



Corporate vs. Consumer Welfare: Who Will the FCC's Spectrum Auction Rules Help?

Alleviating the Spectrum Crunch

Consumers have become deeply reliant on wireless broadband services for earning a living, studying, and communicating with family friends and co-workers. The new mobile wireless applications for communications, e-commerce, news and entertainment are hugely popular and useful.¹ At the end of 2013, there were over 336 million wireless subscribers consuming more than 3.2 trillion megabytes of wireless data in the U.S., a 120% increase in traffic from the previous year.² In fact, the White House's Council of Economic advisors estimated that wireless data in the U.S. would increase by 20-fold over the next five years.³ To meet this demand, the FCC estimated 275 megahertz of new spectrum will be needed by the end of 2014.⁴ With broadband networks already running at 80% of their capacity, spectrum is needed soon, or else congestion, slower service, poor quality, overly restrictive usage caps, and higher prices may result.⁵ Some call this looming shortage the *spectrum crunch*.

Congress was aware of wireless traffic nearing capacity and of predictions for continued rapid growth when it passed the Middle Class Tax Relief and Job Creation Act of 2012 (Act). That Act aimed to make wireless broadband spectrum available through competitive auctions in which TV stations could voluntarily surrender use of TV broadcast airwaves in return for a portion of the auction proceeds. In essence, reverse auctions determine what spectrum broadcasters are willing to give up at undisclosed prices, while forward auctions permit wireless service providers to bid for that spectrum. In the end, it is hoped that the potential revenues will be enough to entice broadcasters to give up spectrum, which would then be repurposed to meet, for now, the growing demand from wireless broadband consumers.

¹ "Our Connection to Wireless Services," The American Consumer Institute Center for Citizen Research, June 24, 2014, <http://www.theamericanconsumer.org/2014/06/our-connection-to-wireless-services/>.

² "Semi-Annual Wireless Industry Survey," CTIA, 2014, at http://www.ctia.org/docs/default-source/Facts-Stats/ctia_survey_ye_2013_graphics-final.pdf?sfvrsn=2. Data are for the end of the year 2013.

³ "Vice President Biden Thanks First Responders and Releases Report on the Economic Value of Increasing Spectrum," News Release, Office of the Vice President, White House, February 21, 2012, at <http://www.whitehouse.gov/the-press-office/2012/02/21/vice-president-biden-thanks-first-responders-and-releases-report-economi>.

⁴ David Goldman, "Sorry, America: Your Wireless Airwaves are Full," *CNN Money*, February 21, 2012, at http://money.cnn.com/2012/02/21/technology/spectrum_crunch/index.htm?iid=SF_T_Lead.

⁵ Jonathan Spalter, "Spectrum for Brighter Mobile Future," *Huffington Post*, June 26, 2013, at http://www.huffingtonpost.com/jonathan-spalter/spectrum-for-brighter-mob_b_3504080.html.

However, in writing rules for the competitive auction, the FCC chose to restrict bidding by the two largest wireless providers, AT&T and Verizon, in the hopes that spectrum would be distributed more evenly amongst smaller providers. In doing so, however, the FCC has likely jeopardized the success of the auction. As this *ConsumerGram* will show, restrictions on competitive auctions will lead to lower bids for wireless spectrum. That, in turn, will mean that less spectrum would be repurposed to wireless broadband services, which means that consumers will potentially face spectrum rationing, poor service quality, higher prices and an increased reliance on data caps. In short, making the wireless auction less competitive by favoring some competitors over others will mean that wireless consumers lose.

Maximizing Auction Revenue is Key to Success

“For commercially held spectrum, voluntary incentive auctions will ensure that spectrum is repurposed from the lowest value uses to the highest; and that the economic benefits are widely shared among stakeholders, including broadcasters, wireless carriers, consumers, and taxpayers....Allocating spectrum with a mix of licensed and unlicensed use has the greatest potential to support future innovation.”⁶

The remarkable upswing in data traffic over the past few years provides evidence of the eager embrace of bandwidth-intense applications by consumers. To meet the growing appetite for the spectrum that supports these applications, additional spectrum will need to be made available and deployed. To accomplish this, auctions are the most efficient means to determine the market price for TV spectrum. This will maximize the repurposing of spectrum and the proceeds from the auction.

