REDACTED – FOR PUBLIC INSPECTION

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of Applications of AT&T Inc. and Deutsche Telekom AG For Consent To Assign or Transfer Control Licenses and Authorization	WT Docket No. 11-65

REPLY DECLARATION OF ROBERT D. WILLIG JONATHAN M. ORSZAG AND JAY EZRIELEV

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I. Introduction and Executive Summary

1. The Federal Communications Commission ("Commission") is seeking to determine whether the proposed acquisition of T-Mobile USA Inc. ("T-Mobile") by AT&T Inc. ("AT&T") is consistent with the "public interest." We have been asked by counsel for AT&T to assess, from an economic perspective, comments filed by numerous entities – mostly wireless competitors of AT&T – that oppose the transaction, and to respond to certain of those comments.

2. We have been asked primarily to address certain economic arguments against the merger advanced by Steven Salop, Stanley Besen, Stephen Kletter, Serge Moresi, and John Woodbury.[1] (For ease of discussion, we refer to these individuals as the "CRA Economists" and to their joint declaration as the "CRA Declaration"). The CRA Economists articulate the following line of argument: They first assert that the proposed merger "substantially increases the likelihood that AT&T and Verizon could coordinate to raise retail prices."[2] They then assert that AT&T (either unilaterally or in concert with Verizon) would have an increased incentive to use its control over certain "inputs" necessary to provide wireless services – namely, handsets, roaming and backhaul – to engage in exclusionary conduct designed to harm rivals and competition.[3] The CRA Economists proceed to claim that, given the implementation of this exclusionary strategy, the merger could tip the market into an effective "ILEC duopoly."[4]

3. In our view, the CRA Economists' assertions and arguments are without foundation. To the extent their "vertical" argument presupposes that post-merger AT&T and Verizon can coordinate to raise retail wireless prices, it is invalidated by the analyses presented

[1] Joint Declaration of Steven C. Salop, Stanley M. Besen, Stephen D. Kletter, Serge X. Moresi, and John R. Woodbury, *In the Matter of Applications of AT&T Inc. and Deutsche Telekom AG For Consent to Assign or Transfer Control of Licenses and Authorizations*, WT Docket No. 11-65, May 31, 2011 ("CRA Declaration"). (Unless otherwise noted, all citations to declarations, petitions to deny, or other comments are from this Commission proceeding.)

[2] CRA Declaration ¶ 98.

[3] *Id.* ¶¶ 92-123.

[4] *Id.* ¶¶ 122-123.

in the Declaration and Reply Declaration of Dennis Carlton, Allan Shampine, and Hal Sider showing that coordination between AT&T and Verizon would be unlikely because of differences in business strategies across carriers, the multi-dimensional nature of service plans, the rapid pace of technological change in the industry and differences in geographic coverage.[5] Moreover, the mere fact that relevant markets are concentrated according to traditional concentration measures does not imply the absence of effective competition in the marketplace. Depending on their many other characteristics, even highly concentrated markets can be highly competitive.[6]

4. Additionally, wireless competition is driven by *innovation*. Today's leading wireless services providers can be marginalized by technological innovation. Wireless carriers, even "large carriers," recognize that if they fail to innovate, they can be overtaken by their established rivals and by smaller or less established providers that offer new attractively innovative products and services. The nature of this competitive process suggests that coordination between AT&T and Verizon over innovation is unlikely, even disregarding the fact that other wireless providers – including Sprint – would continue to compete, and the inability to coordinate over innovation, when combined with the factors detailed in the Carlton Declaration and Carlton Reply Declaration, makes coordination over retail prices unlikely. No agreement to coordinate over innovation, whether tacit or otherwise, could likely be stable enough because each party would have a compelling incentive to try to jump ahead of the other through technological advances or investment in capacity. And the firm that cheats would know that the other firm would find it difficult to retaliate because of the substantial time and the risky investments required, especially if the other firm adhered to the agreement and underinvested in innovation and capacity.

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[5] Declaration of Dennis W. Carlton, Allan L. Shampine, and Hal S. Sider, April 20, 2011 ¶¶ 146-157 ("Carlton Declaration") and Reply Declaration of Dennis W. Carlton, Allan L. Shampine, and Hal S. Sider, June 10, 2011 ¶¶ 89-106 ("Carlton Reply Declaration").

[6] *See, e.g.*, United States Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines," August 19, 2010 at § 5.3. See, also, William Baumol, John Panzar, and Robert Willig, *Contestable Markets and the Theory of Industry Structure*, Harcourt Brace Jovanovich, 1982. Second Edition, 1989.

5. Apart from any downstream coordination, economic evidence does not support the proposition that, as a result of the merger, AT&T would have the ability or incentive to undertake the type of "raising rivals' cost" strategy postulated by the CRA Economists. This transaction would not result in AT&T vertically integrating or significantly expanding into businesses upstream or downstream from the provision of data and voice wireless services. Nor does this merger increase AT&T's control over many of the "input markets" at issue, like backhaul, because T-Mobile does not currently own or control many of the inputs at issue and, in particular, does not provide third-party backhaul today. Similarly, AT&T does not manufacture handsets and, while AT&T and T-Mobile do provide roaming services to GSM-based carriers, neither provides any significant roaming services to Sprint or any of the other CDMA-based wireless carriers, including Verizon, MetroPCS, Leap, and US Cellular,[7] and thus roaming by an overwhelming majority of wireless users would remain unaffected by this transaction. With respect to such inputs, the merger would have no significant direct impact on AT&T's ability or incentive to "raise rivals' costs."

6. Further, competition and consumer welfare are often enhanced by the very type of conduct about which opponents of the merger raise concerns, including exclusive vertical relationships.[8] Vertical relationships that lower the cost of providing service create incentives to expand output and lower prices. On the other hand, competitors may face tougher competition as a result of such merger-specific efficiencies and therefore have strong incentives in such cases to try and block the merger by perversely arguing that the efficiency-enhancing conduct is anticompetitive.

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[7] We understand that, as a result of its acquisition of former Alltel businesses, AT&T has committed to offer CDMA roaming in the territories of the former Alltel businesses for a period of up to three years from the closing of that acquisition. As such, this expressly time-limited commitment does not entail substantial reliance by CDMA carriers on long-term roaming arrangements with AT&T.

[8] *See*, *e.g.*, Michael L. Katz (1989), "Vertical Contractual Relationships," in *Handbook of Industrial Organization*, edited by R. Schmalensee and R.D. Willig (Amsterdam: North Holland Publishing) ("Katz").

7. Given these economic considerations, we believe that the Commission's review of merger opponents' "vertical" arguments should be guided by three key considerations. First, the Commission should consider only theories of anticompetitive harms that are *merger specific*. Such a requirement, which the Commission and the primary complainant here – Sprint – have recognized in prior merger proceedings,[9] ensures that matters that are of general industry concern are addressed in industry-wide regulatory proceedings, and that the merger review process does not lead to a shopping list of conditions to be imposed only on the merging parties, which could harm both static and dynamic economic efficiency through distortions arising in part from regulatory disparities.

8. Second, given the many consumer benefits that can be achieved through vertical relationships and the obvious incentives of rivals to try to prevent such efficiencies from being achieved, sound competition policy dictates that no credence be accorded opponents that just hypothesize about some potential, theoretical or speculative anticompetitive harm, with no credible demonstration that the alleged anticompetitive harm flows from the merger itself, rather than from the preexisting fact that one of the merging parties is vertically integrated or has an exclusive relationship with a supplier. Close inspection and verified empirical analysis should be necessary for any theories of alleged vertical anticompetitive harm to be taken seriously.

9. Third, just positing that conduct harmful to a rival may occur is not sufficient. The ultimate focus of sound regulatory policy should be on competition and consumer welfare. As proponents of "raising rivals' cost" theories have themselves recognized, "[c]ompetition is

[9] *See, e.g.*, Memorandum Opinion and Order, *SBC Communications Inc. and AT&T Corp., Applications for Approval of Transfer of Control*, WC Docket No. 05-65, Nov. 17, 2005 ¶ 19; Sprint-Nextel Joint Opposition to Deny and Reply to Comments, WT Docket No. 05-63 at 6 (Apr. 11, 2005) filed in *Applications of Nextel Communications, Inc. and Sprint Corporation for Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 20 FCC Rcd 13967 (2005).

harmed only if the firm purchasing the exclusionary right can, as a result, raise its price above the competitive level."[10]

10. We are not alone in this view. In fact, two of the authors of the CRA Declaration have previously advocated this same, empirically based, standard in a previous merger proceeding before the Commission.[11] As explained in further detail below, the CRA Economists do not even try to satisfy this standard in their Declaration, offering little more than speculation arising from subjects of conceivable vertical competition concerns about AT&T's purported control over handsets, roaming, and backhaul. Upon close inspection, many of the theories advanced by the CRA Economists are not even plausibly merger specific, and in no instance do they or other merger opponents, demonstrate that the merger would increase AT&T's ability or incentive to engage in any of the postulated conduct to the detriment of consumers.

11. **Handsets.** The CRA Economists and other merger opponents put forward a number of arguments about why the merger may harm competition with regard to handsets.[12] The basic arguments from opponents of the merger are that (i) combining AT&T and T-Mobile would undermine wireless competition because it would enable AT&T (alone or through hypothesized coordination with Verizon) to deprive competitors and suppress the supply of desirable handsets and smartphones; and (ii) the merger would harm innovation in handsets (and other related technologies). The evidence, however, shows that AT&T would be unable, post-merger, to preclude competitors from effectively competing for the rights to distribute desirable handsets and smartphones. Handset manufacturers compete through innovation, and exclusive distribution agreements, which are common in the industry, have helped to fuel handset

[10] Thomas Krattenmaker and Steven Salop (1986), "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price," *Yale Law Journal* 96(2) at 242 ("Krattenmaker and Salop").

[11] *See, e.g.*, Steven Salop, Carl Shapiro, David Majerus, Serge Moresi, and Jane Murdoch, "News Corporation's Partial Acquisition of DIRECTV: Economic Analysis of Vertical Foreclosure Claims," July 1, 2003.

[12] *See, e.g.*, CRA Declaration ¶¶ 104-123; CompTel Petition to Deny, May 31, 2011 at 20-21 ("CompTel"); and Petition to Deny of Rural Cellular Association, May 31, 2011 at 18-21 ("Rural Cellular").

innovation. This fact is not surprising given that the economics literature has shown that there can be significant pro-competitive benefits from exclusive distribution arrangements.[13] The experience of the iPhone shows what would likely happen in the future if AT&T were to enter into an exclusive distribution deal for a handset with a competitively important innovative feature set. Consistent with the iPhone experience, competing carriers would seek handsets with similar features, and a wide array of handset manufacturers and operating systems developers (*e.g.,* Google) would invest and innovate to supply those handsets, either exclusively or non-exclusively, to international as well as competing U.S. wireless providers.

12. Nor is it plausible that AT&T would attempt to "corner the market" and obtain exclusives for all, or most, desirable handsets. The more such exclusive agreements AT&T would obtain, the less value there would be to any handset manufacturer from its agreement to an exclusive with AT&T and its foregoing the opportunity to do business with a wireless provider that would seek to maximize the sales of the manufacturer's handsets. And even should several handset manufacturers agree to such a strategy, the competitive dynamic of this marketplace suggests strongly that another handset manufacturer would fill the vacuum they would have left by introducing a substitute innovative product. There is also no plausible claim that a combined AT&T/T-Mobile could harm innovation by manufacturers of handsets and smartphones, network equipment manufacturers, software developers, application designers, or other suppliers to the wireless ecosystem. These companies sell their products around the world, and post-merger AT&T would serve roughly only three percent of worldwide wireless subscribers. After the merger, there will remain numerous firms facilitating innovation in the wireless ecosystem and AT&T/T-Mobile (acting alone or in "concert" with Verizon) will have no ability to harm the innovation process.

13. **GSM Roaming.** The CRA Economists and other merger opponents assert that the proposed merger would allow AT&T to foreclose competition by refusing to provide roaming agreements to regional providers or by conditioning such agreements on unreasonable

[13] *See, e.g.*, Katz.

terms and conditions.[14] But even assuming that AT&T had the incentive to raise roaming rates, AT&T could not foreclose competition by imposing "high" roaming rates. Most major competitors – including Sprint – do not purchase roaming from AT&T because they use a CDMA standard whereas AT&T is a GSM-based carrier. The merger would thus have no direct impact on the roaming rates paid by Sprint and other CDMA-based carriers. And, as we explain in greater detail below, Sprint's own data show that AT&T could not force any meaningful increase in retail rates through such a strategy. Furthermore, any attempts by AT&T to impose unreasonable roaming terms or conditions or otherwise to deny roaming agreements might spur additional action by the Commission that is costly and burdensome to AT&T.

14. But the CRA Economists also appear to misjudge AT&T's incentives with regard to roaming. AT&T's roaming agreements are almost always symmetrical: The price paid per unit (for voice and data service) by AT&T to a roaming partner when one of AT&T's subscribers roams on that partner's network is identical to the price that AT&T receives when one of the partner's subscribers roams on AT&T's network. We note that the symmetrical rates arose from pre-merger bargaining, and nothing about this transaction would appear to alter the relative positions of AT&T and its roaming partners enough to change the current symmetrical outcome, especially in light of the recently promulgated roaming regulations. Because AT&T is a "net payer" to a substantial majority of its roaming partners and the price paid is symmetric,[15] AT&T has no incentive to charge higher roaming rates because to do so would just result in higher costs for itself.

15. The fact that T-Mobile is the only other "national" provider of GSM roaming would not significantly alter AT&T's incentives in negotiating roaming rates post-merger.[16] In fact, the merger will not significantly affect the disparity in AT&T's "balance of trade" with its

[14] *See, e.g.*, CRA Declaration ¶¶ 52-53, 99-101; CompTel at 18-19; Rural Cellular at 16; and Petition to Deny of Leap Wireless International, Inc. and Cricket Communications, May 31, 2011 at 22 ("Leap Wireless").

[15] Declaration of William Hague, June 10, 2011 ¶¶ 3, 5 ("Hague Declaration").

[16] *See, e.g.*, CRA Declaration ¶ 100.

individual roaming partners. In any event, the "loss" of T-Mobile is not competitively significant with regard to the 3G data roaming services that seem to form the basis of opponents' roaming concerns with respect to the merger. T-Mobile provides 3G services on the Advanced Wireless Services ("AWS") spectrum and AT&T provides 3G services on the 850MHz and 1900MHz spectra. The substantial majority of 3G GSM wireless subscribers' handsets are not capable of accessing both AT&T's and T-Mobile's bands of spectrum.[17] Thus, whether smaller GSM-based carriers have 3G roaming relationships with AT&T or with T-Mobile will depend critically on their spectrum choices; those that operate in the AWS spectrum band are more likely to enter into a 3G roaming relationship with T-Mobile and those that operate in the 850MHz and 1900MHz bands are more likely to enter into a 3G roaming relationship with AT&T. As we show below, T-Mobile's actual roaming data confirm that T-Mobile's are not a close substitute for AT&T's GSM roaming services for most wireless carriers, and the loss of T-Mobile as an independent 3G roaming supplier would neither alter significantly the roaming choices available to 3G wireless providers nor would it alter AT&T's incentives to enter into 3G data roaming agreements.

16. **Backhaul**. The CRA Declaration, as well as other filings by merger opponents, argues that post-merger AT&T would use its special access facilities to prevent rivals from "undercut[ting]" the "higher" retail prices they allege that Verizon and AT&T will coordinate to set.[18] But AT&T is already vertically integrated, while T-Mobile does not provide backhaul services to other wireless providers. The proposed merger thus does not enhance AT&T's ability

[17] Hague Declaration ¶ 9.

