, even in a market where there are multiple providers offering service, those providers may have both the incentive and the ability to charge higher rates through hidden charges.[21] Alternatively, the common interest of all competitors in keeping customers may outweigh any advantage in forgoing ETFs, creating a permanent limit on the ability of competition to discipline the market. In these situations, the Commission cannot simply satisfy itself by counting noses and conclude that a market that is effectively competitive without examining carrier conduct, market performance, and a range of other factors.

Finally, as explained in the Public Interest Commenters' initial comments, difficulties in defining and analyzing relevant geographic and product markets likely overstated the level of competition in the *Thirteenth Report*. For purposes of its assessment, the Commission combined together the product market for mobile voice services and mobile data services. The *Thirteenth Report* justified this combined approach by explaining that carriers generally bundle these services together, and noting that it was more convenient to use numbering data (tied to voice accounts) as a proxy to estimate both voice *and* data subscriber statistics.[22] As a result, the best the Commission could hope for was merely obtaining "a reasonable approximation of concentration in the markets for mobile voice and mobile data services" combined.[23] The imperfect analysis of mobile voice and mobile data services in tandem obscures competitive

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[21] *See* Xavier Gabaix and David Laibson, *Shrouded Attributes and Information Suppression in Competitive Markets* (May 22, 2004) ("Gabaix and Laibson, *Shrouded Attributes*"), discussed more fully in Part II.B.1 below.

[22] *See Thirteenth Report* ¶¶ 30-34. The Commission abandoned its previous (and far more compelling) rationale for combining product markets, a consumer-focused analysis of whether users view the products as close substitutes. *See id.* ¶ 32.

[23] *Id.* ¶ 34.

problems arising from even greater concentration in the mobile broadband market than exists for mobile voice.[24]

2. *Provider Conduct Demonstrates That the Mobile Wireless Market Is Not Competitive*

The *Thirteenth Report* evaluated provider conduct primarily through traditional metrics such as price and non-price rivalry, capital expenditures, advertising expenditures, and investment,[25] but did so only at a superficial level.[26] As a result, the *Thirteenth Report* did not identify any specific instance of provider conduct that was indicative of insufficient levels of competition in the marketplace. The Public Interest Commenters showed, however, that providers have indeed engaged in such conduct, with carriers adopting parallel pricing structures for voice, data, and SMS services, as well as parallel limitations on usage of services – particularly mobile Internet access services.

The Public Interest Commenters' initial submission in response to the *Fourteenth Report Public Notice* included extensive discussion of carriers' parallel pricing for voice services. Such conduct encourages or even requires subscribers to purchase voice plans with more minutes than many of them ever need or use, all in order to avoid excessive overage charges and above-cost

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[24] *See* Public Interest Comments at 6.

[25] *See Thirteenth Report* ¶¶ 110-176.

[26] *See* Public Interest Comments at 8. As noted there, the *Thirteenth Report*'s description of this conduct was written "often in language more reminiscent of advertising literature than critical analysis." *Id.*; *see, e.g.*, *Thirteenth Report* ¶ 111 ("[S]ome providers, including Alltel ('My Circle') and T-Mobile ('myFaves'), allow subscribers unlimited free calling to and from a small number of designated numbers, regardless of wireline or wireless carrier, . . . [and] Sprint Nextel became the first nationwide carrier to begin offering unlimited calling plans, for a limited time, in select markets."); *id.* ¶ 112 (describing the introduction of nationwide carriers' "unlimited national flat-rate calling plans" by noting that "Verizon Wireless made the first move by offering an unlimited nationwide flat-rate calling plan in February 2008. AT&T quickly responded with a similar offer, and T-Mobile followed soon after with a nationwide flat-rate calling plan that it differentiated by including unlimited voice bundled together with unlimited text messaging.").

"pay-as-you-go" plans that range in cost from 10 to 20 cents per minute.[27] Carrier practices that present customers with the "choice" of over-paying for minutes outside the plan or over-purchasing capacity are not limited to voice offerings. The prices charged for wireless data plans seem far removed from any possible cost to provide such services, indicating supracompetitive profits and an absence of price rivalry for mobile data offerings.[28] Some recently introduced wireless data service offerings – which some carriers are beginning to make mandatory even with non-smartphones – demonstrate this particularly clearly, with new plans priced at $9.99 per month for 25 MB plus 50 cents per additional MB, or $19.99 for 75 MB plus 30 cents per additional MB.[29]

Still more startling is parallel pricing conduct for SMS text message services, which led to a *doubling* of the rates to send and receive individual text messages on all four nationwide carriers' networks from 2005 to 2008.[30] Rates for individual text messages doubled from 10 cents to 20 cents per message during that time period.[31] The "Big Four" nationwide carriers

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[27] *See* Public Interest Comments at 8-9.

[28] *See* id. at 9-10. The Public Interest Commenters' previously provided anecdotal evidence of AT&T's apparent supracompetitive pricing for mobile data plans. Of course, it is difficult to assess the costs incurred by carriers in the absence of more granular, product market-specific pricing and cost data of the kind that the Public Interest Commenters urge the Commission to collect for the purpose of compiling the *Mobile Wireless Competition Report*.

[29] Karl Bode, "Verizon's New Wireless Pricing Is An Insult," *DSL Reports* (Sep. 10, 2009), at http://www.dslreports.com/shownews/Verizons-New-Wireless-Pricing-Is-An-Insult-104386.

[30] *See* Public Interest Comments at 10 (citing Marguerite Reardon, "The Rising Cost of Texting," *CNet News* (July 1, 2008), at http://news.cnet.com/8301-10784_3-9982251-7.html).

[31] *See id.* As the Reardon article cited by the Public Interest Comments reported, "text messages cost carriers very little to transmit. And when compared with what carriers charge for transmitting other data services, such as music downloads or surfing the Web, the text messaging rates seem exorbitant." The article went on to infer that "[t]he reason that carriers are charging so much for text messages is because they can," and indicated that "[t]he massive price markup on texting and the growing popularity of texting have resulted in huge profits for mobile operators." Further evidence of exorbitant pricing comes in the form of a unfavorable comparison between the rates charged for individual text messages to those charged for Hubble

offered no satisfactory explanation in the *Thirteenth Report* or in response to congressional inquiries regarding these simultaneous, identical, and astronomical increases, nor for prices clearly untethered from all costs of providing SMS service to customers that eschew a monthly texting plan. These price increases for SMS reflect a failure of competition, and demonstrate anticompetitive conduct by providers.

Similarly demonstrating a lack of competition is provider conduct in setting non-price limitations on their service offerings, including limitations imposed by wireless carriers and device manufacturers on the development of third party applications. More relevant than these limitations themselves to the present discussion is the similarity in usage limitations imposed by the four nationwide carriers and others, demonstrating parallel conduct in the establishment of non-price terms rather than effective competition over non-price features. The Commission should collect the types of data described by the Public Interest Commenters in Part II.B, *infra*, in order to assess critically the apparent parallel conduct of mobile voice and data service providers.

Another element of provider conduct in the wireless market worthy of further study is the level of network investment. Although the Commission recognized capital expenditures as a form of non-price rivalry in the *Thirteenth Report*, the report spent only a single paragraph on the topic, despite finding that capital spending was flat in 2006 and *declined* by 19 percent in 2007.[32] This finding is striking because the Commission simultaneously estimated substantial growth in

Space Telescope transmissions. *See* Gabriel Gache, "Space Science Data Transmission Four Times Cheaper than SMS," *Softpedia* (May 12, 2008), at http://news.softpedia.com/news/Space-Science-Data-Transmission-Four-Times-Cheaper-than-SMS-85381.shtml; *see also* Public Interest Comments at 11 ("[C]onsidering how little data is transferred in an SMS message, at 20 cents per message, consumers pay the equivalent of almost $1,500 per megabyte of data transferred, a rate over seventeen times more expensive than receiving data from the Hubble Space Telescope.").

[32] *See Thirteenth Report* ¶ 155.

services during that same time period, with the number of mobile phone subscribers increasing by more than 21 million users (or 8.8%) from 2006 to 2007.[33] The Commission also estimated that during 2006, the number of high-speed Internet access connections using mobile wireless technology increased from just over 3 million to nearly 22 million – an increase of more than 600 percent.[34] The Public Interest Commenters have gathered publicly available information on this topic and tabulated those figures in the Appendix that follows these comments. Based on that data, the trend of increasing subscriber numbers and revenues paired with decreasing investment – and thus, increasing profits, and signs of weaker competition – appears to have continued in the years since 2007. Industry-wide, capital expenditure as a percentage of revenue has fallen substantially over the last five years.[35] The wireless industry frequently asserts that mobile operators had "an average combined investment of more than $22.8 billion per year . . .

[33] *Id.* ¶ 197.

[34] *Id.* ¶ 204. There are significant questions regarding the mobile wireless broadband data the Commission collected during this time period. The Commission has required entities to "report the number of end users whose mobile device[s] . . . are *capable* of sending or receiving data at speeds in excess of 200 kbps." *See, e.g.*, Development of Nationwide Broadband Date to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected VoIP Subscribership, *Report and Order and Further Notice of Proposed Rulemaking*, 23 FCC Rcd 9691, ¶ 23 (2008)) ("*Wireless Broadband Subscribership Data Notice*") (emphasis added). Thus, many users counted by the Commission in the *Thirteenth Report* may simply have a capable device but not an accompanying data plan. The Commission responded to this potential disparity in the *Report and Order* by improving Form 477 subscribership data and requiring entities to report the number of data plan subscriptions. *See* Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership, WC Docket No. 07-38, *Report and Order and Further Notice of Proposed Rulemaking*, 23 FCC Rcd 9704, ¶ 23 (2008) ("*Wireless Broadband Subscribership Data Notice*"). This potential disparity notwithstanding, it is clear that mobile data usage increased significantly during this time period. In the *Thirteenth Report*, the Commission cited a study that found the number of devices using mobile broadband increased by 154 percent in 2007. *Thirteenth Report* ¶ 205.

[35] *See* Appendix, Figures 6 and 7.

from 2001 through 2008."[36] While these are substantial investments, consumers paid mobile operators on average more than *$107* billion per year over the same time period.[37] Over that same time period, from 2001 to 2008, data available in CTIA's Semi-Annual Surveys and comments to the Commission show that investment spending increased from $15 billion to around $20 billion per year, while service revenue went from $65 billion to $148 billion. A substantial decrease in capital expenditures as a percentage of revenue is a strong sign that providers are not competing on non-price factors such as investment. Regardless of flashy advertisements and any claims to the contrary, providers do not appear to be effectively competing to invest and build the best possible network.

