A Preliminary Analysis of the Impacts and Consequences of the Proposed AT&T/T-MOBILE Merger

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INTRODUCTION & EXECUTIVE SUMMARY

Today, when we think of traffic moving across the wireless infrastructure, it is no longer limited to the traditional business of the formerly voice-driven public switched telecommunications network (PSTN). We are now witnessing a revolution that is changing society and the global communications ecosystem that has become an indispensable part of the economic fabric of almost every nation.

Although preceded by the Internet and World Wide Web, "digital wireless" has brought to America, and the world, a seemingly endless supply of services and goods made possible by change and completely new business models. Today – and more importantly tomorrow – wireless connectivity and the broadband improvements beyond 3G will result in an age when almost everything on the Internet and World Wide Web will involve wireless communications and applications.

It is now clear that at least five major business sectors are taking advantage of the wireless communications infrastructures:

1. Marketing of Physical Goods, e.g., Amazon, eBay.
2. Marketing of Digital Goods, e.g., iTunes, iFilm.
3. Advertising & Services, e.g., Google, Craigslist.
4. Information Services, e.g., Google, Wikipedia.
5. Communications and user created content, e.g., Facebook, MySpace, the Blogosphere.
6. Banking and financial transactions.

What does this disruptive broadband and technological revolution mean for today's wireless companies? In order to survive they must leverage their existing networks to accommodate these new services and applications.

How should policymakers and regulators react to these dynamic developments? They should make sure that all communications technologies, and the increasing number of services and the applications based upon them, are made available to all Americans. Therefore a vibrant competitive market in wireless communications technologies, services, and applications must continue to expand.

Given the socio-economic role played by wireless infrastructure companies, the Federal Communications Commission (FCC) and the Department of Justice (DOJ) must carefully consider the implications of the proposed AT&T/T-Mobile merger transaction.

This research report represents an attempt to assist policymakers and regulators reach a conclusion that is in the nation's and the public's interests. The report concludes that the AT&T/T-Mobile merger should be rejected because the economy and public will be better served by the two infrastructure owners remaining separate. Furthermore there are better ways for each company to prosper in this burgeoning business sector, that are more supportive of the public and the national interest, if they continue to compete with each other.

1. THE AT&T/T-MOBILE DEAL: AN ANALYSIS

1.1 AT&T's Merger Proposal

On Sunday, March 20, 2011, AT&T announced that it had agreed to purchase T-Mobile USA in a $39 billion acquisition that would make a combined company America's leading wireless services provider with 129 million subscribers.

This deal cannot take place, however, until it receives approval from both the Federal Communications Commission (FCC) and the Department of Justice (DOJ). Although both AT&T and T-Mobile USA made confident statements with respect to its approval, this is by no means "a slam dunk." Because of the multi-faceted ramifications stemming from a combination of America's second and fourth largest wireless companies, this deal will be subjected to rigorous review.

This research report explains why this deal should be rejected.

1.2 AT&T's Claims: Pros & Cons

Over the course of the next few pages, we have summarized the reasons why this merger should be rejected. Table 1 documents AT&T's "claims" with respect to the asserted benefits of the Deal in Column One, while these "claims" are refuted in Column Two:

Table 1
Reasons for Rejecting the Merger

AT&T Claim	Bases for Rejection of the Claim
1. AT&T faces spectrum constraints more severe than any other wireless carrier (p.1 of AT&T filing).	Verizon Wireless (VZW) has had more subscribers, the same proportion of data revenue, and approximately the same spectrum assets as AT&T, yet does not, and will not have, the same capacity crunch. AT&T's crunch is the result of its own poor planning and underinvestment, not its alleged spectrum-shortage
2. Merger will enable AT&T to deploy LTE to more than 97% of Americans (p.1 of filing).	Only AT&T's own profit-oriented decision not to invest in rural areas is preventing it from achieving this coverage with its current assets. Furthermore, T-Mobile has no spectrum below 1 GHz, the frequencies within which rural networks are most economically deployed, so the argument that the acquisition is needed to achieve greater broadband coverage is not correct. The merger will not appreciably change the profit calculation for rural area coverage.
3. AT&T's filing defines the relevant market in terms of wireless broadband on a local level.	In the era of converged networks and services, the relevant market is wireless and wireline, as both AT&T and DT recognize in their "bundled" offerings and recent organizational changes, which merge portions of the wireless and wireline business lines. This is acknowledged to be a national market (Senate Judiciary Hearing, May 11, 2011) since few consumers buy

	only local cellular services, regional providers offer national roaming with the aid of roaming agreements, and most retailers selling cellular service are national in scope. AT&T's own advertising focuses on nationwide maps of coverage.
4. The transaction will leave the marketplace fiercely competitive (p.1 of filing).	T-Mobile's problems are directly traceable to AT&T's anticompetitive actions, e.g. the exclusive iPhone deal, the lack of data roaming agreements. The Deal is simply a buyout of the wireless assets of Deutsche Telekom, a $90 billion company, to eliminate a competitor. All other competitors, except Verizon, are much smaller than DT and will be unable to resist depredations to their businesses from similar continuing behavior by AT&T. A duopoly, consisting of AT&T and Verizon, will be the inevitable result. The Deal will leave AT&T in the US as a national GSM/HSPA monopoly, and also as a monopsony buyer of GSM/HSPA infrastructure equipment and new GSM/HSPA handsets.
4. "T-Mobile does not exert strong competitive pressure on AT&T," Randall Stephenson, Senate Judiciary Hearing, May 11, 2011.	"Our competitors are multiple national companies, such as Verizon Wireless, Sprint Nextel Corp., T-Mobile, Metro PCS and Cricket, and a larger number of regional providers of cellular, PCS and other wireless communications services," AT&T's 2010 Annual Report, p.43.
5. AT&T introduced the first iconic smart mobile phone in 2007, p.2 of filing.	But AT&T set up an exclusive agreement that prevented all other mobile operators from gaining access to the iPhone until 2011 -- and it is still not available to customers of any networks except those of AT&T and Verizon.
6. AT&T has worked tirelessly to address this data explosion since 2008, p.3 of filing.	Verizon has faced a similar data explosion, but has not experienced similar problems, while AT&T has actually invested slightly less in its wireless network, a fact that is not consistent with "working tirelessly."
8. Without the merger AT&T claims it would have insufficient capacity, p.4 of filing.	There are a variety of solutions to this capacity problem, short of a merger, which itself has significant negative implications for industry competition. AT&T could buy spectrum from others (such as Clearwire) and share the cost of a build-out with other network operators as in Canada and in Europe. AT&T could also enhance its buying power by setting up joint procurement agreements, as have Deutsche Telekom and France Telecom.
9. T-Mobile has no clear path to LTE and T-Mobile can no longer rely on its parent, DT in Germany, for investment funding, pp. 5-6 of filing.	T-Mobile can begin to introduce LTE by re-farming some GSM frequencies *within its existing spectrum* and has a path to upgrading and enhancing the capacity of its networks substantially over the next few years with new releases of HSPA+ and the introduction of carrier aggregation technology. The merger breakup fee will give T-Mobile $3 billion, plus more spectrum and a guaranteed data roaming agreement with AT&T, which it had previously refused T-Mobile.

	Other partnership options and sources of additional spectrum are identifiable with none of the anticompetitive and financially harmful consequences for the US if the Deal is approved. The joint procurement agreement between DT and FT could be extended to give T-Mobile USA access to greater negotiating power for procurement than even its combination with AT&T, e.g., this could provide access to the iPhone that DT and FT have both acquired.
10. AT&T will increase its investment in wireless networks by $8 billion over 7 years.	The Deal involves sending $25 billion in cash to DT in Germany, which reduces AT&T's financial capacity for value-creating investments in the US, while creating little or no value or jobs for the US economy
11. "Results in an American Company investing in America." Presentation to AT&T Shareholders, March 21, 2011, p.14.	Of the $39 B, $25 B will go to DT in Germany that plans to use the funds for reducing its own debt and buying back its own shares.
12. "Intense competition increasing with new entrants." Presentation to AT&T Shareholders, March 21, 2011, p.16.	Clearwire has financial difficulties, while LightSquared has no customers, faces significant questions about its business model and plans to provide largely wholesale services. The merger will create higher barriers to entry.
13. New jobs will be created if the Deal is approved.	There is no evidence or verifiable data put forward by AT&T that the Deal will lead to greater investment in US wireless networks than would otherwise occur, and it might be less, see 10 above. The merger, if approved, could result in job losses as duplicate facilities are consolidated. AT&T has assumed savings resulting from the Deal that will undoubtedly include a reduction in force. The prospects for total employment are not the same as the prospect for unionized jobs that will increase through the unionization of T-Mobile' non-unionized jobs for those T-Mobile staff who are retained. This is why the unions, e.g., CWA, support the merger. But this change contributes nothing by itself to total employment within the merged entity.
14. "The transaction includes broad and strong support from union, minority, local and rural representatives, as well as industry experts," Randall Stephenson testimony, Senate Judiciary Committee Hearing, May 11, 2011.	While there are a large number of entities that have expressed support for the merger, the interests of those parties are narrowly focused and do not support the broader socio-economic interests of the country. In most cases, this support is based solely on an acceptance of AT&T's assertions/claim. These expressions of support therefore have no forensic value. AT&T's efforts to recruit these parties are akin to a political campaign where narrow interests are appealed to in order to gain support. For example, the CWA supports the merger because it will yield a greater number of unionized employees, while substantial reductions in force occur simultaneously.

	Minority groups whose attitudes towards AT&T are influenced by past AT&T support of minority rights and employment. This has led to acceptance of AT&T's misleading and incorrect claims that the deal will generate more investment, jobs, and expanded broadband coverage that will enable minority adoption of broadband. Various tech companies support the merger because they expect to do business with AT&T now and also in the future when AT&T may become a US monopsony in the GSM/HSPA space.
15. "This transaction will enable AT&T to build upon its strong track record for disaster preparedness by expanding the infrastructure and spectrum resources from which it can draw during emergencies," p. 64, AT&T Public Interest filing with the FCC, April 21, 2011.	This assertion is unsupported by any concrete indication of how disaster preparedness will be improved in ways unique to this transaction. Furthermore, AT&T's commitment to improve emergency services is contradicted by its initial 700 MHz network implementation plans based on handsets and systems that are not compatible with other providers operating in the same band. But interoperability between different networks is an essential characteristic for emergency communications so that the public safety community can improve response time in an effort to save lives and protect property

1.3 Harmful and Irreversible Consequences of the Deal

Not only are the benefits of and justifications presented for the transaction by AT&T illusory and unfounded as outlined in Table 1 , but even worse the transaction will inevitably result in serious and irreversible damage to consumers and the overall wellbeing of the US economy. Table 2 summarizes these adverse consequences that in many cases have been completely ignored by AT&T in its filings, e.g. the impact of the $25 billion cash payment to Deutsche Telekom on US investment and employment opportunities.

Table 2

Adverse Consequences of the Transaction Ignored by AT&T

Consequence	***Comments on their Impact***
1. $39 billion price including $25 billion cash sent to DT in Germany	Reduction of $25 billion in financial resources otherwise available for investment and job creation in the US[1]
2. Establishment of a national GSM/HSPA monopoly and monopsony	Opportunity for merged entity to "whipsaw" foreign operators in negotiating agreements for international mobile roaming, leading to their demands for interventions by foreign regulators with the FCC. Increased mobile prices for international business visitors and tourists to the US; Planned refarming of T-Mobile's AWS spectrum from HSPA to LTE, eliminating a major channel for international roamers from HSPA networks in the AWS band based in Canada and Latin America; Monopsony power in negotiating contracts with equipment suppliers and in acting as the sole gateway for access by US customers to the full portfolio of innovative devices, applications, and services being developed worldwide for GSM/HSPA.
3. Precedent on the way to re-establishing a regulated duopoly in US telecommunications	If approved this transaction will leave the path wide open for Verizon Wireless (VZW) to make any other acquisition(s) it wishes in the US, including possibly Sprint or U.S. Cellular, two CDMA carriers. Re-establishment of a duopoly will require greatly increased government regulation to control anti-competitive and anti-consumer behavior. Such regulation would likely include, among others, price regulation, wholesale access requirements and full network neutrality protections.

[1]AT&T' has been silent on the subject of the *net* impact of this transaction on employment, or how it has calculated the claim of its leading to an *additional* investment of $8 billion in wireless infrastructure over seven years (compared to what is the question). So there is nothing solid to seek to rebut, modify or confirm about AT&T's assertions in these respects. However there are very plausible indications that these assertions from AT&T and its supporters are misleading if not unfounded (e.g. the "added" jobs discussed refer only to existing jobs that would become union jobs not a net jobs effect, and the unsupported assertion of an $8 billion additional investment is unexplained). Furthermore it may be assumed that if AT&T had even a minimally plausible case to present in favor of the T-Mobile transaction with respect to its positive effects on total employment and investment, it would do in light of the extremely high current visibility of these factors in debates about the future of the US economy. The inference has to be that there is no such case that can be substantiated.

Table 2 Adverse Consequences of the Transaction Ignored by AT&T	
Consequence	***Comments on their Impact***
4. Influence on the entire market for telecommunications including fixed or wireline retail and wholesale as well as wireless services - all wireless services, whether offered by wireless-only or integrated (fixed and wireless) operators are intimately and inextricably dependent upon the use of extensive fixed network facilities while many customers view wireless as either substitutes for and/or essential complements to wireline services	Operators including AT&T and DT as well as customers are increasingly exploiting converged offerings (with bundled (i.e. discounted) pricing and operationally interdependent fixed access- and wireless access- based ("Anytime, Anywhere, Any Network") services). Thus the creation of a duopoly on the wireless side will inevitably reverberate throughout telecommunications, especially given the huge roles that its two constituents (AT&T and VZW) already play as one member of different duopolies in many major areas in the US for the supply of fixed broadband services, and as providers of essential backhaul and long haul transport facilities on which their wireless-only (and other) competitors depend.

1.4 Alternative Scenarios for a Better and More Competitive Future

In this report we present considerable evidence and a wide range of economic, market, pro-competitive and technical reasons why the proposed AT&T/T-Mobile Deal should be rejected because it is profoundly harmful to the public interest and to the future health of the telecommunications market in the US. It is also harmful to the market and regulatory dynamics of global communications. In addition -- and in a more positive and innovative spirit -- we have also developed future scenarios for T-Mobile USA and even for AT&T itself, as well as the broader community of network operators in the US, that will deliver much better outcomes for all stakeholders. These outcomes include the benefits that AT&T claims incorrectly can only (but will not) be generated if this deal is approved. Table 3 on the following page summarizes the elements of these scenarios:

Table 3 Better Futures than an AT&T/T-Mobile Transaction	
Post-rejection Scenario	***Promising Future Post-Rejection Initiatives***
T-Mobile USA	*Apply breakup fee assets* and conditions ($3 billion + AWS spectrum + data roaming agreement with AT&T) to improve capacity, capabilities, and coverage of services offered to customers *Raise more cash* (perhaps up to $2 billion) by selling its tower assets as it announced it was considering in January, 2011. *Within existing spectrum*: (a) Introduce future Releases of HSPA with carrier aggregation to increase peak and average data rate capacity, and (b) Begin deployment of LTE after re-farming of some GSM frequencies. *Acquire additional spectrum* by leasing or buying unused frequencies from their existing holders.

	Exploit DT/FT global procurement agreement to obtain better conditions from equipment suppliers and favorable access to the iPhone and other popular and innovative devices. *Seek other partners* if necessary, including foreigners who are interested in the US market, to reduce its own investment needs *Compete aggressively* with AT&T and other operators, for example through superior customer service, more friendly contractual terms, and innovative international roaming services.
AT&T	*Increase investment in wireless infrastructure* and services in the US using the difference between the breakup fee and the $25 billion otherwise sent to Germany. *Negotiate access to T-Mobile USA's towers* where needed, which in January, 2011 DT announced it was prepared to sell. *Expand rural broadband coverage* by deployments in its own 700 MHz frequencies and by establishing partnering and sharing investments as well as expanding data roaming agreements with rural carriers. *Pursue opportunities in urban areas* to expand capacity and cope with congestion through initiatives such as co-location, sharing arrangements with other operators, expanded use of femtocells, use of new small cell architectures, etc. *Exploit innovative and creative thinking* within AT&T that may have a better chance of gaining influence at decision-making levels once the brute force approach of buying out competitors as a path to increasing profits is ruled out.
Other Operators and MVNOs	Other operators and MVNOs will breathe more freely and will be able to negotiate better deals with equipment and device vendors and more sensible, e.g., cost sharing, arrangements between themselves if they have less reason to be intimidated by or presented with "an offer you can't/dare not refuse") from an emboldened AT&T or Verizon.

Table 3 **Better Futures than an AT&T/T-Mobile Transaction**	
Investment	Total investment in wireless broadband is likely to increase in a more competitive environment than with a post-transaction duopoly.
Innovation	More, and in particular, smaller innovators will find it easier and have more possibilities to come to market if they are not limited to the two gateways of AT&T and Verizon Wireless.
Employment	Total employment opportunities should be increased both directly (increased investment in network infrastructure and services) and indirectly, through the well-researched impact of expanded broadband services upon jobs and wealth creation.

1.5 AT&T's Inconsistencies and Misrepresentations: A Summary Recommendation

Among other things, AT&T's inconsistencies and misrepresentations outlined in detail in Table 1 above demonstrate that this merger is not in the public interest and should be rejected by the FCC. If the merger is approved, it will inevitably result in serious, unresolved and for all practical purposes irreversible negative effects on the nation's communications ecosystem.

1.6 Proposed Conditions for Consent will be Ineffective

No matter what conditions are imposed on the AT&T/T-Mobile Deal, they will be ineffective in large part because of the inability of regulatory bodies, both national and state, to police those conditions on a real-time basis and enforce effective remedies on a timely basis. This task is made impossible by the fact that although the regulatory mechanisms are in place, the budgets are not available, under current conditions, to realistically monitor that the conditions are being followed. Indeed, it is a fact that AT&T is often and repeatedly opposed to the FCC's otherwise popular and public interest focused policies, e.g., network neutrality, wireless roaming agreements, 700 MHz interoperability, etc. This opposition has been proven effective in delaying the application and effect of remedies long enough for "justice delayed" to become "justice denied" so that the effects of the harm that is caused cannot be reversed.

1.7 Responses to Assertions Made in the AT&T/DT Joint Opposition Filing of June 10, 2011[2]

In the brief timeframe for responding to the Joint Opposition Filing, this report has addressed many if not all of the assertions presented by AT&T and DT. However, in light of the short timeframe, we cannot guarantee that we have captured all of the misrepresentations or critical omissions in the Joint Opposition Filing. A summary of these assertions and our responses is shown in the Table 4 below:

Table 4
Comments on Assertions Made in the Joint Opposition Filing

Assertions in the Joint Opposition Filing	Evidence to the Contrary in this Report and Elsewhere
HSPA+ is at the end of its deployment cycle	• In Opposition filing (P.36) AT&T acknowledges that the transition to LTE will take many years • Report Section 5.1 shows why HSPA+ will be important for many years to come
There are no differences between prepaid and post paid markets (p.119)	• This contradicts AT&T's argument in its own April 21 Merger proposal that T-Mobile is not a close substitute because non-contract subs are more important for T-Mobile than for AT&T.
Vodafone's concerns about losing T-Mobile USA as a roaming partner are irrelevant (p.196) because no Vodafone customers have AWS-capable devices	• Multi-frequency devices would be developed if they were useful; other countries in the Americas are deploying HSPA+ in the AWS

[2] "JOINT OPPOSITION OF AT&T INC., DEUTSCHE TELEKOM AG, AND T-MOBILE USA, INC. TO PETITIONS TO DENY AND REPLY TO COMMENTS,"http://fjallfoss.fcc.gov/ecfs/document/view?id=7021686831

	band, including Canada. Re-farming of T-Mobile's HSPA+ facilities will damage these providers' international roaming capabilities
AT&T issues a thinly veiled warning that approval of the merger is necessary to deploy LTE to 97% of the US population (p.89).	• AT&T is setting up the FCC for blame for a future shortfall in its coverage, leading to an unhealthy climate and precedent if the merger is approved
The relevant market is local wireless markets and not national wireless markets	• Sections 2.2 and 2.4 of this report dismiss the assertion on several grounds as did the Senate Judiciary Committee in a May Hearing
AT&T rejects the conditions proposed in several earlier filings as Conditions of Consent (Section III) and only appears to favor selective spectrum divestitures as acceptable conditions. This is its motivation for arguing against all evidence that the relevant markets are local.	AT&T has a long history of anti-competitive and anti-consumer behavior (see Section 3.3) which makes it highly unlikely that simple spectrum divestiture will be sufficient to maintain competitive balance. Furthermore, more stringent regulation may not be fully enforceable given AT&T's past history. No conditions can be remedies for the damage that would be caused by this transaction (Section 6.3 in this report)
AT&T reiterates (pp.131, 214) that there are adequate substitutes for wholesale wireless broadband services from Clearwire and from LightSquared.	These assertions cannot be taken seriously at this time. Clearwire is in financial difficulty and has deployed a WiMAX technology which is not moving forward. LightSquared has no customers at this time and has not yet proven that it will not interfere with GPS transmissions or can raise enough money to deploy its network.
AT&T states (p.215): "For example, assertions that the merger will lead to a wholesale "monopoly" in a particular air-interface—GSM—are not accurate. The very nature of a wholesale relationship is that the reseller does not have a network and is not beholden to any particular technology or air-interface".	One of the T-Mobile-based MVNOs to which AT&T itself refers (see http://www.mysimplemobile.com) has built its business around customers who have unlocked GSM/HSPA devices using replaceable SIM cards. These devices, if multifrequency, can be used on any GSM network even overseas. SIM cards are not used in CDMA handsets, so this business model is not applicable with CDMA operators.
AT&T implies that it has little or no ability to influence choices of technology and innovations available to other operators – (p. 151) "North America represents only a small fraction of the addressable market, and AT&T's customer base is only a fraction of that	AT&T led the way in stimulating the transition of TDMA (IS-136) operators throughout the Americas to GSM from the turn of the century.[3] In acquiring T-Mobile, it would become the largest AWS spectrum holder in the US, in a pole position to influence the development of products using these frequencies, which will be followed by operators throughout the

[3] "The prophet & the project manager: How two guys from McCaw tackled AT&T's data dilemma," http://connectedplanetonline.com/wireless/mag/wireless_prophet_project_manager/; "GSM OR CDMA: *The Commercial and Technology Challenges for TDMA Operators",* The Shosteck Group, published by the CDMA Development Group, June 2001, http://www.cdg.org/resources/files/white_papers/cdg_shosteck_TDMA_to_3G_english.pdf

fraction".	Americas which deploy networks later in this band
AT&T asserts (p.161) that there is no reason to conclude that the merger would have an effect on a trend to declining international roaming prices.	But currently US mobile customers pay higher international roaming charges than customers based in other OECD countries[4].If T-Mobile is no longer an independent competitor, there will be less competitive pressure on AT&T to negotiate lower international roaming prices for its customers, while as a GSM/HSPA monopsony it will reciprocally be able to impose higher roaming prices on customers of foreign GSM/HSPA operators visiting the US.