[18] *See, e.g.*, Sprint Nextel Corporation Petition to Deny, May 31, 2011 at 39-43 ("Sprint"); CRA Declaration ¶¶ 50-51, 92-98; Comments of the American Antitrust Institute, May 31, 2011 at 19-21 ("AAI"); CompTel at 22-25; Petition to Deny by the Computer & Communications Industry Association (CCIA), May 31, 2011 at 14 ("CCIA"); Leap Wireless at 24-25; Petition to Deny of NoChokePoints, May 31, 2011 at 6 ("NoChokePoints"); Comments of United States Cellular Corporation, May 31, 2011 at 2-3 ("US Cellular"); Petition to Deny of Paetec Holding Corp., MPower Communications Corp., and U.S. Telepacific, May 31, 2011 at 14-15 ("Facilities-Based CLECs"); Comments of Japan Communications Inc and Communications Security & Compliance Technologies, Inc., May 31, 2011 at 12-14 ("Japan Communications"); and Comments of Fibertech Networks, LLC, May 31, 2011 at 2-4 ("FiberTech").

to engage in any discriminatory or exclusionary conduct with respect to backhaul. Merger opponents identify no plausible reason why the merger would increase the incentive or ability of AT&T to "raise rivals' cost" for backhaul. In any event, the empirical evidence and economic conditions of competition show that AT&T has neither the ability to raise rivals' backhaul costs by a significant amount nor any incentive to do so.

17. The CRA Economists' argument regarding backhaul is based on an outdated view of the way in which backhaul is provided in the marketplace. As demand for wireless data services has exploded, wireless carriers – including T-Mobile – have increasingly turned to Ethernet-based backhaul. Provision of Ethernet-based backhaul is indisputably subject to competitive supply. Numerous competitive providers vie to provide Ethernet-based backhaul services, and T-Mobile and other carriers have increasingly shifted their purchases away from ILECs to alternative providers like cable companies and CLECs.

18. To the extent TDM-based backhaul remains relevant (and that is decreasingly the case), we understand that there are differing views as to the extent to which competitors can supply such backhaul. But it is not disputed that provision of TDM-based backhaul services by AT&T is rate regulated by the Commission. Under that regime, in areas where it does not face effective competition, AT&T's special access rates are subject to price caps that may prevent AT&T from raising its backhaul rates. Thus, the combination of competition and regulation deny AT&T the ability to impose any significant increases in rivals' backhaul costs.

19. The CRA Declaration and other filings by merger opponents nonetheless try to establish that the merger would increase AT&T's "power" over backhaul by asserting that the elimination of T-Mobile as a purchaser of backhaul services from third-party suppliers harms those suppliers (as well as potential entrants to that sector) to the detriment of Sprint and other wireless carriers.[19] But none of the merger opponents, including the CRA Economists, provide

[19] *See e.g.*, Sprint 39-41; CRA Declaration ¶ 97; CompTel at 25-30; Facilities-Based CLECs at 11-12, 16; Petition to Deny of Free Press, May 31, 2011 at 44 ("Free Press"); NoChokePoints at 7; US Cellular at 2-3; Fibertech at 2-3; CCIA at 12-14; Petition to Deny of Texaltel, May 31, 2011 at 6-7 ("Texaltel"); Petition to Deny of The New Jersey Division of Rate Counsel, May 31,

any empirical evidence to support this argument, and this claim is economically implausible. The facts remain that (i) T-Mobile represents a small share of total spending on dedicated transmission services, like those employed by T-Mobile for backhaul (and these dedicated transmission services are procured by many entities other than wireless providers); (ii) the demand for backhaul services by wireless providers is growing dramatically supporting additional entry and expansion by providers of such services;[20] (iii) AT&T will assume backhaul agreements that T-Mobile has in place and honor the durations of the agreements, providing sellers to T-Mobile time to prepare; (iv) in the situations where AT&T decides to switch to self-provisioning of backhaul services because it is cheaper, this is a merger-specific efficiency; and (v) the lower utilization of third-party backhaul capacity would, if anything, cause prices to decrease, benefitting Sprint and other wireless carriers.

20. Moreover, even assuming *arguendo* that its special access prices were not constrained by regulation and/or competition, Sprint's own data demonstrate that AT&T would lack the incentive to increase rivals' backhaul costs in order to harm downstream competition. Specifically, Sprint's own data conservatively show that, even if it could be assumed that AT&T could raise backhaul prices by 10 percent (a very substantial increase), that would translate into a trivial increase of only **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per subscriber per month in Sprint's costs. By comparison, Sprint is paid roughly $48 per month by its subscribers,[21] so a **[Begin Sprint Confidential Information]**

[End Sprint Confidential Information] per subscriber cost increase would be *de minimis* and would not have any significant effect on wireless competition or any meaningful impact on consumers.

2011 at 41 ("NJ Rate Counsel"); Rural Telecommunications Group, Inc. Petition to Deny, May 31, 2011 at 49-50 ("RTG"); and Petition to Deny of Earthlink Inc., May 31, 2011 at 12-17 ("Earthlink").

[20] *See, e.g.,* "Level 3 Communications' CEO Discusses Q1 2011 Results," Earnings Call Transcript, May 3, 2011, *available at* http://seekingalpha.com/article/267352-level-3-communications-ceo-discusses-q1-2011-results-earnings-call-transcript?part=qanda.

[21] Sprint Nextel Corp, 2010 10-K at 30.

21. As Professor Salop himself has recognized, the possibility of such a trivial input price increase raises no legitimate competitive concerns.[22] But AT&T would also lack the incentive to even attempt to impose it. If AT&T were to raise the prices of its backhaul services in an attempt to marginalize its competitors, as CRA Economists postulate, it would forgo some profits from the sale of backhaul (where fixed costs are relatively high and, assuming there is sufficient excess capacity, marginal costs of special access are low) without any likelihood of "recouping" such lost profits from higher service fees to wireless subscribers. In addition, if AT&T attempted the strategy theorized by merger opponents and raised backhaul prices significantly, it would likely accelerate the substitution of Ethernet backhaul services, which are competitively provided, and thereby induce a further increase in the competitive supply of third-party backhaul services to wireless providers to the detriment of AT&T.

22. **Financial Constraints**. Although not a "vertical" theory, the CRA Economists (and other merger opponents) argue that financing constraints harm Sprint and other wireless carriers' abilities to compete for exclusive handset arrangements, spectrum and other inputs, and the merger will exacerbate these issues.[23] First, this is not a merger-specific issue since the CRA Economists assert that Sprint's financial position today is already weaker than AT&T's. Second, Sprint's extant financial position is a product of its own financial and operating decisions, including its decision to purchase Nextel a number of years ago.[24] Third, there is no dispute that Sprint continues to have significant access to capital markets for investment and other purposes; Sprint's CFO stated a few weeks ago that the "market would welcome us in open arms if we

[22] Professor Salop previously wrote that "the increase in the input's price may be so insignificant that it has little effect on the total costs of actual or potential competitors. This result can occur if the input price increase is small or if the input from which rivals are excluded accounts for only a small fraction of their total costs. Consumer welfare is unlikely to be affected by a strategy that raises the price of a key input from $10 to $10.01 or by one that doubles the total cost of one of a firm's inputs from $1 to $2 when other necessary inputs cost $1,000 per unit of output produced." *See* Krattenmaker and Salop, *supra* at 243.

[23] *See, e.g.*, CRA Declaration ¶¶ 116-123.

[24] *See, e.g.*, Sprint Nextel Corp, 2008 10-K at 21 and 46.

wanted to go raise some additional money."[25] Fourth, the CRA Economists never put forward any evidence to show that the proposed merger would have any significant effect on Sprint's borrowing costs. And finally, as a matter of sound competition policy, regulators should not block efficiency-enhancing mergers, which benefit consumers through lower prices or higher quality, just because the cost differential between two competitors may increase post-merger.

23. For these reasons, as well as those explained in more detail in Part III, we conclude that the proposed merger between AT&T and T-Mobile will neither empower nor motivate the combined entity to use its limited control over certain "inputs" necessary to provide wireless services to engage in exclusionary conduct to the detriment of consumers.

II. Qualifications

A. Robert D. Willig

24. My name is Robert D. Willig. I am a Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University. Previously, I was a Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and welfare theory.

25. I served as Deputy Assistant Attorney General of Economics in the Antitrust Division of the Department of Justice from 1989 to 1991. I am the author of *Welfare Analysis of Policies Affecting Prices and Products*; *Contestable Markets and the Theory of Industry Structure* (with W. Baumol and J. Panzar), and numerous articles, including "Merger Analysis, IO theory, and Merger Guidelines." I am also a co-editor of *The Handbook of Industrial Organization*, and have served on the editorial boards of the *American Economic Review*, the

[25] Sprint Nextel Corp at Barclays Capital Global Communications, Media, and Technology Conference, May 24, 2011, Final Transcript at 8.

Journal of Industrial Economics and the MIT Press Series on regulation. I am an elected Fellow of the Econometric Society and was an associate of The Center for International Studies.

26. I have been active in both theoretical and applied analysis of telecommunications issues. Since leaving Bell Laboratories, I have been a consultant to many telecommunications firms and have testified before the U.S. Congress, this Commission, and the public utility commissions of about a dozen states. I have been on government and privately-supported missions involving telecommunications throughout South America, Canada, Europe, and Asia. I have written and testified on such subjects within telecommunications as the scope of competition, end-user service pricing and costing, unbundled access arrangements and pricing, the design of regulation and methodologies for assessing what activities should be subject to regulation, directory services, bypass arrangements, and network externalities and universal service. On other issues, I have worked as a consultant with the FTC, the Organization for Economic Cooperation and Development, the Inter-American Development Bank, the World Bank and various private clients. I also served on the Defense Science Board task force on the antitrust aspects of defense industry consolidation and on the Governor of New Jersey's task force on the market pricing of electricity.

B. Jonathan M. Orszag

27. My name is Jonathan M. Orszag. I am a Senior Managing Director and member of the Executive Committee of Compass Lexecon, LLC, an economic consulting firm. My services have been retained by a variety of public-sector entities and private-sector firms ranging from small businesses to Fortune 500 companies. These engagements have involved a wide array of matters, from entertainment and telecommunications issues to issues affecting the sports and retail industries. I have provided testimony to administrative agencies, the U.S. Congress, U.S. courts, the European Court of First Instance, and other domestic and foreign regulatory bodies on a range of issues, including competition policy, industry structure, and fiscal policy. Previously, I served as the Assistant to the U.S. Secretary of Commerce and Director of the Office of Policy and Strategic Planning and as an Economic Policy Advisor on President Clinton's National

Economic Council. For my work at the White House, I was presented the Corporation for Enterprise Development's 1999 leadership award for "forging innovative public policies to expand economic opportunity in America." I am a Fellow at the University of Southern California's Center for Communication Law & Policy and a Senior Fellow at the Center for American Progress. I received a M.Sc. from Oxford University, which I attended as a Marshall Scholar. I graduated *summa cum laude* in economics from Princeton University, was elected to Phi Beta Kappa, and was named to the USA Today All-USA College Academic Team.

C. Jay Ezrielev

28. My name is Jay Ezrielev. I am a Senior Vice President at Compass Lexecon and a member of the faculty at the Johns Hopkins University Applied Economics Program. I have consulted on a large number of matters pertaining to communications issues and have submitted testimony to the Commission in a number of proceedings. I have led economic analyses and assisted in the preparation of expert reports and testimony in a wide range of matters, including merger review, monopolization, price fixing, transfer pricing, intellectual property, and contractual disputes. Prior to joining Compass Lexecon, I was a senior economist at Competition Economics, Inc. I hold a Ph.D. in economics from New York University, an M.S. in electrical engineering from Rutgers University, and a B.S. in electrical engineering from Rutgers University.

III. No Evidence for Merger Opponents' Vertical Foreclosure Claims

29. Merger opponents claim that the proposed merger raises concerns about the "potential" for "exclusionary effects" on Sprint and other wireless carriers. They also claim that the exclusionary effects would "reinforce AT&T's unilateral incentives to raise price and would further increase the likelihood of harmful coordinated effects."[26] The merger opponents argue further that the exclusionary effects would force Sprint and other wireless carriers to "face cost or demand disadvantages in competing for subscribers" and, as a result, wireless carriers "would

[26] CRA Declaration ¶ 92.

have a reduced ability and incentive to competitively constrain AT&T and Verizon."[27] The specific exclusionary effects that merger opponents focus on are that, as a result of the proposed merger, AT&T's and Verizon's wireless carrier rivals would be precluded from offering certain popular handset models or would have to pay more for popular handsets, would be forced to pay higher GSM data roaming and backhaul fees, and would face other financial impediments in competing with AT&T and Verizon.

30. None of the merger opponents' exclusionary effects claims, however, withstand scrutiny of rigorous economic analysis. Critics can issue theoretical arguments about conceivable exclusionary effects in virtually every merger of significance. Sound merger enforcement policy must, therefore, distinguish between concerns about exclusionary effects that are purely a matter of theoretical possibility and those that are supported by persuasive evidence. The opponents of the proposed AT&T/T-Mobile merger offer no credible economic evidence in support of their exclusionary effects claims but instead just argue that the "potential" for exclusionary effects exists as a matter of theory.[28]

[27] *Id.* ¶ 93.

[28] Two of the CRA Economists, Professor Steve Salop and Serge Moresi, have contributed to the literature on exclusionary conduct and have discussed the applicability of the literature to past mergers. For example, Professor Salop, Dr. Moresi, and several other co-authors noted in another merger matter that exclusionary effects occur only under "certain conditions;" that not "all attempts at exclusionary conduct will necessarily harm consumers or competition;" "the incentives to foreclose and the anticompetitive harm from foreclosure must be proved;" and "the potential for benefits from vertical integration and exclusivity also must be reckoned into a full competitive analysis." None of the merger opponents, including the CRA Economists, have shown that the "certain conditions" for exclusionary conduct are present in this merger, have proven that the combined entity would have the incentives to engage in exclusionary conduct, or that the purported exclusionary conduct will harm consumers and competition, after accounting for the potential benefits of the merger. *See* Steven Salop, Carl Shapiro, David Majerus, Serge Moresi, and Jane Murdoch, "News Corporation's Partial Acquisition of DIRECTV: Economic Analysis of Vertical Foreclosure Claims," July 1, 2003.

31. There is a large body of economics literature on exclusionary conduct.[29] The literature establishes conditions under which exclusionary conduct, such as raising rivals' costs or denying rivals access to essential production inputs, can harm competition. Merger opponents invoke this literature in their exclusionary effects claims.[30] However, as we discuss in more detail below, the conditions necessary for the existence of exclusionary effects have not been demonstrated by the merger opponents. A close examination of economic evidence indicates that the merged AT&T/T-Mobile would lack both the incentive and ability to engage in conduct that would preclude competitors from obtaining access to popular handset models or preclude the competitors from purchasing handsets, backhaul, and/or roaming services on reasonable terms and conditions.

32. In addition, many of the exclusionary effects claims by the merger opponents lack merger specificity. The merger opponents do not explain why the wireless industry today enjoys robust competition even though the exclusionary effects arguments directed at the proposed merger could have just as well been applied to current industry structure. Even assuming, *arguendo*, that the opponents' exclusionary effects claims have a valid theoretical basis, the theory would also apply to the current competitive structure in which Verizon and AT&T are the two largest wireless providers in the U.S. Notwithstanding their relative size, the wireless industry today is characterized by robust competition, an expanding array of providers and

[29] *See, e.g.*, Steven Salop and David Scheffman (1983) "Raising Rivals' Costs," *American Economic Review* 73(2), pp. 267-271; Thomas Krattenmaker and Steven Salop (1986) "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price," *Yale Law Journal* 96(2), pp. 209-293; Dennis Carlton (2001) "A General Analysis of Exclusionary Conduct and Refusal to Deal--Why Aspen and Kodak Are Misguided," *Antitrust Law Journal* 68, pp. 659-683; and Michael Whinston (1990) "Tying, Foreclosure, and Exclusion," *American Economic Review* 80, pp. 837-859.