There are a number of parties that have an interest in the success of the auctions. TV station broadcasters would be compensated for relinquishing spectrum in return for discontinuing its use for TV broadcasting. Other broadcasters could choose to continue broadcasting by moving to a VHF frequency or by sharing spectrum with other broadcasters in return for compensation from the auction proceeds. If broadcasters move to another frequency, they would receive reimbursement toward the cost of new equipment, retuning, and loss in coverage that may result from the move. In addition, a portion of the auction proceeds would go toward the construction of *FirstNet*, a nationwide public safety broadband network for first responders, and the U.S. Treasury would take any excess proceeds to reduce the federal debt. For the benefit of wireless service providers and their customers, the auction needs to make as much spectrum available as possible, if it hopes to alleviate the spectrum crunch. In short, a successful auction will have many beneficiaries.

⁶ “The Economic Benefits of New Spectrum for Wireless Broadband,” Council of Economic Advisers, Executive Office of the President, February 2012, http://www.whitehouse.gov/sites/default/files/cea_spectrum_report_2-21-2012.pdf. For other comments from the White House, as well as the FCC, on getting spectrum to its “highest and best use,” see <http://www.whitehouse.gov/blog/2012/07/20/making-most-wireless-spectrum> and <http://www.fcc.gov/document/chairman-addresses-national-broadcasters-conference>.

For this upcoming auction to be successful, maximizing the auction's proceeds is a key. Specifically, proceeds would need to succeed in three hurdles: first cover the build out of FirstNet (\$7 billion); second, reach broadcasters' reservation prices (the minimum level at which broadcasters would relinquish channels); and third, pay broadcasters for relocating their channels (\$1.75 billion). As noted, any remaining proceeds would go to the U.S. Treasury, which is consistent with previous spectrum auctions.

However, maximizing proceeds will require participation by a sizable number of qualified bidders with financial resources to acquire spectrum and build out wireless networks. Having adequate, aggressive participation will help spectrum attract its full market value. Furthermore, maximizing proceeds will require that the auction rules are truly fair among bidders. If the forward auction does not reach its competitive price, wireless service providers are less likely to reach the TV broadcaster's reservation prices, fewer channels will be made available for repurposing to wireless broadband services, total receipts from the auction will be lower, the build out of FirstNet could be jeopardized, and consumers will lose access to valuable broadband spectrum. In short, if rules are not fully competitive, auctions can fail.

And finally, participation by the broadcasters themselves is a key to the overall success of the auction. Recent actions by the FCC toward the broadcasting community have caused some to distrust the FCC generally and this distrust could affect their desire to participate actively in the auction.⁷

FCC Imposes Restrictions on Auction's

Congress intended having a *fully competitive bidding system*, and stated such a number of times in the Act.⁸ Yet, the FCC decided to impose bidding restrictions that would limit participation by the two largest wireless service providers, AT&T and Verizon. Under the FCC's rules, bidding restrictions on these two providers are triggered when a bid price covers its contribution to FirstNet and the broadcaster's reservation price, and when the bid price meets some unknown "target" price, expressed in dollars per megahertz per population (MHz/POP). If the FCC's target price is set too high, all bidders can continue to participate and the restriction is immaterial. On the other hand, if the FCC's target price is set too low, the two largest wireless providers will be unable to bid. Assuming they would have bid, total receipts from the auction would be indisputably lower than without restrictions. Some spectrum may still be repurposed, but receipts would be less. If that is the case, the FCC would be giving up revenue that would normally go to the U.S. Treasury or could further support the relocation of TV broadcasters to the VHF frequency. In effect, the FCC's design satisfies the requested favors of

⁷ Mike Dano, "TV Broadcasters Remain Wary of 600 MHz Incentive Auctions," *FierceWireless*, March 26, 2014, <http://www.fiercewireless.com/story/tv-broadcasters-remain-wary-600-mhz-incentive-auction/2014-03-26>; and Megan Geuss, "Broadcasting Group Decries FCC's Alleged Favoritism of Wireless Broadband," *ARS Technica*, April 7, 2014, <http://arstechnica.com/business/2014/04/broadcasting-group-decries-fccs-alleged-favoritism-of-wireless-broadband/>.

⁸ Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112-96, <http://www.gpo.gov/fdsys/pkg/PLAW-112publ96/html/PLAW-112publ96.htm>.

some wireless service providers at the detriment of other wireless providers, and it runs counter to Congress' insistence on a competitive bidding system. Essentially, this amounts to corporate welfare.