2. CONTEXT AND CONSEQUENCES OF THE DEAL

2.1 AT&T and the Competitive Landscape

A duopoly will be an inevitable consequence of approval of this transaction, in a "back to the future" re-creation of the 1980s, which would be even more harmful and dangerous to consumer and total welfare than its 20th century predecessor. A network duopoly in the 21st century would inevitably be much more broadly hostile to innovation and economic opportunities than that which existed in the 1970-80s, since it would lie at the heart of the three interacting major phenomena that have spread throughout the world as well as the US since that time, namely:

- ✓ Mobile communications, with about 5.3 billion connections globally at end-2010, which dwarfs the number of fixed access subscribers at 1.2 billion.
- ✓ Broadband communications are being deployed at a rapidly increasing pace, and now finally even the long envisaged commercial videophone[5] service is becoming an affordable reality, as mobile devices with two cameras (forward- and backward-facing) connected to mobile broadband networks, are becoming widely and globally available.
- ✓ Internet-based communications, information, and entertainment services.

As a consequence, the role of network operators in our social, professional and economic lives has become much more central and critical at the local, regional, national and global levels than even the seemingly all-powerful Bell System of the early 1970s that was investigated for intra-corporate transactions and antitrust issues by the FCC and DOJ, resulting in the breakup of the System in January 1984.

[4] INTERNATIONAL MOBILE DATA ROAMING, DSTI/ICCP/CISP(2010)12/FINAL, May 30, 2011, Working Party on Communication Infrastructures and Services Policy, Organisation for Economic Co-operation and Development, http://www.oecd.org/dataoecd/57/62/48127892.pdf

[5] "The Latest in Television", Literary Digest, May 7,1927, http://www.oldmagazinearticles.com/pdf/1927_Television_article.pdf

With horizontal mergers, such as the AT&T/T-Mobile Deal, a statistic known as HHI (Herfindahl-Hirschman Index) is used to assess the combined market shares of the top four firms in any given business sector. Once the FCC and the DOJ have identified the market and/or the specific markets that they want to measure for concentration and market power, they should employ HHIs as a valid and verifiable measurement tool[6].

The merger of AT&T and T-Mobile USA would concentrate the power and the incentives to act as bottlenecks to innovators in the hands of two huge corporations, AT&T and Verizon, which have long histories of stifling innovation and of acting contrary to the interests of their customers whenever and however they consider such actions to be in their own self-interest. Approval of this deal would result in extensive harm to, and seriously undermine, the competitive vibrancy of markets for network services and applications that benefit from the products and services developed by diverse and often unanticipated sources of innovation outside of, as well as within, the traditional perimeter of the telecommunications sector. Apple, Google and Skype are a few, albeit among the most striking, examples of the value delivered by "outside" innovators of new products, applications, services, and capabilities to customers of network services.

A major deal that most closely approximates the AT&T/T-Mobile Deal with respect to market consolidation and market power was MCI-WorldCom's attempt to acquire Sprint Communications in 2000. This deal was suddenly withdrawn when it became apparent that the EU, the FCC, and the DOJ, would reject on grounds of market and anticompetitive power in telecommunications long distance services and Internet access[7].

Alternative strategic business initiatives and plans other than their merger can be formulated and implemented by AT&T and T-Mobile to improve their services and continue to compete as separate companies, both with each other and also with other existing and emerging potential wireless competitors. These alternatives are substantially superior to the merger of these two companies, in terms of a cost/benefit analysis to the US economy, in producing the same or even greater benefits that allegedly this transaction allegedly will deliver. The alternative business scenarios and strategies also carry none of its enormous anti-competitive, consumer-hostile, and economically damaging baggage, including the transfer of $25 billion abroad, and do not entail its other inevitably harmful consequences.

Competent, highly motivated and entrepreneurial leaders of both AT&T and T-Mobile, along with other players in, and potential entrants into, the US wireless market, will be able, motivated and encouraged to launch these value-creating initiatives, but only if the AT&T/T-Mobile Deal is definitively rejected by the FCC and the DOJ.

Approval by the FCC and the DOJ of the AT&T/T-Mobile Deal would violate a bedrock principle upon which this nation was founded. It would become apparent that decisions affecting the future of the US

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[6] Market Concentration in the Antitrust Analysis of Horizontal Mergers by Jonathan B. Baker, July 20, 2010.

[7] Department of Justice, Antitrust Division v. WorldCom Inc. and Sprint Corp., June 26, 2000, Complaint to enjoin WorldCom, Inc. from acquiring Sprint Corporation, and Official Journal of the EU, Commission Decision of 28 June 2000 declaring a concentration incompatible with the common market and the EEA Agreement, Case COMP/M.1741 – MCI WorldCom/Sprint.

telecommunications-information-entertainment sector are, at most, exposed only to purely nominal "checks and balances."

As indicated above, the resulting harm, risks, and obstacles to innovation and competition and the negative effects upon the US economy of this new 21st century duopoly would be substantially more extensive and damaging than the impact of the previous AT&T/Bell System/Western Electric monopoly prior to the breakup of 1984. Yet even the less pervasive and less profound role of the earlier monopoly was recognized as sufficiently alarming to justify actions to remove it. Allowing the AT&T/T-Mobile USA transaction to proceed would not simply return this country to the past, it would herald a future that would retrospectively make these "bad old days" seem like the "relatively good old days." The AT&T/T-Mobile Deal goes well beyond just putting a "Humpty Dumpty" AT&T together again, it would create a new, more powerful and menacing "**Hulk**ty Dumpty."

2.2 Analysis of the Relevant Market: Local, National, Global?[8]

The Number of Non-National Wireless and Wireless-Only Operators is Irrelevant in a Competitive Review of the AT&T/T-Mobile Transaction

The Situation of Wireless-Only Operators

In some respects the term "wireless networks" is a misnomer. The great majority of wireless traffic is transported over wireline (copper and fiber) facilities for most of its trip from origin to destination. This phenomenon is even more marked for mobile data than mobile voice or texting traffic, since most of the former involves long distance, and even international connections, whereas a more significant proportion of the latter may involve an origin and destination that are connected to the same local radio access network (RAN) or to different RANs within the same local area.

Thus the costs and performance, and even the range, of the services offered by a wireless-only operator are critically dependent upon the costs and quality of its access and interconnections to facilities owned by fixed or full-service (fixed and mobile) operators. The latter, of course, includes its direct and largest competitors. To the extent that AT&T and Verizon together control the majority of these fixed facilities, wireless-only operators already face a duopoly with respect to facilities that are essential to their ability to compete. This duopoly, both of whose members are full-service operators, is therefore already in a position to create bottlenecks for their direct wireless-only competitors.

The Situation of Local and Regional Operators

The position of wireless operators that have only local or regional coverage, which may be either wireless-only, e.g., Metro PCS and Leap, or full-service in some areas, e.g., Telephone and Data Systems (TDS) which owns US Cellular, are also extremely vulnerable to the exercise of anti-competitive power by much larger national competitors. This vulnerability is inherent not only in their dependence upon the fixed facilities of AT&T and Verizon, but also in their need to establish non-discriminatory voice and data roaming agreements, in terms of prices and other conditions, for all of their services that require essential links with national operators. Without these interconnections, they will not be able to offer economical and high quality national coverage to

[8] DOJ, Antitrust Division Policy Guide to Merger Remedies, October, 2004, and DOJ v. WorldCom – DOJ Complaint to enjoin WorldCom, et al., from acquiring Sprint Corp.

subscribers they wish to attract or retain who are located in their non-national wireless service areas. Thus, many of these subscribers will not choose a wireless service provider that offers *only* local or regional coverage. No-one knows this wireless business fact better than the market leaders AT&T and Verizon, both of whom have the ability to make or break a business deal for these companies. Indeed, looking at the TV, print, and online advertising emanating from AT&T and Verizon over the past couple of years, one is struck by their use of national maps showing national coverage of voice and data services as key selling points in their marketing messages. Therefore, to conclude that the wireless market is a local market is beyond all belief and reason.

The Situation of MVNOs

Non-facilities-based competitors to the major wireless network operators, primarily AT&T and Verizon, are known as MVNOs - Mobile Virtual Network Operators - because they lease capacity from the four wireless network operators -- AT&T Mobility, Verizon Wireless, Sprint Nextel, and T-Mobile.

The wireless network facility providers compete directly with the MVNOs for the business and revenues of large and small corporate and government institutions, as well as the general public. The MVNOs include TracFone, the largest in terms of number of its subscribers -- 18 million -- which is owned by American Movil, a large Mexico-based Latin American network operator; and Virgin and Boost Mobile, both of which are owned by Sprint Nextel. The MVNOs have had a difficult time surviving in the US wireless sector of the T-I-E (Technology, Information and Entertainment) industry because they are dependent upon access to services from their competitors – the facilities-based wireless operators, AT&T and Verizon. If the network services that the MVNOs require are available at prices and terms that they cannot afford, leaving them no room to generate sufficient margins, they will not survive. The number of MVNOs in the US is already small, although they play a valuable, though limited role, in wireless sector of the T-I-E industry.

It should be noted that TracFone, which has a heavy focus on Hispanic/Spanish speaking populations throughout the US, is essentially a GSM MVNO and is highly dependent upon AT&T for the leasing of airtime, i.e., capacity. If the merger is approved, TracFone will be forced to buy all of its GSM airtime services from AT&T. At the same time, it will no longer be able to get competitive bids for alternative capacity since T-Mobile will no longer be in business as a competitor to AT&T. Furthermore, TracFone has an incestuous relationship with AT&T which has a minority stake in TracFone's parent company, America Movil, and two seats on this parent's 10 person Board of Directors[9]. As a result, if AT&T decides to raise its airtime prices for MVNOs, TracFone will have no other choice but to pay those prices and pass them on to its customers.

The number of viable mobile services providers is also limited by the finite amount of spectrum that is currently made available for commercial mobile services by the FCC. The FCC has been given the sole responsibility for allocating and assigning spectrum by the US Congress[10].

In order to guarantee that the market for commercial communications services for businesses and institutions remains competitive, it is vital to ensure that wireless services providers that do not own their own mobile

[9] FORM 20-F, AMERICA MOVIL SAB DE CV/ - AMX, filed: May 13, 2011 (period: December 31, 2010), http://www.sec.gov/Archives/edgar/data/1129137/000119312511138519/d20f.htm

[10] Allocation refers to what uses specific parts of the spectrum are restricted to, while assignment speaks to which companies and/or entities are licensed to provide those services.

networks because they are not "assigned" to do so by the FCC, have access to wireless network facilities -- under reasonable and non-discriminatory terms and conditions. An "equal access" requirement for the MVNOs is therefore a business and regulatory imperative. Otherwise, they will be at a severe competitive disadvantage compared to the owners, (i.e., licensees), of the large and close to nationwide mobile networks. These competitive disadvantages will be difficult to impossible to overcome, despite any competitive strength that they may have in the operational and innovative aspects of their service offerings. Equally, small or regional wireless operators must have "equal access" in the context of roaming agreements with the national operators for both voice and broadband data, so they can compete credibly for customers based in their local areas for whom national (and even international) access to their wireless services is vital when they are away from home.

CONCLUSION

US Government approval of a merger between AT&T and T-Mobile will increase the already considerable influence and power of AT&T, which it has already been exercising, to exploit two potential bottlenecks - access to its fixed links and roaming agreements --in the facilities and capabilities without which its smaller competitors will inevitably eventually, and perhaps rapidly, fade into competitive insignificance. Furthermore as the sole GSM/HSPA operator with national coverage AT&T will be in a position to dictate terms to MVNOs, which will lose T-Mobile as an alternative business and strategic partner.

It is indefensible to argue that sustainable, healthy competition for wireless subscribers in an area will be assured because following such a merger there may be, for example, five competing wireless operators in that license area. Several of these operators are local- or regional-only and hence vulnerable to bottlenecks or choke points created by their national, full-service competitors, namely AT&T and Verizon. The argument that the presence of multiple wireless access operators in a local spectrum license area guarantees and is evidence of strong and healthy competition is fundamentally misleading. This argument is based on a gross distortion of how networks and markets for network services actually operate, as if their own islands of local or regional wireless networks are sufficient for a competitor to be able to meet the demands and expectations of customers that are national and even global in scope.

Finally, it is worth noting that if AT&T is to acquire T-Mobile, it will likely continue T-Mobile's current international roaming agreements, while refusing them to US-based competitors. The motivation for this foreseeable action is that T-Mobile's current owner, Deutsche Telekom, will own approximately 7% of AT&T post merger. DT has a significant and powerful presence in several European countries -- including its largest economy, Germany -- where as the partly privatized incumbent it has pursued many of the same anticompetitive practices as AT&T (e.g. an exclusive deal for the iPhone). Therefore the merger, if approved, will favor foreign competitors over US-based ones in terms of data roaming agreements, despite AT&T's reference to itself that proclaims its American heritage and credentials.

The Relevant Market is All Telecommunications, Not just Wireless and Not just Local

The dynamics of AT&T's pending acquisition of T-Mobile USA -- a deal that will marry the current second and fourth largest wireless services providers in America - are groundbreaking because, if approved, this deal will further concentrate market power in an already highly concentrated and oligopolistic T-I-E industry. Therefore, the FCC's review of the deal must focus on the *total market* for network services because they are vital to *all*

customers of *all* kinds, and are integral/essential to the smooth functioning, and continued wellbeing, of the US economy. The FCC's review must not be confined to wireless-based services alone. In order to take account of the growing integration and consolidation between wireless and fixed line network providers, this review must encompass and include services based on fixed access facilities, also known as wireline services, transported over the nationwide, ubiquitous public switched telecommunications network (PSTN) and broadband facilities such as those provided by cable TV networks along with AT&T and Verizon.

The need for rapid deployment, availability, and affordability of nationwide broadband services are of vital importance to the US economy. The AT&T/T-Mobile Deal has broad socio-economic implications for the costs of, and competition for, the provision of *all network services*, bundled or unbundled, on an equal, non-discriminatory, non-preferential basis to business and institutional users, their service providers, and the general public.

Consequently, the pending acquisition by AT&T of T-Mobile, if approved by the FCC and the Department of Justice, has the potential to create near monopolistic power, and not just for the provision of wireless communications services in certain geographic markets of the country. It will simultaneously increase the concentration of national market power both in the wireless communications services sector *and* the fixed line sector. In addition, if the merger is approved, it will further concentrate market power in the hands of two already consolidated companies, AT&T and Verizon, whose stated strategy is to defend and expand their market share through aggressive wholesale and retail bundling of wireline, wireless, broadband, and video services.

If the AT&T/T-Mobile Deal is approved, AT&T and Verizon will control approximately 80% of wireline access lines and a similar percentage of all wireless subscribers. This does not include the growth of so-called cable telephony provided by the nation's cable TV companies. According to the National Cable Telecommunications Association (NCTA) cable telephony grew from near zero in 1998 to 22 million connections by 2009[11].

Given this potential impact, both the FCC and the DOJ should not limit their investigation of the stand-alone effects of market power consolidation within the industry segment represented by wireless communications services. They should also assess the effects the proposed acquisition will have on a large percentage of the public when their wireline and wireless digital services are left in the hands of a duopoly. Under either scenario, the repercussions on the consumers, along with business and institutional users, will be harmful because competition will be significantly reduced.

The potential anti-competitive effects of AT&T's acquisition of T-Mobile are both significant and obvious. Furthermore, a more far reaching level of market power consolidation would occur as wireless services inexorably become an integral part of a full service (wireline and wireless) carrier's strategy to increase average revenue per user, lower customer churn, and raise market penetration.

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[11] National Cable and Telecommunications Association, cable phone customers 1998-2009 (http://www.ncta.com/Stats/CablePhoneSubscribers.aspx).

The value of fixed and mobile convergence has been recognized by AT&T (despite its extraordinary insistence that it should be viewed as competing in wireless-only local markets) as well as by other major network operators, such as Vodafone, an international UK-headquartered wireless services company, and Deutsche Telekom, Germany's dominant telephone company and T-Mobile USA's parent, in the countries where they operate both fixed and wireless infrastructure. For example, Vodafone changed its mobile-only strategy in 2006 and, having integrated its German Arcor subsidiary (amongst others), is now competing with Deutsche Telekom with mobile and fixed services offered under a single brand name[12]. AT&T's marketing of mobile services to businesses, including the role of fixed/mobile convergence, can be viewed on its web site:

http://www.business.att.com/enterprise/Portfolio/mobility-services/

To sum up:

1. The AT&T/T-Mobile Deal will have an impact on AT&T's entire business as a full-service operator with global reach offering converged and bundled services.
2. AT&T owns facilities that its wireless-only competitors, especially local and regional ones, depend upon in order to offer end-to-end services, national and international, so that there are potential competitive "bottlenecks" that it can exploit in the fixed as well as the wireless parts of its networks. Therefore, having 5 wireless service providers in a spectrum license area is a misleading perspective on competitive intensity if several of them have increasing reliance on one or two alternatives, e.g., AT&T & Verizon, for connecting their customers to the rest of the world or to provide national roaming.
3. This deal is not a value creating, or technologically, operationally, or financially justified consolidation between companies. It is an example of merger mania with an historical antecedent (MCI/WorldCom and Sprint[13]) that was withdrawn before it was rejected by the European Union, the DOJ and the FCC. Thanks to the precedent it would create if approved, this transaction would lead inevitably and inexorably to the creation, or in fact the re-creation, of an anti-competitive duopoly that would harm all users (consumers, businesses, and institutions) and the US economy.

2.3 The Deal's Effects on Competition: A Summary

As demonstrated in the sections outlined above, the AT&T/T-Mobile Deal will have significant anti-competitive, anti-consumer effects on three vital and integral major service provider, and technological/application rich sectors of the T-I-E industry: Competitive and Marketing-savvy Service Providers; Equipment Suppliers, including manufacturers of applications-rich smart handsets; and Innovative and Imaginative Start-Ups.

Service Providers: Continuation – and the intensification -- of unreasonable obstacles to this group of competitors could lead to their extinction. They depend on AT&T and Verizon for the most critical parts of their

[12] "Vodafone/Arcor Integration Reshapes Competition in Germany's Telecom Scene", http://www.ihs.com/products/global-insight/industry-economic-report.aspx?id=106596793; also see Deutsche Telekom Annual Report 2010 for information on its new integrated (mobile/fixed) organization in Germany

[13] COMMISSION DECISION of 28 June 2000 declaring a concentration incompatible with the common market and the EEA Agreement (Case COMP/M.1741 — MCI WorldCom/Sprint) *(notified under document number C(2000) 1693); http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:300:0001:0053:EN:PDF*

businesses. Competition will wither and die if the duopoly will not deal fairly and reasonably with respect to the following menu of business relations transactions.

• The negotiation of data roaming agreements and affordable, nondiscriminitory rates;

• The use of bottleneck power with respect to backhaul and other essential fixed network facilities;

• The asserting of monopsony (only national GSM/HSPA) power in international wholesale roaming services;

• The practice of monopsony power in denying access to devices and equipment made available only to AT&T;

• Inhibiting the development of interoperable devices within one frequency band (an issue that has only arisen in the new 700 MHz band which is one of the most important for LTE deployments in the US);

• Establishing preferential agreements between AT&T and one local service provider while discriminating against another; plus monopsony power with respect to MVNOs, e.g., TracFone, the largest one (almost two times the size in terms of subscriibers as MetroPCS), which in particular targets Hispanics and Spanish speaking communities.

Equipment and Smart Handset Suppliers: Approval of the deal will give AT&T monopsony, i.e., purchasing, power, with respect to a wide array of equipment suppliers and smart device development and supply. As of end-2010 AT&T, T-Mobile USA and TracFone (an MVNO using AT&T's and T-Mobile's networks for GSM services) accounted for a total of at least 140 million customers while the next largest GSM operator Cincinnati Bell Wireless, reported just over 0.5 million subscribers, followed by GCA Wireless with a total of about 130,000 customers, however including in its case CDMA connections[14]. A merged entity (AT&T/T-Mobile USA) would therefore clearly account for *over 99%* of all GSM/HSPA connections in the US market, allowing it to exercise monoposony power. AT&T will likely favor particular manufacturers over others, as it has in the past, and will also be in a position to assert control over pricing of equipment and payment terms, etc. Thus, while benefitting AT&T and its shareholders, at least in the short-to-medium term, the deal will inhibit and bias product development and competition in the equipment sector of the T-I-E industry at the expense of viable and thriving competition and the public interest.

Innovative startups: Approval of the deal will also give AT&T monopsony power to inhibit customers' access to potentially popular and consumer-friendly applications and imaginative and innovative services from startups, while following strategies of discriminatory arrangements in favor of some startup partners over other competitors. Thus the deal, if approved, will significantly damage an industry sector that has prospered and driven the US economy since the telecommunications sector moved into the digital age in the 1990s, thereby spurring the development and global popularity of companies like Google, Facebook, Skype, et al.

2.4 "Significant" Competitors & "Insignificant" Competitors

There are already very few "significant," i.e., real competitors to AT&T, and even some "insignificant" competitors.

[14] Company reports, assuming that of TracFone's subscribers at least 2/3 were GSM.

One of the most significant competitors is T-Mobile, the only other GSM/HSPA operator in the US, with approximately 34 million subscribers and net annual income of $1.4 billion. Currently, T-Mobile is the fourth largest wireless services provider, behind Sprint Nextel, the third largest wireless services provider, with 50 million subscribers. If real competition is to continue in the wireless segment, these two major service competitors to AT&T and Verizon must continue to compete for market share via imaginative and innovative pricing strategies and superior customer care. Following its troubles after its acquisition of Nextel, which was approved by regulators in 2005, Sprint is now beginning a sustained competitive comeback that will be set back on its heels by approval of this deal.

All of the other competitors are "insignificant" in terms of market share (e.g. Metro PCS has fewer than 10% of the number of subscribers as AT&T) while nevertheless giving their customers other alternatives to getting services from AT&T and Verizon. Furthermore, these relatively insignificant competitors act as valuable "bellwethers" for the FCC and the DOJ by speaking up against the anti-competitive abuses by the big two vis-à-vis roaming agreements, exclusive handset deals, etc. These minor competitors are often characterized as insignificant, yet Metro PCS manages to speak up for itself and other small regional competitors in regulatory matters and wireless sector business issues.

AT&T asserts that among the several emerging or new companies should be taken into account with respect to its future competitive challenges are LightSquared and the cable company Cox Communications[15]. But LightSquared should not even be considered as a relevant factor since it currently has spectrum but no actual customers, operating network, or as of today sufficient funding. Furthermore, LightSquared's business model, based on wholesale LTE, is attracting attention because of the potential interference with global positioning satellites (GPS). This issue may represent a huge and unsolvable business issue for the company[16]. Only time will tell. As for Cox Communications, it has recently been changing its position about deploying its own networks in the AWS and 700 MHz spectrum it acquired for a total of some $550 million[17]. Evidently entry barriers to the mobile broadband market are high, and they would only become higher if the AT&T/T-Mobile merger were to be approved.