[30] Under the theories put forth by the merger opponents, post-merger AT&T and Verizon would have increased incentive to engage in exclusionary conduct by sacrificing profits in an input (vertical) market in order to drive up rivals' costs and reduce competition among wireless providers. As we explain below, the necessary predicates for successful raising rivals' cost strategies are not present here.

offerings, rapid innovation, and new entry.[31] Such robust competition is inconsistent with the merger opponents' exclusionary effects claims. The question that the merger opponents do not answer is how does the incremental growth in AT&T's size (roughly 11 percentage points in terms of total US wireless subscribers) alter AT&T's incentives or ability to engage in exclusionary conduct, if at all? The merger opponents do not provide any empirical analysis of how the merger would affect AT&T's incentives or ability to engage in exclusionary conduct and their claims are inconsistent with basic economic principles and/or the evidence.

33. Moreover, some of the arguments put forward by the merger opponents appear to attribute "exclusionary effects" to merger-related efficiencies. For example, CRA Economists argue that the merger would reduce AT&T's finance costs by enabling AT&T to achieve greater scale efficiencies and, as a result, earn higher profits.[32] However, CRA Economists appear to argue that AT&T's lower finance costs would be a source of exclusionary effects. They explain that AT&T's lower finance costs would put Sprint at a further disadvantage relative to AT&T in terms of being able to finance significant investments in network infrastructure, handset exclusive distribution agreements, and other investments in innovation. Based on this logic, CRA Economists conclude that AT&T's greater finance cost advantage may lead to reduced innovation and higher prices.[33] Importantly, CRA Economists do not specifically claim that Sprint's finance costs will increase as a result of the merger, but attribute an "exclusionary effect" of the merger simply to AT&T's achieving lower finance costs. CRA Economists' arguments are misguided and represent an inappropriate application of antitrust policy. Although many firms would rather face weaker competitors, competition works best when competitors achieve the highest feasible efficiency levels. Allowing Sprint and others to successfully solicit regulatory agencies to intervene in markets so as to prevent their competitors from achieving higher efficiency levels is inconsistent with sound competition policy.

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[31] *See, e.g.* Declaration of Robert D. Willig, Submitted for the Fifteenth Annual Report on the State of Competition in Mobile Wireless, August 16, 2010.

[32] CRA Declaration ¶¶ 114-116.

[33] *Id.* ¶¶ 115,122.

34. Below we discuss the merger opponents' exclusionary effects claims for specific inputs in the wireless industry. We focus on the merger opponents' exclusionary effects claims with respect to handsets (including innovation), GSM roaming, backhaul, and financial constraints on "smaller" market participants.

A. Handsets

35. Merger opponents raise concerns that, as a result of the merger, wireless rivals of AT&T and Verizon would be precluded from offering certain popular handset models.[34] The merger opponents argue that AT&T and Verizon would essentially "lock up" the most popular handsets through exclusive distribution agreements. Such concerns are unwarranted. As we discuss below, the wireless handset industry is intensely competitive today, and carriers have been able to offer a broad array of advanced handsets to their subscribers. Nothing about the merger would change that. In particular, we first discuss below the dynamic nature of competition in the wireless market and the way in which development of handsets has helped fuel that competition. With that background, we debunk the series of claims by merger opponents that the merger would harm either handset innovation or preclude rivals from obtaining critical handsets.

1. The Wireless Industry Is Characterized By Innovation-Driven Competition

36. Wireless industry competition is characterized by rapid dynamic change and a high degree of innovation. The highly competitive nature of handset sales in the U.S. is reflected in the large number of handset models and manufacturers and the high volatility of manufacturers' shares of U.S. wireless subscribers.

37. For example, the Commission reported that in the two-and-a-half year period from November 2006 to June 2009, the number of firms manufacturing handsets for sale in the

[34] *See, e.g.*, CRA Declaration ¶¶ 104-123; Rural Cellular at 18-21; US Cellular at 6-7.

U.S. doubled from eight to 16.[35] Moreover, the Commission reported that the number of handset models offered in the U.S. increased from 124 to 260 over this period.[36] By 2010, the seven largest wireless carriers in the U.S. offered more than 350 handset models from 19 manufacturers.[37] Just five years ago, two of the most important technology players in the wireless industry – Apple and Google – did not even have a significant presence.[38] This innovation and increase in offerings by handset manufacturers has led to an increase in the number of handset models offered by wireless carriers of all sizes. The Commission reported that the average number of handset models offered by the top eight wireless carriers increased from 28 to 43 between November 2006 and December 2009.[39] For carriers not in the top eight, the average number of models offered increased from 10 to 23 over this period.[40] This increase in offerings has been accompanied by decreases in handset prices. The Commission reported that between the fourth quarter of 2006 and the fourth quarter of 2009, the average price for a

[35] FCC, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, WT Docket No. 09-66, May 20, 2010 at Table 27. ("FCC Fourteenth CMRS Competition Report").

[36] *Id.*

[37] FCC Hearing Aid Compatibility Reports: Service Providers, 2010.

[38] *See, e.g.*, Matti Huuhtanen, "Nokia fighting to stay No. 1 as US challenge grows," *Associated Press*, February 19, 2010, *available at* http://finance.yahoo.com/news/Nokia-fighting-to-stay-No-1-apf-3615303209.html?x=0 ("Innovation in the mobile industry is now driven by recent entrants such as Apple and Mountain View, California-based Google, and analysts are wondering how long Nokia can remain at No. 1."); FCC, Fourteenth CMRS Competition Report at 82 ("A notable development in smartphone differentiation in 2008-2009 was the introduction of devices that use Google's Android operating system. As discussed in the *Thirteenth Report*, the first Android device to be made available in the United States was T-Mobile's G1, manufactured by HTC, in October 2008." Citation omitted); FCC Fourteenth CMRS Competition Report at 163 ("Since Apple entered the handset business in June 2007 with the touchscreen *iPhone*, many handset manufacturers have responded with their own touchscreen smartphones.")

[39] FCC Fourteenth CMRS Competition Report at Table 34.

[40] *Id.*

smartphone, net of discounts, declined from $220 to $120.[41] Over this same period, the Commission reported that the average price for all handsets declined from $85 to $50.[42]

38. The competitive dynamics of the wireless handset industry are also reflected in recent movements in U.S. handset shipment shares: Between 2007 and 2010, Samsung's share grew from 18 percent to 31 percent; LG grew from 16 percent to 19 percent; Apple's share grew from 2 percent to 9 percent; HTC's share grew from zero to 6 percent; Motorola's share fell from 35 percent to 10 percent; and Nokia's share fell from 10 percent to 6 percent.[43]

39. Robust competition among both handset manufacturers and wireless carriers co-exists with the prevalence of exclusive distribution agreements between handset manufacturers and wireless carriers. Indeed, such exclusive agreements contribute to competition. The Commission has recognized the use of exclusive distribution arrangements with handset manufacturers as a form of competition among wireless carriers.[44] The Fourteenth CMRS Competition Report found that 32 of 67 selected smartphone launches in 2008/2009 were made under exclusive distribution agreements.[45] These exclusive distribution arrangements were with AT&T, Verizon, Sprint, and T-Mobile. Smaller wireless carriers also offer handsets on an

[41] *Id.* at 169.

[42] *Id.*

[43] Strategy Analytics, "Vendor Share: North America Handset Shipments Grow 3% in Q4 2010," February 2011.

[44] FCC Fourteenth CMRS Competition Report at 79 (emphasis added) ("With respect to handsets and devices, providers compete by introducing new handsets/devices, distinguishing their handset/device offerings from those of their competitors, responding to competitors' handset/device innovations with rival offerings, *offering certain handset/device models on an exclusive basis*, and allowing handsets/devices that they do not sell directly to be used on their networks.").

[45] *Id. at* 84, 172.

exclusive basis. For example, U.S. Cellular and MetroPCS currently offer smartphone models on an exclusive basis.[46]

40. Competing wireless carriers can and often do respond to rivals' exclusive handset deals by entering into new partnerships with handset manufacturers to introduce even more innovative handset products.[47] Significant examples of such "leap-frogging" competition are evident in the history of smartphone launches.

41. The iPhone was announced by Apple in January 2007, and in June 2007, AT&T began distributing the iPhone on an exclusive basis. The iPhone launch was quickly followed by a number of competing handset product launches. For example, Verizon entered into a partnership with Research in Motion in 2008 to distribute (under an exclusive arrangement) the

[46] "The Samsung Mesmerize™ a Galaxy S phone, exclusively at US Cellular, …." *available at* http://www.uscellular.com/uscellular/cell-phones/showPhoneDetails.jsp?productId=prod60188&phone-selector-compared1=&phone-selector-compared-prepaid-sku1=&phone-selector-compared-contract-sku1=&phone-selector-compared2=&phone-selector-compared-prepaid-sku2=&phone-selector-compared-contract-sku2=&phone-selector-compared3=&phone-selector-compared-prepaid-sku3=&phone-selector-compared-contract-sku3=&phone-selector-type=contract&phone-selector-category=phone-selector-android&phone-sort-options=1; "After receiving and appreciative response from users worldwide for their Samsung Craft back in late 2010, MetroPCS and Samsung recently announced the exclusive availability of the latest 4G LTE-enabled Android smartphone dubbed Samsung Galaxy Indulge." *available at* http://www.techshout.com/mobile-phones/2011/12/samsungs-4g-lte-enabled-galaxy-indulge-through-metropcs/..

[47] FCC Fourteenth CMRS Competition Report at 81 ("To capitalize on the growing consumer demand for smartphones and to compete with the functionalities offered by the iPhone, several wireless service providers, equipment manufacturers, and mobile platform developers introduced new smartphone devices in 2008 and 2009. Table C-5 in Appendix C shows selected smartphones launched over the past two years, and Chart 8 below shows the number of smartphone launches by the four largest service providers, based on the information in Table C-5. These launches represent not only an attempt by service providers to prevent their subscribers from switching to the iPhone, and hence to AT&T, but also an effort to migrate their traditional handset customers to smartphones.").

Blackberry Storm handset – a touch screen version of the popular Blackberry.[48] The Blackberry Storm was widely viewed as a direct response to the iPhone.[49]

42. Similarly, smartphones based on the Android operating system have achieved rapid success and have proved to be vigorous competitors to the iPhone.[50] In 2010, the Android operating system ran on 23 percent of smartphones worldwide, up from just four percent in 2009.[51] This means that in 2010 the Android operating system surpassed the iPhone operating system, which ran on 14 percent and 15 percent of smartphones worldwide in 2009 and 2010, respectively.[52] In fact, it was recently reported that in Western Europe the Android operating system now runs on 34 percent of smartphones, up from only eight percent one year ago.[53] Android has enjoyed similar success in the U.S., where the operating systems was reported to be on 33 percent of smartphones as of February 2011, up from 26 percent in November 2010.[54]

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[48] "Customers Across the Country Line Up As BlackBerry Storm Blows Into Verizon Wireless Communications Stores," Press Release, Verizon Wireless, Nov. 21, 2008, *available at* http://news.vzw.com/news/2008/11/pr2008-11-21b.html). Press release indicates U.S. exclusivity through Verizon Wireless.

[49] Matt Hamblen, "Verizon posts improved Q4 earnings; 1M BlackBerry Storms sold," *Computerworld*, January 27, 2009.

[50] A recent analyst report states, "Android continues to gain OS share and has already overtaken Symbian in revenue terms. We expect Symbian unit share to decline from 37% to 24% between 2010 to 2012 (partly driven by Nokia's adoption of MeeGo). Blackberry to decline from 15% to 11% and Apple to decline from 15% to 13%. Shipments of Android-based units grow 128% and 37%, respectively, representing growth in Android share from 23% to 37% of smartphones shipped." Global Handset Matrix January 2011, Bank of America Merrill Lynch, January 19, 2011, at 1.

[51] *Id.* at Table 28.

[52] *Id.*

[53] Christopher Lawton and Amir Efrati, "Nokia's Latest Headache: Android," The Wall Street Journal, *available at* http://online.wsj.com/article/SB10001424052702304563104576359700121181530.html?mod=WSJ_hps_sections_tech.

[54] David Murphy, "Android Market Share Now 1 of Every 3 U.S. Smartphones," PC Magazine, April 2, 2011, *available at* http://www.pcmag.com/article2/0,2817,2382985,00.asp.

43. It is important to recognize that the proliferation of smartphones with the Android operating system has benefited numerous U.S. wireless carriers, including Leap (which currently sells four different types of Android smartphones);[55] U.S. Cellular (which currently offers seven different types of Android smartphones);[56] and MetroPCS (which currently sells four different types of Android smartphones).[57] These wireless carriers also distribute Blackberry smartphones.[58] Significantly, the world's first 4G LTE Android-based smartphone – the Samsung Galaxy Indulge – was first launched exclusively by MetroPCS;[59] Leap (Cricket Wireless) recently announced that it was offering the Samsung Galaxy Indulge in its "dynamic line of phone offerings."[60]

[55]Android-based phones offered by Leap (Cricket Wireless) include the Samsung Indulge, Huawei Ascend, Sanyo ZIO, and LG Optimus C, *available at* http://www.mycricket.com/cell-phones3 (accessed June 6, 2011).

[56] Android-based phones offered by U.S. Cellular include the Samsung Mesmerize, Samsung Gem, Samsung Acclaim, LG Optimus U, LG Apex, HTC Desire, and HTC Merge, *available at* http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp (accessed June 6, 2011).

[57] Android-based phones offered by MetroPCS include the Samsung Galaxy Indulge, LG Optimus M, Huawei Ascend, and Huawei Ascend TapouT Edition, *available at* http://www.metropcs.com/shop/phonelist.aspx (accessed June 6, 2011).

[58] All three carriers offer the Blackberry Curve and U.S. Cellular also offers the Blackberry Bold. http://www.mycricket.com/cell-phones3 (accessed June 6, 2011), http://www.uscellular.com/uscellular/cell-phones/showPhones.jsp (accessed June 6, 2011), http://www.metropcs.com/shop/phonelist.aspx (accessed June 6, 2011).

[59] *See, e.g.*, "MetroPCS and Samsung Mobile Unveil the Samsung Galaxy Indulge, the World's First Commercially Available 4G LTE Android Smartphone," February 9, 2011 at 1, *available at* http://investor.metropcs.com/External.File?t=2&item=g7rqBLVLuv81UAmrh20Mp9tj3fGPzw7Th9QbgJ4ulFgfATjGENyIQJOg7zJGrl5P0Oj0RwhYxIGvk14TD9Iz3A== and "Cricket Enhances Its Smartphone Line-Up with the Samsung Indulge,"

[60] "Cricket Enhances Its Smartphone Line-Up With Samsung Indulge," June 7, 2011, *available at* http://phx.corporate-ir.net/phoenix.zhtml?c=191722&p=irol-newsArticle&ID=1571373&highlight=, and "Samsung Galaxy News; Samsung Indulges Crickets Indulgence," June 7, 2011, *available at* http://www.wirelessandmobilenews.com/2011/06/samsung-galaxy-news-samsung-indulge-crickets-indulgence.html

44. The dynamic competition in smartphones creates a virtuous cycle of competition, innovation, and increases in consumer welfare. Launches of popular handset models are often quickly followed by other newer, more innovative models with updated operating systems.[61] For example, Apple's launch of the iPhone 4 in June 2010 was followed by Motorola's Droid X launch in July 2010, the Droid 2 launch in August 2010, the Blackberry Torch launch in August 2010 (distributed exclusively by AT&T), the Windows 7 launch in November 2010 (launched by AT&T and T-Mobile), and the Verizon iPhone launch in February 2011.[62] Thus, popular handset models that AT&T or Verizon "lock up" through exclusive deals are likely to be followed with comparable, if not more advanced, handset models that would be available to be distributed by competing wireless providers.