Evidence: Auction Restrictions Will Hobble Spectrum and Revenues

The FCC's focus should do what is right for consumers, and not what will help some wireless service competitors compete against others. Indeed, consumers are free to select providers who best meet their wants and that demand is evident by the market shares of these providers. By singling out some wireless carriers over others, the FCC is putting the service quality of the majority of customers in jeopardy. Moreover, a survey shows that consumers believe that such regulatory activities will increase their wireless costs, which explains why they oppose, by a 10 to 1 ratio, anti-market regulatory activism.⁹ The FCC should respect the clear choices that consumers have made without arrogant second-guessing. In terms of acting in the public's interest, regulators have never demonstrated a market failure that justifies a regulatory remedy, such as auction restrictions; and it most certainly has not justified the need to tamper with the efficient outcomes that are normally produced by unadulterated market rivalry.¹⁰ Pursuit of capricious restrictions such as these can be ruinous for consumers and taxpayers.

A number of experts have looked at the upcoming reverse auction, in terms of its potential for freeing up spectrum and at what cost, and some have analyzed potential adverse consequences if forward auction rules are designed to restrict wireless service providers from freely participating in the forward auction.¹¹ Auction restrictions will limit revenues and discourage broadcasters from repurposing spectrum. Shapiro, Holtz-Eakin and Bazelon estimated \$22 billion in broadcaster compensation (net) could be realized if channels were

⁹ "Our Connection to Wireless Services," The American Consumer Institute Center for Citizen Research, June 24, 2014, <http://www.theamericanconsumer.org/2014/06/our-connection-to-wireless-services/>.

¹⁰ Hal Singer, "Has The FCC Made Its Case To Restrict Certain Bidders In The Broadcast-Spectrum Incentive Auction?" *Forbes*, April 28, 2014, at <http://www.forbes.com/sites/halsinger/2014/04/28/has-the-fcc-made-its-case-to-restrict-certain-bidders-in-the-broadcast-spectrum-incentive-auction/>.

¹¹ Most recently, see Fred B. Campbell, "Maximizing the Success of the Incentive Auction," November 4, 2013, at http://www.broadcastcoalition.org/uploads/auction_whitepaper_10_31_2013_FINAL_revised_v2.pdf; Leslie M. Marx, "Economic Analysis of Proposals That Would Restrict Participation in the Incentive Auctions," September 18, 2013, filed with the FCC at <http://apps.fcc.gov/ecfs/document/view?id=7520944358>; Anna-Maria Kovacs, "Spectrum-Auction Design: A Case Study," Georgetown University Center for Business and Public Policy, October 2013. Also see Coleman Bazelon, "Expected Receipts from Proposed Spectrum Auctions," The Brattle Group, Inc., July 28, 2011; Coleman Bazelon, Charles L. Jackson and Giulia McHenry, "An Engineering and Economic Analysis of the Prospects of Reallocating Radio Spectrum from the Broadcast Band through the Use of Voluntary Incentive Auctions," presented at the Research Conference on Communication, Information and Internet Policy, September 19, 2011, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1985691; Robert J. Shapiro, Douglas Holtz-Eakin and Coleman Bazelon, "The Economic Implications of Restricting Spectrum Purchases in the Incentive Auctions," McDonough School of Business, Center for Business & Public Policy, Georgetown University, April 30, 2013, at http://www.gcbpp.org/files/Academic_Papers/EconImplicationsSpectrumFINAL.pdf; and "Telecom Services & Towers," North America Equity Research, J.P. Morgan, December 5, 2012, available at the FCC's website at <http://apps.fcc.gov/ecfs/document/view?id=7520937712>.

auctioned off without restrictions, but this could be just \$9 billion with restrictions.¹² Limiting who can bid curtails available spectrum by creating “a vicious circle of declining revenue and even fewer frequencies reallocated.”¹³ The FCC’s own recent auction experience should guide it on the importance of allowing all parties of all scales to bid. One analysis compared FCC auction results and found those with restrictions had, by far, underperformed unrestricted auctions.¹⁴ Simply put, bidding restrictions lower proceeds.

JP Morgan’s estimate and view is that the upcoming auctions could be a “disappointment.”¹⁵ As one well-known media executive put it, “To the best of my knowledge, the Commission is very unlikely to attract affiliates of ABC, CBS, NBC and Fox to this auction.”¹⁶ We cannot expect success if the main holders of spectrum have scant incentive to put spectrum up for auction and the most likely aggressive bidders for spectrum are blocked from bidding. That’s a prescription for failure.

Effects of Restrictions on Consumer Welfare

If auction restrictions are imposed, they will discourage bidding and drive down prices. With lower revenue proceeds expected, broadcaster reserve prices will be met less often. This means that less spectrum will be repurposed, and it will plague wireless services with congestion, slower speeds, dropped calls, more restrictive service caps and potentially higher prices for rationing use. In the end, consumer welfare will suffer.