MVNOs: These non-facilities based competitors to the major wireless network operators, primarily AT&T and Verizon can lease capacity from one or several of four wireless network operators -- AT&T Mobility, Verizon Wireless, Sprint Nextel, and T-Mobile. They prefer to be able to choose from all four of these current independent operators to remain viable, and confront the elimination of T-Mobile with fear and dread.

The wireless network facility providers already compete directly with the MVNOs for the business and revenues of large and small corporate and government institutions as well as residential customers. Examples of notable MVNOs are TracFone, owned by American Movil, a large Latin American network operator, in which, as already

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[15] Ibid., Acquisition of T-Mobile USA, Inc. by AT&T Inc.

[16] " Lightsquared Hits a Brick Wall", http://www.ecommercetimes.com/story/Lightsquared-Hits-a-Brick-Wall-72654.html?wlc=1308244430

[17] "Cox May Tear Down Wireless Network", http://www.lightreading.com/document.asp?doc_id=209058&site=lr_cable&f_src=lrdailynewsletter; "Speculating About Cox's Spectrum," http://www.lightreading.com/document.asp?doc_id=208365&site=lr_cable

noted AT&T has a significant stake, and then come Virgin and Boost Mobile, both owned by Sprint Nextel. The MVNOs have had a difficult time surviving in the US wireless sector of the T-I-E industry because they are completely dependent upon access to services and capacity provided by their major and much larger competitors – the facilities-based wireless operators. The network services that the MVNOs must have in order to survive and compete effectively must remain available at prices and terms that they can afford. If in future they will confront a duopoly, and a monopoly in GSM/HSPA, they may well have no room to generate sufficient margins, and they will die. The number of MVNOs in the US is already small, although they play a valuable though role in wireless competition, and can serve as useful checks and balances by actively participating in regulatory and antitrust issues such as the AT&T/T-Mobile Deal.

As already explained in this report, the number of viable mobile services providers on which MVNOs depend is, itself, limited by the finite amount of spectrum that is currently available for commercial mobile services by the FCC, which, as we have seen the has the sole responsibility for allocating and assigning spectrum by the US Congress.

Why competition is national not local: In its testimony before Senate and House Judiciary Committees, on May 11 and May 26, 2011, respectively, AT&T undertook unsuccessfully to convince Members that the appropriate market was a local one based upon the notion that consumers buy cellular service in the local area in which they live. In fact, AT&T's Randall Stephenson undertook an awkward attempt in the House hearing to convince Members that even if the market may have been national, at the time of AT&T's Centennial acquisition in September, 2009, it is now local in the opinion of AT&T's top executives. In spite of this representation by AT&T, it is abundantly clear that the wireless sector is indeed national – and has been for some time, and will remain so for several reasons:

First, there are now a very small number of localized wireless carriers who only operate in a handful of markets.

Second, almost all operators of any size provide consumers with nationwide calling services with the aid of roaming agreements with other carriers.

Third, the four national facilities-based carriers as well as the major MVNOs have the vast majority of the business because they are present in most, if not all, markets, and have the financial wherewithal to advertise on a nationwide basis.

Fourth, sales agents and retailers/resellers, who are authorized by the national carriers and MVNOs, to sell services, tend to be national in scope, e.g., Walmart, Target, Best Buy, BJ's and Costco.

2.5 Impacts on Customers

The negative impacts of the deal upon consumers fall into four major categoies as discussed below.

A. *Immediate impacts of the Merger Announcement on Customers*

It is clear from recent surveys, that AT&T and T-Mobile customers are not happy about the possibility of the acquisition of T-Mobile by AT&T.[18] The surveys demonstrate that, as a result of the mere announcement of the

[18] AT&T, T-Mobile customers unhappy in the wake of merger plans. Tech Flash, May 17, 2011.

pending merger, customer satisfaction scores for both AT&T and T-Mobile fell to their lowest points in five years. The surveys, compiled by the American Customer Satisfaction Index (ACSI), found that satisfaction scores for both companies dropped by four percentage points. The survey authors suggest that the drop in scores reflects the unease of many customers who are wondering how the merger will affect them. These survey data are also corroborated by various T-Mobile blog sites which report concerns among T-Mobile customers.

In some ways this development is not surprising since T-Mobile customers have in the past exhibited some of the highest service satisfaction scores in the industry, while AT&T has consistently had among the lowest satisfaction scores. Thus, T-Mobile customers are feeling that they are being moved from one of the most customer-friendly to one of the least customer-friendly service providers.

B. *Obstacles/Costs to Switching Operators*

If the number of national carriers is reduced from four to three, there will be a significant reduction in the choices confronting T-Mobile's current 33-34 million subscribers, who have been amongst the most satisfied wireless customers in the nation in terms of pric and customer care.

Additionally T-Mobile;s customers will confront a number of customer choices and potential difficulties with respect to customer contracts, early termination fees (ETFs), selection of hansets and SIM locking, transfer of applications, etc.

The "elephant in the room," of course, is the deal's effects on service pricing.

The AT&T FCC Public Interest filing, along with AT&T's presentation to its shareholders, are deafeningly silent on what the consequences of the merger will be in terms of service pricing. In the March 21, 2011 Shareholder Presentation[19], AT&T took great pains (p.15) to report that during the period when carriers combined to achieve efficiences, U.S. Wireless prices fell. However, it is notable that the company has not claimed that prices will continue to fall. The only statement AT&T made about service pricing as during the Senate Judiciary Hearing,[20] stating that former T-Mobile customers will be able to keep their current pricing plans, which are typically lower than AT&T's prices. What was not stated is how long T-Mobile's customers could retain those pricing plans, especially since AT&T has announced its intention of refarming T-Mobile's AWS spectrum from HSPA to LTE within two years after approval of the transaction, so probably *all* of these customers will have to acquire new handsets. It is therefore highly probable that service prices will increase for 33 million plus customers once their contracts come up for renewal.

In the March Shareholder Presentation,[21] AT&T revealed that it expects to grow ARPU (Average Revenue Per User) and expand margins. This business goal can only be achieved by some combination of price increases and/or cost decreases, and it is not clear what balancebetween these two approachess will be put into practice.

In its March 21 filing, AT&T pointed to trends suggesting that after wireless mergers prices appeared to decline. However, a recent detailed analysis by Public Knowledge (AT&T/T-Mobile Merger Will Not Lower Prices

[19] "AT&T + T-Mobile: A World-Class Platform for the Future of Mobile Broadband, Presentation to Shareholders, March 21, 2011", http://www.att.com/Common/about_us/pdf/INV_PRES_3-21-11_FINAL.pdf
[20] U.S. Senate Judiciary Committee Hearing, May 11, 2011.
[21] *See AT&T Supra Note 18.*

http://www.publicknowledge.org/blog/attt-mobile-merger-will-not-lower-prices) revealed that AT&T's presentation used average prices for the industry not for individual providers and did not reflect the increase in prices associated with mobile data. This report seriously calls into question the inference that AT&T made in its FCC merger proposal.

Furthermore, while past experiences with cellular mergers may be instructive, they may not apply here because of the dramatically changed circumstances confronting the wireless sector and its relationship with the national and global socio-economic ecosystem. Prior mergers occurred at a time when there was considerably more competition than there is today. Business conditions and dyamics have changed remarkably over the past ten or even 5 years, resulting in a much greater dependence of economic, business and social activity on the wireless and indeed overall infrastructure and its close links to the new technologies, services and applications. As a result, one cannot be assured that a merger occurring in 2011-2012 will have the same price-decreasing effect of earlier mergers or will be as willing to deal fairly and creatively with developers of new technologies, services, and applications that are wireless infrastructure- dependent. In its latest wireless competition report[22] the FCC warned for the first time that there is increasing market concentration of wireless services. Thus, should the AT&T/T-Mobile Deal be approved prices could increase because there is less competitive pressure to limit price increases, and AT&T will then be a monopoly provider of GSM/HSPA voice and data services. When companies are given permission by governments to acquire market power they tend to exercise it.

C. *Effects on Timely and Effective Access to Innovative Products and Services*

Historically, AT&T has a long history of suppressing innovations. These include:

- Not allowing what the company termed "foreign"devices on the AT&T fixed network, which was remedied by the FCC's Carterfone and customer premises equipment policies, where customers could purchase their own "handsets" and plug them into the AT&T network.
- Slowing the introduction and development of FM radio.[23]
- Slowing the introduction of broadcast television.[24]
- Slowing the introduction of voice mail services.
- Setting up exclusive arrangements which kept the iPhone from being accessed by 70% of US cellular users for several years.
- Setting up a new exclusive arrangement to restrict access to the new credit-card sized HP phone (the Veer).
- Giving its equipment subsidiary, Western Electric, exclusive and/or preferential treatment for new equipment purchases. Western Electric was spun off from the local service companies in 1984 as a consequence of this sweetheart procurement process.
- AT&T Mobility blocking mobile applications that compete with its telecommunications and cable services, including applications from Skype, Google Voice and Sling Media.

[22] Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, 14th Report, Federal Communications Commission, May 20, 2010, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-81A1.doc
[23] Wu, Timothy. The Master Switch: The Rise and Fall of Information Empires. New York: Knopf, 2010.
[24] See Wu Supra Note 22

D. *Provision of Broadband to previously unserved/underserved areas.*

AT&T does not have a distinguished record of serving rural areas, possibly because the costs of serving such sparse populations are not profitable. Also, the company generally refuses to offer roaming deals to wireless carriers that serve rural areas. Although AT&T says it will change its position if the deal to acquire T-Mobile is approved by the FCC and the DOJ, it has not presented any evidence to support its promise.

E. *Customers of T-Mobile USA's HSPA and HSPA+ Services*

T-Mobile offers HSPA and HSPA+ services only on its AWS spectrum and not on its PCS (1900 MHz) frequencies. As AT&T begins to refarm this spectrum for LTE, as is its stated intention as soon as or if the transaction is approved, then these customers' existing mobile devices will become useless, unless (which so far as we know has not been the case until now) they are multiband devices which can also work in the 850 and 1900 MHz bands where AT&T has deployed HSPA systems. If these customers stay with the merged entity then they will require new mobile devices that could be HSPA only, working on 850 and 1900 MHz frequencies, or possibly dual mode LTE/HSPA devices in the AWS band so they can enjoy as much coverage as they do now while the AWS assets are progressively converted to LTE (during the transition some areas will inevitably continue to be served by HSPA on AWS since a simultaneous nationwide "flash" cutover is not feasible). The question then arises, which we have not yet seen addressed, is how much of the replacement costs of the current AWS HSPA devices will be borne by AT&T *at no expense to T-Mobile's migrated customers,* and how much will be absorbed by AT&T itself (and whether these costs are included in the NPV calculations of the transaction which AT&T has performed). The development of multifrequency HSPA devices (accommodating AWS as well as several or all of other frequencies in common use in the Americas and Europe for HSPA deployments, e.g. 850/900/1900/2100 MHz) will be a function of the demand, i.e. likely market for particular combinations of these frequencies. As a national monopoly GSM/HSPA operator in the US, AT&T will play a significant role in the choices of chipset suppliers and device vendors in this regard. If AT&T's planned elimination of T-Mobile's HSPA service in the AWS band takes place following approval of the merger, then the likelihood of any multifrequency HSPA devices that incorporate AWS frequencies being developed will be substantially reduced.

We also note later in this report (see 2.10 below) that the elimination of HSPA service in the AWS band as planned by AT&T will have an impact upon operators elsewhere in the Americas who have only deployed HSPA in this band or plan to do so. This reframing will create "collateral damage", since it will remove their ability, even if they were able to establish a roaming agreement with the merged entity, to offer international data roaming services in the US to their HSPA customers unless these customers acquire multifrequency HSPA (850/1900MHz/AWS) or dual-mode (LTE/HSPA) AWS devices .

2.6 Strategic & Business Scenarios if the Deal is Approved: Precedents for the Future of Wireless

The AT&T/T-Mobile Deal represents a new level of industry concentration in the wireless sector. As a result, approval of the AT&T merger will break new ground and will result in an unprecedented situation in which:

1) AT&T will become a monopoly provider of GSM/HSPA services for individuals, business enterprises and GSM MVNOs.
2) AT&T will be virtually the only buyer of GSM/HSPA equipment and handsets.
3) AT&T will be in a position to dictate terms for voice and data roaming for any remaining GSM/HSPA providers such as Cincinnati Bell and some of the rural carriers.
4) If the merger is allowed, it may set the stage for further consolidation in which Verizon makes additional purchases in order to further strengthen its position vis-à-vis AT&T, for example it could acquire Sprint or US Cellular, which, like Verizon, are CDMA carriers. Even without further acquisitions AT&T and Verizon will operate as a duopoly, and effective wireless service competition will be ended in the US as the remaining carriers undertake what will have to be heroic efforts if they are to survive. The ONLY easy way out for them, perhaps, will be to sell to the duopoly as quickly as possible.

Economic Effects on US GDP & Employment: The $25B to DT

The AT&T merger is likely to have a notable economic impact and may result in a significant loss of jobs since the combined company is anticipating between $6B and $7B in "integration costs"[25] (which probably means severance packages for employees who are laid off). Had this deal occurred between two US-based firms, the result may well have been different. But, as it stands, $25 billion in cash will go to DT in Germany where the company has said the $25 billion will go to repay toward debt and buying back shares. This sum would therefore be lost to investment in the US and would in particular reduce AT&T's financial capacity for investment.

2.7 Strategic and Business Scenarios if the Deal is Rejected

There remain better days ahead for both of these companies if the deal is rejected. T-Mobile will not inevitably decline and die as AT&T has suggested in its FCC filings.

As has been outlined in Table 3 above, T-Mobile has a number of strategic business alternatives that it can deploy. The most important of these is the $3 billion in cash that T-Mobile receives from AT&T – when/if the deal is rejected by the FCC and the DOJ. This cash will give T-Mobile an immediate and valuable influx of operating capital in order to improve its competitive position. But this is not all that AT&T has offered. The breakup "goody bag" also includes a roaming agreement with AT&T, along with some valuable recently auctioned AWS spectrum that AT&T is "warehousing."

Another known strategic business option considered by T-Mobile is the sale of its cell tower assets in order to generate cash to upgrade its network and reduce its operating expenses. T-Mobile could also seek other smaller business partners while continuing to promote its international roaming deals via its parent company, DT.

For its part AT&T could strengthen its position by investing more heavily in its own network in order to cope with its increasing traffic, and the $25 billion in cash that it plans to send to Germany (minus the $3 billion it will pay to DT as part of the breakup fee will go a long way to creating jobs and increasing GDP in the US.

Other smaller competitors will breathe much more freely as they upgrade to broadband and 4G in an environment in which they have alternative roaming and other partners and realize that there are limits to what AT&T will be allowed to do that may hurt them.

[25] *See AT&T Supra Note 18 at p. 35.*

Finally, equipment manufacturers, along with the developers of new products, services, and applications will find more opportunities when they are dealing with four major national carriers than with only two.

2.8 AT&T's Real Motivations behind the Deal

What is the real motivation for the AT&T/T-Mobile Deal? There is one plausible motivation that AT&T has not publicized. Namely, that it is trying to remove a competent competitor from its home market in order to dramatically increase its size and market power to the point where it is **"too big not to succeed even if it fails….to deliver excellent value to its customers."**

2.9 Explanation of Deutsche Telekom's Sudden Reversal of its Opposition to AT&T

Actions by AT&T are directly responsible for a number of the competitive difficulties suffered by T-Mobile since 2007 that, it is claimed, can now only be overcome and remedied by the proposed merger if it is approved. These anticompetitive actions of AT&T against T-Mobile include: (1) AT&T's exclusive handset deal for the Apple iPhone, which denied access to this highly sought after device to T-Mobile's customers, as well as to most US consumers; (2) AT&T's refusal to sign a data roaming agreement with the T-Mobile, despite its benefits to AT&T's own as well as T-Mobile's customers; and (3) AT&T's behavior with respect to its provision of Special Access services on which T-Mobile and others are dependent to a substantial extent.

T-Mobile itself has recognized the adverse impact of these actions on its business and in two cases (data roaming and Special Access services) has been prominent among operators that have been trying to force changes in AT&T's business practices. AT&T's exclusive arrangement for supply of the iPhone clearly damaged the business of T-Mobile as it acknowledged in T-Mobile USA's investor conference as recently as January, 20, 2011. Philipp Humm, President and CEO of T-Mobile, indicated when discussing customer churn, that 10 percent of all customer departures could be traced directly back to customers leaving for operators that carry iPhones[26] (i.e. AT&T which was the only operator that had the phone through 2010). In early February 2011 it was also announced[27] that T-Mobile and AT&T had been unable to reach a data roaming deal and that T-Mobile had called on the FCC to institute a data roaming mandate. Finally, as noted earlier, T-Mobile was a prominent member of the Nochokepoints coalition (from whose website www.nochokepoints.org it has now disappeared), requesting the FCC to take action about the conditions of the Special Access services market. Indeed, T-Mobile was directly attacked on this very subject in November 2010 in an AT&T Public Policy blog posting.[28]

There may be other actions by AT&T that T-Mobile did not publicize but also contributed to its difficulties. For example, the fact that the superior financial resources of AT&T and Verizon, with no restrictions on the bandwidth they can now bid for, enabled both companies to dominate the 2008 auction for "beachfront" 700 MHz frequencies, accounting in combination for some 80% of the sums paid, is another example of the power exercised by the Big Two. This power is making life increasingly difficult for all their competitors, as T-Mobile is aware, regardless of how superior these competitors may be or become through innovative initiatives in other key elements of the mobile business, such as customer service. It should be remembered that these two market

[26] Bloomberg News, January 20, 2011- http://www.fiercewireless.com/story/t-mobile-ceo-humm-unveils-turnaround-plan-says-10-churn-caused-iphone/2011-01-20

[27] T-Mobile, AT&T deadlock on 3G data roaming deal, http://www.fiercewireless.com/story/t-mobile-att-deadlock-3g-data-roaming-deal/2011-02-03#ixzz1N6kRdFZK

[28] "Miracle on Special Access Street" - http://attpublicpolicy.com/government-policy/miracle-on-special-access-street/

leaders, and/or their predecessors, were handed significant quantities of 850 MHz spectrum at no cost in the 1980s, whereas all other competitors, including Sprint and T-Mobile, have had to pay large sums for *all* the spectrum that they now hold.

The combined dominance of the two US mobile market leaders in spectrum below 1 GHz, which is the prime spectrum for rural broadband deployments thanks to its longer propagation range[29], has thus been helped by a *legacy subsidized advantage* that their competitors did and do not share. Under these circumstances it is particularly egregious that AT&T should present among the alleged benefits of its deal with T-Mobile that it will thereby be enabled to expand its rural coverage, when T-Mobile USA has no frequencies below 1 GHz and AT&T is refusing to establish data roaming agreements with rural GSM operators.

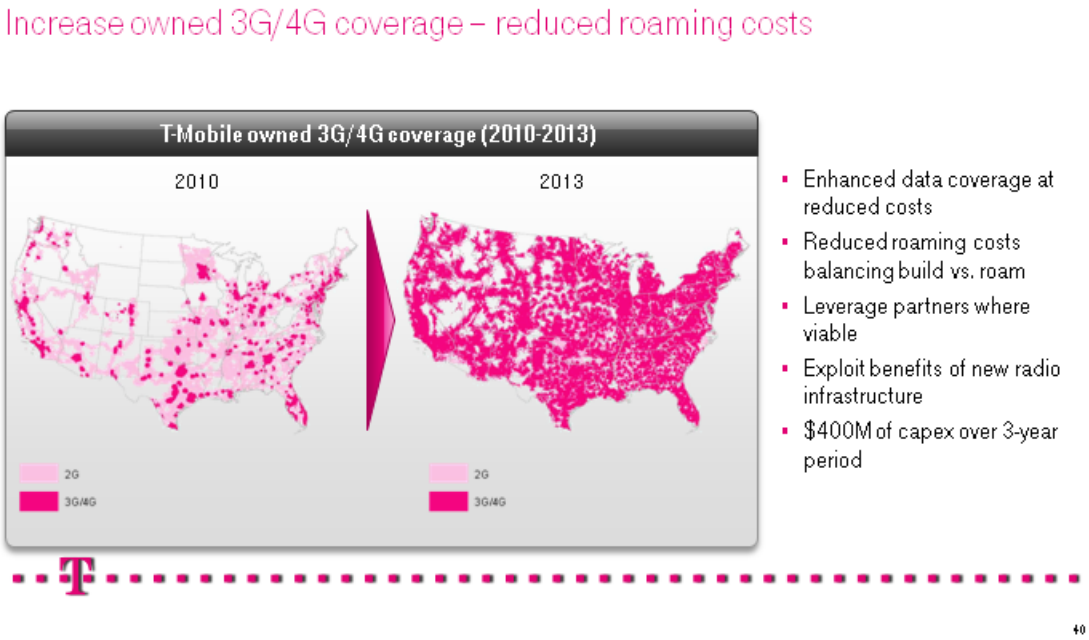
The announcement of the AT&T/T-Mobile Deal demonstrates that T-Mobile USA's difficulties attributable to AT&T grew to the point that its parent, DT, has now decided to reverse its strategy with respect to the US market, thus abandoning its commitment to T-Mobile USA. Acceptance of AT&T's offer is a sudden reversal of course that contradicts what Deutsche Telekom and T-Mobile presented in its investor conference on January 20th, 2011.

Philipp Humm, T-Mobile USA's CEO[30] said the company planned to drive $1 billion in savings by reducing the costs of customer care, migrating to a self-service and IVR (interactive voice response) system, and simplifying rate plans and deploying an all IP (internet protocol) network that included building 1,000 more cell sites to reduce the company's roaming fees. Figure 1 shows one of the slides presented at this conference to illustrate T-Mobile USA's plans:

[29] Frequencies below 1 GHz also have superior in-building penetration characteristics, which convey an advantage in terms of coverage even in urban areas if they are available in addition to higher frequencies. A substantial proportion of "mobile" usage takes place when customers are stationary or nomadic within buildings, so in-building coverage is also a competitive factor for mobile operators in urban as well as rural environments.

[30] Ibid., T-Mobile USA Investor Day

Figure 1



Mr. Humm stated that in addition, the company would explore new MVNO relationships as well as rebuild its business-to-business sales program, which had atrophied during the past few years due to T-Mobile's focus on the consumer market. Deutsche Telekom CEO Rene Obermann also spoke briefly about the parent company's commitment to T-Mobile USA. He said the firm was convinced that T-Mobile was a good asset, but noted that DT was not opposed to exploring options such as forming partnerships with other firms, embarking on network-sharing arrangements or even selling non-core assets such as T-Mobile's tower portfolio. He said DT's goal was to make T-Mobile USA a self-funded entity.

These initiatives, presented a mere two months before the announcement of the AT&T transaction, are all components of alternative scenarios for the future of T-Mobile. These truly value-creating scenarios do not depend on T-Mobile USA's acquisition by AT&T with all its attendant negative consequences for consumers and for the competitive health of the US telecommunications market.