2. The Merger Will Not Harm Wireless Innovation

45. None of the arguments advanced by opponents demonstrate that the merger would harm handset manufacturers or give AT&T the ability and incentive to "foreclose" rivals from handsets. Most notably, merger opponents contend that the merger may impede innovation because it would give AT&T excessive control over handsets and wireless applications

[61] As the Commission noted, "[m]any of the features and capabilities of the smartphones introduced in the past two years – such as touch screens, automatic rotation of images, easy-to-use web browsers, and application stores – can be viewed as an attempt to compete with those features originally introduced on the iPhone. For example, the Motorola DROID automatically rotates images from portrait to landscape and allows users to zoom in on web pages by tapping on the screen. However, several service providers have introduced smartphones that attempt to differentiate themselves based on other functionalities. For example, RIM's BlackBerry devices continue to offer integration with corporate e-mail servers, Palm's devices allow users to multitask among applications and save documents, and Windows Mobile devices have sought to replicate a Windows PC desktop experience on a mobile device. As with the iPhone, a number of these other smartphones were launched subject to exclusive handset arrangements." FCC Fourteenth CMRS Competition Report at 82. Citations omitted.

[62] "AAU Online Wireless Network Perceptions," AddedValue, January 16, 2011 at 18; David Sarno, "After Longhaul Verizon Will Launch Apple iPhone Feb. 10 – 3G not 4G," Los Angeles Times, January 11, 2011, *available at* http://latimesblogs.latimes.com/technology/2011/01/after-long-wait-veriz/.

development by third-party providers.[63] The merger opponents allege that AT&T alone, or perhaps in combination with Verizon, would exercise its effective control over handsets and the wireless applications development process to harm rivals by requiring product features and technology choices that hinder rivals' innovation. These allegations are without any economic basis.

46. As noted above, wireless products and applications development constitute a global industry. Handset manufacturers, applications developers, and other wireless technology firms are competing to sell their products through wireless carriers all over the world.[64] As of 2010, there were about 40 firms that design and manufacture handsets.[65] Many of these firms are not based in the U.S. and most manufacturers appear to sell a majority of their handsets outside the U.S. (since the vast majority of wireless subscribers are outside of the U.S.).[66] For example, about one percent of Nokia handsets, less than 40 percent of RIM handsets, and less than 30 percent of Apple's iPhone units are sold to U.S. wireless subscribers.[67] In terms of wireless

[63] *See, e.g.*, Petition to Deny of Public Knowledge and Future Music Coalition, May 31, 2011 at 24-25 ("Public Knowledge"); Free Press at 31-36; Petition of MetroPCS Communications, Inc. and NTELOS Inc. To Condition Consent, or Deny Application, May 31, 2011 at 58-59 ("MetroPCS"); and Rural Cellular at 18-20.

[64] We understand that handset manufacturers purchase chipsets from third-party providers, such as Qualcomm. We further understand that the chipsets provide the functionality for the handsets and are typically compatible with the frequency bands and standards of virtually all wireless providers throughout the world. Therefore, we understand that manufacturers' costs of adapting handset models for use in particular geographic regions are low relative to the overall handset development costs.

[65] FCC Hearing Aid Compatibility Reports: Service Providers, 2010.

[66] Handset manufacturers based outside of U.S. include such major names as Research in Motion, Nokia, Samsung, LG, HTC, and Sony Ericsson.

[67] RIM 2011 Annual Report at 11, *available at* www.rim.com/investors/documents/pdf/annual/2011rim_ar.pdf (reporting 39.3 percent of revenue attributable to U.S.); Chris Foresman, "Verizon, AT&T sold less than 30% of iPhones shipped in 1Q 2011," arstechnica.com, April 2011, *available at* arstechnica.com/apple/news/2011/04/verizon-att-sold-less-than-30-of-iphones-shipped-in-q1-2011.ars; "Nokia Q1 2011 net sales EUR 10.4 billion, non-IFRS EPS EUR 0.13 (reported EPS EUR 0.09)," *available at* http://press.nokia.com/2011/04/21/nokia-q1-2011-net-sales-eur-10-4-

subscribers, the U.S. accounted for less than seven percent of total global wireless subscribers in 2010.[68] Even if one focuses on smartphones alone, the North American business accounts for less than a quarter of worldwide unit sales.[69] And these numbers have been falling, and are expected to continue to fall: For example, in 2009, the North American business accounted for 28 percent of worldwide smartphone unit sales.[70]

47. Both AT&T and T-Mobile account for a relatively modest share of total global wireless business. AT&T accounted for only about two percent and T-Mobile accounted for less than one percent of total global wireless subscribers in 2010.[71] Thus, post-merger, AT&T would represent only about three percent of global subscribers and handset sales (assuming one handset per subscriber). Moreover, AT&T accounted for less than nine percent of worldwide smartphone shipments in 2010.[72] Considering AT&T's relatively modest position in the global wireless industry, the notion that AT&T, either alone or in coordination with Verizon, would exercise effective control over development of products and applications in the wireless industry is not plausible.

48. As noted, wireless competition is driven by the need to innovate to stay competitive, and all indications point to the continuation and perhaps magnification of this industry dynamic. Even if one disregards the presence of rivals, including Sprint, the nature of this competitive process suggests that coordination between AT&T and Verizon over innovation is unlikely, and the inability to coordinate over innovation, when combined with the factors

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billion-non-ifrs-eps-eur-0-13-reported-eps-eur-0-09/ (reporting 1.2 million devices sold in North America and 108.5 million devices sold worldwide in 1Q2011).

[68] Global Wireless Matrix 1Q11, Bank of America Merrill Lynch, April 28, 2011 at Table 27.

[69] Global Handset Matrix January 2011, Bank of America Merrill Lynch, January 19, 2011 at Table 31.

[70] *Id.*

[71] Global Wireless Matrix 1Q11, Bank of America Merrill Lynch, April 28, 2011 at Table 27 and Table 146.

[72] AT&T Response to DOJ Second Request, Specification 3; Global Handset Matrix January 2011, Bank of America Merrill Lynch, January 19, 2011 at Table 24.

detailed in the Carlton Declaration and Carlton Reply Declaration,[73] makes coordination over retail prices unlikely. No such coordinated agreement over innovation, whether tacit or otherwise, could likely be stable enough because each party would have a compelling incentive to try to jump ahead of the other through technological advances or investment in capacity. If AT&T and Verizon agreed, either implicitly or explicitly, to slow the pace of innovation (ignoring the competitive role of other wireless carriers and/or other players in the wireless ecosystem), both AT&T and Verizon would have strong incentives to "cheat" on the putative agreement. Both carriers would know that it could engage in research and development regarding handsets or other features that matter to consumers and the other carrier would not reasonably know about the unannounced innovations. Once the "cheating" firm launched the innovative product, it would know that the other carrier would find it difficult to retaliate because of the substantial time and the risky investments required, especially if the other firm had adhered to the agreement and underinvested in innovation and capacity. This implication increases the incentive for the firm to cheat in the first place. Of course, each firm knowing the other firm's incentives means that both firms would seek to cheat immediately and the coordinated behavior over innovation would never get out of the gate.

3. Post-Merger AT&T Cannot Foreclose Rivals' Access To Handsets

49. As discussed above, handset competition is characterized by frequent introduction of newer and more advanced handset models. Thus, in order to pursue a strategy of denying rivals' access to new, popular handset models, AT&T would have to enter continually into an ever-increasing number of exclusive distribution agreements with handset manufacturers. But even if AT&T were to act in concert with Verizon – and, as explained, we do not believe that is plausible in this context – it is implausible that they would be able to preclude rivals from gaining access to popular handset models by employing such a strategy.

50. First, exclusive deals between wireless carriers and handset manufacturers need not preclude handset manufacturers from developing other handset models (possibly with similar

[73] Carlton Declaration ¶¶ 146-157 and Carlton Reply Declaration ¶¶ 89-106.

features) that could be supplied to competing carriers. Handset manufactures may develop several models of a particular handset design and operating system to market to multiple wireless carriers, possibly through exclusive agreements.[74] The customization of a handset model for a wireless carrier may involve the screen size and resolution, size of memory, operating system version, and applications software. The costs associated with such customization are likely low compared to the overall costs of designing and manufacturing handsets. Thus, an exclusive agreement between AT&T and a handset manufacturer would not likely prevent a rival wireless carrier from working with the same handset manufacturer on developing competing handset models.

51. Second, most exclusive handset distribution agreements tend to be relatively short in duration. Except for the iPhone contract, which appears to be an aberration as compared to current industry practices, recent handset exclusive deals have typically had durations of six months or less.[75] Thus, other carriers are typically able to gain access to exclusive handset models after the term of exclusivity ends.

[74] The Commission makes a similar point about exclusive handset arrangements ("EHAs"). FCC Fourteenth CMRS Competition Report at 172 ("Third, many handset manufacturers use EHAs to distribute some, but not all, of their smartphones. EHAs apply to particular handset models; they do not prevent a manufacturer or vendor from selling other handset models to other providers, and they do not block a provider from selling handsets made by other manufacturers or vendors. For instance, inspection of providers' online stores reveals that many handset manufacturers and vendors – including RIM, HTC, LG, Palm, Samsung, Motorola, and Nokia – sell many of the same smartphone models, or variants, to multiple U.S. service providers, including non-nationwide service providers." Citations omitted).

[75] FCC Fourteenth CMRS Competition Report at 172 ("Second, the duration of EHAs, although typically private contractual information, appears to have ranged from six months or less to a few years or more." *See* Verizon Wireless, Written Ex Parte Presentation, RM-11497, July 17, 2009 (stating that, applicable to small wireless carriers (those with 500,000 customers or less), any new exclusivity arrangement it enters with handset makers will last no longer than six months – for all manufacturers and all devices). *See also* T-Mobile Reply Comments, RM-11497, Feb. 20, 2009 at 6-7 (stating that most of T-Mobile's exclusive agreements last less than a year and some are as short as 90 days).

52. Third, the high pace of innovation and the large number of handset models sold in the United States would render impractical such a strategy of continually entering into exclusive distribution agreements with handset manufacturers.[76] Continually entering into exclusive distribution agreements with handset manufacturers would impose significant transactions costs on the wireless carriers. Even if a wireless carrier could "bribe" handset manufacturers into signing exclusives so as to make the handset models unavailable to rivals, the costs of such "bribes" would have to skyrocket over time as the handset manufacturers would increase their pace of product introductions to take advantage of the exclusives' compensation.

53. Fourth, there are diminishing returns to the number of exclusive handset deals a carrier can reach. Even for the largest carriers, the number of exclusive handset models that a carrier can effectively market at any point in time is likely limited to a relatively small number. Thus, handset manufacturers would likely be unwilling to enter into an exclusive arrangement with a carrier if the carrier already had in place many other exclusive handset deals for similar types of handsets. After all, the new exclusive handset would be competing for subscribers and marketing resources against the carrier's many other exclusive handsets, whereas it could have a starring role as a featured placement with another carrier.

54. Finally, subscribers of wireless carriers other than AT&T and Verizon represent a significant business opportunity for handset manufacturers. Basic economics implies that the handset manufacturers would continue to compete aggressively for these subscribers. For example, Commission data show that, in 2010, other carriers were important distributors for handset manufacturers as evidenced by the large numbers of unique handset models offered by them: Sprint (78 models), T-Mobile (57 models), Cellular South (46 models), and MetroPCS (35 models).[77] Even if a handset manufacturer already had exclusive agreements in place with AT&T or Verizon for its most popular models, the manufacturer would still have an incentive to

[76] As noted above, the top seven wireless carriers offered over the 350 different handset models from 19 manufacturers in the U.S. in 2010. FCC Hearing Aid Compatibility Reports: Service Providers, 2010.

[77] *Id.*

pursue other carriers' subscribers for other devices it sells.[78] For example, while HTC entered into an exclusive distribution arrangement with Sprint for the EVO 4G, HTC distributes many of its models through other carriers. In 2010, HTC distributed its handset models through T-Mobile (10 models), Cellular South (six models), Verizon (two models) and AT&T (four models).[79] Similarly, although Samsung entered into exclusive distribution arrangements involving different handset models with AT&T (Epix, Propel Pro, Jack), Verizon (Omnia), and Sprint (Moment) during 2008 and 2009, Samsung models were also distributed through other carriers such as T-Mobile (16 models), MetroPCS (11 models), and Cellular South (10 models) in 2010.[80]

4. The Merger Will Not Harm Wireless Competition Through the Use of Exclusive Handset Deals

55. The CRA Economists argue that the merger would weaken the dynamic competition that currently exists in the wireless industry because it would give AT&T a further advantage in acquiring handset "exclusives," and, as a result, would foreclose rivals and harm competition. CRA Economists claim that "AT&T's larger subscriber base... gives it an advantage in bidding for the exclusive right to distribute an innovative handset model" because AT&T has a greater customer base over which to "spread the total cost" of the exclusive right.[81] They further claim that AT&T's "bidding advantage" over Sprint and other wireless carriers would increase as a result of the merger because the merger "would provide AT&T with an even larger customer base."[82] The CRA Economists conclude that the additional bidding advantages created by the merger would enable AT&T and Verizon "to further raise their prices while

[78] For example, the manufacturer may introduce a new model targeted at the non-AT&T/Verizon subscribers.

[79] FCC Hearing Aid Compatibility Reports: Service Providers, 2010. Models may have been sold by more than one carrier.

[80] FCC Fourteenth CMRS Competition Report at Table C-5; FCC Hearing Aid Compatibility Reports: Service Providers, 2010.

[81] CRA Declaration ¶ 106. This claim would suggest that, pre-merger, the handset market is not operating competitively, a claim that is patently wrong, as we have shown above.

[82] *Id.* ¶¶ 106, 107.

increasing their market shares."[83] In this regard, the CRA Economists assert that any advantages in bidding for exclusive handset rights that AT&T would gain as a result of the merger are not a "cognizable efficiency benefit," as exclusive distribution arrangements "may be a way for AT&T to purchase market power by limiting the access of its competitors to new handsets."[84]

56. The line of argument advocated by the CRA Economists is wrong in a number of key respects. First, as demonstrated above, exclusives have been commonly used by most wireless carriers, including Sprint, and have produced impressive innovation that has benefitted consumers significantly.[85] This is not surprising, as both empirical research and economic theory demonstrate that there can be, and most often are, significant pro-competitive benefits of exclusive distribution arrangements.[86] Exclusive handset distribution agreements increase wireless carriers' incentives to promote the handsets as well as to make handset-specific investments in infrastructure.[87] Evidence suggests that such investments are an important element of whether a handset will be well received by the marketplace. For example, as noted, AT&T made significant investments in network and systems upgrades, handset subsidies, and

[83] *Id.* As an initial matter, it is unclear how Verizon could increase both prices and market share under the CRA Economists' "bidding advantage" theory because they present no evidence that the relative sizes of Verizon and Sprint would change as a result of the merger between AT&T and T-Mobile.

[84] CRA Declaration ¶ 107.

[85] It is important to note that Sprint has, in the past, opposed regulations that would impose restrictions on exclusive agreements between wireless carriers and handset manufacturers because, according to Sprint, "handset exclusivity promotes competition among carriers and manufacturers and results in innovative products that benefit the American mobile phone market." Sprint-Nextel Comments, Petition for Rulemaking Regarding Exclusivity Arrangements Between Commercial Wireless Carriers and Handset Manufacturers, RM-11497 at ii (Feb. 2, 2009) ("Sprint-Nextel Exclusive Handset Comments").

[86] *See* Katz.

[87] Ilya R. Segal and Michael D. Whinston (2000) "Exclusive Contracts and Protection of Investments," *The RAND Journal of Economics*, 31(4): 603-633, on the incentives created by exclusive contracts more generally.

product promotions to help ensure the iPhone's success.[88] AT&T attributed its success following the introduction of the iPhone in part to "high levels of advertising."[89] If other carriers could "free ride" on AT&T's advertising and promotion of the device and its novel features and capabilities, AT&T would have less incentive to engage in promotional activity.[90] Exclusive distribution agreements also increase handset manufactures' incentives to invest in innovation because such agreements allow the manufacturers and carriers to share the risk associated with new product development and launches.

