

chain invest in the infrastructure and operations necessary to develop radio and network technology specific to the band. This “ecosystem” of development and investment in plant, equipment, and logistical support generates positive externalities that benefit all spectrum licensees in the band.¹⁰⁴

111. Absent the merger of AT&T and T-Mobile, all of the national wireless carriers, with the possible exception of Verizon, likely would seek spectrum in “new” bands, for which the research and development costs for new network equipment have not yet been incurred. Thus, these carriers would share in the costs of developing the ecosystem. To the extent that the merger enables AT&T to reduce its needs for additional spectrum capacity, AT&T may be able to delay, or avoid entirely, the need to contribute to the costs of developing this equipment.¹⁰⁵

112. This analysis also has implications for the evaluation of AT&T’s efficiency claims. The “savings” in development costs gained by AT&T would involve cost-shifting to Sprint, not an efficient reduction in social resource costs. These costs would still need to be paid, just not by AT&T. This cost shifting would, of course, further weaken Sprint and the other carriers. If they are unable to absorb these costs, their access to new equipment would be

¹⁰⁴ Adib Decl. ¶ 12.

¹⁰⁵ Wireless network expert Steven Stravitz notes that instead of the proposed merger, “AT&T should pursue new technologies and strategies to use its vast spectrum holdings more efficiently, and thus manage the growing traffic on its network, just as its competitors do. If the proposed acquisition of T-Mobile were authorized, it would only further delay AT&T’s implementation of efficiency measures and encourage AT&T to continue to use conventional technology. . . .” Declaration of Steven Stravitz, Attachment G ¶ 69 (“Stravitz Decl.”). Stravitz further observes that “AT&T’s proposed acquisition of T-Mobile will perpetuate AT&T’s inefficient spectrum use. Rather than encouraging investment in new, innovative, and more efficient technologies, the proposed T-Mobile acquisition would permit AT&T to keep subscribers tied to older and less efficient technologies, delay innovative new facilities-based investment, and continue to maintain a large inventory of unused spectrum.” *Id.* at ¶ 10.

delayed or lower quality and less innovative equipment would be developed for them. In either case, the ability of Sprint to act as a competitive constraint on the behavior of AT&T and Verizon would be reduced. This makes it less likely that any AT&T cost-reductions would be passed on to consumers.

113. The collective market share of the carriers other than Verizon and AT&T would fall by almost one-third as a result of the merger, from 36% before the merger down to 24% after the merger. Absent the merger, there would be demand by these carriers for innovative handsets and other new equipment to compete with AT&T's offerings.¹⁰⁶ After the merger, that demand would be reduced as T-Mobile used AT&T equipment and infrastructure. Without T-Mobile as a purchaser, the manufacturers of these new models may lose critical mass and, therefore, may be less likely to offer innovative products that Sprint and others can use to compete with AT&T.

D. Impact on Network Effects and Innovation Competition

114. The wireless market is subject to very significant economies of scale in production. Provision of wireless service involves high capital costs and low marginal costs. Sprint and T-Mobile today already are competitively disadvantaged by these economies of scale. These disadvantages are particularly significant for dynamic competition and innovation.

115. AT&T and Verizon today account for a disproportionate share of wireless profits, partly as a result of the scale economies. Although Verizon and AT&T together serve about 64% of overall wireless subscribers, they account for about 79% of operating profits.¹⁰⁷ These

¹⁰⁶ Adib Decl. ¶¶ 16-17.

¹⁰⁷ Based on data compiled from wireless carrier annual reports, 10-Ks, and press releases.

higher profits provide earnings with which to invest in network infrastructure, handset exclusives, and other investments, thus limiting the need to obtain funds from the external capital market.

116. The ability to finance internally reduces a firm's effective cost of investment. As discussed in the economic literature, imperfectly informed lenders concerned about borrowers' adverse selection and adverse incentives (moral hazard) have the incentive to limit their willingness to finance investment with debt finance, either by increasing the cost of such loans or denying credit.¹⁰⁸ This leads firms to utilize more internal funds to finance new capital investment. If a firm is forced to rely too heavily on outside funds, the result is more limited borrowing capacity and/or higher costs of borrowed funds. The firm also may be forced to hold more cash to deal with potential delays in financing.

117. These financing constraints can be significant. For example, Moody's credit rating for Sprint is Ba3 versus an A2 rating for AT&T and an A3 rating for Verizon.¹⁰⁹ Sprint's ratio of EBITDA to its interest expense (4.0) is much lower than those of AT&T (13.0) and Verizon (12.3), indicating greater default risk.¹¹⁰ As a result, AT&T and Verizon have much lower interest rates on their intermediate debt, 3.8% and 3.9%, respectively, versus 6.2% for

¹⁰⁸ See, e.g., Joseph E. Stiglitz and Andrew Weiss, "Credit Rationing in Markets with Imperfect Information," 71 *AMERICAN ECONOMIC REVIEW* 393 (1981); see also Stewart C. Myers and N. Majluf, "Corporate Financing And Investment Decisions When Firms Have Information That Investors Do Not Have," 13 *JOURNAL OF FINANCIAL ECONOMICS* 187 (1984). In his Declaration, Sprint Treasurer Gregory D. Block notes that "Sprint is far more constrained than AT&T and Verizon in its ability to use internal funds because of its lower relative cash-flow generation. Since AT&T and Verizon generate a disproportionately greater amount of internal funds than Sprint, Sprint has to rely more on external financing for capital expenditures and innovation investments." Declaration of Gregory D. Block, Attachment I ¶¶ 3-4 ("Block Decl.").

¹⁰⁹ Block Decl. ¶ 4.