To estimate the loss of consumer welfare under auction restrictions, it is necessary to estimate how much wireless providers will bid in dollars per MHz/POP. In an earlier auction, TV spectrum in the 700 MHz band generated \$19 billion in auction revenue for the U.S. Treasury in 2008, which equals approximately \$1.20 per MHz/POP.¹⁷ Using the 2008 average auction price and assuming today’s population size, if TV stations were encouraged to vacate 20 channels (120 MHz), the spectrum auction would gross as high as \$45.6 billion in total value before any allocation to the various parties.

Using previous academic studies that link spectrum auction values to consumer welfare gains, for every channel not repurposed due to the auction restriction, consumer welfare would

¹² See Shapiro, Holtz-Eakin and Bazelon, 2013.

¹³ See Robert J. Shapiro, Douglas Holtz-Eakin, Coleman Bazelon, April 30, 2013.

¹⁴ Anna-Maria Kovacs, “Neutrality Spectrum Auctions: Maximizing Proceeds and Consumer Benefit,” Georgetown University’s Center for Business and Public Policy, Economic Policy Vignette 2012-2-13, Feb. 2013. http://www.gcbpp.org/files/EPV/EPV_Kovacs_SpectrumAuctions_21312.pdf.

¹⁵ Phillip Cusick of J.P. Morgan estimates the auction to generate “as high as \$20 billion.” Using his figure and deducting revenues for FirstNet and restacking costs, we estimate broadcaster compensation to be around \$11 billion. See “Telecom Services & Towers,” North America Equity Research, J.P. Morgan, December 5, 2012, p. 14, available at the FCC’s website at <http://apps.fcc.gov/ecfs/document/view?id=7520937712>.

¹⁶ Preston Padden, panelist at “The FCC’s Incentive Auctions: How Can They Succeed?” Aspen Forum 2013, at <http://www.youtube.com/watch?v=ODlcBhzzKF0>.

¹⁷ A summary of these results are available at the Federal Communications Commission’s (FCC) website at http://wireless.fcc.gov/auctions/default.htm?job=auction_summary&id=73.

be reduced by \$23 billion.¹⁸ Said differently, if imposing auction restrictions were to discourage half of these channels from being repurposed, the decrease in consumer benefits resulting from the imposition of restrictions would be nearly \$230 billion in lost welfare. The FCC would be advised to keep its target prices high enough to minimize interference in the auction.

The estimate is an illustration, but it shows a devastating impact on consumer welfare to the benefit of corporate rent-seekers. It means that this spectrum may never reach its highest and best use. It also means that consumers will face shortages, slower speeds, more dropped calls, potentially higher prices and more severe usage caps.

Conclusion

Instead of making the upcoming auction fully competitive, the Federal Communication Commission (FCC) chose to restrict bids from large competitors whose customers equally need the spectrum. Essentially, the FCC's rules favor some bidders over others. Those restrictions will produce lower auction prices (as the reserve prices are met for fewer channels) and lower revenues paid to broadcasters. The resulting consumer welfare loss will amount to roughly \$23 billion for every television channel that is not repurposed because of rules that limit competition in the auction.

Failure to bring spectrum onboard to alleviate the shortage could have a number of other negative consequences on wireless consumers, including higher prices to ration demand, network congestion, increased data volume caps and lost economic stimulus. In addition, auction restrictions would reduce receipts to the U.S. Treasury, thereby providing no financial relief to taxpayers, as well as impair funding to build out FirstNet.

The FCC's auction bidding system needs to be competitive. Instead, the current rules serve the interests of a few favored wireless service providers, and not the public's interest, as demonstrated by our welfare analysis. The FCC needs to reconsider its rules or, at a minimum, set a target price that is sufficiently high as not to trigger auction bidding restrictions. If not, the FCC's restrictions will benefit only a few corporate winners, but leave millions of consumers as losers. This should be about helping consumers, not competitors.

About the Author

Steve Pociask is president of the American Consumer Institute Center for Citizen Research, a nonprofit educational and research organization. While he is a member of the FCC's Consumer Advisory Committee (CAC), the views expressed in this ConsumerGram are solely his own and do not represent the views of the CAC or necessarily its members. For more information, visit www.theamericanconsumer.org.

¹⁸ The approach used here is cited in Gregory L. Rosston, "The Long and Winding Road --The FCC Paves the Path with Good Intentions," Standard Institute for Economic Policy Research, December 2001; Thomas W. Hazlett and Roberto E. Munoz, "A Welfare Analysis of Spectrum Allocation Policies," *The RAND Journal of Economics*, Volume 40, Issue 3, p. 3, Autumn 2009; and Bazelon, Jackson and McHenry, 2011, p. 2.