57. Second, CRA Economists' "bidding disadvantage" theory also runs afoul of both basic economics and sound antitrust policy. Although they acknowledge that exclusive distribution arrangements are "sometimes efficient," the CRA Economists' primary concern is that the merger would increase an economies of scale advantage for AT&T vis-à-vis Sprint in bidding for exclusive rights.[91] It would be inappropriate, as a matter of sound antitrust enforcement policy, for regulators to intervene in the functioning of markets in order to prevent a competitor from gaining an advantage over another that flows from legitimate business efficiency. There is no evidence that we are aware of, and the CRA Economists certainly do not provide any, that suggests Sprint would be unable to make competitive offers to handset manufacturers despite its size "disadvantage." In fact, despite its current size "disparity," Sprint has been highly successful in obtaining desirable handsets for its customers. For example, Sprint has acquired handsets with unique capabilities, including the ability to operate on the SMR, PCS and BRS bands and to support CDMA and WiMax technologies. And Sprint has entered into

[88] *See, e.g.*, Thomas W. Hazlett, "Modular Confines of Mobile Networks: Are iPhones iPhony?" 3rd Annual Conference on the Law and Economics of Innovation Sponsored by George Mason University and Microsoft, May 7, 2009.

[89] AT&T 2008 Annual Report at 26 ("Contributing to our net additions and retail customer growth was improvement in postpaid customer turnover (customer churn) levels due to our strong network performance and attractive products and services offerings, including the Apple iPhone. The improvement in churn levels benefited from network and customer service improvements and continued high levels of advertising.")

[90] *See* Katz.

[91] CRA Declaration ¶¶ 106-107.

many different exclusive distribution arrangements, such as for the HTC EVO 4G, which launched in June 2010 to "rave reviews."[92] Sprint itself has bragged about the quality of its handset offerings. In its third quarter 2010 earnings call, Sprint noted that: "PC World ranks the Samsung Epic 4G… and the HTC EVO 4G… as the two best SmartPhones on the market ahead of the iPhone 4 and ahead of any other Android device. ZDNet ranks the EVO as the best SmartPhone on the market. Each device has a long list of accolades and SmartPhones are helping to fuel our momentum."[93] Similarly, at a recent investors' conference, Sprint stated that it had "a very strongly positioned Android lineup with the EVO, the EPIC, the SHIFT, the Optimux and the Galaxy Tab and all that. And we've frankly been very successful with all that. We're very – feel very good about selling what we've got on a great network, with a great set of phones that we get huge feedback on, customers extremely satisfied with it."[94]

58. There is no basis for concluding that AT&T could engage in anticompetitive "foreclosure" of its rivals by precluding access to the types of handsets and smartphones necessary for them to offer competitive services. The CRA Economists' theory rests on the presumption that carriers with a larger base of subscribers have significant advantages in bidding for exclusive handset rights, but that is not necessarily correct. The handset manufacturer is seeking to maximize its own profits, which will depend critically on the price it is paid for the handset *and* the unit sales of the handset. As noted, the manufacturer focuses on whether the wireless carrier will have the ability and incentive to promote *its* device, in light of the number of other devices the carrier is currently promoting and distributing. A carrier's current base of subscribers is not necessarily an indicator of the number of subscribers that would purchase a new exclusive handset from the carrier and, in fact, the prospect of adding new subscribers from

[92] Technology Business Research, "Sprint Nextel," 3Q2010 at 3; FCC Fourteenth CMRS Competition Report at Table C-5.

[93] "Sprint Nextel Corporation Q3 2010 Earnings Call Transcript," October 27, 2010, *available at* http://www.morningstar.com/earn-0/earnings--18563563-sprint-nextel-corporation-q3-2010.aspx.shtml.

[94] Sprint Nextel Corp at Raymond James Institutional Investors Conference, March 8, 2011, Final Transcript at 6.

rivals may be a driving force in obtaining an exclusive for a new handset. This is especially true if a carrier already has multiple exclusive distribution agreements in place – as the CRA Economists' foreclosure theory would require – and may be unwilling or unable to devote significant marketing resources for an additional exclusive handset. In those instances, handset manufacturers likely prefer to enter into exclusive distribution arrangements with other carriers that have a wide enough footprint, offer a high level of service, have significant experience in marketing handsets, can devote sufficient resources for the marketing efforts, and have strong incentives to promote the handsets. For these reasons, it is invalid to presume that a carrier's current base of subscribers is the most important force behind handset manufacturers' choices of exclusive distribution partners.

59. For all the reasons discussed above, there exists very little danger that AT&T and Verizon would coordinate with each other in signing up distribution deals with handset manufacturers. Given that it is highly unlikely that AT&T and Verizon could jointly "lock up" the supply of popular handset models, such cooperation between AT&T and Verizon would yield little benefit to the carriers. Moreover, it is unlikely that Verizon and AT&T would benefit from cooperating on reaching deal terms with handset manufacturers because the economics of the deal terms between the wireless carrier and a handset manufacturer are unlikely to be affected by the handset manufacturer's deal terms with other carriers. This is especially the case because handset manufacturers sell their devices worldwide, and AT&T and Verizon account for relatively small shares of worldwide handset shipments.

60. Finally, as in the case of other "exclusionary effects" claims, the merger opponents' claims with regard to handsets lack merger specificity. There is robust competition among wireless carriers despite the history of distributing handsets via exclusive agreements and the fact that Verizon and AT&T are already considerably larger than their U.S. rivals. The merger opponents do not explain, however, why their concerns regarding access to popular handset models have not been realized under current market conditions but would suddenly come into play as a result of the merger.

B. Roaming

61. The CRA Economists, as well as other merger opponents, assert that the proposed merger would allow AT&T to foreclose competition by either increasing the prices charged to roam on AT&T's network, conditioning such agreements on unreasonable terms and conditions, or simply refusing to provide "data roaming" agreements at all to regional providers.[95] These claims are premised on T-Mobile being the only other "national" alternative to AT&T for GSM roaming, and the claims thus presume that there is significant extant competition between AT&T and T-Mobile for roaming that will be completely eliminated by the merger.[96] This is not so.

1. GSM-Based Roaming

62. Merger opponents claim that the merger is a "two to one" with respect to data roaming – *i.e.*, merger opponents assume, without any evidence or analysis, that T-Mobile is a close substitute for AT&T as suppliers for GSM-based carriers seeking roaming agreements. Although merger opponents at times appear to be complaining about roaming generally, their complaints appear to be focused on 3G data roaming. But with regard to 3G data roaming services, opponents' key assumption is fundamentally flawed: AT&T and T-Mobile are not closely substitutable suppliers.

63. T-Mobile provides 3G service on AWS spectrum and AT&T provides it on 850MHz and 1900MHz spectrum. The substantial majority of wireless subscribers' handsets are not capable of accessing both bands of spectrum. Thus, whether smaller GSM-based carriers have 3G roaming relationships with AT&T or T-Mobile depends critically on their spectrum choices; those that operate in the AWS spectrum band are more likely to enter into a 3G roaming relationship with T-Mobile and those that operate in the 850MHz and 1900MHz bands are more

[95] *See e.g.*, CRA Declaration ¶¶ 52-53, 99-101; CompTel at 18-19; Rural Cellular at 17; and Leap Wireless at 22.

[96] *See, e.g.*, CRA Declaration ¶ 100.

likely to enter into a 3G roaming relationship with AT&T.[97] Today, Cincinnati Bell and Iowa Wireless (which is an affiliate of T-Mobile) are among the very few GSM-based providers that use AWS spectrum within their footprint.[98] For other GSM-based carriers, in order to roam on T-Mobile's 3G network, we understand that they would have to require their embedded subscriber base to purchase handsets that operate on multiple spectrum bands, even though the AWS spectrum band would not be used within the carrier's region.[99] For this reason, GSM-based carriers that do not own or use AWS spectrum within their footprint do not likely view T-Mobile as a reasonable source of services that substitute for AT&T's GSM roaming services.

64. According to T-Mobile's roaming data, the wireless carriers with the most significant 3G roaming on T-Mobile's network are **[Begin Confidential Information]** **[End Confidential Information]**.[100] In the first quarter of 2011, those two carriers accounted for roughly **[Begin Confidential Information]** **[End Confidential Information]** percent of 3G roaming on T-Mobile's network, as measured by minutes of use.[101] Such data confirm, contrary to the claims of merger opponents, that the loss of T-Mobile as an independent 3G roaming supplier would neither alter significantly the roaming choices available (using current handsets) to virtually all 3G wireless providers nor would it alter significantly AT&T's abilities or incentives to enter into 3G data roaming agreements.

65. There are four additional reasons why this merger poses no concerns to the availability and/or cost of roaming, including 2G/2.5G voice and data roaming.

66. First, in claiming that the merger would be likely to increase roaming rates, the CRA Economists appear to fail to understand the way AT&T's roaming agreements work. The

[97] Hague Declaration ¶ 9.

[98] *Id.*

[99] *Id.*

[100] Based on data obtained from T-Mobile USA.

[101] *Id.*

merger is far more likely to create incentives for AT&T to seek *lower* roaming rates, not higher rates. This is because each party to a roaming agreement receives a right to purchase roaming services on the other party's network, and typically each party to the agreement purchases service in the parts of the country where that party does not have network coverage. In these circumstances, roaming agreements are the product of a bilateral negotiation between two parties that are each able to offer the other something it lacks. As a result, domestic roaming agreements are almost always symmetrical: The price paid per unit (for voice or data services) by AT&T to a roaming partner when one of AT&T's subscribers roams on that partner's network is identical to the price that AT&T receives when one of the partner's subscribers roams on AT&T's network.[102] It is important to note that these symmetrical outcomes have been achieved in an environment in which AT&T already was significantly larger than its roaming partners.

67. Since AT&T is a "net payer" to roughly **[Begin Confidential Information] [End Confidential Information]** percent[103] of its roaming partners and T-Mobile is also a net payer to **[Begin Confidential Information] [End Confidential Information]** percent[104] of its roaming partners, the merger will increase the disparity in AT&T's "balance of trade" with roaming partners.[105] Any increase in existing roaming rates, therefore, would result in AT&T increasing its costs, which makes a roaming price increase implausible.[106] We would expect future roaming agreements likewise to provide symmetrical compensation, as AT&T currently

[102] Hague Declaration ¶ 3.

[103] *Id.* ¶ 5.

[104] Based on data obtained from T-Mobile USA.

[105] Hague Declaration ¶ 7.

[106] One of the efficiencies of the merger is the internalization of roaming charges between AT&T and T-Mobile. Because both firms earn margins on both wholesale and retail sales, the proposed transaction would eliminate double marginalization and provide an incentive for the merged firm to *lower* prices, a fact which is ignored by the CRA Economists. Three of the CRA Economists – Steven Salop, Stanley Besen, and John Woodbury – previously credited roaming charge savings as a merger-specific efficiency. *See* Sprint/Nextel Application for Transfer of Control, Joint Declaration of Stanley Besen, Steven Salop and John Woodbury, February 8, 2005 ¶ 31.

enters into symmetrical domestic roaming agreements (notwithstanding the fact that T-Mobile is generally not an alternative for 3G GSM-based data roaming and the only "national" alternative for 2G) and existing agreements would serve as potential "benchmarks" under the Commission's roaming regulations.

68. Second, the Commission's recent roaming regulations will ensure that even carriers that have networks within AT&T's service territories can obtain roaming upon reasonable terms and conditions.[107] To be sure, some opponents claim that the definition of "commercially reasonable" is too vague,[108] but there are currently a large number of existing "benchmarks" for roaming services, including voice and data roaming rates of wireless carriers, as well as those rates negotiated by T-Mobile and AT&T prior to the proposed merger (or its announcement). If these market-based agreements were not appropriate pricing benchmarks for whatever reason, the Commission provides additional measured criteria to assist in determining what are commercially reasonable roaming rates in such cases.[109] Therefore, the claim that the merged entity will be able to harm competitors through unreasonable terms and conditions is implausible.

69. Third, any putative competitive concerns about roaming can only be expected to diminish with the transition to 4G wireless service based on LTE. If a GSM-based carrier migrates to LTE, the carrier will likely have multiple options, of which AT&T will be only one, for their roaming needs. Moreover, as Dr. Kim Kyllesbech Larsen, a Senior Vice President at Deutsche Telekom AG, stated, T-Mobile has no current plans to deploy and no clear path to deploying LTE due to the lack of available spectrum and the difficulty of "re-farming" T-

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[107] *See, generally,* Federal Communications Commission Second Report and Order, *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, April 7, 2011 ("Second Report and Order").

[108] *See, e.g.*, CompTel at 20; Rural Cellular at 17; and Leap Wireless at 22.

[109] Second Report and Order ¶¶ 85-86.

Mobile's existing spectrum holdings.[110] As a result, absent the merger, T-Mobile cannot be anticipated to provide any competitive constraint on roaming pricing as LTE rolls out nationwide.

70. Indeed, the industry migration to LTE has started: today, both Metro PCS and Verizon offer LTE services in several CMAs.[111] MetroPCS, in particular, has decided to leapfrog from 2G to LTE.[112] Leap is also in the process of upgrading to LTE on its own network.[113] U.S. Cellular is upgrading its network to LTE for 2012.[114] Cellular South reached a deal with Samsung to upgrade its current 3G network to 4G LTE and to provide two LTE smartphones in 2011.[115]

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[110] Declaration of Dr. Kim Kyllesbach Larsen, April 19, 2011 ¶ 23.

[111] American Roamer Data April 2010 (American Roamer data.xlsx); Press Release "MetroPCS Launches 4G LTE Service in Atlanta, Jacksonville, Miami and Orlando Metropolitan Areas," January 25, 2011, *available at* http://www.metropcs.com/presscenter/newsreleasedetails.aspx?id=6, Press Release "Verizon Wireless Launches the World's Largest 4G LTE Wireless Network on Dec. 5," December 1, 2010, *available at* http://www22.verizon.com/investor/newsatglance/news.htm?dID=6039&dDocName=NEWS_1096&xCategory=News.

[112] Press Release, "MetroPCS Launches First 4G LTE Services in the United States and Unveils World's First Commercially Available 4G LTE Phone," September 21, 2010 ("Today, MetroPCS Communications Inc. became the first mobile operator to launch commercial 4G LTE services in the United States"), *available at* http://www.metropcs.com/presscenter/articles/mpcs-news-20100921.aspx; Press Release, "MetroPCS Launches 4G LTE Service in the Tampa Metropolitan Area," April 1, 2011, *available at* http://www.metropcs.com/presscenter/newsreleasedetails.aspx?id=17.

[113] Mike Dano, "Leap Acquires Denali, Plans LTE Test Market in 2011," FierceWireless September 23, 2010, *available at* http://www.fiercewireless.com/story/leap-acquires-denali-plans-lte-test-market-2011/2010-09-23.

[114] "U.S. Cellular to Launch 4G LTE Service and Devices in Time for the Holidays," May 6 2011, *available at* http://www.uscellular.com/about/press-room/2011/USCELLULAR-TO-LAUNCH-4G-LTE-SERVICE-AND-DEVICES-IN-TIME-FOR-THE-HOLIDAYS.html.

[115] "Cellular South announces strategic alliance with Samsung Telecommunications to build LTE 4G high-speed wireless broadband data network infrastructure," November 17, 2010, *available at* https://www.cellularsouth.com/news/2010/20101117.html.