¹¹⁰ *Id.*

Sprint.¹¹¹ Sprint has total borrowings of about [begin confidential information] [redacted] [end confidential information].¹¹² If the merger were to increase Sprint's borrowing costs by 250 basis points, Sprint's annual interest costs would rise by over [begin confidential information] [redacted] [end confidential information] per year. This is [begin confidential information] [redacted] [end confidential information] of Sprint's wireless capital investment in 2010.¹¹³ Moreover, a low EBITDA/Interest ratio would lead lenders to be wary of lending additional funds to Sprint, except at a still higher interest rate. Finally, these figures do not account for Sprint's need for significantly greater cash holdings as reserves to repay interest and insure against financing delays.¹¹⁴

118. This combination of economies of scale plus financing advantages can create a vicious cycle that can entrench the dominance of leading firms in a high investment industry like wireless. The more profitable leading firms have the ability to invest disproportionately more than the smaller firms. As a result, the leading firms can increase their lead over time, other things equal. This, in turn, further increases their market shares and profit advantage and can

¹¹¹ Bloomberg Data, May 4, 2011. Cited only for purposes of this factual statement. Sprint disclaims and does not endorse or adopt said report, including any statements, opinions or analysis therein.

¹¹² Block Decl. ¶ 4.

¹¹³ Sprint 2010 10-K at F-33.

¹¹⁴ In this regard, Block notes that “[a] greater reliance on external funding would increase Sprint's borrowing costs Sprint would also have to hold more cash as reserves to service debt and to weather market volatility.” Block Decl. ¶ 7. Indeed, Block estimates that if Sprint had been in the same cash or cash equivalent position relative to its short term borrowings as AT&T and Verizon, it would have held \$2.5 billion less cash or cash equivalents in 2008, \$3.4 billion less in 2009, and \$3.7 billion less in 2010. *Id.*

thus increase the already disproportionate ability of the two ILECs to invest in exclusive handset contracts and spectrum.¹¹⁵

119. This dynamic process has always placed pressure on Sprint to maintain the pace of innovation and new capital investment at a rate that enables them to match or exceed AT&T's and Verizon's investment in new technologies that offer innovative wireless features and functions. Sprint has compensated for these disadvantages by maintaining a culture of innovation. Sprint's innovations include having the first all-digital voice network, the first nationwide 3G network, the first 4G network from a national carrier, and the first unlimited 4G plan, even as it has relied on more expensive external financing.

120. The impact of the financing dynamic has been very striking. The EBITDA for AT&T and Verizon was 79% of industry EBITDA in 2010, versus 52% in 2005. AT&T and Verizon's combined spending on capital expenditures and spectrum since 2008 were \$42.8 billion vs. \$14.5 billion for Sprint and T-Mobile.¹¹⁶

121. This analysis should not be interpreted to suggest that the wireless market is a natural duopoly, or even a natural monopoly. To the contrary, 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

¹¹⁵ This cycle is described in greater detail in the Block Declaration. Block notes in particular that “[a] lower market share would likely lead to decreased revenues and a decline in our internal funds for investment. This would increase Sprint's reliance on external capital sources. A greater reliance on external funding would increase Sprint's borrowing costs, expose it to deeper market volatility, and reduce its ability to finance capital expenditures and innovations to maintain its national network.” *Id.*

¹¹⁶ *US Wireless 411*, UBS Investment Research at 36, 41 (Mar. 30, 2011); *see also US Wireless 411*, UBS Investment Research at 49 (Nov. 30, 2006). Cited only for purposes of this factual statement. Sprint disclaims and does not endorse or adopt said report, including any statements, opinions or analysis therein.

result of numerous asset consolidations. It consists of the wireless assets of Comcast Cellular (1999), Ameritech (1999), the old AT&T Wireless entity (2004), the Cingular assets (2006), Dobson Communications (2007), Edge (2008), and Centennial (2009).¹¹⁷ Verizon Wireless is composed of assets from Bell Atlantic, combined with NYNEX (1995), Vodafone (2000), GTE (2000), and ALLTEL (2009).¹¹⁸

122. AT&T's acquisition of T-Mobile would exacerbate the financing asymmetries and the resulting network effects. The share of wireless industry operating profits accounted for by AT&T and Verizon would rise from 79% to 88%.¹¹⁹ When this effect is added to the impact of the higher costs and other disadvantages that the acquisition likely would impose on Sprint and the regional fringe carriers, the merger could tip today's market from one in which Verizon and AT&T are constrained to some extent by two smaller national competitors to one where an ILEC duopoly is substantially less constrained by one – now marginalized – national competitor. That outcome is likely to lead to reduced innovation as well as higher prices.

¹¹⁷ The dates for the various mergers that created the current AT&T can be found under M&A/Private Placements in CapitalIQ. Until 2005, Cingular was a joint venture between BellSouth and SBC. SBC acquired BellSouth in 2005. SBC changed its name to AT&T after acquiring the original AT&T in 2005.

¹¹⁸ Investor Relations, Company Info, Company Profile, Corporate History, *The History of Verizon Communications*, Verizon, available at: <<http://www22.verizon.com/investor/corporatehistory.htm>> (last visited May 29, 2011). Of course, several of these acquisitions also substantially expanded the local exchange footprint of AT&T and Verizon. Thus, the current AT&T grew by merger to include the local exchange assets of the one-time stand-alone LECs BellSouth, SBC, Ameritech, the old AT&T, and Centennial. Verizon's local exchange footprint grew by merger to include the local exchange assets of NYNEX, Bell Atlantic, and GTE in particular. Thus, these mergers provided by AT&T and Verizon with a broader scope to use special access and channel termination rates that now allow them to disadvantage their wireless rivals.