3. Consumer Behavior Shows That the Mobile Wireless Market Is Not Competitive

The Public Interest Commenters detailed in their initial comments in this docket the tactics that mobile wireless providers use to limit consumer choice. Lengthy standard contracts containing high early termination fees ("ETFs") and automatic contract extension provisions present substantial obstacles for consumer movement between carriers, as do exclusive handset agreements between carriers and device manufacturers, along with other limitations on the types of wireless devices that consumers can use on a provider's network.[38] As a result of these

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[36] *See, e.g.*, *Ex Parte* Submission of CTIA-The Wireless Association, GN Docket No. 09-51, WT Docket Nos. 09-66, 08-165, at 1 (filed July 9, 2009).

[37] This figure is derived from the same data source as the investment figures, CTIA's Semi-Annual Survey. The Commission attached the results of this survey to nearly all the annual CMRS reports. Until 2004, CTIA publicly reported both revenue and *cumulative* capital investment. In 2005, CTIA began to publish only revenue figures (and therefore so did the CMRS reports). Thus, the capital investment figures for 2005-2009 were collected from CTIA comments filed with the Commission during annual CMRS competition report public comment periods. In cases where CTIA only submitted the capital investment figure for the first six months of the calendar year (2005 and 2007), that figure was doubled.

[38] *See* Public Interest Comments at 13-14.

contractual provisions, consumers still face obstacles when choosing providers or choosing to switch.

A market with effective competition would have few if any such impediments to consumer choice and exit from a particular service provider's customer base, as competitors would be forced to reduce the number of these unpopular provisions in their service offerings. The *Thirteenth Report* paid insufficient attention to the operation and effects of the very real switching costs and impediments to user choice that exist today. Instead, it touted the benefits of long-term contracts and ETFs while not even mentioning handset exclusivity arrangements.[39] The *Thirteenth Report* also noted that carriers had begun to pro-rate ETFs and give customers the option – in some cases, at least – of "changing elements of their contracts without requiring a contract extension."[40] The report did not mention, however, that pressure from public interest groups, proposed legislation, and a spate of customer lawsuits combined with market forces to push carriers grudgingly in the direction of somewhat loosened restrictions and lesser penalties.

The Public Interest Commenters' prior submissions in this docket detailed the underpinnings of problems posed by punitive ETFs, automatic contract extensions triggered by service plan changes or handset upgrades, handset exclusivity arrangements and other such limitations, and other anti-consumer provisions commonly found in wireless service contracts.[41] The Public Interest Comments encourage the Commission to continue studying these problems through new data collection efforts, but note as well that there are available today some useful and reliable sources of additional "specific and granular quantitative and qualitative data and information on factors that affect consumers' mobile wireless purchasing decisions and

[39] *See, e.g., Thirteenth Report* ¶¶ 185-186.

[40] *Id.* ¶ 114.

[41] *See* Public Interest Comments at 14-18; Public Interest Reply Comments at 20-23.

consumer behavior."[42] Recent studies examining consumer behaviors and perceptions with respect to mobile wireless services and devices illustrate the changing nature of the benefits that customers expect to receive from their service providers, and suggest that consumers are looking for more freedom and innovation in their service plans.

For example, the Commission should examine the recent study by the Pew Internet and American Life Project ("Pew Study") finding that, while there has been a marked increase in the number of people accessing the Internet using mobile wireless devices such as smartphones, the number of people who have cell phones far exceeds the number actually using handheld devices to access the Internet.[43] As the Pew Study noted, "[t]his gap is not entirely behavioral. Not all cell phones may be equipped to get online and not every user may be in reasonable proximity to a network that allows access."[44] It is critical for the Commission to take such data into account when evaluating claims that handset exclusivity promotes innovation and deployment, or when assessing the speed of deployment and buildout for mobile data networks and infrastructure.

The Pew Study also found that non-voice activities increasingly dominate handset use. Specifically, Pew researchers found that "[s]ending text messages remains the mainstay activity for cell phone users; they are more than twice as likely to send a text on the average day as do anything else" in terms of non-voice services accessible from their mobile devices.[45] The increasing popularity of text and consumer reliance on this particular service should focus the Commission's attention on pricing and non-price terms for such messaging and data services.

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[42] *Mobile Wireless Competition Notice* ¶ 12.

[43] *See* John Horrigan, Pew Internet & American Life Project, *Wireless Internet Use*, at 3, 7-8 (July 2009) ("Pew Study") (finding that 32% of respondents had accessed the Internet with a phone or other handheld device). This 32% figure is relatively low, considering that 85% of the adult population has a handheld device. *See id.* at 20.

[44] *Id.* at 14.

[45] Pew Study at 20.

According to another recent study by Brookings, consumers believe innovation in the mobile wireless space is more likely driven by advances in mobile devices and Internet-based services rather than new voice services.[46] This Brookings Study also found that consumers in the United States have a strong preference for choosing their own applications.[47] Such findings demonstrate the high value of open access and open platforms to consumers, illustrating the critical need for the Commission to adopt rules and policies that promote this type of innovation in the market for mobile devices and services. Although some innovation may occur under the current "walled garden" paradigm, the Brookings Study suggests that consumers are looking for more in the way of innovative products and service offerings beyond those provided by incumbent carriers. The Commission should collect data to assess the likelihood that consumers would more readily adopt new mobile broadband services in a regulatory environment promoting open access, open platforms, and handset portability.

In addition to the information available in the studies described above, the Public Interest Commenters again suggest that the Commission collect and consider additional data on consumer behavior in the mobile wireless marketplace. Moreover, the Public Interest Commenters also will endeavor to provide such data regarding consumer behavior during the course of this proceeding (and during the proceeding commenced by the Truth-in-Billing Notice of Inquiry released the day after the *Mobile Wireless Competition Notice*).[48] The Public Interest Commenters plan to develop and submit in these dockets new data regarding the information that

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[46] *See* Darrell M. West, Governance Studies at Brookings, *What Consumers Want from Mobile Communications in the United States, United Kingdom, Spain, and Japan*, at 9 (Sept. 2009) ("Brookings Study").

[47] *See id.* at 5 ("80.5 percent of Americans want to choose their applications.").

[48] *See* In the Matter of Consumer Information and Disclosure, CG Docket No. 09-158; Truth-in-Billing and Billing Format, CC Docket No. 98-170, IP-Enabled Services, WC Docket No. 04-36, *Notice of Inquiry*, FCC 09-68 (rel. Aug. 28, 2009) ("*Truth-in-Billing Notice*").

consumers have – or would like to have – when making decisions to purchase mobile wireless services or switch providers. That study could include information regarding the switching costs that wireless customers incur due to ETFs and other explicit penalty charges, as well as the impediments to switching created by handset exclusivity arrangements and non-portability of devices between closed carrier networks. It also could include consumer awareness of the prices they actually pay for various components of the bundled services they purchase from mobile wireless providers – studying in the process whether customers would be likely to switch carriers if, for example, the customers knew exactly how much above marginal cost they were paying for text messages and data service folded into their bundled plans.[49] Any and all such data on customer decisionmaking processes, in the face of the obstacles that carriers can erect in an insufficiently competitive mobile wireless market ecosystem, will aid the Commission's data-driven decisionmaking on the best policies for spurring demand and adoption for innovative new services.

The Public Interest Commenters note, however, that mobile wireless broadband and wireline broadband services are complements rather than substitutes. The Commission should recognize this as well. The *Notice*, in seeking comment on consumer choices and the market forces that drive adoption and demand, asked for "any data or studies that quantify whether consumers view mobile wireless broadband services as substitutes or complements to wired broadband services."[50] Mobile broadband data services have been and remain an important method of accessing the Internet – especially for younger demographics and historically

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[49] *See infra* Part II.B (discussing the "shrouded attributes" problem of consumers paying for services and extras without full knowledge of what they are buying).

[50] *Mobile Wireless Competition Notice* ¶ 13.

disadvantaged populations.[51] Nevertheless, neither prevalent 3G services nor promised 4G wireless services broadband services can match the data delivery rates currently available from wireline broadband offerings.

Many factors establish mobile broadband as a complement, and not a substitute, to wireline broadband for consumers.[52] Mobile broadband service offerings fall short of wireline offerings in multiple ways. First, in most cases, mobile connections can only be used by a single device,[53] as opposed to wireline broadband connections that easily can be shared among multiple devices using inexpensive electronics. Second, the speed of mobile broadband connections, both advertised and actual, is much slower than the speed for typical wireline offerings.[54] The only way for a consumer to establish a mobile broadband connection that approaches the speed of some (low-end) wireline connections is to purchase four separate mobile wireless connections and a device that bonds them together, at a cost around $285 per month.[55]

Additionally, mobile broadband service providers set uniformly low usage caps and high overage fees. Consumers attempting to use their mobile connection as a substitute for wireline could easily find themselves paying thousands of dollars in overages charges, a fear that is

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[51] *See* Pew Study at 14-15.

[52] *See* Reply Comments of Free Press, GN Docket No. 09-51, at 40-44 (filed July 21, 2009) (National Broadband Plan).

[53] The sole exception to such limitations come in the form of the "MiFi" devices offered by Verizon Wireless and Sprint. *See, e.g.*, Phil Goldstein, "Sprint follows Verizon in MiFi game," *Fierce Wireless* (May 13, 2009), at http://www.fiercewireless.com/story/sprint-follows-verizon-mifi-game/2009-05-13.

[54] *See, e.g.*, Comments of Free Press, GN Docket No. 09-51, at 105-106 (file June 8, 2009) ("Free Press National Broadband Plan Initial Comments").

[55] This price assumes four $60 per month wireless broadband subscriptions and leasing the bonding device for $45 per month. *See* Stacey Higginbotham, "Three Startups That Want to Deliver a Fat Mobile Pipe," *GigaOm* (June 30, 2009), at http://gigaom.com/2009/06/30/three-startups-that-want-to-deliver-a-fat-mobile-pipe/.

(unfortunately) not hypothetical.[56] After one such incident, an AT&T spokesperson expressly told reporters that "our wireless data services are not intended to be used as a replacement for Wi-Fi, DSL or cable services."[57] Service providers have characterized mobile broadband as a complement to wireline broadband from the outset.[58] AT&T states in its terms of service that "[e]xamples of prohibited uses include . . . as a substitute or backup for private lines, landlines or full-time or dedicated data connections."[59] Verizon Wireless has a similar prohibition.[60] Cable operators also have expressed their intention to offer wireless service as part of a bundle and as a complement to cable modem service.[61]

Mobile broadband data services are an important part of the nation's broadband future, and the Commission should facilitate deployment and improvement of mobile broadband infrastructure by existing providers, as well as entry by new competitive providers who need

[56] *See, e.g.*, Ivan Penn, "Overusing that AT&T air card connection can cost big bucks," *St. Petersburg Times* (Sept. 16, 2009), at http://www.tampabay.com/features/consumer/overusing-that-atampt-air-card-connection-can-cost-big-bucks/1036423.