Nor do these scenarios require the scarcely credible transformation of AT&T in T-Mobile's eyes into its new "best friend" from its designation as a major threat to fair and healthy competition in US telecommunications. The transaction does not include any commitments from AT&T to change its behavior[31] if it is approved, the very same behavior that T-Mobile has repeatedly condemned. So it must be assumed that Deutsche Telekom has simply decided that it can no longer afford to fight the depredations to its business caused by AT&T, and is prepared to leave the future evolution of the US market entirely up to Americans, gratefully accepting a generous buyout package offered by or negotiated with AT&T.

[31] Apart from an unsupported claim that AT&T will be able to increase its rural broadband coverage by acquiring T-Mobile, although nothing is stopping it from doing so now except a decision not to invest or seek rural partners, while T-Mobile has no assets relevant to this goal

The precedent set by approval of the merger would immediately send a deeply disturbing and discouraging signal to other competitors and investors in the US telecommunications-information-entertainment marketplace about what to expect from AT&T, given the lack of any countervailing pushback against its market power. Deutsche Telekom's sudden change of heart and remarkable overnight transformation from a position as one of the most aggressive opponents of AT&T's business practices to its new "best friend" can be explained by the generous terms of the buyout agreed to by AT&T. This buyout is designed to convince DT to focus its resources on countries where it enjoys a more favorable (even privileged like AT&T in the US), regulatory environment and the competitive odds are not blatantly and unfairly stacked against it. As shown elsewhere in this report, the other reasons formally advanced by AT&T to justify the transaction, such as the otherwise insurmountable obstacles it confronts to deploy enough capacity to meet its customers' needs and respond effectively to the Administration's clarion call for national broadband coverage, are questionable and probably represent window dressing in order to get the deal approved. Promises of more jobs, investment, and expanded broadband coverage represent a politically acceptable overlay for AT&T's true motivation, which is to achieve a position in which it is too large in a regime of light-handed FCC regulation to have any restraints imposed on its behavior and actions even when it fails, as it has in the past, to serve the public interest, and more broadly the interests of the US economy and society.

A disquieting perspective on the implications of approval of the AT&T/T-Mobile Deal, and its implications for other competitors, is provided by the observation that DT generated revenues of about $90 billion in 2010, which is almost three times larger than the $32.6 billion of the much smaller Sprint, the number three operator in the US wireless market. Yet as noted and as a consequence of AT&T's actions, DT has recently decided to reverse its strategy for T-Mobile USA, from its role as DT's "engine of growth[32]" and "most successful T-Mobile company,"[33] and most recently: "We presented our new strategy at the end of January 2011. By 2014 we aim to increase our revenue by USD 3 billion,"[34] to a sudden abandonment of the US market.

This example of a major strategic turnaround by a powerful global company like DT is what US regulators may soon confront in other cases in the future if this deal is approved. It is an almost absolute certainty that both AT&T and Verizon would be emboldened in their regulatory battles with and resistance to the FCC over broadband deployment and network neutrality, et al. by approval of the AT&T/T-Mobile deal. Market power often brings with it political power while driving out smaller yet effective and efficient competitors. If the deal is approved, other competitors will be relegated to competitive and regulatory insignificance, or alternatively compelled to accept withdrawal from the market as independent entities on terms dictated by either AT&T or Verizon.

2.10 International & Global Implications

Two inevitable key results of the AT&T/T-Mobile transaction will be:

- The establishment in the US of an effective monopoly supplier of GSM/HSPA services and monopsony buyer of GSM/HSPA equipment and devices.

[32] 2005 Deutsche Telekom Annual Report
[33] 2006 Deutsche Telekom Annual Report
[34] 2010 Deutsche Telekom Annual Report; ibid,. T-Mobile USA Investor Day,

- The removal of T-Mobile USA from the joint global purchasing venture[35] between Deutsche Telekom (DT) and Orange (France Telecom, FT) whose negotiating power with respect to GSM/HSPA/LTE suppliers is greater than that of AT&T, even if the latter is combined with T-Mobile USA. The international impact of these consequences includes the following undesirable outcomes:
- Foreign GSM/HSPA operators, who today account for 90% of global mobile connections[36] will only have one negotiating partner for continuing or establishing roaming agreements, both for broadband data and voice for their customers when they are traveling in the US – this circumstance may lead to increases in roaming prices for international travelers to the US, both tourists and business visitors. As of mid-2011 the number of HSPA connections worldwide has already reached 500 million[37].
- In the other direction for US GSM/HSPA mobile customers roaming abroad, there will be no basis for competition in terms of alternative innovative international roaming services, for example an independent T-Mobile USA might introduce agreements across its parent's (and perhaps some of Orange's) non-US properties whereby its US customers would be treated when within their coverage areas on the same terms as when they are in their "home" network, without incurring any of the typically high international roaming charges.[38]
- Other US-based operators, including small GSM as well as CDMA2000 operators, specifically the smaller ones, e.g., Metro PCS, Leap, and US Cellular, will find themselves at an even greater disadvantage with respect to their ability to get the attention of large foreign GSM/HSPA operators for negotiating competitive international roaming agreements with them, either through separate GSM/HSPA handsets made available to their customers for their international trips, or through multi-mode (GSM/HSPA/ CDMA2000) devices.
- T-Mobile, and the entire community of GSM/HSPA users in the US, will be denied access to the potentially wider range of devices and other more favorable conditions that the joint purchasing venture between DT and FT should be able to negotiate with equipment and device vendors, compared to those that AT&T will pursue or be likely to achieve.
- GSM/HSPA equipment and device suppliers will have to negotiate with a monopsony buyer in the US, who will have immense market power to suppress bringing any innovations to market, which it unilaterally decides are not in its commercial or financial interest, regardless of how valuable, useful and desirable they may be for US customers.

Cross Border Regulatory Issues

As just emphasized, one critical negative outcome of the deal, if approved, will be the emergence of only one national GSM/HSPA operator in the US, giving rise to concerns among GSM/HSPA foreign operators and the regulators responsible for them about the conditions under which these foreign operators may be obliged to negotiate to offer international roaming services (IMR or international mobile roaming) to their customers, who account for 90% of mobile connections outside the US. This concern is founded upon a similar consideration as

[39] "Deutsche Telekom, France Telecom Set Up Purchasing Venture", http://news.businessweek.com/article.asp?documentKey=1376-LJU3KY6JIJUO01-3S9RL9QT1F38QVHBH6FISNO6O5

[36] " Global Mobile Market Shares", March 2011, http://www.4gamericas.org/index.cfm?fuseaction=page&pageid=565

[37] Demand for Mobile Broadband Drives HSPA Past 500 Million Connections as the Mobile Data Revolution Continues, June 8, 2011, http://www.gsmworld.com/newsroom/press-releases/2011/6274.htm

[38] Two diverse examples of this kind of international roaming service are Vodafone's Passport and Zain's One Network.

that which the FCC confronted at the time when the pioneering liberalization of US telecommunications led to situations in which multiple competitive US operators (like foreign GSM/HSPA operators today) had to negotiate interconnection or settlement charges with overseas monopolies (as AT&T will be in the US if this deal is approved). A monopoly is able to play one foreign counterpart off against others ("whipsawing") in order to obtain asymmetric prices in its favor, like those that prevailed for a long time between the US and many countries for international termination charges in the late 20th century. Yet again, the FCC must confront an international settlements issue and must be guided by past corporate behavior.

This issue is not hypothetical. Two foreign filings with the FCC have already raised the question of IMR[39], with obvious international implications for future interventions by foreign regulators. These two submissions are especially significant given their origins, for very different reasons.

Although a small country, New Zealand has been a pioneer in innovative and imaginative regulatory experiments. It tried in the 1990s to operate without a sector-specific regulator, in the hope that negotiations between an incumbent and new entrants could be handled satisfactorily on a purely commercial basis, without interference from a regulator. Not surprisingly, this experiment failed when a challenger, Clear Communications, could not arrive at an interconnection agreement with the incumbent Telecom following *five* years of negotiations.[40] Eventually, a sector-specific regulator was introduced, recognizing that this extreme form of "light handed regulation" was not consistent with the goal of sustaining competition against a very powerful incumbent, or for enabling an "infant competitor" to compete fairly against a much larger one. The New Zealand Government and regulator are thus uniquely qualified to anticipate, understand, and fear the harm that a combined AT&T/T-Mobile in the US would be capable of inflicting upon competition and customers, and how the combined entity will likely wield its power and exploit any opportunity to do so solely for the sake of increasing its profits.

The multinational UK-based Vodafone is the second largest mobile operator in the world by number of subscribers and the largest by revenues. Total group revenues are about $75 billion a year. This company is intimately familiar with the dynamics of the US market, having acquired its mobile arm, AirTouch from Pacific Telesis in 1999, and then contributing this asset to become Verizon's partner with a 45% share in today's Verizon Wireless. Vodafone's mobile properties outside the US are all GSM/HSPA/LTE operators (LTE is just being introduced in Germany) in contrast to the CDMA2000 network of Verizon Wireless. Thus Vodafone knows full well what to expect from AT&T, if it were to be allowed to establish a GSM/HSPA national monopoly in the US.

As a consequence of the facts outlined above, considerable weight should be given to the information and arguments presented in the Comments from New Zealand and the Vodafone Group, by virtue of the directly relevant experience and insights on which they are based. It should also be understood that operators in the

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[39] Comment, Vodafone Group , http://fjallfoss.fcc.gov/ecfs/document/view?id=7021684144; Comment, New Zealand Ministry of Economic Development, http://fjallfoss.fcc.gov/ecfs/document/view?id=7021675577

[40] "Using Competition Law to Regulate Interconnection: The New Zealand Experience", an ITU publication at http://www.ictregulationtoolkit.org/en/PracticeNote.aspx?id=2597

Americas, i.e., Canada and Latin America, will be particularly sensitive, more so than European or Asian operators, to the conditions under which international roaming services for them are implemented in the US, since they share more common frequencies with the US (in ITU Region 2 which covers the Americas) than do other regions of the world, including notably the AWS band. For example, several new Canadian operators have launched HSPA services in the AWS band where T-Mobile operates, and HSPA networks in this band are also planned for launch in the near term in several Latin American countries, including Mexico and Chile. Others will no doubt follow.

As noted already in Section 2.5 above, the elimination of HSPA service in the AWS band as planned by AT&T will have a direct and immediate impact ("collateral damage") upon operators elsewhere in the Americas who have deployed HSPA in and only in this band or plan to do so. The refarming of T-Mobile's AWS spectrum will remove their ability, even if they were able to establish a roaming agreement with the merged entity, to offer international data roaming services in the US to their HSPA customers unless these customers have multiband devices (AWS/850/1900 MHz). Reciprocally, they will have no opportunity to earn revenues from US-based HSPA customers roaming internationally withinin their coverage areas since there will be no US HSPA users in the AWS band. We are aware of one Canadian operator in this position which has an established international roaming agreement with T-Mobile USA. It is unclear at this writing (June 20th, 2011) what the status of this contract would be in the event that the merger of T-Mobile with AT&T were to be approved.

Furthermore, US mobile customers already have to pay higher international roaming charges than their counterparts based in other developed countries.[41] If T-Mobile is no longer an independent operator in the US, there will be less competitive pressure on AT&T to negotiate lower international roaming prices for its customers, while as a GSM/HSPA monopsony it will reciprocally be able to impose higher roaming prices on customers of foreign GSM/HSPA operators visiting the US.

Thus approval of the AT&T/T-Mobile Deal, which includes an aggressive re-farming of T-Mobile's AWS frequencies from HSPA to LTE, would lead to damaging consequences globally as well as especially throughout the Americas even for the availability of AWS networks for HSPA roaming in the US (let alone the pricing and other conditions a US monopsony might be able to impose) by Latin American and Canadian visitors.

The US and the FCC were pioneers in establishing that telecommunications services are best provided through a truly competitive and not a monopoly or duopoly supply industry structure. US leadership and experience in this integral part of the nation's and the world's economic fabric are still viewed and taken to heart in stimulating and influencing many of the subsequent movements towards liberalization of telecommunications markets throughout the world which have transformed telecommunications services for the better during the 1990s and into the 21st century. It would be a shock to the rest of the world, along with the US market, if this successful pro-competitive course is reversed. In sum, the clock must not be turned back.

3. Major Mega Mergers

3.1 Introduction

A major reason why the AT&T/T-Mobile Deal has been presented to the FCC and the DOJ for approval now stems from a short history of mega-mergers in the T-I-E sector that have gone almost unchallenged. Consider

[41] Ibid,. INTERNATIONAL MOBILE DATA ROAMING, OECD

the following FCC merger approvals downloaded from the Commission's website, http://transition.fcc.gov/transaction/mergerorderschron.html:

11-10-08, Verizon acquired Alltel

12-29-06 AT&T, formerly Southwestern Bell Corporation (SBC), acquired BellSouth

10-2-06 Alltel & Midwest Wireless merged

11-17-05 Verizon acquired MCI

11-17-05 SBC acquired AT&T

2005 Sprint Corp. acquired Nextel Communications, Inc.

7-1-05 Alltel acquired Western Wireless

10-22-04 Cingular Wireless acquired AT&T Wireless in a record setting all-cash $41 billion deal and Cingular was then renamed AT&T Mobility

4-27-2001 Deutsche Telekom (DT) acquired VoiceStream and Powertel to establish T-Mobile as a major competitor in the US

August 4, 2000, MCI-WorldCom withdrew its $129 billion offer for Sprint because it saw that the FCC, the DOJ, and the EU were hostile to the deal and would likely reject it. This represents the ONLY T-I-E Industry deal that was not approved by US regulators in the past decade.

6-16-2000 Bell Atlantic acquired GTE

October, 1999 SBC acquired Ameritech

August, 1997 AT&T acquired Teleport

8-14-97 Bell Atlantic and NYNEX merged for form Verizon

This list is not comprehensive. For example CenturyTel (now CenturyLink) has recently acquired Qwest Communications, formerly known as USWest, one of the seven Regional Bell Operating Companies (RBOCs) following the breakup of the Bell System in January, 1984.

Other major mega-mergers in the T-I-E industry include:

AOL's acquisition of Time Warner; Disney's acquisition of ABC; and Viacom's acquisition of Paramount Studios quickly followed by Viacom's acquisition of CBS; Comcast's acquisition of NBCUniversal.

Industry experts are beginning to ask what the US policy is with respect to mergers in this sector. It seems ironic that the policymaking establishment that broke up AT&T in 1984 is now asked to put Humpty Dumpty back together again. This time, the "replacement" companies will be global, not regional and national, and thus more powerful and pervasive than the old AT&T and Bell System. The new "giants" will be one-stop shops for

everything: wired and wireless services, Internet and World Wide Web access, along with an increasing array of information, entertainment, educational, e-commerce and e-business services and applications.

3.2 AT&T's Major Role in Mega Mergers

AT&T has played a major role in the mega mergers illustrated above. Not mentioned above are two unsuccessful deals that were approved by the FCC and the DOJ:

1. AT&T had always wanted to play a role in the computer sector and this led to a disastrous acquisition, namely NCR, the computer company headquartered in Ohio, which was quickly spun off because it became a losing and badly managed operation,

2. Undaunted by this experience, AT&T ambitiously acquired two of the nation's largest cable TV companies, along with associated program production assets, an entity that was also spun off because of mounting operational losses that AT&T could not sustain over time. AT&T was not prepared to sustain the massive capital investments in order to transition its cable TV systems antiquated infrastructure into new broadband-capable digital systems.

4. AT&T's Anti-Competitive and Customer-hostile Behavior

AT&T conceives and implements actions that tend to harm competitors that are reminiscent of Elizabeth Browning's poem about love, *"How do I love thee? Let me count the ways".* This poem ends with the words, *"I shall but love thee better after death",* which might be AT&T's epitaph for T-Mobile USA.

As stated above, AT&T has been able to oblige the powerful DT to reverse and abandon its US wireless strategy. If the deal is approved, AT&T can forecast with certainty that much smaller competitors (even Sprint is only about one-third the size of DT) will be unable to resist the continuing anti-competitive attacks that they will be subjected to in future, if AT&T is allowed to become even bigger and much more powerful. AT&T will feel assured or reassured that there are no effective regulatory or legal restraints on its behavior or its ability to frustrate and delay competitors' initiatives. The company will be able to proceed at its own pace in its own way. AT&T will need to pay attention only to the internal incentives instituted for its decision-making executives, regardless of any benefits competitors' initiatives may deliver to customers that contribute to the overall development of broadband services in the US, as well as the value of broadband services to stimulate economic development and support the effective and efficient implementation of national and local social and government policies.

The variety of steps taken by AT&T to inhibit its competitors by exploiting its much greater base of facilities – fixed and wireless – as well as the more formidable lobbying resources and financial muscle that it can muster is broad and deep. AT&T's ability to frustrate competitors' innovations will only grow in power and scope if the transaction with T-Mobile USA is approved. They include, for example this list, which is not necessarily comprehensive:

- Imposing competitively unfavorable conditions on competitors' access to and use of Special Access[42] services and other fixed network links that are essential components of the infrastructure these

[42] See the statements and analyses on this subject that can be found at www.nochokepoints.org, a coalition of smaller operators and businesses

competitors need to provide end-to-end services to their customers, both wireless and wireline, exploiting the fact that the great majority of these facilities are owned by AT&T and its only comparable rival in size, Verizon.

- Establishing exclusive device contracts with key vendors. For example, AT&T's exclusive contract for the Apple iPhone in mid-2007 prevented other wireless operators and the majority of US consumers from gaining access to this innovative and very popular device until 2011. The damage created by this situation for customers was further aggravated when it became apparent that AT&T's network was not capable of handling the traffic generated by iPhone users without encountering significant congestion problems. These problems would have been avoided if iPhones had been available for use on other operators' networks which some proportion of iPhone customers would no doubt then have chosen. Yet AT&T's power to abuse in this regard will only be substantially increased if it is allowed to merge with T-Mobile USA, thereby creating a monopsony GSM/HSPA national operator in the US, leaving it as the sole potential large customer for device vendors and equipment manufacturers selling products with GSM/HSPA capabilities. Devices and products based on the LTE standards will continue in many cases to include GSM/HSPA technologies as well, since these three generations of technology will co-exist for many years to come, as AT&T itself has acknowledged in its FCC filing of April 21st, 2011.[43].

- AT&T has also recently established an exclusive arrangement with HP for its WebOS-based Veer 4G handset.[44] Thus, AT&T is continuing its exclusive arrangement practices into the 4G sphere and will continue this behavior if the merger is authorized.

- Refusing to establish reciprocal data roaming agreements with other operators, *to the detriment of the coverage available to its own mobile broadband customers as well as the customers of these other operators.* Yet again AT&T's power to abuse in this regard will only be increased substantially if it is allowed to merge with T-Mobile USA thereby creating a monopoly GSM/HSPA national operator in the US, leaving it as the sole potential national roaming partner for smaller GSM operators.

Handset Exclusivity

It has already been shown how AT&T prevented T-Mobile from gaining access to iPhones. The Petition to Deny submitted by The Rural Telecommunications Group, Inc.[45] presents further evidence of AT&T's use of its market power. Should the merger be approved, this anticompetitive behavior would continue. In some democratic countries, e.g. France[46], wireless handset exclusivity is banned by regulatory bodies.

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[43] "Acquisition of T-Mobile USA, Inc. by AT&T Inc." at 20, 23, 24, 28; Declaration of William Hogg, Senior Vice President of Network Planning and Engineering, AT&T Services Inc., at ¶5 (Apr. 20, 2011); http://www.mobilizeeverything.com/documents/PUBLIC%20Description%20of%20Transaction%20PIS%20Related%20Demonstration.pdf

[44] *AT&T Goes Small With HP Veer 4G. AT&T Press Release, May 4, 2011.*

[45] In re Applications of Deutsche Telekom, AG, Transferor and AT&T, Inc., Transferee for Consent to Assign or Transfer Control of Licenses and Authorizations, Petition to Deny, WT Docket No. 11-65, Submitted by Rural Telecommunications Group, Inc., May 31, 2011, p.21.

[46] "French Regulators Kill Orange's Apple iPhone 3G Exclusivity", http://www.intomobile.com/2008/12/18/french-regulators-kill-oranges-apple-iphone-3g-exclusivity/

Lack of Data Roaming Agreements.

AT&T's anticompetitive activities in refusing to negotiate data roaming agreements have had a negative impact on other market participants, particularly smaller, rural wireless providers.[47] Not only has the lack of data roaming agreements with AT&T (and with Verizon Wireless) hampered the ability for these smaller, rural carriers to provide full and complete nationwide service to their customers (thereby putting them at a competitive disadvantage with AT&T and Verizon), it also inhibits those carriers' ability to invest in robust 4G wireless broadband services within their own service footprint. Because of the limitation that a lack of roaming agreements puts on the carriers' revenue streams, it is more difficult for them to obtain financing for LTE build-outs. If approved, the merged entity would provide smaller GSM carriers with only one option with respect to voice and data roaming, which will put them in a precarious and very weak position for roaming negotiations.

In its Petition to Deny filing, Rural Telecommunications Group[48] noted that AT&T has denied their own customers regional roaming access on small competitors, i.e., rural wireless networks. This has two negative consequences. First, it is unfriendly even to AT&T's own customers, so that in certain areas where AT&T's coverage is not as substantial as their small competitors, e.g., North Texas, customers are denied access to service. Second, this anticompetitive behavior denies revenue to small, rural wireless carriers making it difficult for them to improve their networks and build out 4G facilities.

AT&T is proud and eager to emphasize its American credentials, heritage, and multiple contributions to the US economy. So it would be the height of irony and further confirmation of its hypocrisy and fundamentally anticompetitive strategy were AT&T to continue its resistance or reluctance to establishing national data roaming agreements with its fellow American operators, while acceding to legitimate requests for international data roaming with foreign operators (Section 2.10 above), that are highly desirable in the context of the global economy which is both dependent on and contributes to the US economy.

Lack of Interoperability in the 700 MHz Band. The FCC is well aware of the lack of 700 MHz interoperability, as described in Vulcan Wireless's reply comments in the AT&T/Qualcomm spectrum agreement[49]. Since interoperability in this band is not established, AT&T has adopted a band classification that excludes LTE device interoperability in the A Block of lower 700 MHz. Such a policy prevents all other operators from the smallest to the largest -- Verizon Wireless Mobile -- from being able to roam with LTE devices operating in its 700 MHz frequencies on AT&T's A Block (and vice versa). This approach, which fragments the US market for 700 MHz devices, also makes it less likely that it will be economical to develop multi-frequency LTE devices that work in both US and European (800 MHz) digital dividend bands, which will be a further inhibitor to convenient international data roaming.