71. Finally, even if raising roaming rates would not harm AT&T, it would lack an additional incentive to do so. With the exception of T-Mobile, GSM-based carriers tend to be relatively small in size; for example, Cincinnati Bell is the largest with a wireless subscriber base of roughly 503,900.[116] Indeed, AT&T's roaming sales to GSM-based customers (other than T-Mobile) account for only **[Begin Confidential Information] [End Confidential Information]** percent of total AT&T wireless revenues.[117] The benefits to AT&T, therefore, of seeking better roaming terms and conditions are quite small because any resulting effect on retail prices would have to be exceedingly small. But if AT&T sought to raise roaming rates or obtain unreasonable terms and conditions, the Commission could decide to regulate roaming agreements even more aggressively, which could be burdensome to AT&T and potentially impose significant regulatory and administrative costs on AT&T. And those costs may trump any putative benefits of any better roaming terms (given the size of the GSM-based roaming partners).

2. CDMA-Based Roaming

72. The CRA Declaration also claims that the proposed merger would result in higher roaming rates for Sprint.[118] Upon consideration, this claim too should be seen as lacking credibility. With only minor exceptions, neither AT&T nor T-Mobile provides data roaming service to Sprint; Sprint is a CDMA carrier and its customers' CDMA handsets are incompatible with AT&T's and T-Mobile's networks. Thus, this merger cannot plausibly have any direct and significant impact on Sprint's "roaming costs." The CRA Economists' convoluted logic is that the proposed merger would increase the likelihood of coordinated interaction between AT&T and Verizon on retail prices and, as a result, *Verizon* would have an incentive to increase roaming rates it charges Sprint.[119]

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[116] Cincinnati Bell, 10-Q, May 6, 2011 at 20.

[117] AT&T Response to DOJ 2nd Request, Specification 31; AT&T 10-Q 2011 First Quarter at 2.

[118] CRA Declaration ¶ 99.

[119] CRA Declaration ¶ 100.

73. First, as shown in the Carlton Declaration, there is not a significant risk of coordinated interaction between AT&T and Verizon.[120] In the absence of coordinated interaction between AT&T and Verizon on retail prices, there is no plausible rationale for any coordination between AT&T and Verizon in setting roaming rates. AT&T and Verizon do not compete with each other in the provision of roaming because there is almost no overlap between their CDMA and GSM roaming customers. Further, in the absence of retail price coordination between AT&T and Verizon, and with unilaterally determined roaming prices, there would be no incentives and no mechanism for punishment of any "deviations." Moreover, any imagined attempt to coordinate on raising each other's rivals' costs would founder on how *de minimis* and indirect would be the imagined impacts, while the costs from unprofitable overpricing and from grappling with regulatory constraints would likely overwhelm any benefits. Given the reasons why retail price coordination is unlikely, as detailed in the Carlton Declaration and Carlton Reply Declaration,[121] there should be little concern about any imagined coordinated interaction between AT&T and Verizon on roaming prices.

74. But second, to pursue the CRA Economists' argument that the merger will result in higher retail prices from Verizon and AT&T, one clear and strong implication is more revenues for Sprint either from an influx of subscribers who find it worthwhile to make the substitution in reaction to the new pricing of AT&T and Verizon, or from higher prices charged by Sprint in reaction to the new pricing of AT&T and Verizon. So, the CRA Economists' argument that the higher retail prices give AT&T and Verizon enlarged incentives (either unilaterally or through further coordination) to raise Sprint's input costs (including roaming) would still leave Sprint with higher revenues from increased AT&T and Verizon retail prices, and there is thus no logical conclusion that, on net, there would be any exclusionary effect on Sprint. Hence, Sprint's complaints in this regard and its motivation to oppose the merger are not founded logically on credible concerns about AT&T or Verizon raising its costs strategically.

[120] Carlton Declaration ¶¶ 146-152.

[121] *Id.* and Carlton Reply Declaration ¶¶ 89-106.

Rather, Sprint must have other business concerns, such as fears that the merger will strengthen AT&T's competitiveness due to the efficiencies created by the merger.

75. Even if AT&T could plausibly raise roaming rates (and our analysis shows that this is unlikely to be the case), if AT&T had the incentive to raise rates (which it does not), and if Verizon would then raise roaming rates in parallel (which it is unlikely to do), the CRA Economists have not shown how any such increases in roaming rates would cause a significant harm to competition. The CRA Declaration itself shows why that would not be possible: It states that Sprint's estimated roaming costs per post-paid wireless subscriber per month are approximately **[Begin Sprint Confidential Information] [End Sprint Confidential Information]**.[122] In 2010, **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** of Sprint's roaming costs were paid to Verizon.[123] If we assume, *arguendo*, that Verizon were able to raise Sprint's roaming costs by 10 percent (a very substantial and highly implausible price increase given that the merger has no direct effect on the price of the Verizon-Sprint roaming agreement), that translates into an increase of **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per post-paid subscriber per month in Sprint's costs. By comparison, Sprint is paid roughly **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per month by its post-paid subscribers,[124] so a **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per subscriber cost increase would be *de minimis* and would not have any significant effect on wireless competition or any meaningful impact on consumers.

[122] CRA Declaration ¶ 99.

[123] Declaration of Paul Schieber, May 26, 2011 ¶ 6 ("Schieber Declaration").

[124] *Id.* The **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per month is for post-paid subscribers only, while the $48 per month cited above in paragraph 20 is for all subscribers.

3. International Roaming

76. Some parties argue that the proposed merger will lead to increased roaming rates for GSM customers from foreign countries who wish to roam in the United States.[125] These arguments presume without any evidence or economic analysis that AT&T would have the incentive to raise the rates that it charges its international roaming partners. First, for the same reasons noted above regarding 3G roaming, foreign carriers would need to sell handsets that can access the AWS spectrum used by T-Mobile for T-Mobile to be a reasonable 3G roaming substitute for AT&T.[126]

77. Second, as noted above, even if AT&T had an incentive to increase foreign roaming rates, any alleged competitive concerns about roaming can be expected to diminish with the transition to 4G wireless service based on LTE. If a GSM-based foreign carrier migrates to LTE, the carrier will have multiple options for U.S. roaming, of which AT&T will be only one, for their data roaming needs.[127] Moreover, as noted above, since T-Mobile has no clear path to LTE, it would not necessarily have provided a competitive constraint on roaming pricing absent the merger as LTE rolls out nationwide.

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[125] *See, e.g.*, Comments of Vodafone Declaration, June 1, 2011 ¶ 2 ("Vodafone Declaration").

[126] Hague Declaration ¶¶ 9, 29.

[127] Similar to the transition of U.S. wireless carriers to LTE, many foreign carriers are also in the process of implementing 4G wireless service based on LTE. In Europe, for instance, the European Commission recently stated that "LTE is becoming the industry's first choice for next generation mobile networks" in part because of "substantial EU research funding." It also noted that LTE "is currently being trialled by mobile operators in Finland, Germany, Norway, Spain, Sweden and the UK and is expected to be commercially available in Sweden and Norway in the first half of 2010." (EU Press Release, "EU invests a fresh €18 million in future ultra high-speed mobile internet," August 18, 2009, *available at* http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1238). Even merger opponent Vodafone, for instance, concedes that the transition to LTE would diminish any concerns over the competitive provision of GSM roaming when it is deployed by stating that its collaboration with Verizon on the future deployment of LTE and other technologies "is likely to ensure greater interoperability and hence greater competition in wholesale international roaming markets." Vodafone Declaration ¶ 3.

78. Third, as detailed by AT&T, the history of the industry and empirical evidence do not support a claim that AT&T, post-merger, will seek to raise roaming rates to Vodafone or other foreign wireless carriers.[128]

79. Finally, for the reasons discussed above and in the Carlton Declaration, AT&T's ability to provide high quality roaming to foreign customers will be less restricted by capacity constraints as a result of the proposed merger.[129]

80. If adopted, Vodafone's position would raise the real possibility of asymmetric regulation. Vodafone argues that the Commission should condition the merger on AT&T providing comparable roaming terms and conditions to those that prevail today.[130] We understand that foreign wireless carriers do not face restrictions regarding the roaming agreements they enter into with U.S. carriers,[131] imposing restrictions on a single U.S. carrier would create an asymmetry of regulations, which tends to skew market outcomes and result in an inefficient allocation of resources that might harm U.S. consumers.

81. For these reasons, we conclude that the proposed merger between AT&T and T-Mobile will neither empower nor motivate the combined entity to increase roaming rates or seek unreasonable terms or conditions, and that AT&T cannot be expected to use roaming arrangements to engage in conduct detrimental to U.S. consumers post-merger.

C. Backhaul Services

82. Merger opponents make two separate claims concerning the alleged impact of the merger on the provision of backhaul services: (1) that the merger will increase AT&T's ability or incentive to raise backhaul prices, and (2) that the removal of T-Mobile as a "key" purchaser of

[128] Hague Declaration ¶¶ 24-30.

[129] Carlton Declaration ¶¶ 46-58.

[130] Vodafone Declaration ¶ 6.

[131] Hague Declaration ¶ 30.

backhaul services will harm independent providers of backhaul (especially in AT&T's ILEC footprint). Neither argument has economic merit.

1. Raising Rivals' Costs

83. The CRA Declaration argues that post-merger AT&T will use its special access facilities to prevent rivals from "undercut[ting]" the "higher" prices they allege that Verizon and AT&T will coordinate to set.[132] More specifically, the CRA Economists argue that the merger would lead to higher backhaul rates because: (i) if AT&T raises its retail and corporate rates because of reduced retail competition with Verizon and others, it also would have the incentive to raise its backhaul rates as well in order to limit the ability of Sprint and other carriers to gain market share, and (ii) because AT&T's higher retail and corporate rates would give Verizon the incentive to raise its own retail rates, Verizon also would have the incentive to raise its backhaul rates.[133] The Carlton Declaration shows that there is not a significant risk of coordinated interaction between AT&T and Verizon with regard to retail rates.[134] Accordingly, this version of the CRA Economists' foreclosure theory never gets out of the starting gate. If there is no enhanced probability of coordinated interaction in the first place, there is no incentive to raise backhaul prices to support such increased coordinated interaction.

84. In any event, the merger does not increase the ability or incentive of AT&T to undertake the strategy imagined by the CRA Economists. Nor do the CRA Economists demonstrate that there will be any harm to competition as a result of any "raising rivals' cost" strategy.

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[132] *See, e.g.*, Sprint at 39-41; CRA Declaration ¶¶ 50-51, 92-98; AAI at 19-21; CompTel at 22-25; CCIA at 14; Leap Wireless at 24-25; NoChokePoints at 6; US Cellular at 2-3; Facilities-Based CLECs at 14-15; Japan Communications at 12-14; FiberTech at 2-4.

[133] CRA Declaration ¶ 51.

[134] Carlton Declaration ¶¶ 146-157.

a. AT&T Lacks The Ability To Foreclose Rivals

85. The merger does not enhance AT&T's ability to engage in any discriminatory or exclusionary conduct with respect to backhaul. AT&T is already vertically integrated and T-Mobile does not provide backhaul service to other wireless providers. Hence, the proposed merger does not alter the competitive structure of backhaul service markets at all,[135] and it would not diminish any competition in the provision of backhaul services.[136]

86. Moreover, given current market conditions and regulatory framework, AT&T has no ability to use its control of special access facilities to raise rivals' costs significantly. The CRA Economists argument to the contrary is based on an outdated view of the way in which backhaul is provided in the marketplace. As demand for data services has exploded, wireless carriers have increasingly turned to Ethernet-based backhaul. Provision of Ethernet-based backhaul is indisputably subject to competitive supply; ILECs, including AT&T, have no inherent advantage over other Ethernet providers in responding to wireless carriers' requests that new Ethernet connections be built to cell sites. As a result, as detailed below, numerous competitive carriers vie to provide Ethernet-based backhaul services, and carriers are increasingly shifting their purchases away from ILECs to alternative providers like cable companies, fixed microwave providers and CLECs.

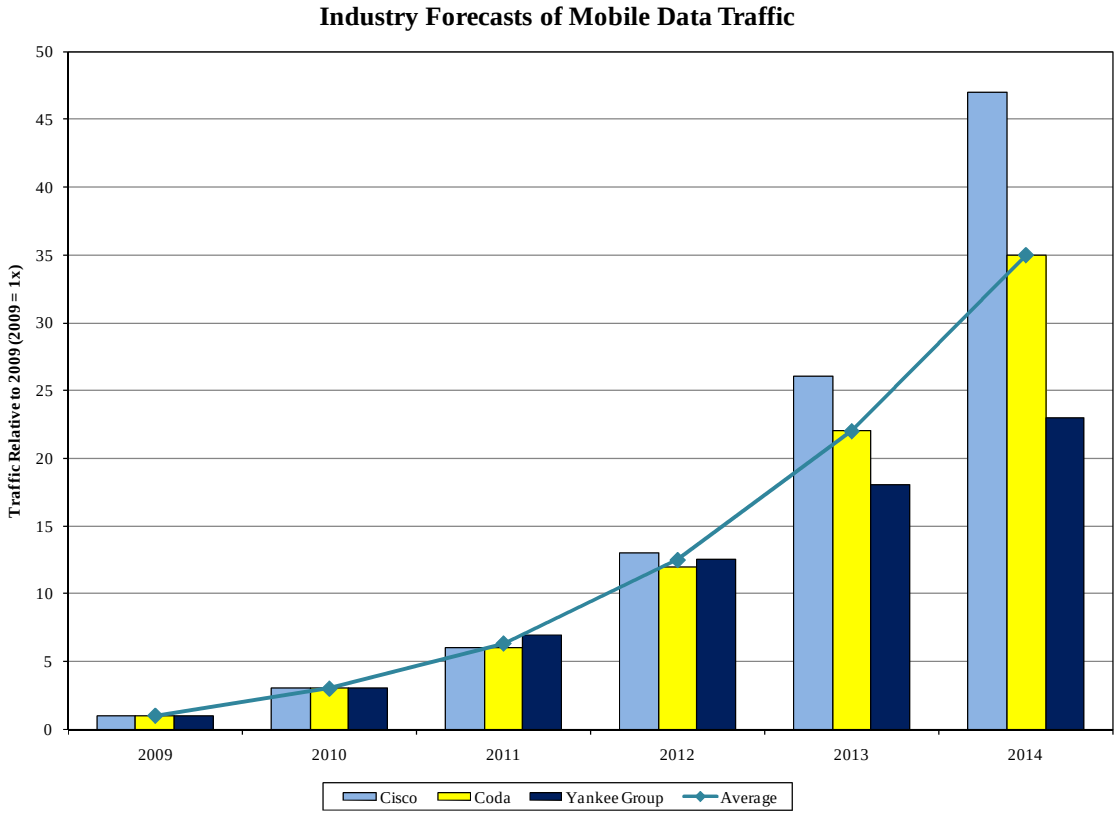
87. As the Commission has repeatedly acknowledged, and as we detail below, today's wireless industry is being driven by extremely rapid growth of wireless broadband data services. For example, the Commission's own October 2010 White Paper reported that on average

[135] Given that the competitive structure of the backhaul services market is not affected by the proposed merger, there should be no logical reason why the proposed merger would facilitate coordinated action, post-merger, by AT&T and Verizon with regard to backhaul pricing.

[136] *See, e.g.*, Comments of the Ad Hoc Telecommunications Users Committee, May 31, 2011 at 3; Declaration of Dr. Lee Selwyn, May 31, 2011 at 25-33, and Leap Wireless at 24-25. These comments are economically invalid because they fail to focus on merger-specific concerns and for the other reasons discussed below.

industry analysts expect mobile data traffic to reach "35 times 2009 levels by 2014."[137] The White Paper further noted that all three of the forecasts analyzed continue to trend upwards in 2014, "implying continued growth beyond the forecast period."[138] Such extremely rapid growth is illustrated in Figure 1.

Figure 1



88. To meet this rapidly growing demand for data services, wireless providers need high-capacity backhaul, and the industry accordingly is increasingly moving away from legacy time division multiplexing ("TDM") DS1s and DS3s to higher capacity alternatives, such as fiber

[137] FCC OBI Technical Paper Series Mobile Broadband: The Benefits of Additional Spectrum, October 2010 at 9 *available at* http://transition.fcc.gov/Daily_Releases/Daily_Business/2010/.../DOC-302324A1.pdf.