[57] *Id.*

[58] *See* Marguerite Reardon, "BellSouth launches wireless broadband service," *CNET News* (July 21, 2005), at http://news.cnet.com/BellSouth-launches-wireless-broadband-service/2100-1034_3-5810952.html.

[59] *See* AT&T Wireless Data Service Terms and Conditions, at http://www.wireless.att.com/learn/messaging-internet/media-legal-notices.jsp (last accessed Sept. 28, 2009).

[60] "Examples of prohibited usage include . . . as a substitute or backup for private lines or dedicated data connections." *See* Verizon Wireless Mobile Broadband Terms and Condition, at http://b2b.vzw.com/broadband/bba_terms.html (last accessed Sept. 28, 2009).

[61] *See, e.g.*, Jim Barthold, "On the Hot Seat with Cox's Stephen Bye," *FierceWireless* (Dec. 15, 2008), at http://www.fiercewireless.com/story/hot-seat-coxs-stephen-bye/2008-12-15?utm_medium=rss&utm_source=rss&cmp-id=OTC-RSS-FW0; *see also* Todd Spangler, "Comcast: Mobile Voice, Video In The Cards," *Multichannel News* (June 30, 2009), at http://www.multichannel.com/article/307213-Comcast_Mobile_Voice_Video_In_The_Cards.php ("'This is the first product we're launching. This is step one,' [Comcast Senior VP for Wireless and Voice Services Cathy] Avgiris said. 'It's a natural extension to our existing Internet service.'").

access to spectrum and other inputs to launch potentially innovative services. In answer to the question posed in the *Notice*, however, technical comparisons between wireline and mobile wireless broadband services indicate that the two platforms should be viewed as complements rather than substitutes for one another.

4. Performance Shows That the Market Is Not Competitive

With respect to the final factor in the four-pronged CMRS report framework, the Public Interest Commenters' earlier submissions in this docket demonstrated that market performance also indicates a lack of effective competition in the mobile wireless marketplace. When assessing performance, the Commission must consider cost and profit figures alongside revenue and usage figures. An evaluation of performance based on average revenue and usage will not accurately measure the effectiveness of competition unless the evaluation includes adequate consideration of the declining costs of providing service and the differences between fixed and marginal costs.[62] The *Thirteenth Report* focused primarily on average revenue and usage of services, portraying an overall increase in usage and decrease in average price per unit for mobile wireless services,[63] but that analysis elided the fact that marginal costs naturally fall as the number of users increases in a market with high fixed and low marginal costs. Furthermore, through discounts and punitive single-use fees for voice minutes, data transfers, and text messages, wireless service providers encourage customers to purchase higher usage service plans than they intend to or are able to use, increasing carrier profits by receiving revenue for unused minutes, data transfers, and text messages that incur zero cost. Furthermore, falling average

[62] *See* Public Interest Comments at 19.

[63] *See Thirteenth Report* ¶¶ 188-195.

revenue per user ("ARPU") – at least in some market segments, such as voice service[64] – does not necessarily indicate the presence of effective competition. Real competition in the mobile wireless market would dictate matching rates of decline in consumer prices and carrier cost; in reality, prices seem to be falling at a slower rate than costs, and carriers continue to increase their profits as a result. The Commission should collect granular data on carrier profits, not merely revenues per user or per minute, to measure the true performance of the mobile wireless market and adjacent markets that depend on data, voice, and text services.

B. The Commission's Decision to Expand the Scope of its Review to the Entire Mobile "Value Chain" Will Demonstrate That Barriers to Entry and Growth in Adjacent Markets Further Limit Competition Mobile Wireless Competition

The four-pronged analysis that the Commission has utilized in its last five CMRS reports suffices to demonstrate an absence of efficient and effective competition in the mobile wireless market. Nevertheless, the Public Interest Commenters fully support the Commission's decision to expand the scope of its review and evaluate competition in upstream markets for mobile wireless inputs and downstream markets that depend on mobile wireless services.[65] The Public Interest Commenters have called upon the Commission to expand its analytic framework, arguing that market concentration analysis and other tools utilized in compiling the *Thirteenth Report* could partially demonstrate market distortions, but certainly could not explain them.[66] The foundation for the excessive market concentration, anticompetitive carrier conduct, restrained consumer choice, and inefficient market performance described above is the combined effect of a lack of meaningful regulatory oversight and the resulting high barriers to entry and

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[64] *See id.* ¶ 195 ("[D]eclining voice ARPU (due to various factors . . .) continues to be offset by growth in data ARPU.").

[65] *See Mobile Wireless Competition Notice* ¶ 9.

[66] *See* Public Interest Comments at 20.

growth that exist today throughout the mobile wireless ecosystem.[67] These barriers are found both in upstream and downstream markets. The Commission's new commitment to collect and study data on structure and performance in these adjacent markets can only improve its evaluation and understanding of the insufficiently competitive mobile wireless value chain.

The Public Interest Commenters noted in prior submissions in this docket several high barriers to entry and growth, including limited availability of spectrum, rapidly rising prices for wireless backhaul, glaring loopholes in roaming regulations, and exclusive deals for popular new devices exclusively offered to large incumbent carriers.[68] The *Thirteenth Report* gave some consideration to spectrum availability[69] but barely mentioned other significant barriers to entry and growth – particularly those faced by small, rural and regional providers of mobile Internet access service. The Public Interest Commenters briefly describe below the problems in various segments of the commercial mobile services market and in adjacent markets to illustrate the value of the Commission's broader scope of review, and also to reiterate that neither the current marketplace nor current regulatory structure can adequately remedy these problems.

1. *Access to Spectrum Remains a Barrier to Entry and Growth – One Not Adequately Considered in the* Thirteenth Report

The Commission sought comment in the *Mobile Wireless Competition Report* on proper assessment of the ways in which spectrum holdings affect market structure, conduct, and performance.[70] Limited availability of spectrum continues to restrict growth in and entry into the mobile wireless market, though changes to the current regulatory regime (described in the section immediately following) could alleviate existing limitations and enable more efficient and

[67] *See Mobile Wireless Competition Notice* ¶ 28.

[68] *See* Public Interest Comments at 21.

[69] *See Thirteenth Report* ¶¶ 64-67.

[70] *See Mobile Wireless Competition Notice* ¶ 24.

effective use of the spectrum. At present, market concentration and consolidation have increased spectrum acquisition barriers for new entrants while simultaneously consolidating the lion's share of spectrum holdings into the hands of the two largest wireless providers. The Commission's flexible spectrum allocation and secondary markets policies have not done enough to counter-balance these effects.

As in their earlier submissions in this docket and others, the Public Interest Commenters continue to support efforts to inventory spectrum usage by the federal government and other users, and note that large swaths of spectrum allocated to governmental, military, and broadcasting use today lie fallow or are underutilized.[71] The Commission also should continue to expand its promotion of unlicensed spectrum use, building on the tremendous technological and economic success of Wi-Fi with swift and diligent adoption of rules for the use of TV White Spaces[72] – allowing for the use, subject to reasonable interference protections, of advanced spectrum technology in bands with superior propagation characteristics.

2. *Carrier Consolidation and Vertical Integration Create Barriers to Entry and Growth*

Beyond the barriers to spectrum access presented by technology, and the Commission's technical rules and allocation decisions related thereto, the Commission's past competition policies and decisions have created or exacerbated market structural barriers to entry and growth.

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[71] *See, e.g.*, Comments of the New America Foundation, Public Knowledge, and Media Access Project, GN Docket 09-51, at 16-23 (filed June 8, 2009) (describing underutilization of federal government and commercial spectrum allocations and calling for an inventory of spectrum amenable to clearing or opportunistic use).

[72] *See In the Matter of Unlicensed Operation in the TV Broadcast Bands*, *Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd 16807 (2008).

For instance, in the absence of spectrum caps or realistic spectrum screens,[73] incumbent carriers maintain persistent advantages over new entrants based on the incumbents' ability to leverage existing assets when acquiring new spectrum (whether at auction, or via mergers and acquisitions). Since the elimination of spectrum caps in 2003,[74] incumbents have increased their already large spectrum holdings, increasing the substantial competitive advantages that the largest nationwide carriers enjoy and the overall level of concentration in an already concentrated market.[75] Furthermore, these same incumbents hold the licenses for disproportionate amount of the most efficient spectrum for mobile Internet usage. The Commission should consider in the *Mobile Wireless Competition Report* the impact of

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[73] *See Mobile Wireless Competition Notice*, Statement of Commissioner Michael J. Copps ("The Commission has a statutory duty to prevent undue concentration in the wireless marketplace. We opened the floodgates to consolidation with the repeal of spectrum caps and, more recently, the Commission has been playing unhelpful games with altering spectrum aggregation screens without first completing the necessary analysis . . . .").

[74] *See* Press Release, Federal Communications Commission, "FCC Announces Wireless Spectrum Cap To Sunset Effective January 1, 2003" (November 8, 2001), at http://www.fcc.gov/Bureaus/Wireless/News_Releases /2001/nrwl0129.html.

[75] As described in the Public Interest Commenters' initial submission in this docket, the effect of the cap's elimination is readily apparent in the results of the 700 MHz auction, which saw the two largest wireless incumbents – AT&T and Verizon Wireless – substantially increasing their spectrum holdings and market power. *See* Bryan Gardiner, "In Spectrum Auction, Winners Are AT&T, Verizon and Openness," *Wired* (March 20, 2008), at http://www.wired.com/epicenter/2008/03/fcc-releases-70. Commission-ordered divestitures imposed when these two largest nationwide carriers acquire smaller competitors have little positive effect, as licenses divested by either AT&T or Verizon Wireless often are simply obtained by the other one of these two largest mobile wireless providers. *See* John Paczkowski, "AT&T and Verizon Sitting in a Tree, D-U-O-P-O-L-Y," *Digital Daily* (May 11, 2009), at http://digitaldaily.allthingsd.com/20090511/att-and-verizon-sitting-in-a-tree-d-u-o-p-o-l-y/ ("AT&T has beaten out some 30 telecommunications carriers and private equity groups to buy the wireless spectrum and other assets that rival Verizon Communications was required to divest as a condition of its recent acquisition of Alltel Wireless.").

concentrated spectrum holdings on entry and growth of competitive providers, and should not hesitate to consider re-adopting spectrum caps if and when necessary.[76]

Concentration in the mobile wireless market also arises from consolidation and vertical integration in upstream markets, and it causes competitive harms in the commercial mobile services market and downstream markets too. As illustrated in earlier submissions in this docket by the Public Interest Commenters and other parties,[77] the joint operation and ownership of wireline and wireless facilities by affiliates of the two largest CMRS carriers leads to disproportionate power for these vertically integrated, cross-platform giants with massive incumbent local exchange, transport, and wireless holdings. Verizon Wireless and AT&T have an increased ability to capture and retain as wireless subscribers their own wireline customers and former customers. More specific problems and anti-competitive conduct related to vertical integration and market consolidation are detailed in the sections that follow; yet, the Commission also should take into account when assessing the level of competition in the mobile wireless market these plain advantages that intermodal incumbents exploit to increase and retain market share and market power.[78]

[76] *See* Reply Comments of the Public Interest Spectrum Coalition, RM-11498 (filed Dec. 22, 2008) (regarding *Rural Telecommunications Group, Inc. Petition for Rulemaking To Impose a Spectrum Aggregation Limit on all Commercial Terrestrial Wireless Spectrum Below 2.3 GHz*, RM-11498 (filed July 16, 2008)).