¹¹⁹ These figures are based on data compiled from wireless carrier annual reports, 10-Ks, and press releases.

123. In short, the increase in concentration and the reduction in competition after the merger would not be the natural result of beneficial market forces. The cause of this entrenched ILEC duopoly would be yet another ILEC acquisition, not superior skill, foresight or industry. The merger would raise Sprint's costs and lead to its marginalization. It would eliminate the possibility that Sprint and T-Mobile could overcome their disadvantages, either individually or by combining forces in some way to become stronger national players.

V. UNILATERAL EFFECTS

124. There are several reasons why the proposed merger of AT&T and T-Mobile raises unilateral effects concerns: the loss of T-Mobile as a significant competitor; a reduction in the competitive constraint imposed by Sprint; the weak constraints that have always been imposed by the regional fringe; and the fact that entry is unlikely. Below we present some preliminary quantitative analysis of measures of upward pricing pressure.

A. Loss of T-Mobile as a Significant Competitor

125. The merger would remove T-Mobile as an independent national competitor.¹²⁰ The merger also would eliminate the T-Mobile products that are preferred by new subscribers. By gaining control over T-Mobile, AT&T would gain the incentive to raise both T-Mobile's and AT&T's prices unilaterally. AT&T suggests that it would maintain the T-Mobile price plans for current T-Mobile subscribers. Nonetheless, the T-Mobile products would not be available to new subscribers. AT&T also would have the incentive to try to induce current T-Mobile subscribers to switch to more expensive AT&T plans.

¹²⁰ Carney Decl. ¶¶ 12-16 (discussing T-Mobile's competitive significance).

126. AT&T’s Application attempts to portray T-Mobile as a carrier whose elimination from the market would have little or no competitive significance. For example, AT&T claims that “[a]s a standalone company . . . T-Mobile USA would continue to face substantial commercial and spectrum-related challenges.”¹²¹

127. Although T-Mobile recently has faced a higher churn rate, it still serves more than four times the number of subscribers than the next largest carrier, MetroPCS. Moreover, it has a valuable brand name and other substantial assets, and shortly before its proposed merger with AT&T was announced, T-Mobile provided a highly optimistic picture of its prospects to investors.¹²² For example, it pointed to its large subscriber base, its substantial spectrum holdings, and its “strong and future proven technology platform.”¹²³ It also stated that it had “[e]nough spectrum for medium-term,”¹²⁴ that it was “ready to capture data market share,”¹²⁵ and that it had a plan to achieve \$1.8 billion in savings by 2013.¹²⁶ It stated that it had “America’s largest 4G network and now fastest in the Top 100 markets,”¹²⁷ and that its “HSPA+ platform provides [a] cost effective and technically flexible path to LTE.”¹²⁸ In T-Mobile’s own words, it

¹²¹ Application at 13.

¹²² See, e.g., Presentation by Deutsche Telekom and T-Mobile USA, Inc. to Analysts (Jan. 20, 2011), available at: <http://www.download-telekom.de/dt/StaticPage/97/67/90/tmo-invday11.pdf_976790.pdf>.

¹²³ *Id.* at 5.

¹²⁴ *Id.* at 7.

¹²⁵ *Id.* at 18.

¹²⁶ *Id.* at 20.

¹²⁷ *Id.* at 34.

¹²⁸ *Id.* at 39.

was on a “path for moving from challenged to challenger.”¹²⁹ T-Mobile’s heightened competitive influence resulting from these actions would be eliminated by the merger.

128. Moreover, it is important to note that T-Mobile’s current difficulties are a fairly recent development. As it noted in its investor presentation, for example, it had grown rapidly between 2001 and 2008.¹³⁰ Despite its performance in the last two years, it could hardly be said that T-Mobile was on an irreversible decline to competitive insignificance. This claim is all the more untenable in light of AT&T’s claims that MetroPCS and Cincinnati Bell are formidable competitors despite their very small market shares. Moreover, Sprint fortunes also had declined, but now even AT&T itself has noted Sprint’s “resurgence,” and it pointed to the fact that it “has reversed recent trends.”¹³¹ In contrast, the AT&T/T-Mobile merger may lead to an irreversible decline for Sprint and a less competitive wireless market.

129. There have been numerous instances where T-Mobile initiated or contributed to aggressive price movements or the introduction of innovative equipment. For example, in 2008, in response to an announcement by Verizon, T-Mobile announced flat rate plans for unlimited calls in the United States, which, according to a press report, “rais[ed] investor concerns that a price war could break out.”¹³² In 2008, T-Mobile was the first carrier to offer a mobile phone

¹²⁹ *Id.* at 28.

¹³⁰ *Id.* at 15 (“T-Mobile revenues stalled in 2008 after 7 years of rapid growth.”).

¹³¹ Application at 79-80.

¹³² Sinead Carew, *Unlimited mobile plans spark price war concerns*, REUTERS (Feb. 19, 2008), available at: <<http://www.reuters.com/assets/print?aid=USN1930076320080219>>.

that used the Android operating system.¹³³ In 2010, T-Mobile reduced the price of the Samsung Galaxy Tablet, which began a round of price cutting for the device.¹³⁴ Even more significantly, it announced the introduction of “the nation’s fastest 3G wireless network on its latest mobile broadband devices.”¹³⁵ Until the merger was announced, T-Mobile had been targeting AT&T in its advertising.¹³⁶

130. The Commission itself has noted the impact of T-Mobile’s past pricing moves.

For example, it noted:

In an effort to reduce churn, T-Mobile introduced a lower-priced version of its unlimited national voice plan in the first quarter of 2009 With the subsequent launch of its new “Even More” plans in October 2009, T-Mobile reset prices on tiered offerings at significant discounts to its legacy plans, and brought its pricing structure more closely in line with that of Sprint Nextel, the least expensive nationwide service provider.¹³⁷

¹³³ Press Release, T-Mobile USA, Inc., *T-Mobile Unveils the T-Mobile G1 – the First Phone Powered by Android* (Sept. 23, 2008), available at: <http://www.t-mobile.com/company/PressReleases_Article.aspx?assetName=Prs_Prs_20080923&title=T-Mobile%20Unveils%20the%20T-Mobile%20G1%20%E2%80%93%20the%20First%20Phone%20Powered%20by%20Android>.