[138] *Id.*

and microwave Ethernet services.[139] As described below, the result of this phenomenon is clear: the backhaul market has experienced rapidly expanding output, falling prices, improving service quality, and innovation.

89. In the Ethernet-based world of backhaul services, ILECs with national wireless companies (*i.e.*, Verizon and AT&T) face stiff competition; indeed, many of the major Ethernet-based backhaul providers are not ILECs.[140] When AT&T competes for backhaul business today, it is typically competing with numerous other competitors, including cable companies (such as Cox, Comcast, Charter, Cablevision, Bright House and Time Warner Cable), fiber providers (such as DukeNet and Florida Power and Light), traditional CLECs (such as Level 3, XO, and tw telecom), fixed wireless providers (including FiberTower, TTMI, GigaBeam, Nextlink, Clearwire, and TowerCloud), as well as with carrier self-supply.[141]

90. The trend toward Ethernet backhaul solutions also is evident in statements by other wireless carriers. For example, Verizon has announced that it is moving to Ethernet backhaul solutions for its LTE mobile wireless network, and has explained that "Ethernet backhaul is something we have been working very hard to get."[142] Verizon's Wireless CTO and Senior Vice President explained that, "I have been very impressed to see the amount of backhaul out there. In one market – which isn't a very large market – we had more than nine responses to an RFP we put out for backhaul… In my view, we have a very healthy ecosystem."[143]

91. Fixed microwave wireless backhaul is also becoming more widely available and is growing rapidly. For example, Clearwire has reported that it relies almost entirely on wireless

[139] Declaration of Parley Casto, June 10, 2011 ¶¶ 2, 5-9 ("Casto Declaration").

[140] *Id.* ¶ 10.

[141] *Id.*

[142] Sean Buckley, "Verizon Wireless' ongoing LTE drive creates a lush wireline-based backhaul opportunity," FierceWireless, March 28, 2011.

[143] *Id.*

backhaul for its needs.[144] Sprint has also reported that it is implementing "upgrade[s] in backhaul technology" and is "moving away from T1s and toward a combination of microwave and Ethernet fiber, where it's available" and according to Sprint, a "T1 is no longer preferred choice for backhaul."[145] Level 3 and other alternative backhaul providers also have recently emphasized the dynamic market growth and the competitive nature of the wireless backhaul marketplace in recent communications to investors.[146] Similar statements have also been made by major cable operators [147]

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[144] P. Goldstein, "Clearwire CTO urges infrastructure industry to focus on capacity," FierceWireless, October 5, 2010, ("[T]he company runs 90 percent of its network on microwave backhaul"), *available at* http://www.fiercewireless.com/story/clearwire-cto-urges-infrastructrue-industry-focus-capacity-4gnetworks/2010-10-05.

[145] Sue Marek, "Decision on LTE likely in four to six months," Fierce Wireless, February 15, 2011, *available at* http://www.fiercewireless.com/story/sprint-decision-lte-likely-four-six-months/2011-02-15.

[146] *See* "Level 3 Communications' CEO Discusses Q1 2011 Results," Earnings Call Transcript, May 3, 2011, *available at* http://seekingalpha.com/article/267352-level-3-communications-ceo-discusses-q1-2011-results-earnings-call-transcript?part=qanda.. ("With respect to tower backhaul, anytime you have growth rates exceeding 100% a year in unit terms, looking out very far is a perilous thing. But there's some points that we should make. First, it's a rare tower that simply has one provider. That is most towers have, last statistics I saw, was a little over three wireless companies each. The mergers say, between T-Mobile and AT&T, isn't going to suddenly mean there are single service provider towers across the country. And that means there is an opportunity and a large and ongoing opportunity for neutral third parties to provide service since it's difficult for anyone of the service providers to simply provide capability for themselves. So I personally think when you look at the incredible growth rate in units, and let's keep in mind that we're just starting to see 4G deployment. We're just starting to see video adapted to the small screen combined with the fact that there is no one carrier that is in a position to self provide outside of their service territory. I think it remains a very large opportunity for a lot of the participants in our industry.")

[147] *See* Mobile Backhaul: Opportunity Knocks for Cable Operators, CED, March 1, 2011 ("Mobile backhaul has been a mainstay for Cox Communications' revenue over the past 10 years, but with the advent of the new Long Term Evolution networks, Cox and other cable operators are looking to tap into an even bigger revenue stream. Last year, the business services divisions of Cox Communications and Time Warner Cable rang up more than $1 billion each in commercial services revenue, with cell backhaul providing significant chunks of those revenues."), *available at* http://www.cedmagazine.com/articles/2011/03/mobile-backhaul-cable-

92. The increasingly competitive nature of the backhaul sector is reflected in the recent acquisition of backhaul services by T-Mobile. As noted above, T-Mobile has undertaken a strategy of lowering backhaul costs by contracting with a wide variety of firms including ILECs, cable operators, and CLECs. As a result, by 2010, **[Begin Confidential Information]**

[End Confidential Information] of T-Mobile's mobile broadband traffic was transported over Ethernet – and that number is expected to grow to **[Begin Confidential Information]** **[End Confidential Information]** by the end of this year.[148] Today, roughly **[Begin Confidential Information]** **[End Confidential Information]** percent of T-Mobile's cell sites are either connected, or contracted to be connected, to Ethernet over fiber and microwave-based backhaul facilities.[149] It is significant that these cell sites cover **[Begin Confidential Information]** **[End Confidential Information]** percent of T-Mobile's post-paid subscriber base.[150]

93. As David Mayo, the Senior Vice President of Technology, Strategy, Finance and Development for T-Mobile, states, "[i]n urban markets, fiber is abundant, and we have been able to choose among fiber-based Ethernet providers. And, even in suburban and fringe areas within its 3G and 4G network footprint, T-Mobile USA has been able to choose from among backhaul options offered by various providers."[151] In short, T-Mobile has been able to contract with alternative providers (including, when necessary, building and operating its own wireless

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operators.aspx?et_cid=1280895&et_rid=43960903&linkid=http%3a%2f%2fwww.cedmagazine.com%2farticles%2f2011%2f03%2fmobile-backhaul-cable-operators.aspx. *See also, e.g.,* Time Warner Cable, First Quarter 2011 Results April 28, 2011 at 7 (cell tower backhaul increased by 115.4% year-over-year), *available at* http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9OTExNTN8Q2hpbGRJRD0tMXxUeXBlPTM=&t=1; Comcast 1Q2011 Earnings Call, Factset:callstreet at 10 (May 4, 2011) ("[O]ur cell backhaul business is ramping nicely. . . . [Our] Metro-E[thernet] [services is] in 11 of 19 markets. . . . [W]e increased our cell backhaul towers by about 80% last year. So that business is . . . going very well.").

[148] Declaration of David A. Mayo, June 9, 2001 ¶ 6, 8 ("Mayo Declaration").

[149] *Id.* ¶ 8.

[150] *Id.*

[151] *Id.* ¶ 5.

microwave solution),[152] which is evidence of both a competitive marketplace (including low costs to switch suppliers) and an inability for AT&T to harm competition through backhaul pricing.[153]

94. The competitiveness of the backhaul services space is reflected in T-Mobile's decisions. As shown in Table 1, T-Mobile currently contracts with well more than a **[Begin Confidential Information] [End Confidential Information]** different backhaul suppliers for its 3G/4G sites, and purchases less than **[Begin Confidential Information] [End Confidential Information]** of its backhaul from ILECs.[154]

[152] *Id.* ¶ 6.

[153] Casto Declaration ¶ 14.

[154] Mayo Declaration ¶¶ 7-8. The CRA Economists rely heavily on statements by T-Mobile in a 2007 Commission filing for the proposition that "ILECs have both the ability and the incentive to discriminate against competitors in favor of their wireless affiliates." CRA Declaration ¶ 96. But, as described herein, T-Mobile's subsequent behavior illustrates its unambiguous ability to substitute away from AT&T and other ILECs for backhaul services.

[Begin Highly Confidential Information]

[End Highly Confidential Information]

95. Consistent with the increasing competitiveness of the backhaul marketplace, since the latter part of 2009, when wireless carriers first began deploying Ethernet backhaul, AT&T has received requests for bids for backhaul to about **[Begin Confidential Information] [End Confidential Information]** cell sites, and it is has won bids on **[Begin Confidential Information] [End Confidential Information]** of those sites.[155] AT&T has also been forced to **[Begin Confidential Information]**

[155] Casto Declaration ¶ 13.

[End Confidential Information] Some of the most significant wireless customers of AT&T for backhaul services have also sought short-term agreements in recent years, reflecting the on-going and expected future switching from TDM-based backhaul to Ethernet-based backhaul.[157] Thus, AT&T's experience is consistent with both the increased availability of alternative suppliers of backhaul services and the lack of ability for AT&T to raise backhaul prices post-merger.[158]

96. Reflecting the increased competitiveness of the wireless backhaul sector ignored by the CRA Economists, other wireless carriers besides AT&T and T-Mobile are also shifting to non-ILEC providers for their wireless backhaul purchases. While we have less information about the backhaul arrangements of other wireless carriers, the available information suggests that many of these carriers have employed similar solutions as those used by T-Mobile. In fact, AT&T believes that all of the major wireless carriers to which AT&T provides backhaul service have either announced their intention to deploy, or are in the process of deploying, Ethernet or other high-capacity backhaul solutions, including both fiber and microwave fixed wireless solutions.[159]

97. These trends are confirmed by the following examples from publicly available documents:

- MetroPCS is rapidly transitioning to Ethernet backhaul, and it recently entered into an agreement with Bright House Networks under which Bright House will

[156] *Id.*

[157] Casto Declaration at ¶ 9.

[158] The price of TDM special access facilities also appears to be falling in recent years. *See* Reply Declaration of Dennis W. Carlton, Allan L. Shampine, and Hal S. Sider, *In the Matter of Applications Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, February 24, 2010 ¶¶ 15-30 ("Carlton Special Access Declaration"). *See also* Casto Declaration at ¶ 5.

[159] Casto Declaration ¶ 7.

"provide[] fiber-based Ethernet" to MetroPCS in Orlando and Tampa, Florida.[160] A recent analyst report states that MetroPCS uses both fiber and microwave for its backhaul.[161]

- Sprint is implementing "upgrade[s] in backhaul technology" and is "moving away from T1s and toward a combination of microwave and Ethernet fiber, where it's available" and according to Sprint, a "T1 is no longer preferred choice for backhaul."[162] Note that Sprint appears to have many alternative providers, besides AT&T, to obtain backhaul services.[163]

- Verizon is moving to Ethernet backhaul solutions for its LTE mobile wireless network. Ethernet backhaul is something Verizon has been "working very hard to get."[164]

- US Cellular uses microwave backhaul to connect to more than 33% of its cell sites.[165]

- Clearwire uses microwave backhaul to connect 90 percent of its cell sites.[166]

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[160] Bright House Newsroom, "Bright House Networks Supports MetroPCS Backhaul Network Evolution to Ethernet," February 28, 2011, *available at* http://brighthouse.com/tampa-bay/about/8331.htm. *See also* Casto Declaration ¶ 17.

[161] "US Is Fast Becoming a Key 4G Proving Ground," Yankee Group, February 2011, *available at* http://www.yankeegroup.com/ResearchDocument.do?id=55492 .

[162] Sue Marek, "Sprint: Decision on LTE likely in four to six months," Fierce Wireless February 15, 2011, *available at* http://www.fiercewireless.com/story/sprint-decision-lte-likely-four-six-months/2011-02-15.

[163] Casto Declaration ¶ 16.

[164] Sean Buckley, "Verizon Wireless' ongoing LTE drive creates a lush wireline-based backhaul opportunity," Fierce Telecom, March 28, 2011. *See also* Casto Declaration ¶ 15.

[165] *See* Comments of U.S. Cellular, *Request of Alcatel-Lucent, et al For Interpretation of 47 C.F.R. § 101.141(a)(3) To Permit The Use Of Adaptive Modulation Systems*, WT Docket No. 09-106, July 27, 2009 at 1. (reporting approx. 2,350 microwave backhaul connections); U.S. Cellular, 2009 Form 10-Q, August 6, 2009, at 21 (reporting 7,043 total cell sites).

- Leap has announced "last mile competition and migration to Ethernet [is] expected to" significantly reduce its "relative backhaul costs."[167]

98. Lastly, in the small and declining number of areas where AT&T is not constrained by alternative backhaul suppliers, AT&T may be constrained in its ability to raise prices by the fact that special access services are regulated by the Commission. And where the Commission has determined that there is not effective competition, AT&T is subject to price caps that may not allow it to raise prices. We understand that merger opponents dispute whether the Commission's "triggers" for price cap relief are appropriate. The Commission is collecting data to investigate such claims, and it cannot be assumed that the Commission's existing regime is flawed today or that the Commission will sit idly by if it determines that changes need to be made as a result of its investigation.[168] In any event, this clearly is not a merger-specific issue.

b. AT&T Lacks Incentive To Foreclose Rivals

99. Merger opponents fail to demonstrate that AT&T would have any incentive to raise backhaul prices, and that the merger would increase such an incentive significantly. In fact, the available evidence demonstrates that AT&T lacks such incentive.

100. Even assuming AT&T has some ability to raise special access prices significantly, which as demonstrated above it does not, it still would not be able to cause a significant increase in *retail* wireless prices. Data provided by the CRA Economists demonstrate this point. The CRA Declaration states that "[i]ndependent wireless carriers, including Sprint, are highly

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[166] *See, e.g.,* P. Goldstein, "Clearwire CTO urges infrastructure industry to focus on capacity," FierceWireless, October 5, 2010, ("[T]he company runs 90 percent of its network on microwave backhaul"), *available at* http://www.fiercewireless.com/story/clearwire-cto-urges-infrastructrue-industry-focus-capacity-4gnetworks/2010-10-05

[167] Colin Holland, "Cricket 3G/4G Strategy," 2010, *available at* http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NTYzMDV8Q2hpbGRJRD0tMXxUeXBlPTM=&t=1. *See also* Casto Declaration ¶ 18.

[168] In addition, AT&T would be constrained by the terms of its existing contractual arrangements, which it plans to honor.

dependent on AT&T and Verizon for an important input, the facilities they use for backhaul."[169] The CRA Declaration goes on to state that Sprint's estimated special access costs per wireless subscriber per month are approximately **[Begin Sprint Confidential Information] [End Sprint Confidential Information]**.[170] But only **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** of these costs are paid to Verizon or AT&T.[171] If we assume that AT&T accounts for 50 percent of these costs and even if we further assume, *arguendo*, that AT&T could raise backhaul prices by 10 percent (a very substantial increase), that translates into an increase of **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per subscriber per month in Sprint's costs. By comparison, Sprint is paid roughly $48 per month by its subscribers,[172] so an **[Begin Sprint Confidential Information] [End Sprint Confidential Information]** per subscriber cost increase would be *de minimis* and would not have any significant effect on wireless competition or any meaningful impact on consumers.

101. It would appear that Professor Salop would agree with this perspective. He previously wrote that "the increase in the input's price may be so insignificant that it has little effect on the total costs of actual or potential competitors. This result can occur if the input price increase is small or if the input from which rivals are excluded accounts for only a small fraction of their total costs. Consumer welfare is unlikely to be affected by a strategy that raises the price of a key input from $10 to $10.01 or by one that doubles the total cost of one of a firm's inputs from $1 to $2 when other necessary inputs cost $1,000 per unit of output produced."[173]

102. Given these tiny magnitudes, it would almost certainly not be profitable for AT&T to undertake this strategy, and, thus, the merger does not increase significantly AT&T's

[169] *See, e.g.*, CRA Declaration ¶ 96.

[170] CRA Declaration ¶ 96.

[171] Schieber Declaration ¶ 11.

[172] Sprint Nextel Corp, 2010 10-K at 30.