[77] *See* Public Interest Comments at 25-26; Public Interest Reply Comments at 23-24 (citing comments filed in WT Docket No. 09-66 by MetroPCS, NTCA, Cricket, Bright House, RTG, Cellular South, and Sprint Nextel).

[78] *See Mobile Wireless Competition Notice* ¶ 27 (asking whether the Commission should track vertical relationships, and whether "vertical relationships impact competition in the broader mobile wireless ecosystem" and are "conducive to an overall competitive market").

3. *Consolidation Allows Carriers to Increase Market Power and Exert Undue Influence Over Device Manufacturers*

Advanced handsets capable of accessing and using mobile broadband and Internet access services are disproportionately available to these same large incumbent carriers. This advantage is due in large part to handset exclusivity arrangements for smart phones, and in particular to the largest carriers' capability to exploit their market power in the mobile wireless market by requiring that device manufacturers enter into exclusive deals. The Public Interest Commenters' detailed in earlier reply comments in this docket the innovation-dampening nature of handset exclusivity arrangements.[79] Furthermore, consolidation in the mobile wireless market leads directly to greater limitations in downstream applications markets when large carriers can block application developers' and handset manufacturers' access to millions of potential users.[80]

4. *Special Access Service Prices and Limitations Are Barriers to Entry and Growth*

The *Mobile Wireless Competition Notice* also sought comment specifically on competition in the market for the non-spectrum inputs on which mobile wireless services "depend critically."[81] Vertically integrated telecommunications companies have a distinct advantage in the market for one such input: backhaul facilities, which non-vertically integrated carriers must obtain as special access services from their rivals in the wireless market.[82] The current structure of the market for backhaul services has a dramatic, negative effect on

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[79] *See* Public Interest Reply Comments at 9-12.

[80] *See Mobile Wireless Competition Notice* ¶ 19.

[81] *See id.* ¶ 26.

[82] *See* Comments of Sprint Nextel Corporation, WT Docket No. 09-66, at 3-9 (filed June 15, 2009) ("Wireless carriers must use incumbent LECs for a variety of production inputs . . . , and the incumbents' prices for these inputs . . . directly affect the cost of wireless service. An analysis of the wireless market must include an[ ] assessment of the impact [of] incumbent LEC pricing for these bottleneck facilities . . . .").

competition in the mobile wireless ecosystem. Unreasonable special access pricing, terms, and conditions, facilitated unfortunately by the Commission's past deregulation of special access services, also create barriers to the entry and growth of competitive mobile wireless providers. These barriers impact especially (though not exclusively, by any means) mobile Internet access providers, owing to the excessive backhaul rates imposed on Internet traffic.[83]

Carriers that do not own extensive and far-flung wireline facilities (or that do not have affiliates who own such plant) rely on a handful of incumbents for special access transmission paths. The incumbents that control these chokepoints abuse their market power to impose *extremely* high special access prices.[84] Quite obviously, paying supracompetitive rates for special access raises critical input costs for providers that do not own their own wireline transport facilities, increasing them far above analogous costs for competitors that do have direct access to such infrastructure. The Commission should evaluate the impact of limited special access service choices and rising special access rates on mobile Internet access services and other competitive mobile offerings, and also should re-evaluate special access deregulation decisions too often based on imprecise methodology and now-obsolete market data.[85]

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[83] *See* Public Interest Comments at 21-22.

[84] *See id.* at 22 (citing Peter Bluhm and Robert Loube, *Competitive Issues in Special Access Markets*, National Regulatory Research Institute (Jan. 21, 2009); Matthew Lasar, "Report Reignites Fights over Special Access Rates," *Ars Technica* (Jan. 26, 2009), at http://arstechnica.com/tech-policy/news/2009/01/report-reignites-fight-over-special-accessrates.ars). Free Press reported earlier this year that in 2007, in one study area in California, Verizon received a 700% rate of return for the use of its special access services. *See* Derek Turner, Free Press, *Dismantling Digital Deregulation: Towards a National Broadband Study*, at 10 (2009).

[85] GAO expressed concerns in a 2006 report noting that the Commission's methodology for assessing potential competition in the special access market does not take into account the fact that some of the supposed competitive providers of special access either merge with the incumbents or do not survive in the long term. *See* Public Interest Comments at 23 (citing U.S. Government and Accountability Office, *Telecommunications: FCC Need to Improve Its Ability*

5. *Roaming Limitations and Regulatory Loopholes Diminish Competition in the Mobile Wireless Market and Serve as Barriers to Entry and Growth*

Finally with respect to barriers to growth and entry, the Notice sought comment on the resale and roaming market segments.[86] As noted in the Public Interest Commenters' earlier submissions in this proceeding, the current loopholes in the Commission's treatment of automatic roaming obligations enable incumbents to place substantial obstacles in the path of their competitors.[87] The Commission should consider the impact of these policies on market entry and growth, recognizing that roaming is instrumental to the ability of new entrants to commence offering service (or for existing carriers to enter new geographic markets). Despite the general rule that automatic roaming is a common carrier obligation for CMRS providers,[88] incumbent providers have little incentive or obligation to offer roaming agreements on favorable terms or to treat small competitors fairly because of two harmful exceptions to these automatic roaming obligations. The Commission's so-called "home" or "in-market" exception allows CMRS carriers to refuse to provide automatic roaming in any area where the requesting carrier holds a wireless license or spectrum usage rights – regardless of whether the requesting carrier has built towers or can offer adequate service in the area without roaming. Ironically, this limitation creates a disincentive for small companies to seek out additional spectrum licenses, for fear of triggering the in-market exception.

The second limitation comes in the form of a Commission mandate that automatic roaming apply only to "real-time" voice and data services but not data services such as mobile

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to Monitor and Determine the Extent of Competition in Dedicated Access Services, at 7-8 (Nov. 2006)).

[86] *See Mobile Wireless Competition Notice* ¶¶ 20, 22.

[87] *See* Public Interest Comments at 28-30.

[88] *See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817, ¶ 1 (2007).

Internet access – the very types of services and product markets most likely to drive growth for a mobile wireless provider in present-day CMRS markets. The combination of these two loopholes creates substantial barriers to entry and growth for would-be competitors in the mobile wireless marketplace.

II. THE COMMISSION SHOULD GATHER AND MAKE AVAILABLE DIRECT DATA ON A VARIETY OF MARKET SEGMENTS TO MEASURE COMPETITION ACROSS THE ENTIRE MOBILE VALUE CHAIN

A. The Commission Should Gather and Analyze Its Own Data Rather Than Rely Exclusively or Primarily on Third Party Sources

1. The Commission Has Authority to Collect Data from Regulated Entities and Market Participants, and Has Recognized the Need for Such Collections in Other Contexts

The Commission has the statutory authority necessary to collect up-to-date, precise, and comprehensive data from wireless carriers and mobile service providers, as well as other market participants and observers. The Commission typically has relied on third party data to assess the status of the commercial mobile services market in its CMRS reports.[89] However, third party data resources are inadequate and can be misleading for purposes of Commission policymaking.[90] Instead of relying heavily on imprecise and incomplete third party data, the Commission itself should collect data directly from industry participants. Moreover, the Commission can provide confidential treatment for proprietary data, if and when such treatment is necessary, pursuant to time-tested Commission procedures. The Commission must use its ample authority in this sphere, so as to expand and enhance its understanding of current

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[89] *See Mobile Wireless Competition Notice* ¶ 10 ("[P]revious CMRS Competition Reports were derived from various sources including American Roamer, industry associations, financial industry analysts, company filings and news releases, [SEC] filings, trade publications, industry trade and press releases, research firms' publicly-available data, university researchers and scholarly publications, and vendor market product releases and white papers.").

[90] *See* Reply Comments of Free Press, WC Docket Nos. 08-190, 07-38, at 6-8 (filed Nov. 16 2008) (Service Quality/Subscribership Data/ARMIS proceeding).

competitive conditions in the entire mobile wireless market ecosystem and the net effects of that marketplace on American consumers.[91]

The Commission itself has previously recognized the limitations of third party data. For instance, in the context of local telephone competition and broadband deployment data, the Commission relies on Form 477 to collect data from telecommunications service and broadband providers.[92] In such instances, the Commission has realized that commercially and publicly available statistics developed by paid consultants, trade groups, carriers' public relations departments, and allegedly independent industry watchers are not adequate for the Commission's analytical needs.[93] Thus, as the Commission has noted when assessing the status of deployment and competition in a market sector, "only a comprehensively imposed, mandatory data collection effort will provide us with a set of data of uniform quality and reliability," because "other publicly available information sources present less than complete pictures of actual conditions and trends in developing local telephone service markets and in the deployment of broadband."[94]

Many consumers are cutting the cord and migrating to cell phones as their primary voice device. Similarly, wireless data use has sky-rocketed, and many Americans rely on their handset as their primary link to the Internet.[95] These dynamics underscore the importance of the

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[91] *See Mobile Wireless Competition Notice* ¶ 1.

[92] *See In re* Local Competition and Broadband Reporting, *Report and Order*, 15 FCC Rcd 7717, ¶ 1 (2000) ("*Local Competition and Broadband Reporting Order*") (adopting rules and a standardized form to collect "basic information about two critical and dynamic areas of the communications industry: the development of local telephone service competition and the deployment of broadband services").

[93] *See id.* ¶ 12 & n.26; *id.* ¶ 98 & n.226.

[94] *Id.* ¶ 14.