¹³⁴ Donald Melanson, *T-Mobile drops Samsung Galaxy Tab to \$350 on-contract*, ENGADGET (Dec. 15, 2010), available at: <<http://www.engadget.com/2010/12/15/t-mobile-drops-samsung-galaxy-tab-to-350-on-contract/>>. See also Chris Ziegler, *Sprint drops Galaxy Tab down to \$300, undercuts everyone but US Cellular*, ENGADGET (Jan. 12, 2011), available at: <<http://www.engadget.com/2011/01/12/sprint-drops-galaxy-tab-down-to-300-undercuts-everyone-but-us/>>; Ben Bowers, *T-Mobile expected to cut Galaxy Tab pricing to \$249.99 (update: drop is official!)*, ENGADGET (Jan. 26, 2011), available at: <<http://www.engadget.com/2011/01/26/t-mobile-expected-to-cut-galaxy-tab-pricing-again-to-249-99/>>.

¹³⁵ Press Release, T-Mobile USA, Inc., *T-Mobile to Rollout the Nation’s Fastest 3G Wireless Network with HSPA+ to More than 100 Metropolitan Areas in 2010* (Mar. 24, 2010), available at: <<http://newsroom.t-mobile.com/articles/t-mobile-HSPA-3G-network>>.

¹³⁶ Video Release, T-Mobile USA, Inc., “Step Up to Nationwide 4G with T-Mobile,” available at: <<http://www.youtube.com/watch?v=W22JccSTDtk&feature=BFa&list=SPE3D764A5AFBFB9D6&index=>>> (last visited May 25, 2011).

¹³⁷ *14th CMRS Competition Report* ¶ 91.

131. The Commission further noted: “T-Mobile’s price changes appear to have prompted Verizon Wireless and AT&T to narrow the price premium on unlimited service offerings” although it also noted that the unlimited price plans of Verizon Wireless and AT&T “remained the most expensive in the industry, even following the price changes.”¹³⁸ Based on this experience, it would hardly be reasonable for the Commission to conclude that other carriers, much less carriers from the fringe, “already fill – or could easily move to fill – the competitive role T-Mobile USA occupies today.”¹³⁹

132. There also are likely to be significant unilateral effects concerns in the corporate and governmental account market. T-Mobile is a significant player in that market and the regional fringe firms are not.¹⁴⁰ According to Sprint, T-Mobile frequently bids on corporate opportunities targeted by Sprint.¹⁴¹ The fringe firms would face significant impediments to expansion into the corporate market because they lack national coverage and have high roaming costs.

B. Insufficient Competitive Constraints from Sprint

133. Sprint would be unlikely to be able to constrain the post-merger price increases by AT&T. As discussed in Section IV, Sprint and the fringe carriers have higher costs than AT&T and Verizon and face other disadvantages. They have higher costs in part because they are dependent on Verizon or AT&T for essential inputs, such as roaming, special access, and

¹³⁸ *Id.* ¶¶ 91-92.

¹³⁹ Application at 70.

¹⁴⁰ Dupree Decl. ¶15.

¹⁴¹ *Id.*

exchange access to their switched wireline networks.¹⁴² Sprint and the fringe carriers also lack scale economies and face higher financing costs. Moreover, the merger would have various exclusionary effects on these carriers regarding roaming and backhaul costs, bidding for handsets, and purchasing infrastructure equipment and technology for new spectrum. The result of these exclusionary effects would be to entrench and expand the ILECs' current advantages. As a result, Sprint would be less likely to constrain AT&T's post-merger price increases.

C. Insufficient Competitive Constraints from the Regional Fringe Competitors

134. The regional competitors also would be unlikely to constrain the post-merger price increases by AT&T for postpaid retail service and corporate and governmental accounts.¹⁴³ Each has limited coverage and higher costs. MetroPCS and Leap focus on a significantly differentiated prepaid product rather than the postpaid service that is the focus of AT&T and T-Mobile.¹⁴⁴ Sprint does not take account of the pricing of the regional carriers in setting its own prices.¹⁴⁵ We also understand that the regional carriers rarely participate in the corporate/governmental account market. The merger also would lead to further cost increases and reduced access to new technologies for these carriers.

135. According to AT&T, the fringe firms are a major constraint on its behavior. AT&T claims that "other providers already fill – or could easily move to fill – the competitive

¹⁴² Wireline access charges are regulated, but they still place Sprint and the other carriers at a cost disadvantage. Sprint has estimated that these fees far exceed the ILECs' costs. AT&T and Verizon subscribers roam less and these carriers pay much of their own special access and wireline access costs to themselves. See Schieber Decl. ¶¶ 5, 10, 13.

¹⁴³ Carney Decl. ¶¶ 8-11.

¹⁴⁴ MetroPCS 2010 10-K at 6. Leap Wireless 2010 10-K at 2.