Summary

[47] Rural Telecommunications Group, Inc., *Supra Note 38, pp21-22.*
[48] Rural Telecommunications Group, Inc., *Supra Note 38, pp25-26.*
[49] In the matter of AT&T Mobility Spectrum LLC and Qualcomm Seek FCC Consent to the Assignment of Lower 700 MHz Band Licenses, WT Docket No. 11-18. Reply Comments of Vulcan Wireless, LLC, March 18, 2011.

To summarize, AT&T has asserted its market power in handset exclusivity, data roaming (both locally and nationally), and interoperability in the 700 MHz, and is in conflict with FCC on the last two – roaming and interoperability.

4.1 AT&T's Anticompetitive DNA is Global, Not Just Local or National

AT&T's anticompetitive behavior and actions have not been confined to the US. International roaming agreements have already been mentioned in this context. In addition, insights into the operational inclinations of AT&T can be gleaned from its history of direct recent involvement in South Africa and ongoing relationship with the Mexican incumbent, now known as America Movil. In 1990 the Mexican Government privatized Telmex, the state owned monopoly, as it was then known, which was acquired by a consortium of Carlos Slim, France Telecom, and the "baby Bell" SBC, which in 2005 took over ownership (and then the name) of its former parent AT&T. Slim later won management control of Telmex, alienating France Telecom but keeping close relations with SBC, which is still now under the AT&T name a significant minority owner of America Movil. America Movil controls 70% of the wireless market in Mexico, while its fixed line arm, Telmex, controls 80% despite many years of supposed market liberalization and competition.

Recently the Mexican regulator and competition authority began an attempt to make headway (from the perspective of competitive operators) against the immense financial and political power of the Slim empire (which operates throughout the Mexican economy, not just in telecommunications), focusing on interconnection prices and other conditions upon which the viability of America Movil's challengers depend. As noted above, AT&T has two members on the Board of America Movil.

For several years SBC was the lead partner and effective manager of the incumbent operator Telkom in the Thintana consortium in South Africa. The outcome of this venture, which was harmful to the development of telecommunications in that country, is a consequence of deliberate actions to eliminate competition, and to secure the highest possible profits.[50]

The new South African democratic government's worthy intentions - to roll out telephone service to the previously disadvantaged, and establish an independent regulator to oversee the reform were thwarted by its lack of trust in democratic structures outside of the African National Congress's (ANC) immediate control, and by the ANC's inability to control powerful international corporations involved in privatization. In other words, SBC took advantage of this environment and lack of experience in liberalizing markets among the country's leadership. Under SBC's control, Telkom failed to meet its roll-out obligations. SBC had been a managing shareholder in a South African wireless operator in the mid-1990s with a 15.5 percent stake, so it already had a good understanding of South African politics when the government put the Telkom stake up for sale. Reportedly when it became clear that SBC would secure the Telkom stake through the consortium Thintana (with Telkom Malaysia), the company temporarily transferred its entire San Antonio, Texas[51] corporate office legislative team

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[50] "Terms of Telkom shareholding sale to Thintana put both 'above the law'", http://mybroadband.co.za/news/Telecoms/1090.htm; "Another instance where privatization trumped liberalization: The politics of telecommunications reform in South Africa—A ten-year retrospective", **Robert B. Horwitz' and Willie Currie,** Department of Communication, University of California-San Diego, USA; Association for Progressive Communications, 6035 Broadway #8A, New York, USA, **Telecommunications Policy**, Volume 31, Issues 8-9, September-October 2007, Pages 445-46; "To talk or not to talk? From Telkom to Hellkom: A critical reflection on the current telecommunication policy in South Africa from a social justice perspective", **S.R. Ponelis and J.J. Britz** Department of Information Science, School of Information Technology, University of Pretoria, 0002 Pretoria, South Africa and School of Information Studies, University of Wisconsin-Milwaukee, 3210 N, Maryland Avenue, Milwaukee WI 53211, United States, **The International Information & Library Review** Volume 40, Issue 4, December 2008, Pages 219-225

[51] The company moved its corporate HQ to Dallas after acquiring AT&T

to South Africa to help draft the Telecommunications Act. As a privatized, state-backed monopoly without an effective regulator, Telkom was in a position to generate very large returns for Thintana, including of course SBC. It has been estimated[52] that the 30 percent stake purchased in 1997 for R (rands) 5.45 billion (about $1.1 billion at the time) which was sold in two tranches in 2004, fetched R6.1 billion for a 14.9 percent stake sold in June, with the remaining 15.1 percent being sold in November for R6.6 billion (a total of about $2.2 billion at the time). In addition, SBC received large annual profits and management fees over a five year period. Management fees from 2000 through 2004 totaled almost R1.35 billion, or some $250 million or so. Although Horwitz and Currie acknowledge that SBC "did bring management smarts to Telkom", local consumers were then left in 2004 with a high priced service provider.

4.2 The Anticompetitive Past is Prologue to a Renewed Duopoly

A discussion of future actions by AT&T following an acquisition of T-Mobile has to consider the likely parallel initiatives of the other component of the effective duopoly that will emerge, namely Verizon Wireless. It is noteworthy that Verizon Wireless is the only significant player in the US wireless sector that has chosen NOT to submit comments, or take a public position, on this major deal.

Evidence of "coordinated interaction" between AT&T (even without T-Mobile) and Verizon is obvious. While these two companies do not always follow identical paths by any means, in several crucial areas such as data roaming agreements (against) and ensuring interoperability of handsets across the entire 700 MHz band (again against), they are marching in lockstep against the interests of smaller operators and customers. There is every reason to assume that they will continue to do so, further bolstered by the removal of T-Mobile USA from among their more innovative opponents. Their actions[53] since the announcement of the AT&T/T-Mobile deal reinforce this conviction. One example where Verizon has followed a different path from AT&T lies in its willingness - unlike AT&T - to establish relationships with rural carriers so they can use the 700 MHz frequencies it holds in areas where it prefers not to deploy LTE itself[54].

As for "unilateral effects," the establishment of AT&T/T-Mobile USA as a monopsony would give it the power to take anticompetitive actions in the GSM/HSPA space independently of Verizon (a CDMA2000 operator) as well as of anyone else. Examples of these actions in terms of international roaming and relationships with equipment and device suppliers have already been outlined.

It is evident from T-Mobile USA's experience and that of other competitors that there have been and still are no effective obstacles to preventing the colossus AT&T from acting and behaving whenever it pleases and howsoever it decides is in its interest, fair or foul, regardless of whether these actions or behavior contribute to or harm customer welfare or indeed the health of the US economy. The problems and behavior T-Mobile has complained about have not been dealt with in any significant or convincing manner, despite the recent introduction by the FCC of a data roaming mandate. This mandate, which AT&T continues to characterize

[52] Ibid, Horwitz and Currie

[53] Verizon files suit against FCC's data roaming rules, http://www.fiercewireless.com/story/verizon-files-suit-against-fccs-data-roaming-rules/2011-05-17#ixzz1OKrH7OLE; "A data-roaming mandate is unwarranted and will discourage investment," Robert Quinn, AT&T chief privacy officer and senior vice president of federal regulatory, said in an e-mail today – quoted in Business Week, April 7, 2011, http://www.businessweek.com/news/2011-04-07/at-t-verizon-forced-to-let-rivals-use-networks-for-data.html

[54] "6 More Regionals Join Verizon's Rural LTE Initiative," http://www.phonescoop.com/news/item.php?n=7571

publicly as unjustified[55], gives AT&T substantial wiggle room to delay and frustrate the implementation of non-discriminatory data roaming agreements by claiming that it takes time to establish "commercially reasonable" rates and its competitive interlocutors are themselves being "unreasonable.

It does not take a fertile imagination to conceive of other ways in addition to those already discussed by which AT&T may try to hobble competitors even more effectively. It will indeed be encouraged to do so if its behavior and actions until now are rewarded by agreeing to a transaction with a victim of its actions that will strengthen its power to abuse, despite consequences such as the transfer of $25 billion to Germany that have nothing to with and even weaken momentum or reduce the resources that can and should be applied towards improving the capacity and coverage of mobile broadband services in the US.

Thus the bald assertions by AT&T[56] that its transaction with T-Mobile USA poses no prospect either of anticompetitive coordination or unilateral effects are at a minimum disingenuous, and in fact questionable in light of how AT&T and Verizon have already behaved with both regulators and "lesser" competitors.

5. ALTERNATIVE SCENARIOS TO ADDRESS CHALLENGES OF CAPACITY AND LIMITED SPECTRUM

5.1 An Overview: Mobile Broadband Technologies and Economics

This overview focuses on the two major mobile broadband radio access technologies – HSPA (High Speed Packet Access) and LTE (Long Term Evolution) – that will dominate broadband network deployments over the next decade. HSPA is based on the WCDMA (Wideband Code Division Multiple Access) air interface, while LTE exploits OFDMA (Orthogonal Frequency Division Multiple Access). Both these technologies are standardized and their road maps defined within the global 3rd Generation Partnership Project (3GPP). The 3GPP is a global collaboration between groups of telecommunications standards associations, known as the Organizational Partners, which was established in 1998. Both AT&T and T-Mobile have and will continue to deploy systems based on 3GPP standards.

Operators using the alternative 3GPP2 standards (or CDMA2000, with its broadband data version EV-DO (Evolution-Data Optimized), notably Verizon Wireless, recently decided to join the 3GPP bandwagon starting with LTE[57]. Operators deploying 3GPP technologies account for the vast majority of mobile connections worldwide (90%)[58]. While Sprint and Clearwire have been so far deploying an alternative to LTE with many similarities - mobile WiMAX, which was strongly supported by Intel – it is generally expected that they too will adopt LTE since global support for WiMAX among vendors, chipset suppliers, and operators has been waning[59]

[55] Robert Quinn, AT&T's Chief Privacy Officer and Senior Vice President of Federal Regulatory Affairs, remarked that "a data roaming mandate is unwarranted and will discourage investment" (Bloomberg News, April 7, 2011) - http://www.bloomberg.com/news/2011-04-07/at-t-verizon-required-by-u-s-to-share-networks-for-mobile-data-traffic.html

[56] Ibid. "Acquisition of T-Mobile USA, Inc. by AT&T Inc.", p. 95 and 96

[57] Although the two major Canadian CDMA200 operators Bell Mobility and Telus have introduced an HSPA network first, in a shared deployment, before they deploy LTE.

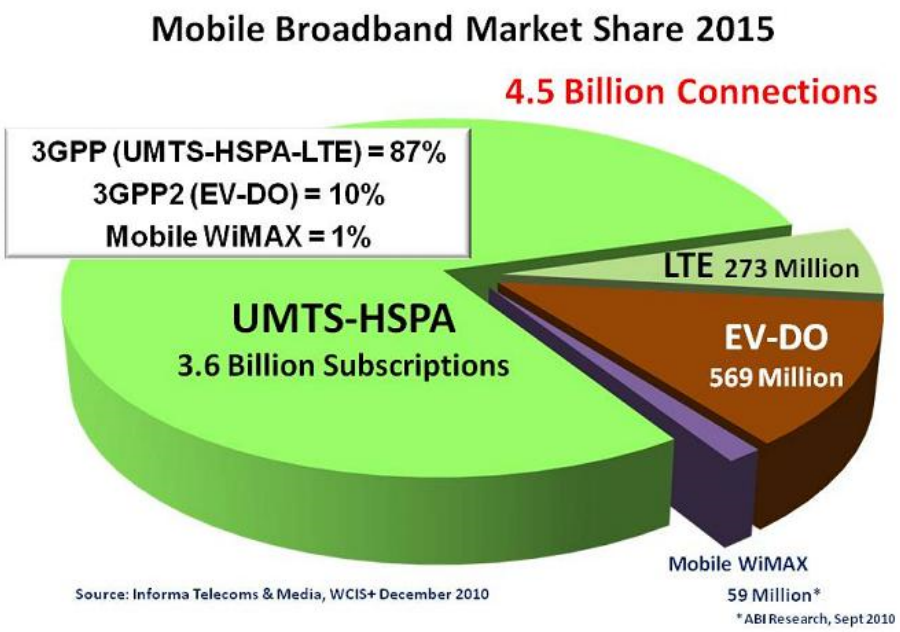
[58] Ibid, "Global Mobile Market Shares"

[59] "Clearwire planning a WiMAX to LTE transition?", http://www.ciol.com/Technology/Networking/News-Reports/Clearwire-planning-a-WiMAX-to-LTE-transition/150279/0/

as it has become apparent that this attempt to build a major alternative to HSPA and LTE by being earlier to market has failed. At most, mobile WiMAX technology will be confined to niche applications while the next generation of systems along its roadmap may never be commercialized.

A review of the current status and roadmaps for HSPA and LTE shows that the older and currently already much more widely deployed HSPA systems still have considerable room for improvement. They will account for the bulk of mobile broadband connections for several years to come, even as the deployment of LTE systems gathers momentum. A recent forecast of mobile broadband connections is shown in the Figure below. LTE itself, while ultimately designed to be the single most powerful, flexible, and widespread mobile broadband technology, is still at an early stage of commercial development and deployment. In its current status it does not in many circumstances – in light of the bandwidths which operators hold – offer any or any significant performance advantage over the best available HSPA systems in terms of the data rates it can support. The superiority of LTE over HSPA becomes really apparent when it can be deployed in wider channels than operators have typically acquired until today, a situation that is slowly changing as new spectrum is made available. More extensive discussions of mobile broadband technologies and their road maps can be found in a number of recent reports and analyses[60].

Figure 2: Forecast of Mobile Broadband Connections



[60] "Transition to 4G: 3GPP Broadband Evolution to IMT-Advanced", September, 2010, Rysavy Research, http://www.rysavy.com/Articles/2010_09_HSPA_LTE_Advanced.pdf ; "4G Mobile Broadband Evolution: 3GPP Release 10 and Beyond - HSPA+, SAE/LTE and LTE-Advanced", February 2011, http://www.4gamericas.org/documents/4G%20Americas_3GPP_Rel-10_Beyond_2.1.11%20.pdf (A report explaining 3GPP standards including IMT-Advanced, HSPA+ enhancements and the introduction of LTE-Advanced, and the planning for Release 11 and beyond); "Coexistence of GSM, HSPA and LTE," May 2011, 4G Americas, http://www.4gamericas.org/documents/4G_Americas_Coexistence_of_GSM_HSPA_LTE_May%202011x.pdf (A White paper that explains end-to-end considerations for the successful coexistence of GSM, HSPA and LTE technologies and migratory aspects from 3GPP Rel-7 to Rel-8 and beyond).

Note: HSPA subscriptions are expected to amount to over 2 billion at end-2015. At the end of 1Q 2011, the 3GPP family of technologies in North, Central and South America accounted for[61]:

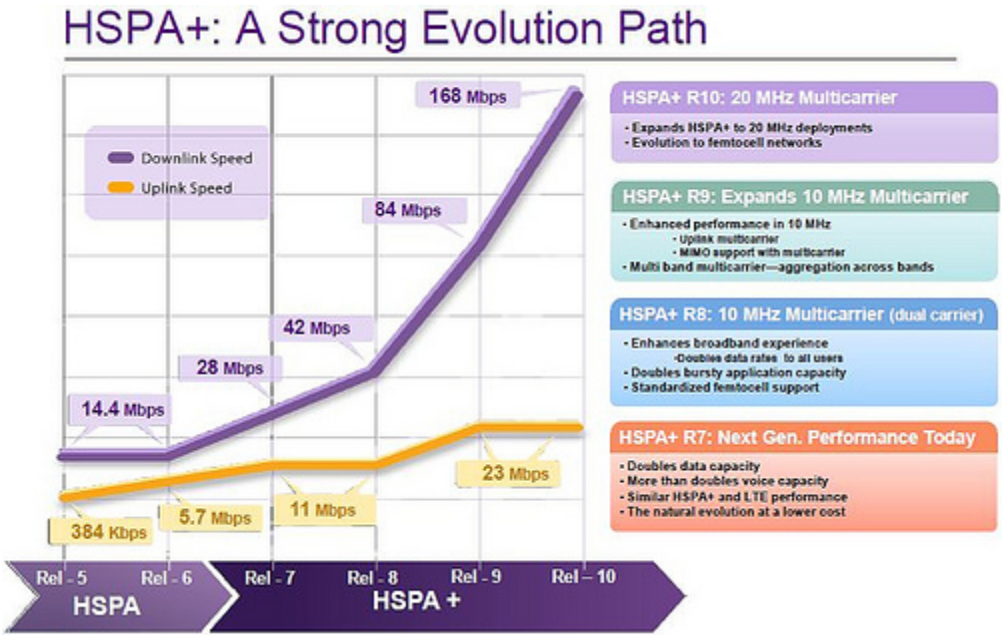
- 80 HSPA mobile broadband networks in 29 countries -- up from 77 HSPA networks in 29 countries at the end of 2010; including 20 HSPA+ networks in 7 countries
- 2 LTE networks in the U.S., with an additional 9 LTE networks expected in the U.S. and one each in Canada and Latin America by the end of 2011
- 13.4 million new UMTS-HSPA subscriptions added in 1Q 2011 to reach nearly 133 million

Thus one, but not the only, purpose of these initial remarks is to correct an impression that may easily have been gleaned from the many comments by AT&T about LTE -- that this technology is the panacea that will best meet all demands for improved broadband capacity and coverage during the next five years, and that T-Mobile is doomed to inevitable decline because it does not have enough spectrum in which to deploy LTE. As demonstrated in section 5.3 below, not only is this last statement untrue, but T-Mobile can also exploit expected improvements in HSPA systems as a way to significantly enhance the capacity of its current networks. *T-Mobile USA can pursue both these approaches (begin to deploy LTE and upgrade HSPA) within its existing spectrum, and indeed combine them to augment their impact even further through the use of emerging carrier aggregation technology.*

<u>HSPA Road Map</u>

The HSPA road map and theoretical peak data rates that can be achieved are illustrated in the following Figure.

Figure 3: HSPA+ Evolution



Source: Qualcomm

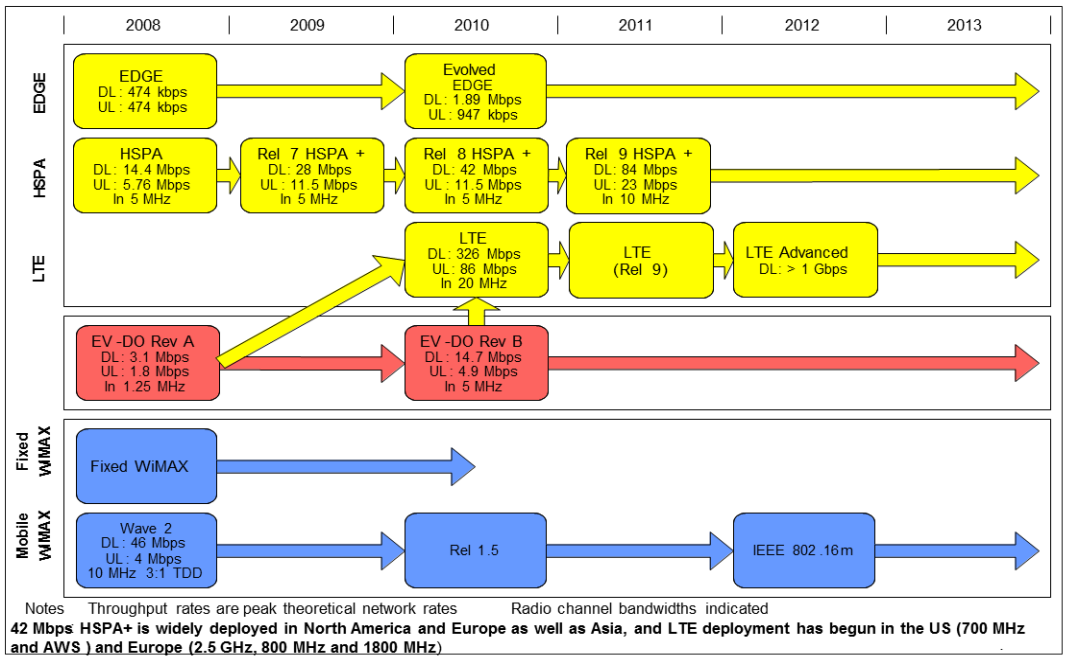
[61] "Wireless Connections in the Americas," http://www.4gamericas.org/index.cfm?fuseaction=pressreleasedisplay&pressreleaseid=3173

T-Mobile USA's current HSPA+ networks, whose coverage is still being expanded fall, under Release 8 with a peak data rate of 42 Mbps using a combination of 64QAM (quadrature amplitude modulation) and dual-carrier aggregation. Within T-Mobile USA's current AWS (1.7/2.1 GHz) spectrum holdings, application of carrier aggregation technology is and will usually be limited to dual carrier aggregation in deployments within a 2x10 MHz paired spectrum holding (HSPA is only defined for 5 MHz carriers). The aggregation of more than one carrier improves spectrum utilization and system capacity thanks to inherent load balancing between carriers. T-Mobile is the first operator to make use of carrier aggregation in the US. Nevertheless even though T-Mobile will not be able with its current spectrum to exploit carrier aggregation beyond two carriers as is foreseen in later HSPA releases (up to 4 and even 8 carriers, and aggregation across multiple bands as well as within one band) it will be able to achieve further increases in peak data rate through the use of MIMO, i.e. multiple antennas, or Multiple Input-Multiple Output techniques, as shown in the Figure below. In contrast AT&T's current HSPA+ deployments are based on Release 7, which can support a maximum speed of 28Mbps in the downlink if 64 QAM modulation and MIMO antennas are used, and about 14 Mbps without MIMO.

Figure 4: Next Step for HSPA+

Source: Qualcomm

Perspectives on the relationships between the 3GPP, 3GPP2 and WiMAX technologies including the overlaps in time between HSPA and LTE, the transition of the 3GPP2 operators to LTE, and the parallel path of WiMAX are summarized in the following Figure, although as noted it is dubious whether the next generation of mobile WiMAX – IEEE 802.16m – will be commercialized. LTE Advanced will not be commercialized before 2015.



Source: Adapted from Nokia Siemens Networks

The 326 Mbps cited for LTE (Release 8) is the maximum speed that can be achieved using 4x4 MIMO in 20 MHz channels and 64 QAM. Maximum speeds in first generation LTE deployments are considerably lower. It is also important to note that in 5MHz carriers LTE does not provide more capacity than the technology used in HSPA systems (around 37 Mbps compared to 42 Mbps (HSPA+ Release 8) when both systems use 2x2 MIMO), although it can offer a significant advantage in terms of latency[62]. However, unlike HSPA, LTE is specified for scalable bandwidth and can be deployed in a variety of channel widths from 1.4 MHz up to 20 MHz. LTE comes into its own in terms of superior capacity compared to HSPA when deployed in wide channels of more than 10 MHz. At the same time unlike HSPA, which is only specified for 5 MHz channels, the flexibility of LTE allows it to be deployed in narrow channels which is all many operators may have available before they acquire additional spectrum. For example, this characteristic of LTE enabled MetroPCS to be the first operator to offer LTE-based service in the US using channels of 1.4 and 3 MHz. MetroPCS states that it benefits from the lower costs of this

[62] Network latency, a synonym for delay, describes how much time it takes for a packet of data to get from one designated point to another and is a critical factor for user experience with applications such as real-time voice and streaming video

technology compared to its CDMA2000 systems even though the narrow channels do not permit the substantial jumps in capacity or speed that can be achieved with LTE deployed in much wider channels[63].