[95] *See*, *e.g.*, Olga Kharif, "Pew: African Americans, Wireless Web's 'Pace Setters,'" *BusinessWeek* (July 22, 2009), at http://www.businessweek.com/the_thread/techbeat/archives/2009/07/pew_african_ame.html; John Horrigan, Pew Internet & American Life Project, *The*

Commission's continued role as the primary collector of relevant and accurate data, the same role that it has played historically in the long-distance and local telephone marketplaces. In the wireless context, it is well within the Commission's jurisdiction to require licensees to provide tangible and verified data, including carriers' and service providers' own information regarding service availability, pricing, actual delivered data rates, and numbers of competitors in specific marketplaces. Congress tasked the Commission with reviewing the status of competitive conditions in the wireless market.[96] The collection and use of the best and most relevant data is essential to fulfilling the Commission's statutory responsibility to monitor those competitive conditions.[97]

While some may object to reporting requirements on the basis that reporting may reveal commercially sensitive information, the Commission must weigh these claims against the reality that comparable data often is made available for purchase from commercial sources. Arguments that a certain data request would force companies to divulge commercially sensitive information to their detriment, and therefore that respondents must be protected from particular federal data gathering efforts, should be given little weight if such information is available for purchase from commercial data providers. Furthermore, any respondent has the ability under the Commission's rules to request confidential treatment for portions of its responses. Entities submitting information and materials to the Commission may seek protection by requesting that answers be withheld from public inspection if the data provided is privileged or otherwise sensitive in

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Mobile Difference (May 25, 2009), at http://www.pewinternet.org/Reports/2009/5-The-Mobile-Difference--Typology.aspx.

[96] *See* 47 U.S.C. § 332(c)(1)(C).

[97] Once the Commission implements its own data collection, the Commission also will have to ensure and enforce compliance with any reporting requirements.

nature.[98] The Commission should disclose the data it receives to the fullest extent possible, however, as the public has a right to review the inputs to the Commission's policymaking processes that affect them whenever such data is not truly confidential. As Free Press has noted in other proceedings, assertions of supposedly essential confidentiality for data are often exaggerated.[99]

2. *Reliance on Inaccurate Third Party Data Poses a Substantial Risk to the Proper Assessment of Market Conditions and the Efficacy of Commission Policymaking*

As noted above, and as illustrated in the Public Interest Commenters' earlier reply comments in this docket,[100] the use of third party-provided data alone is a gamble for the Commission. By relying exclusively on such information, the Commission risks producing inaccurate reports and reaching erroneous conclusions about the competitive status of the market under review.

During the last few years, an unfortunate over-reliance on incomplete and unverified data brought home the reality of these risks that the Commission runs every time it looks solely to commercial information aggregators for research. The Commission's most recent annual assessment in the market for delivery of video programming was intended – and, indeed, required by Congress – to report on competition in that marketplace for 2006.[101] Notwithstanding the sadly anachronistic identification of the order within the document as the

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[98] *See* 47 C.F.R. § 0.459.

[99] *See* Free Press National Broadband Plan Initial Comments at 289-306.

[100] *See* Public Interest Reply Comments at 24-25.

[101] *See* Annual Assessment of the Status of Competition in the Market for Delivery of Video Programming, MB Docket No. 06-189, *Thirteenth Annual Report*, FCC 07-206 (rel. Jan. 16, 2009) ("*2006 Video Programming Report*").

"2006 Report,"[102] it was adopted by the Commission in November 2007, then not released until January 2009. The fourteen month delay between adoption and release stemmed in large part from substantial controversy regarding the accuracy and interpretation of third party data used in the report to determine the level of cable subscribership nationwide.[103] In the end, the Commission decided that the "only way" to measure subscribership levels accurately was "to have the cable industry provide us with the data with respect to their systems."[104]

Likewise, to assess competition and performance in the mobile wireless market, the Commission must insist that service providers submit their own data to the Commission. A troublingly large proportion of the data underlying crucial determinations in past CMRS reports has come from a single source: American Roamer. In the *Thirteenth Report,* the Commission used American Roamer figures to draw conclusions concerning the penetration of CMRS services and the number of competitive services available to consumers in particular geographic regions.[105] The Public Interest Commenters offer no assessment here of the validity of American Roamer data, and appreciate the fact that information supplied by this company is more granular than other sources the Commission has used in the past.[106] Nevertheless, the lessons learned from the Commission's experiences with the video programming and wireline broadband reports are clear: potential disparities abound in third party-provided data, and there are limitations to such information based on the fact that these surveys depend on estimates,

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[102] *Id.* ¶ 1.

[103] *See* Public Interest Comments at 25 (citing Comments of Free Press on Cable Subscribership Survey for the Collection of Information Pursuant to Section 612(g) of the Communications Act, MB Docket No. 07-269, at 3-4 (filed Feb. 17, 2009)).

[104] *2006 Video Programming Report* ¶ 43.

[105] *See Thirteenth Report* ¶¶ 37-43.

[106] *See id.* ¶ 37.

interpolations, and strictly voluntary reporting by carriers.[107] The Commission should cut out the guesswork by simply requiring carriers and others to provide it with data directly, rather than relying indefinitely on third party compilations and analyses. The Commission should collect its own granular information on service availability and subscriptions directly from providers of commercial wireless services and adjacent market services, relying on original and verified data as it compiles the first *Mobile Wireless Competition Report*.

B. The Commission Should Gather and Consider New Types of Data on a Wide Variety of Mobile Wireless Market Segments, as well as Data for Adjacent, Upstream, and Downstream Markets in the Mobile Value Chain

The *Mobile Wireless Competition Notice* sought comment on the sources of precise, quantitative data that "can be used to perform a comprehensive competition analysis of the mobile wireless market."[108] The *Notice* asked specifically about the "best units for measuring the price and quantity of various services provided (*e.g.*, price per minute, megabyte, text message)."[109] The Public Interest Commenters respectfully submit that the Commission should collect data directly from mobile wireless providers and other mobile wireless marketplace participants, using all of these measurements and metrics, and requiring submission of carrier data on a far more granular level for separate geographic subdivisions and product markets.

The Commission should recognize that there are differences in pricing, cost, revenues, and profit margins for different types of services, including voice, text messaging, multimedia messaging ("MMS"), mobile Internet, and other mobile data services. Simple measurements of revenue per minute ("RPM") or ARPU in broad voice and data services categories are

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[107] *See 2006 Video Programming Report* ¶ 41; *see also Local Competition and Broadband Reporting Order* ¶ 14 (describing the "incomplete and inconsistent" nature of irreconcilable publicly available reports that "often contain data reflecting incongruent time periods").

[108] *Mobile Wireless Competition Notice* ¶ 11.

[109] *Id.*

insufficient to measure competition and efficiency in the market without more detailed analysis of prices charged, costs incurred, and profits realized.

1. *The Commission Needs Good Data on Mobile Prices and Subscriber Levels in All Urban and Rural Areas, at a Range of Usage Levels, for the Many Separate Voice and Data Products That Comprise Mobile Wireless Service*

In addition to metrics such as ARPU and RPM, which at times are used to report only broad averages for carriers' service territories, the Commission should collect and consider pricing and usage data on a much more granular level. The Commission should gather data on the prices paid by consumers in specific geographic subdivisions of the United States, and should incorporate data from areas as small as census block groups or their equivalents in both urban and rural areas. The Commission should at the same time compare prices paid for the same quantities of voice, data, and text services in these same geographic units, and also compare prices over a wide variety of usage levels within each such service.

The Commission should consider the bundled price of such services, as well as the standalone price for voice, data, and text as separate mobile wireless services, to the extent such standalone service is offered. Moreover, the Commission should note any areas in which such standalone service is not offered by any or all providers. The Commission then should track changes over time in these variables to establish whether the cost of using the same volume of voice, data, and text service decreases over time – and if so by how much – as total usage grows and marginal costs continue to shrink within a specific census block group.

This method represents the only way to determine the real relationship between price and market competition, by collecting detailed information about the prices paid by every type of consumer. The analysis should cover rural and urban areas, heavy users and light users, and each type of service – voice, text, and data – that may be sold as part of bundle or on a standalone basis. Furthermore, Commission should recognize that the general category of mobile data may include a broad range of offerings that are not close substitutes for one another, such as true mobile Internet access and mobile data services that do not allow the consumer to connect to the Internet, and it should not conflate these two distinct product markets in its analysis of mobile data services.[110] Blunt ARPU measures are not a substitute for this type of rigorous, stratified analysis. The Commission should collect this detailed information and track its development over time to evaluate changing competition in the wireless market.

Commission collection and publication of such detailed information would benefit not only the forthcoming competition assessment, but also consumers themselves. Consumer choice and mobility depend in large part on an the ability of purchasers to make informed choices about the market for each mobile wireless service they purchase: bundled service offerings and service plans, as well as the component voice, text, and data products that wireless customers purchase as part of such plans or individually.[111] Without adequate measurement and disclosure of prices for component services and carrier fees, bundling of services and the imposition of surcharges lead to "shrouded attributes" within the offerings that customers purchase.[112] Information shrouding about the true, total price of component products (such as text or data plans) can take place "even in highly competitive markets, even in markets with costless advertising and even

[110] *See* Public Interest Comments at 7. The Commission has recognized this distinction in its Form 477 data collection. *See Wireless Broadband Subscribership Data Notice* ¶ 3 ("[W]e amend reporting requirements for mobile wireless broadband providers to require them to report the number of subscribers whose data plans allow them to browse the Internet and access the Internet content of their choice.").

[111] The *Truth-in-Billing Notice* launching the Commission's ongoing consumer empowerment proceeding recognizes the importance of such information to consumers, and represents an important step in enhancing the Commission's understanding of information gaps and asymmetries in the present marketplace. *See Truth-in-Billing Notice* ¶¶ 23-45.

[112] *See* Gabaix and Laibson, *Shrouded Attributes*, at 1. The authors note that even in the presence of competition, providers can exploit the situation and refuse to undercut their competitors' add-on prices in the presence of imperfect information about such add-ons.

when shrouding generates allocational inefficiencies."[113] Whether the mobile wireless market were effectively competitive or not, carriers could "exploit naïve consumers through marketing schemes" – such as bundling, or the imposition of excessive overage charges – "that shroud negative product information."[114] In the absence of clear information about the actual prices paid for separate products such as voice minutes, text messages, and data services, consumers will wind up paying above-market rates for additional services and features within a bundle or over-purchasing capacity within a plan to avoid paying such overages.

Furthermore, the Commission should require direct submission of carrier data regarding subscriber churn. Data on churn – often claimed to be confidential – indicates the true performance of competition by measuring when subscribers switch service providers to obtain access to a better deal or a better network. These numbers should be segmented according to the type of service(s) that new and departing customers use, as well as the types handsets and other devices used by customers. This type of information will be essential to the Commission's assessment of competition levels in the mobile wireless market, and in downstream markets too, if the Commission is to evaluate switching costs by service and device type, any continuing impacts of ETFs, and mobile data market concentration indicators.