¹⁴⁵ Souder Decl. ¶ 6.

role T-Mobile USA occupies today.”¹⁴⁶ AT&T’s claims substantially overstate the competitive significance of MetroPCS, Leap, and other carriers. MetroPCS and Leap have historically offered only prepaid service and would face significant impediments to offering postpaid service. For example, entry would require development of systems for performing credit checks. Moreover, these carriers would need to obtain access to the wide range of smartphones that postpaid subscribers demand, access that they do not have currently.

136. The fringe collectively is very small. At the end of 2010, MetroPCS, US Cellular, and Leap together had only about 60% of the number of subscribers served by T-Mobile.¹⁴⁷ The regional firms also have licenses that cover a substantially smaller percentage of the U.S. population than the four national carriers and some have built facilities that cover far smaller percentages of the populations that they are licensed to serve. For example, T-Mobile has licenses that cover a population of 289 million, which is well over twice the licensed population of 124 million covered by MetroPCS, the regional carrier with the next largest coverage. Moreover, the network of MetroPCS covers only 105 million subscribers.¹⁴⁸ One implication of this is that the regional carriers are far more dependent on roaming than are the national carriers. Indeed, in his earlier Declaration for Verizon, Professor Carlton also suggested that carriers with less extensive geographic networks face market disadvantages.¹⁴⁹ The regional carriers also lack

¹⁴⁶ Application at 70.

¹⁴⁷ See Table 2.

¹⁴⁸ *US Wireless 411*, UBS Investment Research at 11-12 (Mar. 30, 2011). Cited only for purposes of this factual statement. Sprint disclaims and does not endorse or adopt said report, including any statements, opinions or analysis therein.

valuable national brand names.¹⁵⁰ Finally the fringe lacks a track record of repositioning that would provide assurance that they would become effective competitive constraints after the merger in the postpaid and corporate and governmental account markets.¹⁵¹

137. MetroPCS has recently begun to offer prepaid 4G service with smartphones. However, MetroPCS offers Long Term Evolution (“LTE”) coverage in only 14 cities.¹⁵² MetroPCS noted in its latest annual report that it may not be able to increase its 4G offerings beyond those 14 markets.¹⁵³ Further, because of its limited spectrum, MetroPCS’s LTE service offers speeds comparable to 3G service rather than true 4G service.¹⁵⁴ In addition, MetroPCS lacks nationwide coverage, which is desired by customers, and so must rely heavily on roaming relationships. Outside of its home area, its package of features is severely degraded.¹⁵⁵ Finally, its handsets are expensive and inferior to those of T-Mobile.¹⁵⁶

¹⁴⁹ Carlton ALLTEL Decl. ¶35 (“...firms with more extensive geographic networks have achieved more rapid growth than regional firms, presumably a reflection of their ability to better realize efficiencies and to provide higher quality services”).

¹⁵⁰ See Declaration of Dennis W. Carlton and Hal S. Sider, attached to Joint Applications of MCI WorldCom, Inc., and Sprint Corporation for Consent to Transfer Control, CC Docket 99-333, ¶10 (Feb. 18, 2000) (discussing the importance of brand names).

¹⁵¹ Guidelines at 28.

¹⁵² See MetroPCS Coverage Map, available at: <<http://www.metropcs.com/coverage/>> (last visited May 19, 2011).

¹⁵³ MetroPCS 2010 10-K at 37.

¹⁵⁴ Mike Dano, *MetroPCS to skip 3G with LTE rollout?*, FIERCEWIRELESS (Aug. 3, 2010), available at: <<http://www.fiercewireless.com/story/metropcs-skip-3g-lte-rollout/2010-08-03>>.

¹⁵⁵ In its “Extended Home Areas,” web surfing and email only are “available in some areas.” Coverage, *Coverage Map*, MetroPCS, available at: <<http://www.metropcs.com/coverage/>> (last visited May 12, 2011). In significant geographic areas, only “TravelTalk” services are available at an additional roaming charge of \$0.19 per minute. MetroPCS also offers 30-minute TravelTalk roaming bundles for an additional \$5 per month, but these allow only 30 minutes of

138. As evidence of the competitive influence of MetroPCS and Leap, AT&T points to the fact that MetroPCS charged \$60 for a plan that would cost about \$115 from AT&T and about \$120 from Verizon, and MetroPCS targets AT&T in its advertising.¹⁵⁷ It similarly observes that Leap charged a price of about half of what AT&T and Verizon charged.¹⁵⁸ Yet, despite these efforts, MetroPCS achieved a 2010 national market share of only 2.9% and Leap achieved a share of only 2.0%.¹⁵⁹ In contrast, T-Mobile’s 2010 market share was 11.3%, more than double the combined share of these two prepaid fringe players.

139. AT&T also overstates the impact of the fringe in another way. AT&T argues that the low-cost prepaid carriers such as MetroPCS and Leap “have expanded rapidly” and provide an “increasingly important market dynamic.”¹⁶⁰ In fact, the market shares of MetroPCS and Leap have not grown very much in the past two years. The market share of MetroPCS in the first quarter of 2009 was 2.3%. Despite all the growth touted by AT&T, the market share of MetroPCS grew only to 2.8% by the fourth quarter of 2010. Similarly, Leap’s market share rose

roaming in TravelTalk areas. Plans, *MetroPCS Rate Plans*, MetroPCS, available at: <<http://www.metropcs.com/plans/default.aspx?tab=family>> (last visited May 13, 2011).