[173] Krattenmaker and Salop, *supra* at 243.

incentives to do so. Neither the CRA Economists nor any other party provides economic evidence that the increase in AT&T's downstream market share would change AT&T's *incremental* incentives so that it would increase special access prices (even if one assumes that such price increases are permissible under the special access rate regulations). And we do not believe that opponents could plausibly show such incremental incentives, because attempts to raise backhaul prices significantly will result in at least some backhaul customers lowering output or shifting to alternative access vendors, as T-Mobile has done in recent years, which would reduce profits in the backhaul market. And there is no evidence that AT&T would be able to raise prices in the downstream market to "recoup" those lost profits. The merger opponents appear to ignore that, in an increasingly competitive environment for backhaul services, AT&T has a strong incentive to hold on to its backhaul service customers because special access is characterized by high fixed costs and low marginal costs. Thus, the loss of the margin on backhaul services when a customer switches to a competing provider (or reduces its purchases) is significant to AT&T. In addition, if AT&T attempted the strategy imagined by the merger's opponents and raised backhaul prices in these areas, it would just thereby induce a further increase in the migration of TDM facilities to Ethernet facilities and in competitive supply of third-party backhaul services to wireless providers, to the detriment of AT&T.

c. No Evidence That A Raising Rivals' Cost Strategy Would Harm Competition

103. The CRA Economists also fail to show that any attempt to raise backhaul prices would result in a significant, non-transitory increase in the downstream quality-adjusted price. As Thomas Krattenmaker and Steven Salop wrote, "[a] firm that raises its rivals' costs has not necessarily gained anything. It may have harmed one or more of its competitors, but has it harmed competition? Competition is harmed only if the firm purchasing the exclusionary right can, as a result, raise its price above the competitive level."[174] Therefore, without such an increase in quality-adjusted prices, there is no harm to competition.

[174] Krattenmaker and Salop at 242.

104. The CRA Declaration fails to present any empirical or other evidence showing harm to competition itself, as compared to harm to a competitor. As noted above, the economic literature is clear that the fact that a raising rivals' cost strategy may be attempted or even be somewhat successful does not imply that competition or consumers will be harmed.[175] In some areas, for example, AT&T hypothetically might be able to raise backhaul prices to some carriers, but not others. If the unaffected carriers can increase output substantially to offset any reduction in supply by affected carriers there need be no effect on price. Indeed, while the CRA Economists appear to be concerned about backhaul prices, they ignore the fact that several of the fastest growing carriers in the marketplace today are carriers – such as Sprint, MetroPCS, and Leap – that rely substantially on third parties for backhaul services.

105. Finally, as a result of the proposed merger, AT&T may compete more aggressively downstream. The CRA Economists and other merger opponents argue that (a) backhaul costs are a substantial cost of providing service, and (b) vertically integrated providers have a substantial cost advantage because they "charge themselves marginal cost while other carriers pay prices substantially greater than marginal cost."[176] However, these arguments imply that the merged firm will realize substantial efficiencies from the merger and will have an incentive to compete more aggressively downstream. In effect, the CRA Economists are confusing legitimate efficiencies (which result at least in part from the merger) with anticompetitive effects. Accordingly, even if some competitors faced higher backhaul costs (which does not appear likely), the net effect of the transaction could still be to lower market prices for wireless services and to make consumers better off, not worse off. The CRA Economists have presented no evidence to support their presumption that prices will rise or consumers will suffer net harm from the merger, and basic economic theory predicts the opposite.

[175] *See, e.g.*, Krattenmaker and Salop.

[176] CRA Declaration at fn. 86.

2. Customer Foreclosure

106. The CRA Economists and other merger opponents claim that the elimination of T-Mobile as a purchaser of backhaul services from third-party suppliers harms those suppliers (as well as potential entrants to that sector) to the detriment of Sprint and other wireless carriers.[177] But the merger opponents fail to provide any empirical evidence to support this argument. They present no evidence that T-Mobile's demand is essential to the viability of CLECs and other alternative backhaul providers in AT&T's region, nor evidence that absent T-Mobile's demand, the largely sunk competitive assets used to provide backhaul services today would exit the market. These are essential elements of any viable "customer foreclosure" theory.

107. In any event, this theory is highly implausible in this setting given known facts. The overall telecommunications private line services market was estimated to be around $36 billion in 2010.[178] By way of comparison, T-Mobile's expenditures on backhaul were **[Begin Confidential Information] [End Confidential Information]** in 2010 (and a significant share of that was paid to AT&T and Verizon).[179] Accordingly, T-Mobile's demand for backhaul is only a fraction of overall demand for these services. Not only is T-Mobile but one of many wireless carriers that purchase backhaul, but wireless carriers are but one of many classes of firms that purchase dedicated access services (such as interexchange carriers, other CLECs, Internet backbone providers, businesses, and governmental departments and agencies).

108. Moreover, not all of T-Mobile's demand can be expected to be shifted to AT&T facilities. We understand that AT&T's dedicated access facilities used to provide wireless backhaul are concentrated in its 22-state region and in some other metropolitan regions in the

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[177] *See, e.g.*, Sprint at 39-41; CRA Declaration ¶ 97; CompTel at 25-30; Facilities-Based CLECs at 11-12, 16; Free Press at 44; NoChokePoints at 7; US Cellular at 3; Fibertech at 2-3; CCIA at 12-14; Texaltel 6-7; NJ Rate Counsel at 41; RTG at 49-50; Earthlink at 12-17.

[178] "Telecommunications Private Line Services Revenue Growth to Resume in 2013, says Insight Research," Insight Research Corporation, December 17, 2010 *available at* http://send2pressnewswire.com/2010/12/17/s2p4015_135603.php

[179] Mayo Declaration ¶ 3.

country (typically, in denser urban areas). Where AT&T does not possess backhaul facilities, third-party providers, after their contracts with T-Mobile terminate, will continue to have the opportunity to compete to provide backhaul for AT&T post-merger.

109. Even within AT&T's own region, we understand that AT&T will assume existing backhaul agreements and honor the terms of those agreements. Ultimately, even if AT&T should find that it is cheaper to self-provide backhaul in certain areas rather than renew third-party contracts, the firms now under contract would have time to plan and adjust. For these providers, demand for backhaul is expected to grow dramatically, so they will have the opportunity to compete for increasing backhaul needs of other wireless providers.

110. Finally, to the extent that AT&T finds it cheaper to switch from alternative providers to self-provisioning of backhaul services, which would constitute a merger efficiency,[180] this should benefit Sprint and other wireless carriers by increasing backhaul competition at those cell sites. When the CRA Economists argue that the transaction will reduce the demand for alternative backhaul in some markets, such an argument is inconsistent with their concerns that backhaul prices will rise. Indeed, alternative access vendors' already have substantial assets in place in many areas. If AT&T were to build backhaul facilities to serve sites that had been served by competing backhaul providers, that would increase the number of backhaul providers serving that site with the result that backhaul prices to competing carriers also using that site would likely fall. If anything, this would benefit competing carriers. These effects would, at a minimum, have to be netted against any purported increase in AT&T's backhaul prices.

[180] Three of the CRA Economists should agree with this assessment. In the Sprint-Nextel merger, they argued, "Sprint Nextel customers will also benefit because a substantial portion of Nextel's backhaul traffic will be carried on Sprint's wireline network after the merger instead of facilities that Nextel currently leases from other carriers…. The cost savings from using Sprint's local backhaul facilities are analogous to gains from eliminating "double marginalization" in a vertical merger. Because these savings will affect the incremental costs incurred to carry current Nextel traffic, they can be expected to reduce the prices charged." Sprint/Nextel Application for Transfer of Control, Joint Declaration of Stanley Besen, Steven Salop and John Woodbury, February 8, 2005, ¶ 39.

D. Financial Constraints

111. CRA Economists also argue that the merger would put Sprint at a competitive disadvantage vis-à-vis AT&T and Verizon in terms of being able to finance investment in spectrum, handset exclusive rights, network infrastructure, and innovation.[181] As we discuss earlier, this argument is without any merit from an economic perspective and represents an inappropriate distortion of antitrust enforcement policy. It is important to recognize that the CRA Economists provide no reliable evidence that the merger would increase Sprint's finance costs or exacerbate financial constraints. To the extent that the merger has any impact on finance costs, it would be more likely to reduce AT&T's finance costs than it would to increase Sprint's costs. Thus, any concerns about Sprint's financial constraints are not merger-specific, and it would be inappropriate, as a matter of sound competition policy, to address such concerns in this proceeding.

112. Sprint's current cost of financing would appear to be, at least in part, a consequence of past strategic and financial decisions, including Sprint's acquisition of Nextel.[182] Sprint has numerous options for addressing its financial costs, to the extent that is needed, including implementing a cost-cutting program, shedding poorly performing assets, executing an equity offering, restructuring its debt, or merging with a firm with a stronger financial position. The public interest in competition and economic efficiency would be ill-served by regulatory denial of a merger petition by Sprint's competitors in order to help Sprint loosen its supposed financial constraints.

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[181] CRA Declaration ¶¶ 114-116.

[182] Sprint's 2007 10-K contained the following statements regarding its 2005 Nextel acquisition: "The process of integrating the operations of Nextel, the seven acquired PCS Affiliates and Nextel Partners with ours has caused, and may in the future cause, interruptions of, or loss of momentum in, our business and financial performance. The diversion of management's attention and any delays or difficulties encountered in connection with the integration of the two companies' operations has had, and could continue to have, an adverse effect on our business, financial condition or results of operations. We may also incur additional and unforeseen expenses in connection with the integration efforts." Sprint Nextel Corp, 2007 10-K at 20.

113. Furthermore, Sprint continues to have significant access to capital markets for investment and other purposes. In the first quarter of 2011, Sprint had $555 million in capital expenditures, of which $449 million were wireless capital expenditures.[183] Sprint's capital expenditures in the first quarter of 2011 were primarily "in data capacity to maintain a competitive position in data service and overall network quality."[184] Sprint forecasts approximately $3 billion in capital expenditures for 2011. Moreover, at the end of the first quarter of 2011, Sprint had nearly $4 billion in cash, cash equivalents, and short-term investments.[185]

114. Consistent with these data, Sprint's CFO, just days before the CRA Declaration was submitted to the Commission, said:

> "I would also tell you that the market would welcome us in open arms if we wanted to go raise some additional money. So therefore, when you have the availability and access to capital, and when you have a consistency of performance, you can then start evaluating sort of what your actual cash needs is, because you're at a new operating performance in the lifecycle of the business."[186]

115. On a going-forward basis, Sprint may have another source for access to capital. Reports indicate that Sprint is in talks with LightSquared for a 15-year, $20 billion deal to share 4G network development costs.[187] Thus, any suggestion that Sprint lacks ability to access capital markets is without any basis.

116. Another shortcoming of the CRA Economists' argument is that they never put forward any evidence to show that the proposed merger would have any significant effect on

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[183] Sprint News Release, "Sprint Nextel Reports First Quarter 2011 Results," April 28, 2011.

[184] *Id.*

[185] *Id.*

[186] Sprint Nextel Corp at Barclays Capital Global Communications, Media, and Technology Conference, May 24, 2011, Final Transcript at 8.

[187] **"**Sprint, LightSquared close to $20B deal, report says," Dallas Business Journal, June 2, 2011.

Sprint's borrowing costs.[188] They just imagine this as a possible outcome, but they provide no empirical or other analyses to support their argument.

117. Finally, merger opponents advance additional "financial" harms, but fail to differentiate between potential adverse effects on competitors and adverse effects on competition that could harm consumers.[189] For example, the CRA Economists argue in numerous places that Sprint and smaller competitors face a large number of cost disadvantages relative to AT&T and Verizon including inability to obtain sufficient scale economies and higher costs of raising capital.[190] The CRA Economists' arguments appear to imply that, if the merger causes a shift in market share from the smaller firms to AT&T, it must necessarily be anticompetitive because it will exacerbate the cost differential between AT&T and its smaller rivals. However, this makes no economic sense. If the merger makes AT&T more efficient and as a result, AT&T's subscriber base increases, that likely means that consumers are better off, even if the cost differential between AT&T and the smaller firms were to increase somewhat.[191] Basing regulatory clearance policy on a rule that prevents efficient mergers because they will exacerbate

[188] CRA Declaration ¶ 117.

[189] For example, the CRA Economists argue that AT&T's competitive performance and its current position in the industry compared to Sprint is somehow not reflective of legitimate competition on the merits because "the primary vehicle for the growth of Verizon and AT&T, both in wireless and wireline, has been mergers. The current AT&T is a result of numerous asset consolidations." CRA Declaration ¶121. This argument makes no economic sense for several reasons, including (1) acquisitions are widely recognized by economists, including the CRA Economists, and others as a legitimate method of growth; (2) as Sprint discovered with its Nextel acquisition, firms that make acquisitions that do not improve competitive performance are generally punished by market forces; and (3) all of AT&T's acquisitions, including this one, have been subject to careful regulatory review.

[190] *See, e.g.* CRA Declaration ¶ 133, 116-118; Rural Cellular at 23.

[191] The capacity and other efficiency benefits of the transaction are discussed in the Carlton Declaration ¶¶ 10-71.

cost differences between the merging firms and their rivals would be injurious policy that would harm consumers and the economy.[192]

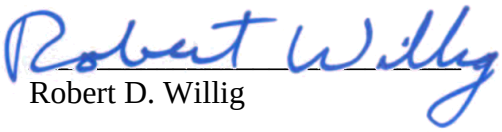
IV. Conclusions

118. Although the CRA Economists and other merger opponents claim that the merger will result in exclusionary effects against AT&T's rivals, our analysis of the economic evidence shows the lack of persuasive empirical support for such claims. That is, we find no plausible support for the merger opponents' claims that any alleged exclusionary effects arising from the merger would harm competition or consumer welfare. We also find no plausible basis for the merger opponents' claims that the merger would have an adverse effect on innovation.

119. Furthermore, there is no basis grounded in sound economics for the merger opponents' claims that the alleged exclusionary effects would adversely affect Sprint's and other wireless carriers' abilities to compete against AT&T and Verizon. Economic evidence shows that AT&T would be unable, post-merger, to preclude competitors from effectively competing for the rights to distribute desirable handsets and smartphones. Our analysis also indicates that the merger would not likely enable AT&T to foreclose competition by refusing to provide roaming agreements to rival carriers or otherwise by conditioning such agreements on unreasonable terms and conditions. In addition, the empirical evidence and economic conditions of competition show that post-merger AT&T would have neither the ability to raise rivals' backhaul costs by a significant amount nor any incentive to do so. Finally, there is no plausible basis for the merger opponents' claim that the merger would adversely affect Sprint's and other wireless carriers' access to capital.

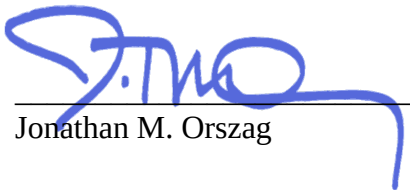
[192] Similarly flawed is the merger opponents' attempt to discourage the proposed merger with the related argument that the alleged cost disadvantages of smaller firms "create a vicious cycle: competitive carriers would be unable to make the investments needed to attract and retain customers; this would lead to a smaller subscriber base, which would cause competitive carriers to lose economies of scale and network effects; this, in turn, would further reduce competitors' ability to lower retail prices or invest in upgrading their networks…" *See, e.g.,* Sprint at 42; CRA Declaration ¶ 118.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on June 9, 2011.



Robert D. Willig

I declare under penalty of perjury that the foregoing is true and correct.
Executed on June 9, 2011.



Jonathan M. Orszag

I declare under penalty of perjury that the foregoing is true and correct.
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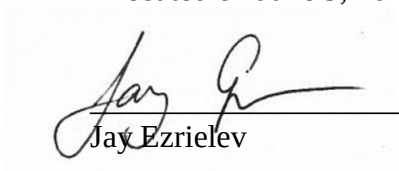

Jay Ezrielev