2. *The Commission Should Collect and Analyze Detailed Data on Carrier Investment, Service Prices, and Profit Margins*

The Commission needs better data on carrier investment in networks, infrastructure, and innovation – including data on return on investment ("ROI"), return on invested capital ("ROIC"), capital expenditures as a percentage of revenue, and/or other forms of carrier profit margins and operating margins – to determine whether markets are truly competitive and

[113] *Id.* at 1-2.

[114] *Id.* at 2.

growing, or captive to incumbents facing no competitive pressure from new entry. Based even on the limited data available in investor reports and other sources, wireless carriers do not appear to be investing aggressively. The myth of massive wireless investment is just that – a myth. Despite claims of tremendous capital expenditures, the data proves that investment is going down as a percentage of revenue, indicating that carriers perceive less need to invest whether as a result of insufficient market competition or for other reasons.[115]

The information currently available to make this evaluation is derived from public quarterly filings, a viable but ultimately limited source of information that is difficult to use for these purposes. Other information valuable for determining the level and (especially) the impact of competition on investment in the wireless market must be collected directly from the carriers. The Commission should collect such information directly, and to make it available publicly whenever possible.

C. The Commission Should Collect and Analyze Data Using Comprehensive Information Gathering Techniques and Broad, Multi-Faceted Standards

The Commission should collect directly from mobile wireless service providers and other appropriate sources the type of comprehensive, verified data described above in Part II.B of these comments. Having done so, the Commission should apply rigorous examination standards to that information, using sophisticated analytical methods rather than rigid, one-size-fits-all metrics put forward by the regulated entities themselves. For example, the Commission should ignore self-serving rhetoric from industry players urging reliance on the single, inadequate metric of ARPU to measure service price. For many reasons, ARPU alone fails to paint a clear picture of whether competition in the market for wireless services is having any effect on prices.

[115] *See* Appendix, Figures 6 and 7 and accompanying text.

The Commission should continue to consider ARPU, but as only one of many factors. In addition to ARPU, the Commission should all of the cost, price, and revenue data set forth in Part II.B.1 above. Tracking changes over time in all of those variables represents the Commission's best option for establishing the effect of competition on prices within a particular geographic or product market.

The Commission also should follow the example of the Organisation for Economic Co-operation and Development ("OECD") and compare the results it obtains to the performance of other mobile wireless markets countries using similar metrics. Since the initial round of comments were submitted in this docket for the previously planned Fourteenth CMRS Report, a substantial disagreement has arisen between OECD and the U.S. wireless industry trade association, CTIA.[116] The disagreement stems from the conclusion in the OECD report that the United States, along with Canada and Spain, has among the highest prices for mobile service.[117] OECD made this calculation on the basis of a "medium user," calculated as 780 minutes of voice calls per year, 600 SMS messages per year, and 8 multimedia messages per year.[118] At these usage rates – which admittedly are low by U.S. standards, as CTIA asserts[119] – the United States is the most expensive country for mobile service, as the cheapest option for a medium user would be purchase of a fixed plan for around $53 per month.[120] By contrast, the Netherlands is

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[116] *See, e.g.*, Monica Alleven, "CTIA Disputes OECD Report," *Wireless Week* (Aug. 12, 2009), at http://www.wirelessweek.com/News/2009/08/CTIA-Disputes-OECD-Report/.

[117] *Id.*

[118] *Id.*

[119] *Id.*

[120] Jon Stokes, "Americans pay 5 times more than Dutch for Wireless," *Ars Technica* (Aug. 12, 2009), at http://arstechnica.com/telecom/news/2009/08/americans-pay-5-times-more-than-netherlanders-for-wireless.ars.

the least expensive country for mobile service according to the OECD study, and a user there can get the same level of usage at a cost of around $11 per month.[121]

CTIA's criticism of the OECD study correctly notes that an international comparison of a single bucket of usage volumes does not provide all of the information that the Commission would need to compare prices for service in the United States to prices in other countries. However, the answer to CTIA's complaint is not to jettison the OECD evaluation and rely solely on ARPU, as CTIA suggests – it is to gather more data. The Commission could collect data in the United States across each census block group based on the average price of wireless service available to citizens residing in that block group, and could do so for a wide variety of usage levels. For example, the Commission should be able to know the average price for a subscriber who uses between 0 and 50 voice minutes a month, utilizing that as a separate data point from the average price for a subscriber using between 50 and 100 voice minutes a month – just as the Commission should be able to know the price differential for services provided to customers in Bar Harbor, Maine, versus customers in Los Angeles, California.

ARPU by itself is insufficient as a substitute for this type of data. The insufficiency of ARPU results from the economics of the wireless industry. Heavy usage of service in an industry characterized by high fixed costs and low marginal costs (such as wireless) means that one would expect higher use (as in the United States, relative to other countries) to produce lower ARPU. Mere observation of this basic economic reality conveys very little about relative states of competition across countries that have very different usage levels and ARPU figures. As volume of wireless use grows, so should ARPU fall, because the high fixed costs are distributed across a much wider base of marginal users. Competition, however, is shown only by

[121] *Id.*

the *amount* of the fall in ARPU. In a competitive market, ARPU will closely track the reduction in costs from the increase in usage; whereas, in an uncompetitive market, ARPU will fall more slowly in order to maintain steady increases in profit margins.

One clear observation from the OECD study is that a consumer who wants to use the same amount of mobile services in multiple countries will pay more in the United States to do so at the usage level fitting within the OECD's "medium" bucket. In a truly competitive market, however, consumers would be able to obtain or negotiate a plan at an economic purchase price that suits their usage level, even if that use is low in volume, and should not be forced into paying higher prices for usage beyond what they desire. Furthermore, given that higher volume of use should lead to lower marginal cost, the same volume of use should be *cheaper* – rather than not nearly five times more expensive – in a country such as the United States (where average use of mobile services is higher) than in a country with lower average use. Just as ARPU should be lower in a market with higher volume use, so too should the cost for an individual subscriber with a low level of use be less, because larger volume users should absorb a larger percentage of the fixed costs. The fact that this is not the case may itself be a sign of insufficient competition in the United States.

The only way to determine the relationship between price and market competition accurately is to collect detailed information about the prices paid by every type of consumer, utilizing the metrics and methodologies outlined in Part II.B above. Blunt ARPU measures are not a substitute for the type of rigorous, stratified analysis the Public Interest Commenters propose. The Commission should collect detailed information and track its development over time to evaluate changing competition in the wireless market.

CONCLUSION

The Public Interest Commenters have shown previously, despite carrier protestations to the contrary, that the mobile wireless marketplace is not competitive enough. The data available now paints a pretty bad picture. Prices are rising or staying the same, even as costs are falling. Profits rise, and investments fall. A number of carriers offer service, but these carriers' offerings are not ready substitutes for one another: some carriers have exclusive access to popular handsets tied to their networks, and all carriers have geographic pockets with weak signal strength that renders their service unusable in certain locations.

Customers are unable to switch carriers because of lengthy contracts, they are unable to use the device of their choice on the network of their choice, and they are forced into usage plans requiring them to pay for more minutes, messages, and megabytes than customers typically use. Carriers apparently are putting their growing profits into their pockets, instead of investing sufficiently in new network infrastructure or lowering prices in a manner that would reflect effective competition. Furthermore, carriers are increasingly restricting the services that customers use, including popular applications that might cut into the carrier profits.

The Commission needs to take a deeper look at the mobile wireless marketplace and ecosystem to see if this surface picture is accurate. The Commission must take seriously its responsibility to gather data directly, on a wide range of specific factors that indicate market structure, market performance, and consumer data, to determine just how good or bad the competitive picture is in this dynamic and vital sector of the economy. The Public Interest Commenters commend the Commission for its willingness to take on that task, and stress that the Commission can and should collect data directly from mobile wireless providers to gain a full understanding of the market's operations and failings.

Respectfully Submitted,

/s/ Matthew F. Wood

Mark Cooper
Consumer Federation of America

Joel Kelsey
Consumers Union

Ben Scott
Chris Riley
Free Press

Matthew F. Wood
Parul P. Desai
Media Access Project

Michael Calabrese
Sascha Meinrath
New America Foundation

Gigi Sohn
Harold Feld
Public Knowledge

September 30, 2009

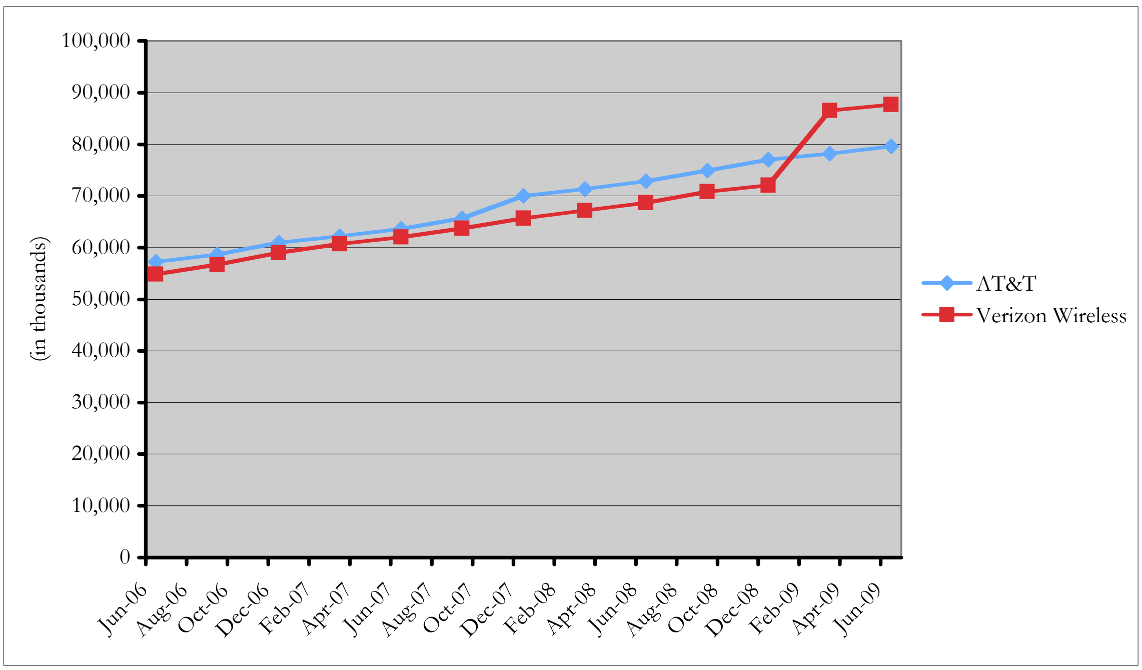
Matthew F. Wood
Parul P. Desai
Media Access Project
1625 K Street, NW
Suite 1000
Washington, DC 20006
(202) 232-4300
Counsel for Consumers Union

Chris Riley
Free Press
501 Third Street, NW
Suite 875
Washington, DC 20001
Counsel for Free Press

APPENDIX
Revenue Without Investment, from AT&T and Verizon Wireless

The data for this Appendix is from publicly available financial filings of AT&T and Verizon Wireless, unless otherwise noted. That data demonstrates that the two largest mobile operators have seen steady growth in customers, revenues, profits, and operating margins, but capital expenditures for Verizon Wireless and the wireless industry in general are declining as a percentage of revenue. As discussed below, this result suggests that there is ineffective competition in the mobile wireless market.