¹⁵⁶ MetroPCS offers the Samsung’s Craft, which retails for \$349 and the Galaxy Indulge, which retails for \$399 with subsidies of \$50-100. The resulting price of \$299 is significantly higher than T-Mobile’s \$129 price for a superior phone, the Samsung Galaxy. *Phones*, MetroPCS, available at: <<http://www.metropcs.com/shop/phonelist.aspx>> (last visited May 12, 2011). Shop, Phones, *Samsung Galaxy S 4G*, T-Mobile, available at: <http://www.t-mobile.com/shop/phones/Cell-Phone-Detail.aspx?cell-phone=Samsung-Galaxy-S-4G&Wt.z_searchCategory=Site+Search+Summary&Wt.z_searchZone=Products&WT.z_searchTerm=Galaxy+S&WT.z_searchProduct=Galaxy+S%99+4G+>> (last visited May 11, 2011).

¹⁵⁷ Christopher Decl. ¶ 51.

¹⁵⁸ *Id.* ¶ 52.

¹⁵⁹ See Table 2.

¹⁶⁰ Christopher Decl. ¶ 8.

from 1.6% to 1.9% during the same period. Of course, it is easier for carriers to achieve double-digit growth when their initial market shares are so low. Moreover, US Cellular's market share actually fell from 2.4% to 2.1%.

140. At the same time, AT&T argues that despite T-Mobile's larger market share, AT&T does not "focus" on T-Mobile. According to AT&T, this is because T-Mobile mainly competes on price and does not have a "strong differentiating network claim," and because T-Mobile does not win customers "away from AT&T on a *net basis*."¹⁶¹ However, the fact that T-Mobile is not highly differentiated and its wins from AT&T do not exceed its losses to AT&T fails to show that T-Mobile is a more distant competitor of AT&T than the fringe carriers. Nor does a lack of wins on *net basis* show that the diversion ratio between AT&T and T-Mobile is low.

D. Insufficient Competitive Constraints from Verizon

141. It also is unlikely that competition from Verizon would prevent the exercise of market power by AT&T. Verizon would lack the incentive to constrain AT&T, and vice versa. As discussed in more detail in the section on coordinated effects, Verizon and AT&T are similarly situated wireless competitors, relative to Sprint and T-Mobile. Both firms have common interests. First, they both have very high market shares. They also have high prices and high margins that they would like to protect. Second, as ILECs, they lack the incentive to encourage consumers to "cut the cord." Third, they are dependent on one another for backhaul outside of their home regions, a mutual threat that can facilitate coordination. Thus, it likely

¹⁶¹ *Id.* ¶ 27 (emphasis supplied).

would make more economic sense for Verizon to accommodate and match AT&T's price increases, and more generally to increase its efforts to coordinate with AT&T.

E. Insufficient Competitive Constraints from Entry

142. New entry also would not be sufficient to prevent a reduction in competition and consumer welfare harm from the merger. AT&T suggests that LightSquared, Clearwire, and Cox Communications are recent entrants with substantial spectrum holdings. However, as discussed above, LightSquared's entry is subject to continuing uncertainty with respect to the effect of its operations on GPS transmissions and Clearwire's operations are complicated by the regulatory structure of the BRS-EBS band.

143. AT&T has identified Cox as an aggressive wireless competitor and claimed that Cox was "conducting trials of 4G LTE technology on its own AWS and 700 MHz spectrum" ¹⁶² However, Cox recently announced that it is abandoning plans to expand its network, is decommissioning its existing network, and will use the Sprint network to provide its branded mobile service. ¹⁶³

144. Moreover, the merger would raise barriers to entry. The higher cost of network infrastructure equipment noted earlier also would apply to entrants, as would the need for roaming and backhaul services. Some of the entrants also would suffer from the dynamic network effects already discussed. Moreover, the merger would result in the loss of T-Mobile as an advocate for more spectrum and may reduce AT&T's interest in obtaining more spectrum, as

¹⁶² Application at 92.

¹⁶³ Stephen Lawson, *Cox to Close Its Own Cell Network, Use Sprint*, IDG NEWS SERVICE (May 24, 2011), available at: <<http://www.cio.com/article/print/682885>>.

well. In either case, this would increase the likelihood that future spectrum auctions would be delayed.

F. Upward Pricing Pressure Analysis for All-Wireless Service

145. In this section, we discuss and calculate several different measures of upward pricing pressure in an all-wireless market, based on the information currently available to us. Although the results are illustrative, these measures, taken together, indicate that potentially serious unilateral effects concerns would result from the proposed merger.

146. As part of the evaluation of unilateral effect concerns, the 2010 Merger Guidelines call for analysis of upward pricing pressure (“UPP”). As stated there:

Adverse unilateral price effects can arise when the merger gives the merged entity an incentive to raise the price of a product previously sold by one merging firm and thereby divert sales to products previously sold by the other merging firm, boosting the profits on the latter products. Taking as given other prices and product offerings, that boost to profits is equal to the value to the merged firm of the sales diverted to those products. The value of sales diverted to a product is equal to the number of units diverted to that product multiplied by the margin between price and incremental cost on that product. In some cases, where sufficient information is available, the Agencies assess the value of diverted sales, which can serve as an indicator of the upward pricing pressure on the first product resulting from the merger.¹⁶⁴

147. The “value of diverted sales” is a measure of *gross* upward pricing pressure, that is, one that does not take claimed efficiency benefits into account. In an article written when he was the Deputy Assistant Attorney General for Economics in the Antitrust Division of the Department of Justice, Carl Shapiro referred to the proportional value of diverted sales measure

¹⁶⁴ Guidelines at 21.

as the Gross Upward Pricing Pressure Index (GUPPI).¹⁶⁵ There is a separate GUPPI for each of the merging firms.