While the cost of delivering data with wireless broadband remains higher than with wireline broadband, costs continue to decline rapidly. One vendor has calculated that in a blended HSPA/LTE network, costs could fall below about $1.3 per gigabyte (GB) once penetration of mobile broadband reaches 40% and usage reaches 2 GB per month[64].

The advent and growing use of mobile broadband services is also creating a demand for huge increases in backhaul capacity to carry traffic to and from cell sites. This capacity has to be well above the typical one or a few T1 lines (each 1.5 Mbps) that have been adequate for voice-dominated mobile networks. The most promising and growing new backhaul facilities are based on fiber links and high capacity microwave, increasingly using Carrier Ethernet technology. For example T-Mobile USA is on track to deploy high speed fiber links to 87% of its broadband cell sites by Q3 2011. Broadband backhaul requirements per cell site can amount to several tens to hundreds of Mbps (megabits per second) and will reach into the Gbps range.

It is evident from the preceding discussion and evidence that AT&T's assertions[65] for example: "HSPA+ is approaching the end of its deployment cycle" and "Even in its launch phase today, LTE offers downlink throughput speeds that are up to two times faster than HSPA+ with dual carriers" are respectively a gross distortion of the real world situation and a grossly misleading statement about performance. Many operators throughout the world have yet done so but plan to launch HSPA+ networks, whose greatest growth in expected connections is yet to come. Furthermore, subsequent planned releases of this technology will deliver significant enhancements in capacity as has been clearly shown above. In addition, LTE as also shown is not superior in capacity compared to HSPA+ under conditions of equal bandwidth and number of antennas. The conditions and roadmaps along and the points at which LTE will become definitively superior to HSPA+ have been delineated. For some time to come HSPA+ will continue be the better choice for deployment (new and expanded) in a substantial proportion of the market, bandwidth and financial conditions under which many mobile services providers will be operating.

It is true when AT&T states that, "Eventually, the ecosystem for HSPA+ will lack the scale and growth needed to keep pace with LTE". But this transition will not occur in the near term. Both AT&T and Deutsche Telekom are being disturbingly disingenuous in their comparisons and contrasts of the relative merits, limitations, and timing of HSPA+ and LTE technologies. A very different picture emerges even from this cursory review of global technological developments in the 3GPP and of the expectations being built into the planning of major mobile operators around the world. If AT&T and Deutsche Telekom truly intend to operate on the basis of the implicit assumptions and assessments of technological choices for mobile broadband deployments that they profess in justifying their transaction, and for the sake of their customers it can only be hoped they do not, then indeed their judgments with respect to any statements and claims about network planning and management do not deserve to be given any credibility.

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[63] "MetroPCS not bringing speed but LTE innovation", http://www.fiercewireless.com/story/metropcs-not-bringing-speed-lte-innovation/2010-12-14

[64] "Mobile broadband with HSPA and LTE – capacity and cost aspects", Nokia Siemens Networks White Paper, http://www.nokiasiemensnetworks.com/file/6327/mobile-broadband-with-hspa-and-lte-capacity-and-cost-aspects

[65] Ibid. "JOINT OPPOSITION OF AT&T INC., DEUTSCHE TELEKOM AG, AND T-MOBILE USA, INC. TO PETITIONS TO DENY AND REPLY TO COMMENTS"

5.2 AT&T: How to Avoid its "Spectrum Congestion" Problem

AT&T has woven a questionable tale in an attempt to convince the FCC, DOJ, and others, that the capacity and other challenges it faces can only be met through its acquisition of T-Mobile USA. Furthermore, according to AT&T, this acquisition will deliver substantial benefits by: (1) Saving T-Mobile from an otherwise inevitable decline; (2) Expanding the coverage, capacity and quality of mobile broadband service; and (3) Generating significant new employment opportunities in the US.

As shown above, this portrait of a post-merger US telecommunications market, as well as of AT&T's and T-Mobile's current situations, is largely constructed out of a misrepresentation of facts, and a complete neglect of alternative possibilities for improving the services offered by AT&T and T-Mobile without their merger, and with no harmful consequences for customers and competition. AT&T's assertions also ignore the impact of the "elephant leaving the room" in the form of a $25 billion cash payment sent to Germany for its acquisition of T-Mobile USA that can and should otherwise be applied to value and employment-creating investments in the US. It is remarkable that AT&T has not provided any explanation of how this overseas payment will impact the financial resources that it will be able to devote to investment in the US.

A report[66] quoted in support of the AT&T/T-Mobile USA transaction by the Communication Workers of America cites the creation of up to 96,000 jobs by the additional investment of $8 billion over seven years in wireless infrastructure to which AT&T has committed, if the deal is approved. However, in terms of the total impact of the deal upon employment, the layoffs that would occur through the consolidation of duplicate facilities and support services of the two companies, which AT&T has not quantified, should be included to offset this number. In contrast if the $25 billion that would be sent to Germany, which Deutsche Telekom has announced[67] will be used to buy back its shares and reduce its debt, were instead invested in AT&T's networks in the US, an additional 300,000 or so jobs would be created, with none of the offsetting layoffs associated with a merger.

This report has presented an alternative analysis and also a different and much more positive vision of the future. In contrast to AT&T's presentations, this vision is not a fantasy. The only requirement is for AT&T's leadership (and Deutsche Telekom's) to think and act creatively and cooperatively, and then take bold but feasible steps to meet the broadband needs and expectations of customers efficiently and effectively, including consumers, businesses, and institutions. AT&T and DT must -- or should -- agree that they are capable of formulating and implementing visionary and practical business strategies, and that their opportunities for success are not exclusively dependent on, and completely limited to, mergers and acquisitions

AT&T claims that it is encountering significant capacity constraints as a consequence of extremely rapid growth in the data traffic carried by its mobile networks. It further claims that it needs additional spectrum and access to more cell sites in order to overcome these problems that have been widely reported in recent years, since the launch of the iPhone in mid-2007. AT&T also states that the processes by which the FCC releases additional spectrum for mobile services are too slow to meet its needs, while negotiating access to additional cell sites, for

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[66] "The Jobs impact of Telecom investment," Economic Policy Institute, May 31st, 2011, Policy Memorandum #185, http://w3.epi-data.org/temp2011/EPI_PolicyMemorandum_185%20%282%29.pdf

[67] Deutsche Telekom Interim Group Report, January 1 to March 31, 2011,http://www.download-telekom.de/dt/StaticPage/10/22/43/q1_2011_en.PDF_1022430.pdf

example through co-location arrangements with 3rd parties and/or establishing new sites of its own, is either not possible (no space is available) or will also take too much time. Thus the only solution for AT&T is to acquire additional spectrum and cell sites, for which purpose acquisition of T-Mobile USA is the best if not indeed the only solution. T-Mobile is the only other operator in the US with extensive coverage nationwide that has deployed the same technologies (GSM/HSPA) as AT&T. Furthermore, T-Mobile USA itself is in a relatively spectrum-poor situation (the depth of its spectrum holdings is on average only just over 50% of AT&T's) and it lacks frequencies in which it will be able to deploy the next generation of mobile broadband technology, LTE.

Thus the justification of the proposed transaction rests upon the claims of additional efficiencies of spectrum use and expanded coverage that can be achieved, for the benefit of both AT&T's and T-Mobile USA's customers, through the pooling or combination of their spectrum and cell site assets. An additional benefit claimed by AT&T is that this combination will allow AT&T to expand mobile broadband coverage to areas which it does not currently and will not otherwise intend to serve, thereby supporting the FCC's and the country's National Broadband Plan which seeks to make broadband access available and affordable to the greatest possible number of Americans.

Undoubtedly additional spectrum and network deployments making use of a greater number of cell sites can enable an operator to increase the capacity available to its customers and provide, in principle, a better overall quality of experience on average and in terms of peak data rates and the data rates achievable at cell edges. However, AT&T has left much unsaid with respect to its urgent needs, and its basic theme that only the acquisition of T-Mobile USA will enable it to meet these needs is unfounded. AT&T identifies and analyzes a range of ways of increasing capacity in its networks[68] that it has been pursuing. But it concludes that none of them even in combination will be sufficient to enable it to overcome its capacity crunch. Much of the specific information and the details of the claims that AT&T makes in this regard are redacted in its filing to the FCC and it is impossible to verify their accuracy.

However, given the depth of AT&T's current spectrum holdings, skepticism about AT&T's claims of spectrum poverty as an insurmountable limitation is clearly justified. This operator's spectrum depth is greater in some of the cities where the most severe congestion in its network has been reported, e.g., San Francisco, see Figure 1 above, than any other operator[69]. Furthermore its main rival Verizon serves more customers overall with smaller or equal amounts of spectrum than AT&T and neither suffers from today nor anticipates comparable capacity problems in the next few years. An additional reason to doubt the credibility of AT&T's assertions about its spectrum situation is provided by the company's claim that it faces a capacity crunch even in some rural areas[70]. Yet AT&T has still not launched LTE commercially in its 700 MHz spectrum[71] which is ideally suited to support the most economical deployment of mobile broadband in rural environments. The company's sluggishness in exploiting spectrum after it has acquired new frequencies is apparent not only relative to Verizon but also to T-Mobile USA among others. The latter has been aggressively building out HSPA and most recently HSPA+ systems

[68] "Acquisition of T-Mobile USA, Inc. by AT&T Inc.", ibid., p. 27-28

[69] A possible exception is the combination of Sprint and Clearwire; so far Clearwire has deployed WiMAX in only about 25% (30 MHz) of its substantial holdings at 2.5 GHz

[70] "Acquisition of T-Mobile USA, Inc. by AT&T Inc.", ibid., p. 28-29

[71] This launch is imminent, but if its capacity crunch is more urgent than Verizon's the question is why it is lagging Verizon in this initiative

in its AWS frequencies acquired in 2006 (it did indeed have an urgent competitive need to deploy mobile broadband), while AT&T has not. The contrast between AT&T's description of its urgent capacity crunch (more urgent than that of any other operator) is totally inconsistent with the relatively slow pace at which it has actually been using the additional spectrum it acquired over the past 5 years.

Furthermore, T-Mobile holds no spectrum below 1 GHz, and thus would bring no additional assets to enable AT&T to expand coverage or increase capacity economically in rural areas. In addition, while Verizon has offered its 700 MHz spectrum to rural operators for them to deploy LTE in areas where it prefers not to do so, AT&T has taken no such initiative, which it could do at any time, and thereby ensure its customers access to the capacity that is deployed through reciprocal roaming agreements (assuming that it were willing to undertake such reciprocal agreements which it has been unwilling to do to this point in time[72]). Yet perversely, AT&T continues to resist the establishment of data roaming agreements in the face of an FCC data roaming mandate, claiming that if it is obliged to negotiate them this may have the effect of reducing its investments in rural broadband even further![73]

The assertion that AT&T is suffering from a paucity of cell sites to build out its capacity and coverage to satisfactory levels is as equally unfounded as its plea of spectrum poverty. According to the latest (14th) Competition Report from the FCC[74] as of end-June 2009 AT&T reported having 51,470 cell sites and Verizon Wireless 45,397. Furthermore this Report reveals that thanks largely to its acquisition of Alltel in January 2009 Verizon Wireless had increased the number of cell sites it was using between September 2008 and September 2009 by 39.5% compared to an increase over the same period of 5.5% for AT&T. It is thus apparent that not only did AT&T operate about 11% more cell sites than Verizon in 2009, but until that year it had perhaps over 40% more. Reports from the major independent tower companies (American Tower Corporation and Crown Castle) indicate that AT&T is their leading source of revenues, namely 22% of the total versus 16% from Verizon in the case of American Tower, and 32% versus 31% for Verizon in the case of Crown Castle[75]. In addition according to this same FCC Competition Report the industry average of wireless tenants per tower is currently approximately 2 to 2.5, whereas a typical communications tower can accommodate five to six tenants, which suggests that there is significant space available on these towers.

There may be some pockets in the vast and diverse territory of the US where AT&T experiences genuine difficulties in finding sites to increase its capacity and coverage to desirable levels. However, the overall picture for AT&T's cell sites in terms both of the larger number it already uses compared to its only comparable rival Verizon, as well as its existing installations on locations owned by other parties and additional co-location opportunities refutes the impression it is seeking to project that it is in urgent need of acquiring access to substantial numbers of new cell sites that are beyond the reach of its current operations. AT&T's assertions

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[72] Rural Telecommunications Group, Inc., *Supra Note 38*

[73] Ibid., Robert Quinn, AT&T *supra note 15*

[74] ibid., Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Including Commercial Mobile Services, 14th Report, Federal Communications Commission

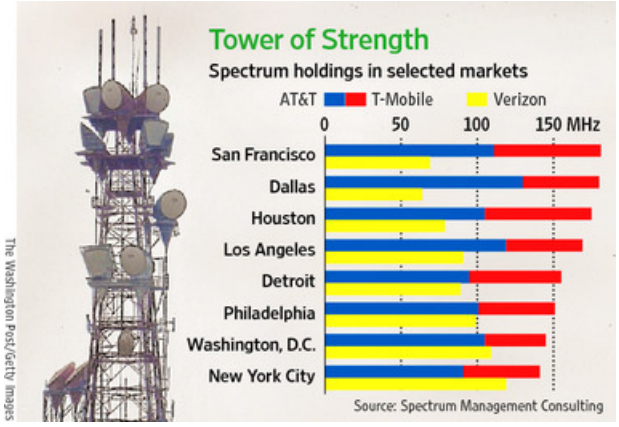
[75] American Tower Corporation, "Introduction to the Tower Industry & American Tower ," http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NDExNTk1fENoaWxkSUQ9NDI0OTkyfFR5cGU9MQ==&t=1;
Crown Castle Presentation at Deutsche Bank 2011 Media and Telecommunications Conference, http://www.crowncastle.com/investor/presentations/DeutscheBankConference0311.pdf

that it is unable to use co-location on third party sites as a significant means to enhance its capacity and coverage and suffers from a paucity of cell sites, implying that this is its problem that other operators do not confront, are unfounded. The specific claim that acquisition of T-Mobile's sites *throughout the country* is the only way for AT&T to fulfill its allegedly urgent requirement for access to more sites without which it cannot serve its customers well is even less unjustified and unjustifiable.

AT&T presents a case that its capacity crunch is due, despite all its best and multi-faceted efforts, to the paucity of its spectrum holdings and an insufficient number of sites on which to deploy base stations, which can only be relieved in time through the acquisition of T-Mobile USA. In reality, AT&T is seeking to gloss over its mistakes in poor planning of network capacity, and its unwillingness to invest sufficient funds in upgrading its network. An engineering analysis of the flaws in AT&T's presentation of its capacity crunch, and of better alternatives already available to AT&T than the acquisition of T-Mobile, can be found in Attachment G to Sprint Nextel's filing to the FCC[76].

There are several other more attractive and perfectly feasible options for coping with its capacity crunch, combined with other approaches whose value it has tended to downplay such as co-location, that do not require it to send $25 billion in cash overseas to T-Mobile USA's parent. Furthermore, this payment inevitably depletes AT&T's financial capacity and is the exact opposite of a value-creating initiative from the perspective of the US economy. AT&T's alleged goal of finding and applying sufficient resources to satisfy substantial current and future needs for investments to expand the capacity and coverage of its wireless broadband network for the benefit of customers, the National Broadband Plan, and even more broadly the US economy, are hindered, not advanced, if this deal is approved.

Figure 5



First, the amount of the breakup fee that AT&T will have to pay once the transaction is rejected is still less than the amount it will pay if it is approved. AT&T's persuasiveness and clout in financial markets should be able to ensure that the difference can be applied to increasing its already planned investments in its wireless network.

[76] Petition to Deny, DECLARATION OF STEVEN STRAVITZ, CHIEF EXECUTIVE OFFICER AND MANAGING DIRECTOR SPECTRUM MANAGEMENT CONSULTING, http://fjallfoss.fcc.gov/ecfs/document/view?id=7021675883

Second, as noted, there is nothing standing in the way of AT&T to deploy as much capacity as it thinks it needs in its 700 MHz spectrum, including the blocks of 6 and 12 MHz unpaired spectrum it intends to acquire from Qualcomm. The advent of carrier aggregation technology that is being standardized within the 3GPP should enable this spectrum and AT&T's other frequencies at 700 MHz and existing bands to be combined in ways that increase effective peak and average data rates available to its customers beyond those achievable with independently operating deployments in different frequency blocks. Furthermore, as noted, AT&T could partner with rural carriers in deploying LTE at 700 MHz in selected rural areas to increase coverage and reduce its own investment requirements. Reciprocal data roaming arrangements provide yet another path for augmenting coverage for both AT&T's own as well as the customers of its roaming partners. The scope and value of these arrangements would be maximized if AT&T pushed for the development of mobile devices that were interoperable across the 700 MHz band (full spectrum devices) instead of offering devices that are incompatible between the band classes that rural operators have typically acquired and its own band class, as well as with that which Verizon occupies.

Finally, there is a range of other means to mitigate and cope with congestion problems in mobile networks that AT&T can implement or in some cases expand to reinforce the effects of deploying more systems in the spectrum it already holds. The approaches outlined in the following are not necessarily comprehensive nor should they be thought of as all being able to make significant contributions to overcoming wireless capacity crunches. However they do illustrate a range of possibilities that reinforce the conclusion that AT&T's transaction with T-Mobile USA is not necessary for AT&T to meet its needs to create additional capacity in its mobile networks. Some of the solutions outlined below are more likely to emerge from small innovative organizations than large traditional ones. They include:

- Offloading traffic from the mobile network at the closest possible point to its origin and destination, noting that much "mobile" traffic is generated by or destined for customers when they are nomadic or stationary within a building (home, office, public location such as an airport).
    - The principal approaches for offloading onto local fixed broadband access connections to building are Wi-Fi and femtocells, the former of which is already well and widely established, although enhancements are desirable, notably with respect to automatic login and seamless handover between mobile (cellular) and Wi-Fi networks. AT&T has taken significant initiatives with respect to Wi-Fi installations, Distributed Antenna Systems (DAS) and minor ones with femtocells. These efforts could be expanded and in the case of femtocells redirected away from their focus that until now has been on residential gateways towards their deployment in public locations that tend to be traffic "hot spots." Furthermore, AT&T should be able, in contrast to current practice, to encourage the use of femtocells by excluding data sent over them from contributing to the data caps (wholly or in part) that are part of some customers' contracts, since of course this traffic makes much less use of AT&T's wireless investments than does traffic sent entirely over traditional macro-cell networks.
- Content pre-positioning in devices[77] (especially video content that is not time-sensitive) provides another mechanism for relieving networks at times of congestion. This approach could be combined with innovative pricing in which customers are given the choice of downloading at peak traffic time for

[77] See for example http://www.opanga.com

an additional fee, or waiting until an uncongested period when the content delivered will not count towards a data cap or incur any additional charge.

- Other approaches such as caching, device-aware content compression, and more efficient protocols (analogous to the email protocols developed by RIM that are one of the core competitive advantages of its Blackberry email service) may also have valuable roles to play.

Rejection of the T-Mobile deal would not only avoid the many harmful consequences of this merger discussed elsewhere but would also leave many opportunities open to AT&T to improve its mobile services. It could even unleash creative and innovative forces within the company that otherwise will simply continue to rely on its size and lobbying clout as its principal core competitive advantage and competence.

5.3 T-Mobile : Overcoming its "Spectrum-Poverty" and Other Limitations

One of the key reasons given in AT&T's justification for its acquisition of T-Mobile USA is that this operator is doomed to inevitable decline and hence disruption for its customers[78] unless it is embraced by AT&T. This, it is claimed, is because T-Mobile USA has insufficient spectrum for the deployment of LTE while its parent, Deutsche Telekom, has taken the strategic decision not to invest enough in the US to ensure its long-term success. However, there are four possible and if necessary mutually supportive elements in a response to this narrow "analysis" of the future prospects for T-Mobile USA, which, once the transaction with AT&T is rejected could:

- ✓ Apply the breakup fee to help overcome the obstacles to its future success, which includes money for investment ($3 billion), additional spectrum for new LTE deployments (most likely AWS) and a data 4
- ✓ Acquire or lease additional currently unused spectrum from, for example, SpectrumCo (AWS) and/or Clearwire (2.5 GHz) for LTE deployments without having to wait for new spectrum to be released by the FCC
- ✓ Continue to take advantage of the road map for further enhancements of its existing HSPA/HSPA+ technologies and introduction of LTE even within its existing spectrum
    - Contrary to the impression given by AT&T's emphasis on LTE and its crocodile tears about T-Mobile's lack of spectrum for LTE, there is still significant room for improvement within this existing spectrum in the capacity and other qualities of the HSPA+-based mobile broadband services which T-Mobile has already widely deployed, and even room for its initial introduction of LTE which has been specified much more flexibly in terms of the bandwidth within which it can be deployed than HSPA
- ✓ Forge new or expanded partnerships with other operators interested in the US market.

AT&T's assertions about T-Mobile USA's situation, which Deutsche Telekom is now ready to parrot faithfully, reversing its positions of early 2011, blatantly overlook the possibilities for T-Mobile USA to acquire the assets it needs to build a successful business without either exceeding the financial commitments DT is prepared to make to the US market or creating the inevitability of the emergence or re-emergence of a duopoly. They ignore ways in which T-Mobile USA can continue over the next few years to enhance significantly the capacity and

[78] It is heartwarming to hear AT&T express such concern today for the future of T-Mobile's customers, given that its actions until now have been directed at harming them (among others) by denying them access to the iPhone and to data roaming agreements. But perhaps this change of heart indicates that it may be possible to change AT&T's attitudes and behavior provided it is dealt with firmly and is not allowed to get its way on the basis of unsupported and unjustified assertions.

capabilities of the services it can offer *within its existing spectrum.* It is especially noteworthy that the strategy and plans T-Mobile USA announced at its investor conference in January 20, 2011 showed that it but did not anticipate needing new spectrum before 2014 or 2015[79], and could refarm some frequencies to begin the introduction of LTE in the near future. To say the least this picture is at complete variance with that which AT&T presented a mere two months later about the inevitable decline and obstacles to growth of T-Mobile USA on its own.

The starting point for an alternative future for T-Mobile USA is the assets it would acquire from AT&T as a breakup fee when the transaction is rejected. Ironically these assets fill the very same gaps that AT&T has asserted as the reasons why T-Mobile's future is precarious, namely additional AWS spectrum (perhaps 10 MHz) as well as $3 billion in cash, that can be used for investments in the US, as well as a data roaming agreement (increasing coverage) which otherwise AT&T has not been prepared to establish. These assets alone would give a significant boost to T-Mobile's prospects, even if they might have to be supplemented by other initiatives.

In other words, in a remarkable irony, rejection of the deal *automatically* overcomes or substantially mitigates any basis for AT&T's argument that T-Mobile has no way forward *without* the deal.

