Insight

The FCC Shouldn't Expand Spectrum Reserves

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Everyone in the wireless space is gearing up for the incentive auction, an unprecedented deal where broadcasters will voluntarily relinquish their spectrum in exchange for a share of the proceeds from their sale. Last year, the Federal Communication Commission laid out a plan to reserve spectrum, limiting participation by Verizon and AT&T, so that smaller wireless players could bid for prime cuts of the asset. Now some carriers want to expand the set asides even larger. The FCC should resist calls for more set asides, as they will hurt the prospects for a successful auction and will likely delay new wireless services without providing the purported benefits to competition. Moreover, the agency should rethink their approach to competition and mergers in the wireless space, and move away from efforts to determine market outcomes, as it will end poorly for consumers and the mobile ecosystem.

The Illogic of Spectrum Reserves

By many measures, the wireless industry is fiercely competitive. Wireless carriers have consistently topped the charts for domestic investment,[1] consumer prices have been dropping,[2] data speeds have consistently increased,[3] wireless coverage is increasing,[4] and consumers have more handset choices than ever before.[5] Much of the current success can be traced back to 1994 when the FCC conducted the first spectrum auction. Through successive auctions, licenses have been directed towards those who have been best able to utilize it.

To ensure the good times continue and help alleviate the constraints carriers are feeling, the FCC has pressed forward with a plan to sell off broadcaster spectrum to wireless carriers. But this time around is different. Before the agency was simply selling spectrum license rights that they had, but in the upcoming incentive auction, both buyers and sellers will be coming to the table during the same auction, making it the first of its kind in the world. Because it is completely voluntary, broadcasters will be brought to the table in expectation of a share of the auction's revenue.

A year ago, the agency decided to create carve outs in the upcoming spectrum auction as a way to preserve and promote "competition in the mobile wireless marketplace now and in the future."[6] The decision was made then to allow for a maximum of 30 Mhz of spectrum to be reserved in the sub 1GHz band, or the so called beachfront spectrum, for carriers other than AT&T and Verizon. This number scales down if fewer broadcasters come to the auction and less spectrum is cleared. Just like beachfront property in the real estate world, spectrum below 1 GHz sells at a premium because it is highly sought after. However this is only a temporary technological feature since new technologies are making everything above 1 GHz useful as well.[7] Calls for a larger reserve in the sub 1 GHz band made in the name of fairness and competition have continued unabated with some carriers asking for at least 40 Mhz to be set aside. If reports are correct, the agency will make a decision soon

As this proposal was first being discussed, the American Action Forum (AAF) conducted an empirical analysis of the auctions and concluded that "if the restrictions rise beyond eliminating about one?third of potential participation, we would expect there to be a significant impacts on revenues."[8] Moving towards a 40 Mhz reserve would likely hamstring the auction in just the way we described, resulting in significant, detrimental impacts on revenues. Limiting participation also limits potential auction revenues, incentivizing broadcaster to stay on the sidelines while “creating a potential vicious circle of declining revenues and even fewer frequencies reallocated.”[9]

Only once before has the Commission carved out spectrum for competitive reasons, which was a failure. When the FCC conducted a spectrum auction in 1997 for the Broadband Personal Communication Services (PCS), two blocks, the C and F blocks, were reserved for competitive reasons similar to the current set asides.[10] Apart from these blocks, the auction was a success as 99.85 percent of the winning bids met their service obligations on time. In comparison, nearly 68 percent of those winners in the C and F blocks failed to meet their obligations.[11] Even today, portions of these two blocks remain unused, and the small firms that did bid for spectrum largely sold their licenses back to larger companies.[12]

There is logic to the failure of reserves. Spectrum auctions follow the ascending model of bidding, where the price is raised in successive rounds until only one bidder remains. Bidding stops when no one is willing to pay a higher price, so the final price is ultimately set by the last alternative bidder for the spectrum. Auctions discover the price of spectrum because each bid is an estimate of its value.[13] Limiting the number of bidders thus limits the number of potential alternative estimates, depressing the price. Moreover, when bidders are limited from participating in an auction, it becomes easier for the other players to collude to keep prices low. In total, reserves act as a subsidy, bringing into the market actors that might not be able to properly deploy spectrum.

Currently, a maximum of 30 Mhz will be reserved for carriers other than AT&T and Verizon. However, wireless carriers prefer to deploy in 20 Mhz blocks. If the FCC were to expand the reserves to 40 Mhz, two carriers would be able to capture these blocks.[14] Because both Sprint and T-Mobile will be able bid for these reserves and have nation-wide service and capital backing, it isn’t surprising they have been active in calling for larger carve outs. However, the FCC cannot just sell spectrum, under Section 309 of the Communications Act, it has to ensure “competitive bidding.”[15] Moving towards 40 Mhz puts the agency closer to the non-competitive bidding that Congress has expressly forbade. Of course, both T-Mobile and Sprint could capture those spectrum licenses without the reserves.