148. Shapiro reports that it is the current practice of the Antitrust Division to regard GUPPI levels below 5% as normally not raising unilateral effects concerns.¹⁶⁶ However, we would not expect that “safe harbor” to apply here. First, none of our scenarios leads to T-Mobile’s and AT&T’s GUPPIs both being less than 5%. Second, and more generally, the proposed merger would lead to cost-raising exclusionary effects on Sprint and the smaller fringe competitors. Those merger-specific exclusionary effects lead to further upward pricing pressure that is not accounted for by the GUPPIs.¹⁶⁷ This means that the GUPPIs systematically underestimate the actual upward pricing pressure from the merger.

149. Professor Carlton briefly discusses upward pricing pressure but he does not present the results of any GUPPI calculations.¹⁶⁸ Moreover, neither AT&T nor Professor Carlton

¹⁶⁵ See Carl Shapiro, *The 2010 Horizontal Merger Guidelines: From Hedgehog to Fox in Forty Years*, 77 ANTITRUST LAW JOURNAL 701, 726 (2010) (“For this purpose, the value of diverted sales is measured in proportion to the lost revenues attributable to the reduction in unit sales resulting from the price increase. Those lost revenues equal the reduction in the number of units sold of that product multiplied by that product’s price.”).

¹⁶⁶ Carl Shapiro, Deputy Asst. Attorney General for Economics, Antitrust Div., U.S. Dept. of Justice, *Update from the Antitrust Division: Remarks as Prepared for the American Bar Association Section of Antitrust Law Fall Forum*, at 24 (Nov. 18, 2010) (“Current Division practice is to treat the value of diverted sales as proportionately small if it is no more than 5% of the lost revenues. Put differently, unilateral price effects for a given product are unlikely if the gross upward pricing pressure index for that product is less than 5%.”), available at: <<http://www.justice.gov/atr/public/speeches/264295.pdf>>.

¹⁶⁷ These cost-raising effects would have the same type of impact on prices as would AT&T acquiring a (partially controlling) financial interest in Sprint and the other competitors. Therefore, they can be thought of as increasing concentration further and producing additional upward pricing pressure.

¹⁶⁸ Carlton Decl. ¶¶ 137-41.

provide any of the data for the merging parties that could be used to calculate the GUPPIs or any of the other UPP measures under the assumptions that he claims are appropriate. Nonetheless, we have carried out a preliminary UPP analysis for all-wireless service to gauge the magnitude of potential unilateral effects based on the limited information that we currently have. Since we lack access to information from AT&T and T-Mobile, our analysis should be regarded as illustrative rather than definitive. We will continue to refine this analysis as more information becomes available.

150. In this report, we provide several measures of upward pricing pressure for all-wireless service.

- a. First, we estimate the all-wireless “single-price” GUPPI for each merging firm. This is the measure mentioned explicitly in the Merger Guidelines. It evaluates the gross upward pressure on the prices of one of the merging firm, holding constant the prices of all the other firms, including the merger partner. The post-merger intra-firm feedback effects between the prices of the two merging firms thus are not taken into account.¹⁶⁹
- b. Second, we estimate the “simultaneous-price” all-wireless GUPPI for each merging firm. The simultaneous-price GUPPI assumes that the merged firm

¹⁶⁹ See Carl Shapiro, *Unilateral Effects Calculations*, Unpublished Manuscript at 6 (2011) (“the equilibrium price increase for product 1 ... is larger ... because the price of product 2 will also rise (without any efficiencies) and because of feedback effects between the two prices.”). Similar feedback effects also arise with efficiencies.

would set the prices of AT&T and T-Mobile products simultaneously.¹⁷⁰ It thus takes into account the post-merger intra-firm price feedback effects between the prices of the merging firms. For example, a price increase of AT&T products would increase the incentive to raise the prices of T-Mobile products, and vice versa. However, the simultaneous-price GUPPI does not include any feedback effects from price responses by the non-merging firms.

- c. Third, we estimate the all-wireless “compensating marginal cost reduction” (CMCR) for each merging firm.¹⁷¹ Efficiencies that take the form of post-merger reductions in the merged firm’s marginal costs of serving AT&T and T-Mobile subscribers could create downward pressure on AT&T and T-Mobile prices. The GUPPIs do not take into account the downward pricing pressure from cost reductions. To address that issue with a simple index, the CMCRs measure the marginal cost reductions for each of the two merging firms that would have to occur simultaneously for the net pricing pressure to be zero for each of the merging firms’ products post-merger.

151. The GUPPIs are not the only factors that are relevant for evaluating the likelihood and magnitude of adverse unilateral effects. For example, the GUPPIs do not take into account the additional upward pricing pressure caused by the pricing responses of non-merging firms. In

¹⁷⁰ The simultaneous-price GUPPI is equal to twice the price increase for the case with linear demand derived in Jerry Hausman, Serge Moresi, and Mark Rainey, *Unilateral Effects of Mergers with General Linear Demand*, 111 *ECONOMICS LETTERS* 119 (2011).

¹⁷¹ See Gregory Werden, *A Robust Test for Consumer Welfare Enhancing Mergers Among Sellers of Differentiated Products*, 44 *JOURNAL OF INDUSTRIAL ECONOMICS* 409 (1996).

addition, the GUPPIs do not take into account entry and repositioning, efficiencies, or other factors. The CMCRs measure the magnitude of potential adverse unilateral effects in terms of the amount of cost savings that would be necessary to offset those potential adverse unilateral effects. Because they are focused on unilateral effects, the GUPPIs and CMCRs do not take into account potential parallel accommodating conduct or other forms of coordination. Significantly in this case, the GUPPIs and CMCRs also do not take into account the adverse impact of the cost-raising exclusionary conduct. However, despite these limitations, the GUPPIs and CMCRs can provide some useful information to decision makers.¹⁷²

152. The all-wireless single-price GUPPI is the product of three factors: the all-wireless diversion ratio from one merging firm to the other; the percentage price-incremental cost margin of the other merging firm; and the ratio of the two firms' prices.¹⁷³ The "simultaneous-price" GUPPI also requires estimates of the market shares of the merging firms. In addition, market shares are used to estimate what have been called "proportional" diversion ratios. The CMCR also utilizes this same set of factors. We discuss our estimates of these factors and then report the estimates of the GUPPIs and CMCRs for an all-wireless market.