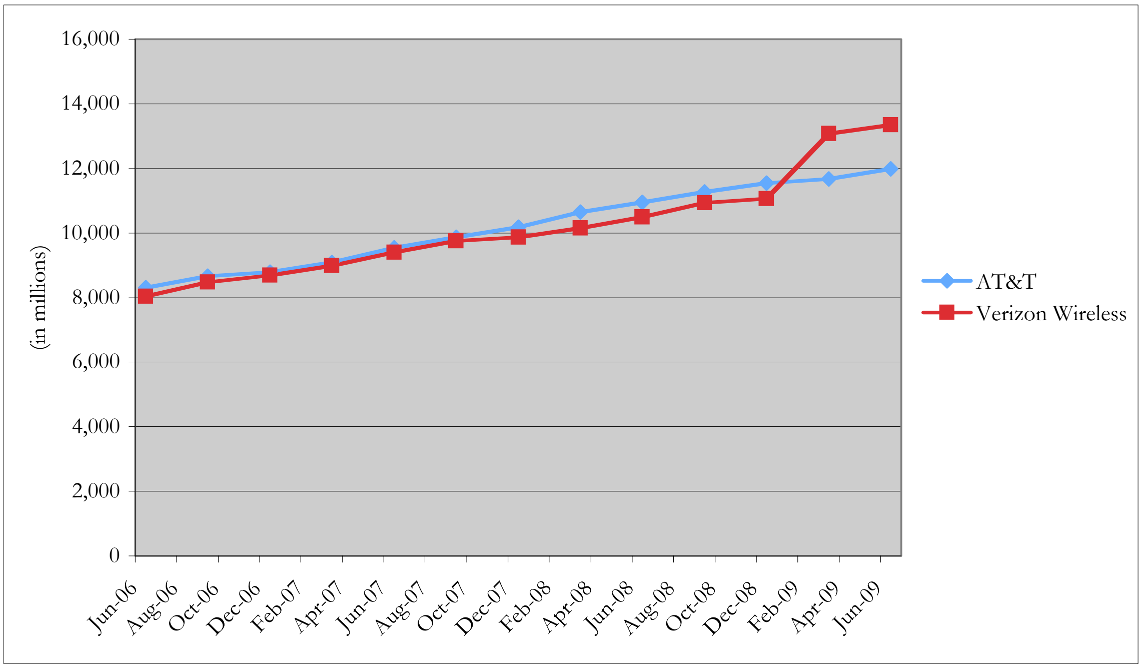
Figure 1
Wireless Customers



<u>NOTE</u>: Both Verizon Wireless and AT&T have acquired other wireless companies over the preceding three years. Of course, the acquired carriers served their subscribers with a separate network infrastructure, and thus adding their subscribers should not have placed significant additional strain on the Verizon Wireless or AT&T networks. The number of new subscribers due to mergers can be accounted for, but accounting for merger-induced variations in other metrics (such as service revenue) is more difficult. The Public Interest Commenters therefore have not adjusted any data to account for this. Nonetheless, the figures clearly show the same trend lines irrespective of these mergers. Removing information on wireless subscribers acquired through merger would result in the following changes: For AT&T, this would mean removing 1.7 million customers acquired via the Dobson acquisition, from the fourth quarter 2007 through the present. For Verizon Wireless, this would mean removing 790,000 customers, acquired via the RCC acquisition, from the third quarter 2008 through to present; and 13 million customers, acquired via the Alltel acquisition, from the first quarter 2009 through to the present.

This consistent rise in customers demonstrated in Figure 1 led to a matching rise in wireless service revenues for these two carriers.

Figure 2:
Wireless Service Revenue



While neither AT&T nor Verizon Wireless disclose the number of subscribers with wireless data plans, other disclosed metrics demonstrate a consistent rise in take-up for such services. (See Figures 3 and 4 below.)

Figure 3:
Wireless Data Revenues

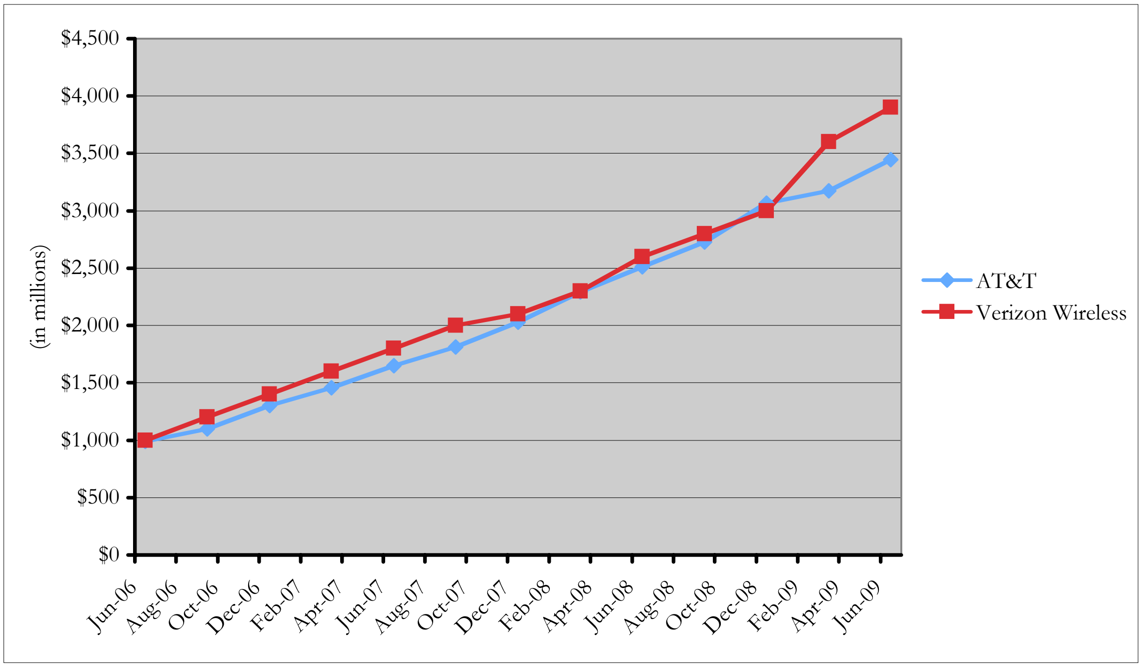
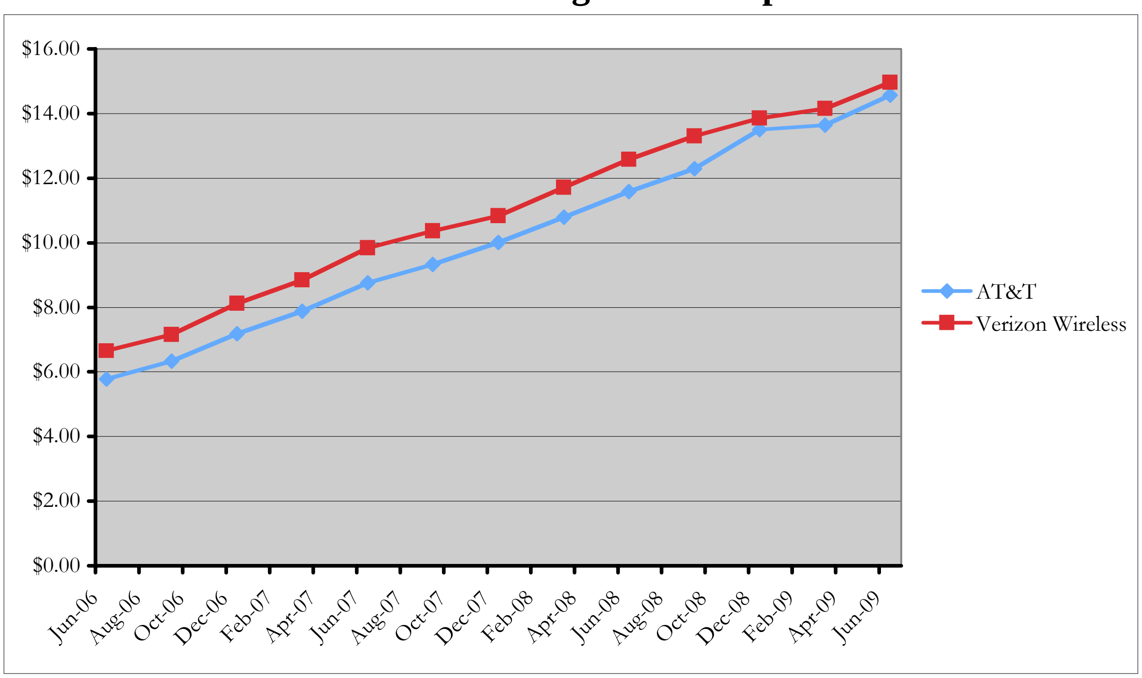
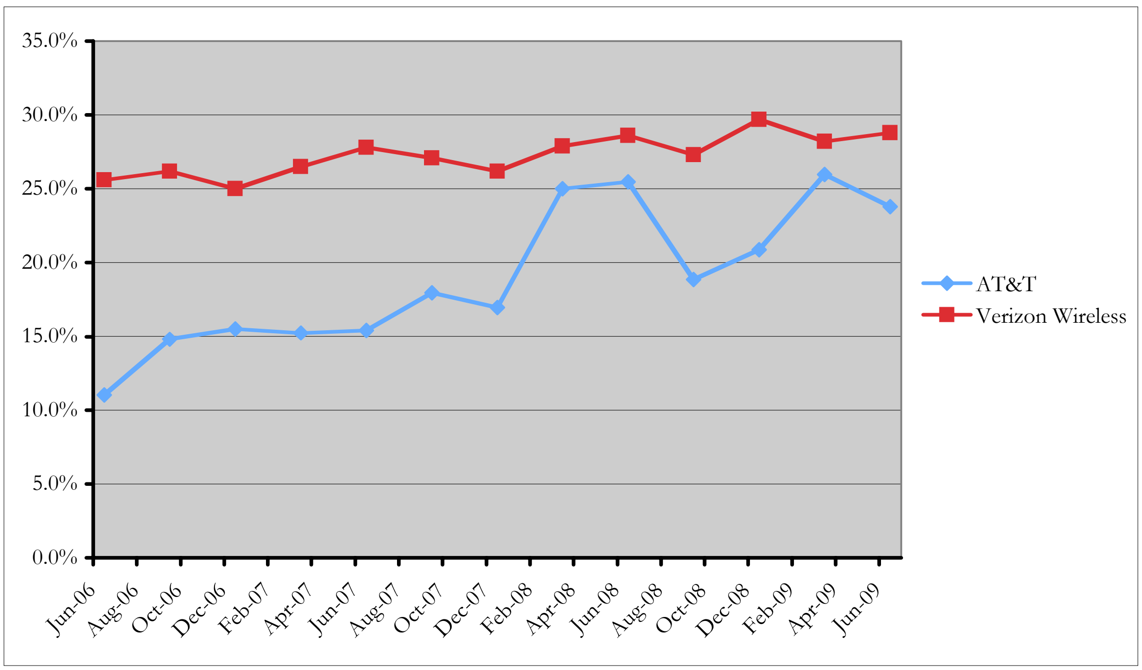