Further initiatives that can be considered include T-Mobile's gaining access to even more additional spectrum, without having to wait for the FCC to release new frequencies, by leasing or acquiring unused spectrum from Clearwire (2.5 GHz) and/or SpectrumCo (AWS), frequency bands which are suited to the deployment of LTE, and for which a growing range of LTE equipment and devices has already become commercially available. A joint or shared network arrangement with one or both of these entities as partners might be envisaged. This arrangement might be as intimate, but need not be since sharing can encompass different levels of passive and active components, and even spectrum itself, as the joint venture Everything Everywhere that has been formed in the UK between T-Mobile (UK) and Orange (France Telecom). In addition, a T-Mobile USA outside the clutches of AT&T should be able to benefit from the joint purchasing agreement being established between France Telecom (FT) and Deutsche Telekom to save costs and increase negotiating power with equipment and device vendors.[80] The negotiating clout of this combination of two multinational GSM/HSPA/LTE operators will be even greater than that of AT&T, with or without T-Mobile USA.

It is both significant and revealing of AT&T's -- and now DT's -- consistent pattern of avoidance by leaving out important alternatives to their merger that they have failed to discuss. There are creative and feasible ways for T-Mobile, instead of combining its spectrum with AT&T's, to overcome allegedly insurmountable obstacles to building a viable future for itself, despite its current relatively small spectrum holdings. Even though in the longer run T-Mobile USA will need access to additional spectrum in order to be able to deploy the most modern and competitive mobile broadband systems efficiently, it still has considerable room for maneuver and improvement within its existing spectrum for the next few years.

The spectrum holdings of T-Mobile USA vary by area within the US, in terms of the absolute and relative amounts of PCS (1900 MHz) and AWS (1700/2100 MHz) frequencies which it has acquired. For example, in New York City, it holds 2x10 MHz of PCS and 2x15 MHz of AWS spectrum, while in San Francisco it holds 2x15 MHz of PCS and 2x20 MHz of AWS spectrum. Generally speaking, T-Mobile USA will be able to introduce LTE in the PCS

[79] Ibid., T-Mobile USA Investor Day,
[80] Ibid.,"Deutsche Telekom, France Telecom Set Up Purchasing Venture",

band *without additional spectrum acquisitions* after it refarms some frequencies currently used for GSM. In New York, it should eventually (perhaps after 3-4 years) be able to deploy LTE on a 5 MHz carrier, and somewhat earlier on smaller carriers (such as Metro PCS has done but in the AWS band) of 1.4 and 3 MHz. In contrast, in San Francisco, T-Mobile should be able to deploy LTE on a 5 MHz carrier in the near future and eventually on a 10 MHz carrier. These scenarios assume that GSM services will still be supported on the remaining 5 MHz carrier in the PCS band. Other areas served by T-Mobile in the US could also enjoy LTE deployments on 5 or 10 MHz carriers within the next two to three years. In the longer run T-Mobile will need additional spectrum in order to be able to deploy LTE in the most effective way, using 15 and 20 MHz carriers.

Furthermore, *again without additional spectrum,* T-Mobile USA should be able to exploit the benefits in terms of higher peak capacity, average data rate available to customers, and superior cell edge performance that can be obtained through the use of carrier aggregation technology and improved versions of HSPA+. Carrier aggregation is being specified for both HSPA+ and LTE, and in a further step for combinations of the two (LTE+HSPA aggregation). For example, in New York City HSPA multi-carrier aggregation in the AWS band (with three 5 MHz carriers[81]) will support a theoretical peak download data rate of 126 Mbps, compared to 42 Mbps with T-Mobile's current network. Once LTE+ HSPA aggregation is possible then with a 5MHz LTE carrier the theoretical peak download data rate can be increased further to 163 Mbps.

In terms of competitive differentiation, through which T-Mobile USA could also increase its attractiveness to customers, the introduction of innovative favorable international roaming conditions could be one way to attract customers who travel internationally (just as some operators elsewhere have done[82]), allowing them to be treated in some cases as local customers without international surcharges in every country where their domestic or home operator owns a mobile network. More broadly T-Mobile USA could compete with AT&T as it has done in the past by ensuring that its customer service is more friendly and responsive and its contractual terms and conditions are less onerous and restrictive for customers than those that AT&T imposes.

The continuation of T-Mobile USA without AT&T would provide an attractive partner for a new entrant into the US market, if Deutsche Telekom still felt it needed to find an additional source of funding to support its development. This partnership might involve an extension of the DT/FT relationship into the US, or it might involve a new partner for DT. There are several such potential partners, including some who have already invested in the US market, as well as others who are only just beginning to flex their muscles outside their domestic bases. Among the former are SK Telecom (Korea), America Movil (Mexico) and this Mexican operator's major rival throughout Latin America, Telefonica (Spain). Among the latter are Bharti Airtel (India) and China Telecom. Furthermore, Canadian operators such as Roger Communications and Bell Mobility might be interested.

So the assertion that if the transaction with AT&T is rejected then T-Mobile USA will find itself condemned to inevitable decline portrays an unimaginative and very restricted view of its business opportunities***. More fundamentally, it is completely unjustified***. The various scenarios outlined above are not meant to be recommendations or to indicate that any of the organizations mentioned would be interested in or have even indicated any interest in partnering with T-Mobile USA or in leasing or selling spectrum to it[83]. However, they do portray a plausible picture of multiple interesting possibilities that is itself surely not comprehensive. Motivated and entrepreneurially minded decision makers in the organizations concerned should be able to pursue at least

[81] HSPA is only specified for 5 MHz carriers, while LTE has been designed much more flexibly to be deployable with carriers from 1.4 to 20 MHz

[82] For example Vodafone's Passport scheme and Zain's One Network plan

[83] Although there have been multiple rumors about some of them, for example T-Mobile USA's interest in Clearwire's spectrum and Clearwire's interest in raising money by selling some of its 2.5 GHz frequencies

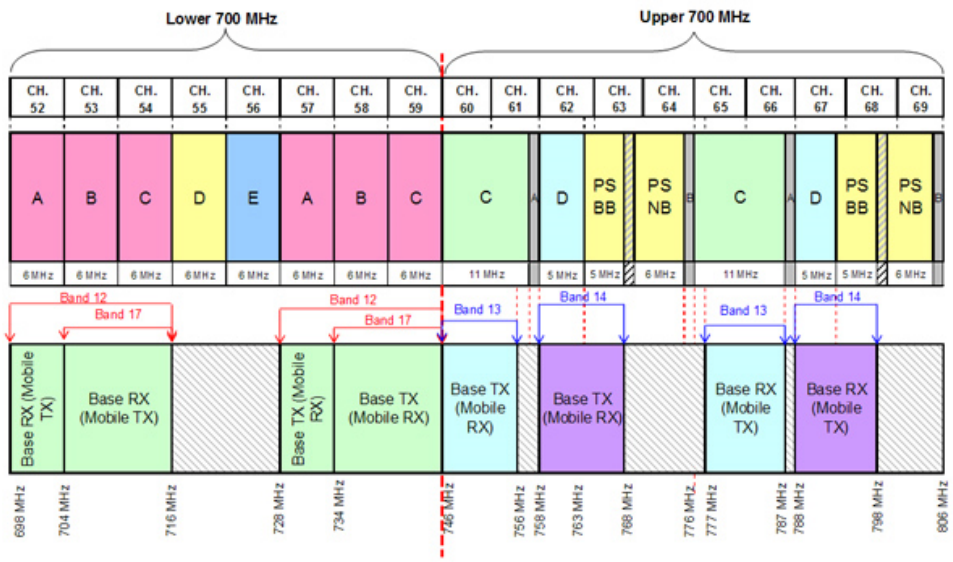
one of these alternatives successfully once, but only if the AT&T/T-Mobile transaction is rejected. None of these alternatives involve sending $25 billion abroad that might be used to expand and enhance value-creating wireless infrastructure and create new jobs in the US, nor do they raise the serious risks, indeed the certainty of anticompetitive and customer-hostile harm that allowing AT&T to grow by swallowing T-Mobile USA will entail.

T-Mobile USA is far from being stymied in achieving substantial further increases in the capabilities of its networks if it remains independent from AT&T. It does not face an insurmountable barrier in the short term. The most serious obstacles to its future success are those that would be posed by a continuation of AT&T's business practices, key elements of which will be removed once it receives the assets promised in the breakup of its transaction with AT&T after this transaction is rejected.

5.4 700 MHz: Interoperability Issues

The US 700 MHz band is in a unique situation. Unlike other bands in the US and bands in other countries, it includes more than one band class. Devices designed to operate in one class do not work in the other classes. The 3GPP standards group created four different band classes within 700 MHz: band class 12, 13, 14 and 17 as shown in the Figure below. This situation arose as a result of somewhat complex and technical details of radio wave propagation and interference. Thus roaming between networks operating in different 700 MHz band classes will not be possible until multi-class devices incorporating more than one 700 MHz radio become available. Additional costs and other disadvantages are incurred as more radios are added, initially requiring more than one wireless chipset although eventually single chipset multi-radio solutions will be implemented. Currently (mid-2011) these multi-class 700 MHz devices are not available in the US since the first 700 MHz devices were only specified by the two major US operators (Verizon and AT&T) for their specific respective classes. Verizon acquired most of the FCC's 700 MHz C Block spectrum (which lies in band class 13), and many of AT&T's 700 MHz licenses sit in the lower C and B Blocks (which lie in band class 17). A number of smaller operators acquired 700 MHz spectrum licenses in the Lower A, B and C Blocks, which lie in band class 12. Single class 700 MHz devices developed for Verizon will not work on AT&T's 700 MHz frequencies and vice versa, and neither will work in Band 12.

Figure 6: US 700 MHz Band plan



There have been multiple objections to AT&T's and Verizon Wireless's decisions to introduce 700 MHz devices that only function in their respective band classes[84] on anticompetitive grounds and as representing a sharp break from all other bands in which interoperability of devices across the entire band was assured. Furthermore full spectrum or interoperable devices are desirable in anticipation of the future use of frequencies in this band for broadband services to support public safety applications and agencies. Without interoperability across all 700 MHz band classes, first responders will be without access to redundant, advanced wireless networks in an emergency.

Hence AT&T's and Verizon's development priorities in the 700 MHz band have so far been inconsistent with public safety requirements as well as hostile to the public interests of: (1) Ensuring an effectively competitive market, as well as (2) Enabling cooperation between operators where needed to maximize the coverage of the services to which their customers subscribe through roaming agreements in which a customer's device can be used when outside the coverage of a "home" and within the coverage of a "visitor" or roaming partner's network. Of course these same two market leaders also object to data roaming mandates. Their approaches to the 700 MHz band can and therefore should be interpreted as evidence of their innate, consistent and thorough

[84] Peter Cramton, "700 MHz Device Flexibility Promotes Competition," http://www.cramton.umd.edu/papers2010-2014/cramton-700-mhz-device-flexibility-promotes-competition.pdf - also available in *Ex Parte* Letter from Rebecca Murphy Thompson, General Counsel for Rural Cellular Association, to Marlene H. Dortch, Secretary, FCC, filed in RM-11592 (filed Aug. 10, 2010); "AT&T, Cellular South debate 700 MHz interoperability at FCC," http://www.fiercewireless.com/story/att-cellular-south-debate-700-mhz-interoperability-fcc/2011-04-26?utm_medium=nl&utm_source=internal; "Paul Allen's Vulcan Wireless pushes for 700 MHz interoperability," http://www.fiercewireless.com/story/paul-allens-vulcan-wireless-pushes-700-mhz-interoperability/2011-06-08?utm_medium=nl&utm_source=internal#ixzz1OpDf59H2

aversion and determined resistance to requirements that they do their best to serve the interests of their customers, as well as of their fundamental commitment to actions and tactics that create obstacles to the continuation of effective and innovative competition in the markets in which they operate.

5.5 The Role of Tower Companies

Independent tower or cell site companies, i.e., those not owned by wireless operators, play a significant and growing role in mobile network deployments worldwide. High investment requirements are encouraging operators to find ways to reduce their capital expenditures and operating expenses. One approach is sharing network facilities to varying extents, including space at cell sites and towers and even some types of equipment. Sharing may be arranged between operators or between an operator and a so-called tower company. A growing trend among operators from the Americas to India, Africa, and Asia has been to sell their tower assets to tower companies and then lease back "space" on them. Indeed it was reported as recently as January, 2011 that T-Mobile USA might sell its towers (it has 49,000) to raise cash.[85] At its investor conference in New York on January 21, 2011 Deutsche Telekom's CEO Rene Obermann said, "We have the biggest number of those towers compared to our competitors and that's not something as an operator you run with utmost efficiency." He added, "That sale could be significant," without providing details except to say there's "no timeframe for selling the towers." In another example, Sprint Nextel finalized the sale of about 3,080 towers to TowerCo in September, 2008 for an estimated $670 million in cash[86].

AT&T has downplayed the role that tower companies in the US play in meeting its requirement for additional cell sites, arguing that there is insufficient space available to negotiate co-location or leasing deals where they are needed. However, if T-Mobile had indeed sold its tower assets for $2 billion, then surely AT&T could have gained access from the new owner to these sites, let alone to sites owned by others. Even by its own estimates AT&T would not need to negotiate access to all of them, since it intends, post-merger, to achieve significant savings by eliminating redundant sites[87]. As noted in section 5.2 above, AT&T is already the largest single customer of the most important US tower companies. So it would be able to negotiate attractive economic terms to obtain space with a likely buyer of T-Mobile's towers, or even with T-Mobile itself, if it retained the towers. As also noted in the preceding section, towers can typically accommodate five or so tenants, and there is no doubt that T-Mobile's towers have space available or AT&T could not argue that it will benefit by acquiring them.

5.6 The Critical Importance of Business Communications

The needs and roles of business and institutional communications can easily be forgotten amid all the publicity, glamour, worries about personal privacy and identity theft and often scandal created by and associated with uses and misuses of consumer communications. This tendency is reinforced by the visibility of services such as Facebook, Twitter and YouTube, even though businesses themselves are paying increasing attention to the impact of these "social media" in terms of their marketing, corporate images and communications with their customers.

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[85] "T-Mobile USA's Sale of Tower Network May Fetch $2 Billion," http://www.businessweek.com/news/2011-01-21/t-mobile-usa-s-sale-of-tower-network-may-fetch-2-billion.html

[86] http://www.fiercewireless.com/story/sprint-sells-towers-towerco-then-signs-lease-deal/2008-09-25

[87] Ibid., "AT&T + T-Mobile: A World-Class Platform for the Future of Mobile Broadband."

Nevertheless, a detailed analysis of the consequences of the AT&T/T-Mobile Deal for business communications is essential. The importance of this aspect of the review of the AT&T/T-Mobile transaction is heightened by the almost complete and remarkable absence so far of thoughtful comments and documented filings about this deal from major business users. Yet these business and government customers represent the major engines of economic growth, and therefore rely upon available, affordable, and reliable wireless and other telecommunications-information services that have become an integral and essential part of the nation's economic fabric, contributing to value creation in the form of GDP growth and the creation and sustenance of jobs.

The AT&T/T-Mobile Deal has broad implications for, and potential impacts on, business and government communications, both domestically and globally. These impacts and implications must be weighed during the US government's review process because the availability, affordability and reliability of nationwide and global communications systems form an increasingly critical component of our socio-economic fabric.

In particular two relatively recent parts of the socio-economic fabric are the explosion of mobile communications and the rapid expansion of broadband communications. These phenomena embed communications more intimately and pervasively into the dynamics of business as well as our social lives than even the Bell System exercised when it was broken up in the telephone- or voice communications- dominated era of the 1980s.

Since the mid-1980s, mobile communications have exploded universally within the overall and increasingly broadband-dominated and coordinated telecommunications services. An increasing number of critically important services are being planned, implemented, and relied upon by businesses, government agencies, and institutions, both large and small. The announcement of AT&T's proposed acquisition of T-Mobile for $39 billion threatens to significantly reduce competition for these services, thereby creating concerns and risks for businesses, governments, and institutions almost everywhere. The power and influence of a 21st century monopoly or duopoly in the economic life of the US, its potential for harming consumer and general welfare and hence the risks of allowing such a market environment to develop would be even greater than comparable concerns which justified and led to the breakup of the old Bell system in the 20th century.

6. THE AT&T/T-MOBILE DEAL MUST BE REJECTED

6.1 Alleged Benefits are Imaginary

This report shows especially in Section 2 above that the benefits asserted by AT&T as flowing from this transaction if it is approved in terms of additional investment, jobs, and expanded broadband coverage are illusory. Indeed actual outcomes are likely to be the opposite of what is promised by AT&T, while alternative paths forward will generate them in realitywhile sustaining innovation and healthy competition in the US T-I-E market. The only clear short term beneficiaries from the transactionwill be the shareholders of Deutsche Telekom after this company receives a $25 billion cash payment from the US.

Many supporters of the deal are basing their advocacy in its favor upon an unexamined acceptance with no analyses of their own of the claims made by AT&T about the value the transaction will generate in terms of jobs, additional investment, and expanded broadband coverage. Supporters are also responding to AT&T's thinly veiled threat or its "take it or suffer the consequences" depiction of the obstacles which both AT&T and T-Mobile USA confront that this deal -- and this deal alone -- will enable these two operators to overcome. However, these assertions of the positive consequences of the deal are entirely false and unjustified. Furthermore there are much better ways in which highly desirable goals of creating new employment opportunities, increasing investment in the US, and expanding the coverage and quality of broadband access in the US can be achieved. As a result none of this support has any forensic value, however worthy the motivations that lie behind them.

We hope that this Report will convince as many of these supporters as possible to change their opinions of the proposed transaction based on the evidence and analyses we have presented, and then devote their energies instead to supporting the alternatives that we have outlined in Section 5.

6.2 Damage will be substantial, inevitable, and irreversible

Not only will the benefits that will supposedly flow from this deal prove to be imaginary, but if implemented, the transaction will inevitably cause serious harm to mobile customers directly and to the health of the competitive environment for telecommunications services in the US in all segments of the market, whether they are accessed via wireless or fixed facilities. Innovative developers of new applications and services will have to cope with an increasingly powerful duopoly acting as a gateway or bottleneck for bringing their offerings to customers. The members of this duopoly (AT&T and Verizon) have shown consistently over many years that if there is a conflict between an action that is in the broad public interest and one that serves their own short term and narrowly conceived profit instinct they will almost invariably choose the latter course. In the old days of a telecommunications monopoly there was at least a social contract that put limits and constraints on what a firm such as AT&T could do. Today in a regime of light regulation which has much to commend it, there is no such contract. If emboldened and allowed to grow even larger by approval of this transaction with T-Mobile USA, AT&T, as well as Verizon (taking its cue from the precedent this acceptance would establish) would pursue their current anticompetitive and customer-hostile maneuvering and actions even more vigorously than they do already. All other competitors would be intimidated and fearful of challenging them, resigning themselves to accept whatever crumbs the duopolists might be willing to let them have or retain so as to present the semblance of a competitive market for face-saving purposes.

The idea that somehow any harm that might emerge post-merger could be detected and acted upon in time to stop and reverse its effects is as illusory as are the benefits that this transaction is supposed to deliver. The huge financial and lobbying power of the duopolists, and their ingenuity in using any and all regulatory and legal mechanisms and political influences to block or delay the implementation of any action against them beyond the point of no return when the damage they have wreaked becomes irreversible has been well proven. In addition the $25 billion sent to Germany on consummation of the transaction would not be transferred with a "money back if not satisfied" guarantee.

6.3 No credible remedies exist

Several comments on The AT&T/T-mobile deal have sought to define conditions under which the deal might be acceptable and hence could be approved[88]. These conditions will supposedly be adequate to prevent or avoid the damage that the merged entity may otherwise inflict upon competition, customers, and the US economy. However, upon analysis none of the conditions or remedies proposed to make the deal acceptable meet even the most minimal definition of adequacy. Therefore they provide no grounds or basis for approval of the deal. Indeed analysis of their effects confirms and reinforces the conclusion that the only acceptable outcome is to reject this transaction entirely and absolutely.

The conditions proposed fall into three categories, namely those that are:

- Unenforceable;
- Destructive of all the alleged value of the transaction and hence nullifying its alleged purpose; and/or
- Logically inconsistent and requiring strict and unreasonable regulation of the merged entity for their enforcement, which is highly undesirable and would represent a sharp departure from modern regulatory practice.

Examples of "unenforceable" conditions include those linked to data roaming arrangements, Special Access services and other elements of the wholesale market, as well as handset deals with device vendors and interoperability of handsets across the entire 700 MHz band whose frequencies are dominated by AT&T and Verizon Wireless. For example, Cincinnati Bell Wireless[89] specifies three essential conditions:

- Regional carriers must have access to roaming, and this access must be assured in a manner that allows them to offer competitive nationwide service to their customers including just and reasonable rates and access to all voice and data services.
- Regional carriers must have access to sufficient amounts and types of spectrum to allow them to compete effectively. AT&T must be required to swap, divest and/or lease spectrum as appropriate to make this happen; and
- Regional carriers must have access to cutting-edge, innovative handsets and AT&T must no longer be permitted to tie up these handsets through exclusive deals with manufacturers, or to use its buying power to cause manufacturers to focus their development on products that will serve only AT&T and not regional carrier networks.

Yet there is ample evidence at hand that AT&T, often in lockstep with Verizon Wireless, is able to stop or at least delay any effective action to impose conditions such as the first and third of those just outlined through legal and regulatory channels long enough for the damage they cause to be substantial and indeed irreversible. T-Mobile USA underwent a rapid conversion or reversal between late January, 2011 and the announcement of its agreement to be acquired by AT&T in late March, 2011 from being a fierce opponent and critic of AT&T with respect to issues of data roaming and Special Services access (and the major theme of its TV advertising as superior to AT&T) to seeing it as its new "best friend" and only possible savior from inevitable decline. This conversion, culminating in the announcement of the T-Mobile transaction with AT&T, is strong and

[88] For example, FCC Proceeding 11-65, Petitions to Condition Consent or Deny Application and other filings from Metro PCS, Ad Hoc Telecommunications Users Committee, King Street Wireless, Earthlink, Cox Communications, and Cincinnati Bell Wireless among others
[89] Petition to Condition Consent or Deny Applications, http://fjallfoss.fcc.gov/ecfs/document/view?id=7021681268

unmistakable evidence of how effectively AT&T is able to frustrate attempts to impose procompetitive conditions on its behavior and then eventually compel its smaller competitors to knuckle under.

In other words, even if the cause or the condition is just, AT&T is able to ensure that justice is delayed so that, as the adage goes, it is denied. In the case of T-Mobile, this competitor's change of heart and tune may have been sweetened or encouraged by AT&T's generous buyout terms. Nonetheless the outcome, namely Deutsche Telekom's decision to throw in the towel as an independent entity in the US market is an alarming portent of what AT&T tries to achieve and is manifestly capable of forcing its smaller competitors to do thanks to its immense financial, legal and lobbying muscle. Evidently it considers that use of this muscle is more effective in the pursuit of its objectives than improving and increasing (allegedly "tirelessly") the application of its resources to deliver high quality, innovative services and value to its customers.