The FCC should take the advice of the DOJ, which noted “[t]he operative question in competition policy is whether there are policy levers that can be used to produce superior outcomes, not whether the market resembles the textbook model of perfect competition.”[16] Real tradeoffs exist in the spectrum auction design and it’s unclear how this program will produce superior outcomes. Prices are already low and the pressure by wireless companies and entrants has not abated. One cannot imagine that an emboldened Sprint, T-Mobile, or a regional carrier would reduce their prices much below current rates with guaranteed spectrum.

Meanwhile, the reduction in expected revenue will force broadcasters who would be willing to sell their assets onto the sidelines, reducing the overall pool of spectrum. Even now, carriers are spectrum constrained, so all consumers would suffer if fewer sellers came to the table. As explained in Table 1 below, AT&T and Verizon have the least amount of spectrum per consumer, so they would feel the pinch most of all. Limiting their access to this sale even more would force them to deploy more infrastructure with consumers paying for the additional cost. In preliminary analysis, AT&T found that their biggest areas of constraint would be the most data-hungry urban areas like New York, Washington D.C., Los Angeles, Chicago, Boston, Philadelphia, and Dallas.[17] In all, reserves impose very real costs on the auction participants and mobile consumers that are unlikely to be overcome with lower prices.

Carrier	Subscribers (millions)[18]	Average Revenue Per User (ARPU)[19]	Average Spectrum Holdings in Mhz[20]	Hz per subscriber
Verizon Wireless	133.475	$52.72	110.6	0.83

AT&T	121.772	$40.78	143.1	1.18
T-Mobile	56.836	$42.45	78.1	1.38
Sprint	56.702	$46.73	208.2	3.67

Competition Policy at the Federal Communications Commission

The FCC seems to think that the only way to ensure competition is via spectrum carve outs, but the market has already tried to shore up the competitive landscape via mergers. However, the agency has been adamant about retaining the current four carrier structure, rejecting both AT&T's deal with T-Mobile, and Sprint's plans to combine with T-Mobile. Analysts have generally taken a negative view of the FCC's flat rejection of mobile carrier mergers[21] with one claiming that "consolidation among wireless carriers that results in three remaining players can lead to lower prices for consumers."[22] As AAF has laid out before, this myopic rejection is likely to harmful to the mobile ecosystem.[23]

Among the biggest misnomers surrounding antitrust is that mergers are only undertaken for higher profits. While this is surely true, what economists also know is that mergers actually benefit consumers via revamped management.[24] Just as the market for goods needs to be flexible and diverse, a free enterprise economy requires a robust and properly functioning market for the control of corporate assets. Companies are disciplined by the takeover market, where alternative managerial teams compete for the rights to manage corporate resources.[25] Without an effective market at this level, public corporations are unlikely to perform as well as they would otherwise. The FCC has engaged in a string of merger rejections, which has likely distorted the market for corporate control in the wireless space.

Merely possessing spectrum is not a guarantee of success in wireless. To effectively use that spectrum, companies must place towers in cities and towns across the country, build networks to connect handsets to phone lines and the Internet, embed technology and security features into the network, and maintain the physical architecture, all while providing customer service. What this equates to is effective management, which is not possessed equally by all firms.

Both Sprint and T-Mobile have had their fair share of management problems even while possessing more spectrum per consumer than their competitors. The Sprint CEO even recently admitted that their network suffered from quality issues, while touting that they have "the largest spectrum holdings in the world."[26] Sprint bet big on the WiMAX suite of wireless technologies, in opposition to the rest of the world which had merged around two different technological standards. Sprint also merged with Nextel, even though the two companies had vastly different networks, which complicated deployment and hampered efforts at the company.[27] For their own part, T-Mobile has faced constant pressure from its majority shareholder Deutsche Telekom to be sold off.[28] It is hard to see how a company can be competitive when its parent organization, which has immense capital, is unwilling to support it in efforts.

Conclusion

Reserving spectrum for everyone but Verizon and AT&T is directly incompatible with robust competition. Already, the market is vastly competitive in all of the measures that matter to consumers, so any efforts to limit these two players won't translate into huge reductions in prices. All the while, these limitations could stop broadcasters who have spectrum from entering into the auction which inevitably harms every mobile consumer. As the FCC has shown in their rejection of past mergers, it is clear that they are trying to engineer specific market outcomes. For the benefit of consumers and the mobile economy, it would be best if the Commission stopped their paternalism and allowed the market to work as it should.

[1] Diana G Carew and Michael Mandel, *U.S. Investment Heroes of 2014: Investing at Home in a Connected World*, http://www.progressivepolicy.org/issues/economy/u-s-investment-heroes-2014-investing-home-connected-world/