Figure 4:
Wireless Data Average Revenue per User



Growth in subscribers, boosted further by the accompanying economies of scale, led to increases in operating income margin. Verizon Wireless began with an already large operating margin of more than 25 percent, and has since increased that to around 30 percent. Meanwhile, AT&T has witnessed a dramatic increase from 11 percent to about 24 percent in the latest quarter.[122] For comparison, the average operating income margin for the Dow Jones Industrial Average between 2005 and 2008 was just over 17 percent.[123]

Figure 5:
Wireless Operating Income Margin



[122] The volatility in AT&T's margin may be a result of the Apple iPhone, for which AT&T experiences a significant initial expense but subsequently receives an estimated $2,000 over the life of the two-year contract. *See e.g.* Jenna Wortham, "Customers Angered as iPhones Overload AT&T," *New York Times*, Sept. 2, 2009.

[123] *See* Free Press Reply Comments, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, p. 24 (2009).

What these figures illustrate is a substantially profitable business in which the two largest players are adding subscribers, increasing revenue, and improving operating margins.[124] In a market displaying signs of effective competition – *i.e.*, in a market where AT&T and Verizon Wireless would have reason to fear losing these new subscribers should they not aggressively expand their networks to add usage load seamlessly – AT&T and Verizon Wireless would invest these large and growing sums back into the network. However, the Commission found in the *Thirteenth Report* that the opposite has occurred between 2005 and 2007: increased subscriber growth and increased revenue are driving higher profits, not higher investment.[125] Capital expenditures as a percentage of revenue, a metric commonly used by companies in reports to investors, are actually *declining* over time.[126] Verizon Wireless, which had investment levels at or above 20 percent in 2005 has seen that figure *decline* to around 11 percent in 2009.[127] (See Figure 6 below.)

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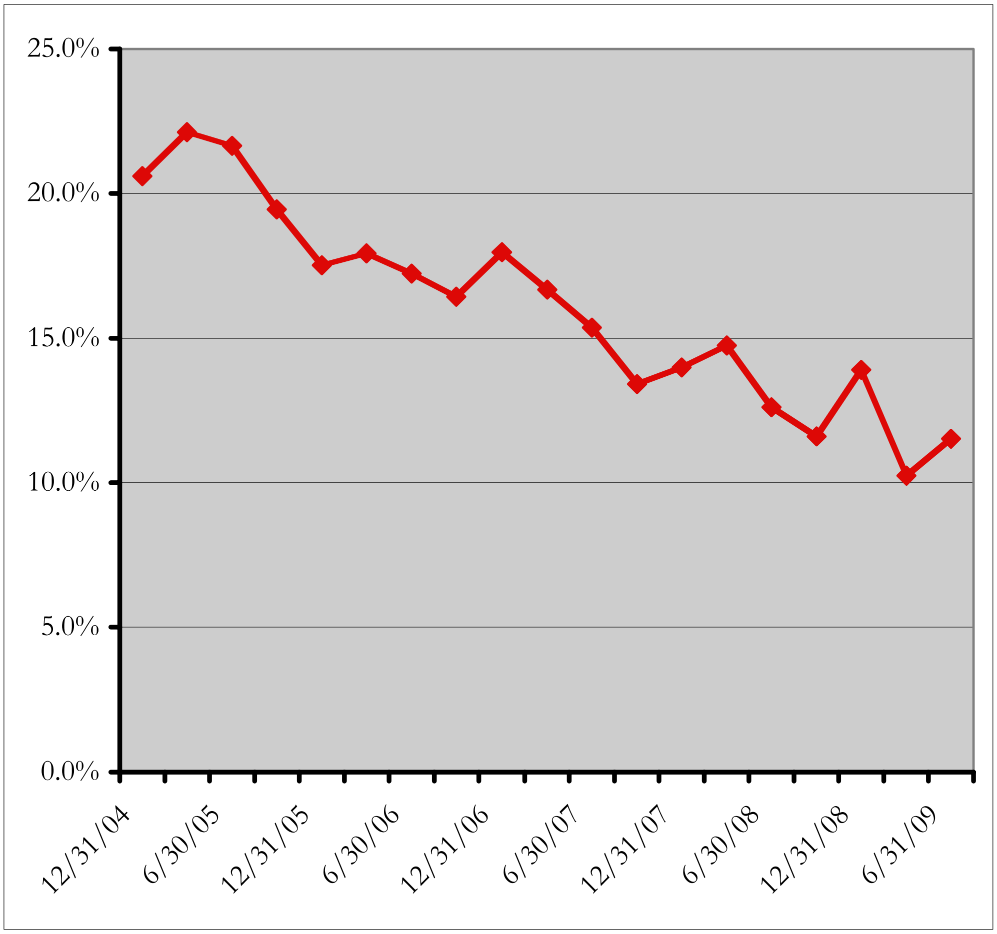
[124] *See, e.g.*, Cecilia Kang, "Key Senator Backs Telecom Probe," *Washington Post*, July 7, 2009.

[125] *See Thirteenth Report* ¶ 155 ("One analyst estimated that wireless operators spent approximately $19.9 billion on capex during 2007, which is less than the approximately $24.7 billion spent in each of 2006 and 2005, and less than the approximately $21.4 billion spent in 2004.") (internal citations omitted).

[126] *See, e.g.*, Comcast Corporation, "Trending Schedule," at 3 (Aug. 6, 2009).

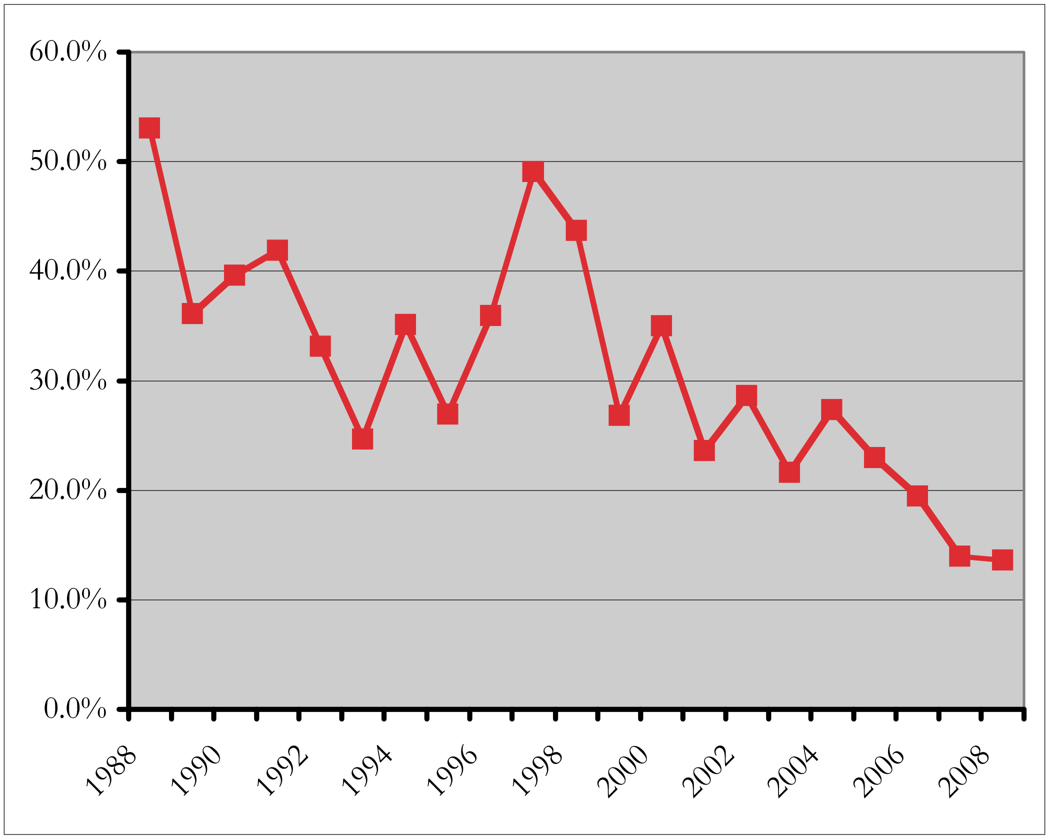
[127] Unfortunately, AT&T does not separate capital expenditures for its wireless network, preventing the Public Interest Commenters from offering this data to the Commission at present.

Figure 6:
Verizon Wireless Capital Expenditures as a Percentage of Revenue



Industry-wide figures from the CTIA exhibit a similar pattern.

Figure 7:
Wireless Industry Capital Expenditures as a Percentage of Revenue



Final Analysis

AT&T is currently "the highest dividend yielding DOW company."[128] Verizon Wireless is not far behind.[129] In 2008, AT&T used 70 percent of its free cash flow on dividends to shareholders.[130] Although this is perfectly legitimate and legal – and great for investors – it sends a signal that perhaps AT&T does not feel effective competitive pressure to invest aggressively in its network.

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128 *See* "AT&T Inc. Q1 2009 Earnings Call Transcript," *Seeking Alpha*, April 22, 2009, at http://seekingalpha.com/article/132390-at-amp-t-inc-q1-2009-earnings-call-transcript?page=-1.

129 Andy Obermueller,"The Safest Dividend in the Dow," Dividend Opportunities, (Feb. 4 2009).

130 *See* AT&T, Inc. "2008 Annual Report," at 41, 51.