¹⁷² Similarly, the HHI does not take every competitive issue into account.

¹⁷³ Formally, $GUPPI_1 = DR_{12} \times M_2 \times P_2/P_1$, where DR_{12} is the diversion ratio from the product of firm-1 to the product of firm-2, M_2 is the percentage margin of firm-2 and P_2/P_1 is the product price ratio of the two firms.

1. Diversion Ratios

153. Professor Carlton provides no empirical evidence to support his implicit claim that the diversion ratios between AT&T and T-Mobile are low.¹⁷⁴ For example, AT&T does not provide AT&T/T-Mobile win/loss data from surveys, porting data, or other quantitative indicators of diversion.¹⁷⁵ In the absence of these data, we have estimated proportional diversion ratios based on the all-wireless market shares. Under the assumption that total subscribership is not affected by the change in the price of one carrier, and thus that all the customers lost by the merging firm when they increase price would be recaptured by other carriers, the proportional diversion ratios are 34.6% from T-Mobile to AT&T and 16.3% from AT&T to T-Mobile.¹⁷⁶ If we were to assume instead that some percentage of the subscribers lost by the merging firm when it raises price would cease purchasing wireless service altogether, rather than substitute to (and be recaptured by) another carrier, the diversion ratios would be reduced by that percentage. In this initial analysis, we estimate the GUPPIs for a range of recapture rates: 100%, 80%, and 60%. The resulting proportional diversion ratios are summarized in Table 7.

¹⁷⁴ Carlton Decl. ¶ 145 (“[C]oncerns about unilateral effects are greatest when the merging firms produce products that are close substitutes. However, the differences in subscriber characteristics . . . indicate that AT&T and T-Mobile USA are not especially close substitutes . . .”).

¹⁷⁵ We expect that AT&T has such information. **[begin highly confidential information]** **[redacted]** **[end highly confidential information]** In his work for Verizon on the ALLTEL acquisition, Professor Carlton engaged in diversion analysis based on porting data. Carlton ALLTEL Decl. ¶43, Table 1.

¹⁷⁶ Using the market shares of 30.7% for AT&T and 11.3% for T-Mobile, the T-Mobile diversion ratio to AT&T would be $DR = 30.7/(100-11.3) = 34.6\%$. The AT&T diversion ratio to T-Mobile would be $DR = 11.3/(100-30.7) = 16.3\%$.

154. These proportional diversion ratios assume that market shares are a proxy for the relative closeness of substitution among the carriers. We will be able to update our analysis if and when we receive additional information on subscriber substitution, particularly for the postpaid market.¹⁷⁷

2. Margins

155. Wireless service is a business characterized by high fixed costs and low marginal costs in the short and medium term. Therefore, the margin of price over variable cost is very high. However, according to Professor Carlton, AT&T and T-Mobile face congestion problems. Professor Carlton suggests that the AT&T and T-Mobile margins should take into account that the marginal cost of small incremental volume changes would be far above average variable cost.¹⁷⁸ Professor Carlton also suggests that the AT&T network is highly congested and would require significant investment to increase capacity. His assumption about the T-Mobile network is less clear.¹⁷⁹ Professor Carlton does not, however, provide any quantitative estimates of AT&T's or T-Mobile's current level of congestion or the margins that he believes would be appropriate, either on a national or local basis.

¹⁷⁷ Although porting data are not perfect measures, those data can be useful in gauging diversion ratios.

¹⁷⁸ Carlton Decl. ¶ 142 (“The use of accounting data on average variable costs instead of economic data on marginal costs will overstate the profitability of diverted sales and thus overstates the ‘upward pricing pressure’ from the proposed transaction.”).

¹⁷⁹ *Id.* ¶ 129.

156. Professor Carlton's suggestions raise several other specific questions.
- a. First, he does not indicate whether he believes that AT&T's network is highly congested throughout the country or only in certain local areas. If congestion is localized, there could be highly significant upward pricing pressure in some areas but none in others. If there is significant upward pricing pressure in a number of significant local areas, then those local pressures could lead to national upward pricing pressure.
 - b. Second, it is not clear whether Professor Carlton is referring to current levels of congestion or congestion that will occur at some point in the future. If AT&T currently has sufficient capacity but will face congestion in the future, the merger could lead to significant upward pricing pressure during the interim. Thus, it is relevant to know when the congestion constraints would become severe.
 - c. Third, the congestion claim raises questions about the actions that AT&T has undertaken, and would undertake, to relieve congestion in the absence of the merger, a factor that Professor Carlton does not consider in his analysis but which could be useful in determining the appropriate margin. The same issues would apply to T-Mobile's network, although T-Mobile suggested in its January 2011 Investor Presentation that it had sufficient spectrum for the medium term.¹⁸⁰

¹⁸⁰ Presentation by Deutsche Telekom and T-Mobile USA, Inc. to Analysts, at 7 (Jan. 20, 2011), available at: <http://www.download-telekom.de/dt/StaticPage/97/67/90/tmo-invday11.pdf_976790.pdf>.