The persistent past and current behavior of AT&T guarantees that with its position reinforced by an acquisition of T-Mobile USA it will strive very aggressively and will succeed in frustrating the intent of any conditions imposed on it which it dislikes, even if accepted[90] to secure approval of the transaction, at least long enough for the harm their violation causes to become irreversible.

Proposed spectrum divestitures are an example of remedies that will only be effective if they eliminate the basic purpose of the trasaction, in this case AT&T's alleged desperate need for more spectrum that it can only find by acquiring T-Mobile USA. MetroPCS[91] states that the FCC must require significant pre-merger spectrum divestitures to one or more of the remaining non-national carriers that AT&T has identified as viable competitors whose strengths are supposed to ensure that there will be healthy competition even post-merger, this category includes MetroPCS. MetroPCS states that, "The amount of spectrum which must be divested should be enough to allow the acquiror(s) to be able to compete effectively against the combined AT&T/T-Mobile for data services." This amount of paired 700 MHz, 850 MHz, PCS or AWS spectrum must "allow the remaining non-national carriers to have adequate spectrum to be an effective competitive check on the combined AT&T/T-Mobile for *all*[92] of the services which will be or could be offered by the combined AT&T/T-Mobile."

In practice for LTE technology this sub-condition on the amount of spectrum to be divested means that each non-national carrier would have to acquire at least 2x20 MHz of paired spectrum nationally in order to be able to maximize the efficiency of its LTE deployments. But T-Mobile USA only holds a total of about 51 MHz on average across the US in various combinations of the PCS and AWS bands. So to satisfy this condition of spectrum divestitures AT&T would have to give up an amount of spectrum equal to most of the bandwidth it plans to acquire with T-Mobile, or an even greater amount if more than one non-national operator (e.g. MetroPCS AND Leap) is to be accommodated.

In order to save this Deal (or make it acceptable) we have to destroy its alleged value, and the very basis, on which it is being justified.

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[90] All conditions have loopholes or less obviously "devils in the details" which provide scope for subverting their spirit and intent while claiming to adhere to the letter.
[91] Petition to Condition Consent, or Deny Application, http://fjallfoss.fcc.gov/ecfs/document/view?id=7021681446
[92] Italics in the original text.

The third category of condition – logically inconsistent and introducing a requirement for strict regulation of the merged entity – is exemplified in the Comments of the Ad Hoc Telecommunications Users Committee[93]. This Committee states in reference to the benefits asserted by AT&T that will flow from this transaction, "But since those "network and spectrum synergies" are, by definition, impossible for their smaller competitors to achieve, it will be equally impossible for those competitors to provide meaningful price competition for the much larger merged entity. Without competition to force the merged entity's prices down to its newly-reduced costs, to spur innovation, to drive network expansion, and to otherwise disgorge for public benefit the merger's efficiencies and claimed benefits, the Commission must intervene to ensure that the economic efficiencies and costs savings that justify the merger are in fact passed through to the public." In the attachment to these Comments, prepared by Dr. Lee Selwyn, states: "In the testimony that follows, I shall assume, for purposes of discussion and policy analysis, that the various output-increasing and cost-reducing operational efficiencies that the Applicants portray as arising from the transaction are real and are likely to arise as described. Indeed, the Applicants have submitted compelling technical support as to the presence of significant economies of scale and scope in the provision of wireless services. These efficiency gains and cost savings will not, however, result in the public interest benefit of lower prices to end users of wireless services unless the merged entity is compelled by competitive pressure or regulatory compliance to pass through those benefits."

This surprisingly unquestioning assumption, with no further analysis of the validity of AT&T's assertions, is then used as a basis for calling for price controls on the services the merged entity will offer and implementation of Special Access regulation by the FCC, since "AT&T has not demonstrated that there will be effective competition, so otherwise the benefits from the merger will not flow through to customers."

The logical connection between the two statements that: (a) There must be price controls on the merged entity to ensure that the alleged benefits of the transaction flow through to consumers, and (b) Competitors will be unable to provide meaningful price competition is that the *merged entity should be obliged by the FCC to offer prices that competitors will be unable to match.* Hence presumably these competitors would eventually be driven into competitive insignificance and even out of business by the strict price regulation demanded of the FCC. Moreover the FCC would be faced with a new and heavy regulatory burden to determine and justify the appropriate price levels.

So, in order to save the deal, we will have to destroy competition.

To summarize, all the conditions that have been proposed to make the AT&T/T-Mobile USA transaction acceptable will either: (1) be unenforceable in the real world; or (2) nullify the very purpose, value and basis of the transaction; or (3) be inherently destructive of the competitive environment.

There are no remedies for the harm and damage that will be the inevitable consequences of approval of this transaction for customers, competition, and the US economy, and there are no conditions under which it should be approved. Therefore, both the FCC and the DOJ must reject this deal outright and suggest that both AT&T and DT examine superior, value-creating stragtegic alternatives, including those proposed in this report.

[93] Comments, http://fjallfoss.fcc.gov/ecfs/document/view?id=7021681991

Some or all of those proposals strategic business option will stimulate a flourishing T-I-E industry market in the US, along with other technical and business initiatives taken by the two separate entities, AT&T and T-Mobile, to ensure a competitIve and healthy market to the benefit of all consumers, and the US economy.

7. FINDINGS & CONCLUSIONS

Since this report has demonstrated, clearly and unquivocally, that none of the unsubstantiated claimed benefits of the AT&T/T-Mobile Deal provide justification for approving the deal, then the *only* remaining factor is the truth, namely that AT&T's real *motivation* is to seize an opportunity to eliminate an otherwise viable competitor, and thereby demonstrate to other competitors, real and/or imagined, that nothing can or will stand in the way of whatever AT&T wants to accomplish. This strategy, of course, is not unique and has been outlined in economics texts which point to the inefficiencies created by monopoly, monopoly power, monopoly output, bilateral monopoly, monopsony, duopoly, etc[94].

Summary of Findings:

1. The AT&T/T-Mobile Deal will result in negative effects on wireless and wireline competition in the US Market. Because wireless is critical to, and dpendent on, a global communications ecosystem, the implications of this proposed deal are far broader than a local market, that AT&T, proposes. The implications and effects will fall on local, national, and global markets.
2. The Deal will also have negative effects for other participants: Equipment suppliers; innovative & imaginative start-ups; and above all the combined customers of AT&T and T-Mobile.
3. There are more desirable and beneficial alternative business strategies that can be adopted by AT&T and T-Mobile to strengthen their wireless business while remaining as separate entities. A number of alternative business strategies for both companies are outlined in this report.
4. Spectrum scarcity is NOT a problem for AT&T, as it suggests. Its lack of investment in its current infrastructure will go a long way to solving this problem.
5. The Deal may have negative effects, not positive ones, on the US economy with respect to job and GDP growth because AT&T plans to remit $25 billion of the $39 billion purchase price to Deutsche Telekom in Germany, thus helping a European economic stimulus as opposed to a US economic and broadband stimulus.
6. The Deal, if approved, will have negative international and global implications on standards, equipment suppliers, business customers, international travelers, and competition.
7. The recent history of major mega-mergers in this sector indicate that, if this deal is approved, there will be no stopping further mergers and the US will return to a rigidly and perhaps restrictively regulated olicopolistic industry structure. AT&T has played a major role in this anti-competitive trend.
8. The mega merger trend has already served to significantly reduce competition in the wirless sector while emboldening AT&T and Verizon to challenge pro-competitive FCC policies, e.g., data roaming, 700 MHz interoperability, and network neutrality, among others.

[94] The MIT Dictionary of Modern Economics, 4th Edition, edited by David W. Pearce, The MIT Press,1992; Texts on Industrial Organization by Joe S. Bain, F.M. Scherer, William G. Shepherd, and Alred Kahn, at http://www/textbooks.com/Catalog/BF1/Industrial -Organization-and Industrial-Economics.php?s=1

CONCLUSION

As market conditions have evolved over the past 70 years, the FCC has exhibited extraordinary foresight, leadership and resolve in adapting its regulatory policy framework so as to continally foster the successful deployment of new technologies and services. Although the FCC always has had – and always will have – its critics, its overall success cannot be challenged.

Generally, the FCC's major public policy role is one of encouraging the development of new technologies that are then made available to all Americans on an equal, non-discriminatory, non-preferential basis, at affordable prices. From its beginnings, it has successfully promoted the deployment of new technologies and services by framing rules and regulations that have guaranteed that the public interest is better served. Over the past 70+ years, the FCC has not only improved the level of competition but, in so doing, has encouraged the deployment of new technologies and services in radio, TV, cable TV, satellites, fixed and wireless telecommunications, information services (including the Internet and the Word Wide Web), and – last but by no means least – increasingly smart equipment options from a multiplicity of suppliers. Citations to many of these FCC policy contributions to competition and customer power are included in Appendix II below.

The FCC, along with the DOJ, now confront another choice that will benefit or harm the American – and perhaps the global – population, namely what level of competition will spur the deployment of broadband, with all of its potential, that has already begun.

The FCC and the DOJ must not turn the clock back, they must boldly move ahead with a decision that promotes competition, customer choice, and the rapid deployment of new technologies and the services and applications based upon them.

Therefore, because there are no credible remedies for the harmful and irreversible consequences that would flow from the AT&T/T-Mobile Deal to make it acceptable to the FCC and the DOJ, it must be rejected as not being in the public interest. If the two companies merged, the combined entity would assert its dramatically increased market power to the detriment of a wide variety of other participants that work in, and depend upon, the T-I-E industry, not just in the US but also globally. The deal must therefore be rejected and the two companies must be encouraged to adopt superior, value-creating alternatives that will benefit consumers and competition, along with the US and global economies, and indeed themselves as well.

Appendix I: THE US WIRELESS SERVICES SECTOR: A Brief History and Timeline

Consolidation in the Wired & Wireless Services Sectors of the T-I-E Industry[95]

• SBC (Southwestern Bell Corporation), one of the original seven Regional Bell Holding Companies (RBHCs) following the Court mandated breakup of the vertically integrated Bell System in January, 1984, acquired several other RBHCs – Ameritech, Pacific Telesis, and BellSouth. It then acquired AT&T's long distance company for $16 billion, thus combining America's largest local service provider with the nation's largest long-distance, i.e., national and international, service provider. When Cingular, a joint venture of SBC & BellSouth acquired AT&T Wireless in 2005 for $41 billion cash, it became the number one provider of local and long distance telecommunications services and the number one wireless service provider. When the Cingular-AT&T Wireless (AWS) merger was approved, SBC renamed the combination AT&T Mobility, and also dropped the SBC name in favor of the "new" AT&T.

• Concurrently with SBC's acquisition of AT&T long distance, Verizon acquired MCI/WorldCom for $8.5 billion, thus bringing together into a single entity one of America's two largest local service providers with the nation's number two long distance company. Because the Cingular-AWS gve AT&T Mobility the number one spot in wireless services provider rankings, Verizon Wireless put itself back into the number one position by acquiring the wireless assets of Alltel.

• The ONLY telecommunications-information-entertainment industry merger to be unequivocally rejected by regulators in the past 15 years, and one that was also reluctantly withdrawn by the consolidating companies, was MCI-WorldCom's proposed $129 billion offer for Sprint in 1999-2000. It was criticized by the FCC, the DOJ, and the European Union as an attempt to rebuild a monopoly in certain service sectors and, if approved, would result in less competition, higher prices, while causing economic pain.

The Wireless Sector of the T-I-E Industry, 1982-2011: Brief Historical Overview & Timeline

1982: Announcement of the resolution of the antitrust suit against AT&T/Western Electric resulted in the January 1984 breakup of one of the world's most powerful and profitable monopolies. Before the breakup, there was only one nationwide long-distance carrier in the US, AT&T Communications, linking 23 local Bell Operating Companies, along with Bell Laboratories, a major R&D arm, and Western Electric, a sole source equipment supplier. The company's motto was: One Company, One Mission – Universal Service. In January 1984 it was split into 10 separate companies, 7 Regional Bell Holding Companies, providing local services, including wireless, which shared a part of Bell Labs and renamed it Bell Communications Research; AT&T became an independent company focusing on long distance services, retaining two affiliated companies Bell

[95] "Reassembling Humpty Dumpty: The King's men in Washington seem oblivious to a telecom monopoly in the making. What happened to policy?", Alan Pearce, in America's Network, p. 30, May 1, 2000.

Labs and Western Electric, which were subsequently spun off and renamed AT&T Technologies and later into Lucent Technologies, which is today allied with Alcatel, a French equipment manufacturer.

The FCC's policy concerning the launching of what was then described as a Commercial Mobile Radio Service (CMRS) was announced in 1982 following years of debate and technical trials. The spectrum for the "commercial" services to be offered was allocated as follows:

20MHz was "reserved" for use by the wireline carriers, mostly the Bell Operating Companies (today those would be AT&T and Verizon), and another 20MHz was reserved for other entities that would compete with the incumbent telephone companies. The Bells did not have exclusive rights to the so-called wireline set-aside. They had to give up markets where they did not provide wireline service to so-called independent telephone companies, e.g., GTE (now part of Verizon), Sprint, Telephone & Data Systems (TDS) which still owns US Cellular, Alltel (now part of Verizon, among others. The "competitors" included an eclectic group of companies, known as non-wireline carriers, that included Specialized Mobile Radio Service (SMRS) providers, entrepreneurs such as Craig McCaw, so-called radio common carriers (RCCs), and even companies like MCI, The Washington Post, etc. For the first ten years, known as the analog period, or 1G, there was a wireless duopoly, with almost identical service and equipment prices. It was, in fact, a duopoly and behaved like one.

1990 22.5 million Americans had one wireless carrier providing service, while 197.1 million could choose among two! Between 1985 and 1990, wireless subscribers rose from a few hundred thousand to more than 5 million.

1993: The Budget Reconciliation Act mandated spectrum auctions. This Act created both boom and bust in the wireless segment of the T-I-E industry because of the billions of dollars that it took to buy the spectrum for the provision of true broadband wireless services. A major bust was NextWave, which bid $4.74 billion for spectrum and could not pay up. The FCC "re-auctioned" the spectrum which grossed $15.85 billion. NextWave took the FCC to Court and prevailed, later selling most of its spectrum to the major wireless companies. As a result of these huge capital costs associated with the "purchase" of spectrum, mega mergers began to proliferate.

1995: MCI sold its early cellular licenses and also backed out of a deal to invest $1 billion for a 17% stake in Nextel, later acquired by Sprint. MCI also decided not to bid for the "broadband" PCS licenses in the FCC auction. In what was termed as "growing anxiety" about future profitability, The Washington Post Co. decided to sell almost all of its 70% stake in the start-up PCS company, American Personal Communications, for $33 million to the wireless joint venture group of Sprint Corp., Tele-Communications Inc., Cox Cable Communications Inc., and Comcast Corp., known collectively as Wirelessco, L.P. The PCS spectrum auction "winners" were: Wirelessco, which bid $2.1 billion to secure 29 licenses; AT&T, which strengthened its wireless dominance following its acquisition of McCaw Communications, by spending just under $1.7 billion for 2 licenses; Bell Atlantic, soon to become Verizon, spent $1.1 billion for 11 licenses.

1996: Passage of The Telecommunications Act of 1996 made competition the policy of the nation in the then burgeoning T-I-E industry, thanks in part to the geometric growth stemming from the Internet, World Wide Web, and the promise of broadband, etc. Passage of the Act resulted in "irrational exuberance" in investment in new companies, the so-called dot.com boom-bubble-burst in the period from 1999-2002.

1996 marks the beginning of the end for 1G, analog, and the beginning of 2G – digital wireless:

The Wireless Services Sector was dominated by 10 companies:

1. AT&T-McCaw Communications, with 4 M subscribers

2. Bell Atlantic Mobile Systems (BAMS) + NYNEX, now with the name Verizon, with 4 M subscribers

3. SBCC-PacTel, now named AT&T Mobility, with 3.7 M subscribers

4. GTE-Contel, subsequently merged with Verizon, with 3 M subscribers

5. BellSouth, now AT&T Mobility, with 2.9 M subscribers

6. AirTouch, formerly PacTel, now Verizon, with 2.2 M subscribers

7. Ameritech, now AT&T Mobility, with 2 M subscribers

8. Sprint with 1.6 M subscribers

9. US West/New Vector, now Verizon, with 1.3 M subscribers

10. US Cellular (TDS) with .8 M subscribers

TOTAL NUMBER OF SUBSCRIBERS OF TOP 10 COMPANIES = 21 M

TOTAL NUMBER OF WIRELESS CUSTOMERS = 34 M

TOP 10 COMPANIES ACCOUNTED FOR APPROXIMATELY 60% OF TOTAL U.S. WIRELESS SUBSCRIBERS

1998-99: In a 2-year period wireless subscribership rose from 69.2 million to 86.1 million, largely because of the introduction of digital services, known as 2G wireless. By 1999 there were more than 38.5 million revenue generating digital subscribers in the US compared to 18.3 million in 1998, due in part to AT&T's Digital One Rate that provided unlimited local and long distance calling for $99.99 a month, generating millions of new subscribers that could not be handled by the company's existing infrastructure, resulting in dropped calls and dissatisfied customers.

By April 2000, the wireless sector had consolidated into 6 major nationwide companies:

1. **Verizon Wireless, a combination of Bell Atlantic, NYNEX, GTE-Contel, Vodafone-AirTouch, with 24 M subscribers**
2. **Cingular, a combination of SBC & BellSouth, with 16.2 M subscribers**
3. **AT&T Wireless, formerly McCaw Communications, with 12.1 M subscribers**
4. **Sprint PCS, with 6 M subscribers**
5. **Nextel, with 5 M subscribers**
6. **VoiceStream, acquired by T-Mobile, with 2.2 M subscribers. T-Mobile also acquired PowerTel, another wireless company during its US wireless entry strategy in 2000.**

2001: The FCC decides to ease and eventually remove limits on ownership of wireless spectrum. The first step was to raise spectrum caps from 45MHz to 55MHz as a prelude to complete elimination of spectrum caps on January 1 2003. This FCC decision gave the large, established wireless service providers the opportunity to further consolidate their positions in key markets, resulting in further consolidation of the wireless sector.

2001-2010: Merger Mania continues in spite of The Great Recession. It is now generally agreed that the European & Asian equipment manufacturers, along with the European and Asian service providers, have "won" the wireless standards wars, though not necessarily the handset market, with the emergence of LTE, et al., as wireless moves to 4G and broadband, giving seamless interconnection to worldwide/global wireless services and applications. The continued consolidation movement in the US market is threatening the extinction of the small, regional wireless companies and/or the MVNOs (Mobile Virtual Network Operators) largely because the FCC's set aside policies that encouraged the creation of smaller, often minority-owned, companies are now regarded as too risky and/or not profitable because these smaller companies are unable to bid against AT&T & Verizon when spectrum becomes available via FCC auctions. The FCC must now keep a regulatory watch over the dominant wireless carriers because of potential and real anti-competitive abuses, e.g., refusing to engage in roaming agreements and withholding access to popular handsets/smartphones; customer care and service pricing issues; further consolidation; spectrum availability and the prevention of spectrum warehousing; etc.

Today there are ONLY four nationwide wireless service companies:

1. **Verizon Wireless**
2. **AT&T Mobility**
3. **Sprint-Nextel**
4. **T-Mobile**

Will the FCC and the DOJ choose to reduce this number to three, and if that happens, how long will Sprint-Nextel survive?

Appendix II: REFERENCE MATERIALS

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Chamberlin, E. H., The Theory of Monopolistic Competition, Harvard University Press, 1933, which led to new thinking by economists about how market behavior and market structures do not behave according to the theory described as "perfect competition."

"Cingular's Purchase of AT&T Wireless: An Economic Analysis," by Alan Pearce & J. Richard Carlson, in New York Law School's Media Law & Policy Journal, Vol. XIV, No. 2, Spring, 2005, pp. 6-20.

Coalition of small wireless operators and businesses opposing the AT&T/T-Mobile Deal, see www.nochokepoints.org

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Appendix III: RESEARCH TEAM

Alan Pearce, Ph.D., President, Information Age Economics

Dr. Alan Pearce founded IAE, a Washington, DC-based research firm, in 1979 following a senior level policy career in the US Government from 1971-79. He was one of the prime architects of public policy at the FCC in the early 1970s, where he served as Chief Economist for five years. He served in similar capacities for the US Congress, where he was Chief Economist of the House Telecommunications & Internet Subcommittee, and then in the Executive Office of the President.

Since leaving the government, Pearce has provided professional and research services to every branch of the T-I-E Industry, and also consulted for a wide variety of governments at the international, federal, state, and local levels. One of his primary areas of expertise concerns policies directed toward industry structure and the effects of consolidation on market power and competition. Pearce played a major role in the FCC's investigation of AT&T, the Bell System, and Western Electric in the 1970s, which resulted in the break up of the Bell System in 1984; he also worked for Cingular Wireless on its all-cash $41 billion acquisition of AWS in 2004; and for Cable & Wireless against MCI-WorldCom's attempted $129 billion acquisition of Sprint in 2000, which was withdrawn in order to avoid rejection (because of the proposed merged entity's market power) by the FCC, the DOJ, and the European Union.

Barry Goodstadt, Ph.D.

Dr. Goodstadt, a nationally known management and business consultant, is an expert on the evaluation of voice, video and data services as well as other technologically based products in the utility industry and regulatory issues associated with these products and services. His experience includes work on customer retention and in telecommunications industry research, a market researcher, and expert witness in legal cases. He has also focused his attention on competition for video services among cable operators satellite service providers and telephone companies. His research in the wireless sector includes analysis of the Wireless Web, WiFi, and WiMAX, as well as alternative broadband provisioning.

Martyn Roetter, D.Phil.

Martyn Roetter, D.Phil., is a technology and management consultant with 30 years' experience in North and South America, Europe, Asia, the Middle East,and Africa in assisting public and private sector clients reach decisions regarding technology investments, spectrum management, business plans, and public policies. He has over 30 years of consulting experience with Arthur D. Little, PA Consulting and others as well as his own firm – MFRConsulting. Dr. Roetter is also currently associated with the South Africa-based BMI-TechKnowledge (see for example www.bmi-t.co.za/?q=content/bmi-t-navigator) and the Pacomm Consulting Group (www.pacomm.com) in Whitby, Ontario, Canada. Dr. Roetter was a Vice President and Partner at Arthur D. Little, Inc., based in Cambridge, Massachusetts. He founded the European arm of the company's TIME (Telecommunications, Information, Media, and Electronics) practice in Europe from a base in Paris, and later led this practice at various times in North America and at the global level. He served as a member of the Board of Directors and Chairman of the Compensation Committee of Allen Telecom (a leading global supplier of wireless

subsystems) from 1998 until its acquisition by Andrew Corp. in 2003.. He is a member of the IEEE and the IEEE Communications Society. He was educated in England, Germany, and the U.S., and holds a doctorate in physics from the University of Oxford.