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Annual Privatization Report 2011: Telecommunications

By Steven Titch

Edited by Leonard Gilroy and Harris Kenny



Reason Foundation



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Part 1

Technology Has Changed the Economics of Delivering Universal Broadband

With its inquiry into reforming universal service funding through a new \$4.5-billion Connect America Fund (CAF), formally approved in October, the Federal Communications Commission (FCC) has a chance to craft policies that will help increase broadband penetration in rural areas, yet do so in line with 21st Century technologies and market realities. Like the current \$8-billion Federal Universal Service Fund (FUSF) it aims to replace, the Connect America Fund will be supported by a mandated fee on all consumer phone bills. But its overall success will hinge on the Commission's ability to question past assumptions about universal service—for example, government subsidization.

Combined with today's market realities, technology advances raise the question as to whether broadband service needs to be subsidized at all. The idea of government-supported "universal service" is a Depression-era concept that rested on the capital-intensive nature of telephone networks at the time and the assumption that phone service was a natural monopoly—that once one infrastructure was in place, there was no incentive to build a competing network.

In the 21st Century, neither of these factors applies. Since radio does not require laying miles of cable to serve a single home, wireless has completely upended the cost equation and is poised to provide an important avenue for delivering consumer broadband in areas of low population density. And multiple service providers, even in rural areas, are a fact. The industry's willingness to compete for customers in rural areas dismisses the idea that provision is so expensive in rural areas that subsidies are almost always required.

As little as 10 years ago, landline was still considered a "gold standard" for telecommunications service. However, the improvement in wireless quality, capacity and service options in the past decade and, more acutely, the introduction of the iPhone and iPad devices, have put wireless broadband services on a par with wireline, and perhaps beyond it. Wireless is no longer a poor-man's substitute for wired broadband.

Indeed, the high performance of numerous competing wireless broadband platforms is proving their worth, and service providers are improving them constantly. Currently, so-called “3G” wireless networks are being upgraded to Long Term Evolution (LTE), which promises speeds of 5 to 12 Mb/s. WiMax promises an equally strong alternate platform to LTE.

Meanwhile, cable modems have gone from 4 to 10 Mb/s in the past four years. Cable companies, never a part of the FCC’s universal service mechanism, have shown a willingness to invest, even as their strongest competition comes from direct broadcast satellite services, not phone companies. Satellite services, however, are at a disadvantage when it comes to Internet service. Although satellite-based broadband Internet is feasible, it is not as fast as terrestrial alternatives. This provides cable TV service providers with a critical added value to leverage.

Cable companies have also been addressing another universal broadband issue—service provision to low-income households, both urban and rural. Comcast, for example, has begun a program to provide discounted Internet service to homes with children who qualify for school lunch programs.

In addition to competing service providers and the rapid evolution of their respective broadband platforms, a third element in this new reality is the product and service ecosystem that exists in broadband. This ecosystem, which had nothing analogous in the narrowband era, includes devices like smartphones, tablets and game consoles; content platforms like iTunes, YouTube and Hulu; social networking sites such as Facebook and Twitter; e-commerce sites such as Amazon.com and eBay, and search engines like Google and Bing.

The businesses of all these companies are fueled by broadband expansion. Their products and services spur consumers to adopt broadband service, and as consumers become familiar with them, they want more, resulting a virtuous cycle where wider broadband adoption leads to more broadband applications, which in turn leads to even wider broadband adoption. This demand cycle transcends location—consumers want Netflix whether they live in SoHo or Fargo. There is every economic incentive to build and deliver broadband wherever consumers live.

The new ecosystem is significant because, in the narrowband days, subsidies were deemed necessary because revenues from phone service were inelastic, that is, the charges for the consumer fell into a narrow range and did not reflect the cost of providing service. Consumer price points were \$30 to \$40 a month. If it cost a rural phone company \$100 a month to service the customer, FUSF paid the difference.

The commercial broadband ecosystem makes revenues are far more elastic. Basic service might still be as low as \$30 a month, but attractive and desirable options—additional lines, services such as unlimited text messaging, additional bandwidth, international calling packages—increase revenue streams. Third-party applications, such as movies-on-demand, downloadable mobile applications and e-commerce, create much greater incentive to service new pockets of population. These facts should be enough for the FCC to rethink outmoded subsidy models, or at least question whether the government needs to allocate \$4.5 billion next year to the goal.

Market-Based Implementation of the Connect America Fund

The FCC deserves some credit for refocusing the universal service debate on broadband, and for proposing a new fund that's nearly half of the current USF. Nonetheless, the commission could have gone further by pulling the government out of the broadband funding business entirely.

However, given that the FCC right now is committed to a new CAF, there are ways to ensure the program's success while reducing reliance on subsidies and, perhaps, at some point in the future, actually phasing them out. In general, these ideas align the CAF with market forces, and, when subsidies are used, assure they are applied in the most efficient way.

Market-based solution advocates argue that market-based implementation of CAF is essential to its long-term success. In an outline of their proposed solutions, they argue:

- It would serve taxpayers, rural constituencies and competition if the FCC were to base CAF allocation on new models, such as reverse auctions, where funds would be dispersed to the service providers that can meet broadband service requirements most cost-effectively. The FCC should open reverse auctions to all broadband platforms, without giving favor to any particular one—such as wireline over wireless or fiber over copper—as long as the service parameters are met.
- The new CAF should also eliminate the “cost-plus” provision of USF, which reimburses to telephone companies the cost of meeting universal service measures plus an additional 10 percent of that expense. All this does is promote the use of costlier materials and resources to meet a need that could be equally served for less funding.
- The FCC should also make year-to-year CAF reduction a goal of the new plan. While the American Broadband Connectivity (ABC) plan submitted by six major U.S. service providers endorsed a cap on annual cumulative CAF distributions, a more worthy goal would be a phased reduction, because technology has a downward cost curve. Plus, if CAF is doing its job, less and less will be needed to facilitate build out. CAF payouts may never drop to zero, but at this point, given the current levels of penetration, plus the opportunities that broadband presents to service providers willing to make private investment, its current annual payout of \$4.5 billion is too high.
- Finally, the ABC plan also calls for a five-year phase-in of the reformed CAF structure. This is too long, especially given technology and infrastructure lifecycles. We can acknowledge that most rural phone companies rely on current FUSF funding mechanisms for positive cash flow, and that an immediate shift to a reformed CAF may cause pain for their investors and shareowners. At the same time, the industry knew FUSF reform was coming and that the current method was unsustainable. Despite this, companies continued to base their business models on direct subsidies through the FUSF and indirect subsidies through intercarrier compensation. A five-year transition time unfairly penalizes potential

service providers with less expensive but viable models. Transition times for incumbent rural telephone companies to adjust to the reformed system should be short—12 to 24 months.

Proponents of taking a market-based approach request that:

- *CAF administrators revisit subsidies from year to year.* Recipients should be able to justify annual payouts. Do not allow service providers to develop a financial dependency of CAF distributions.
- *Officials do not use the CAF to fund competition,* especially if an existing provider is meeting demand with private investment and without subsidies.
- *The fund be agnostic to any current or future broadband delivery platform.* Do not create carve-outs or guarantee rights of first refusal for companies in specific silos—wireline, wireless, cable. Avoid assuming a current incumbent service provider will be most successful at delivering broadband to a given franchise area.
- *Officials avoid funding municipal broadband plans.* The pattern over the past ten years invariably shows these schemes fail to provide ubiquitous, quality, low-cost service. No matter how much the community pours into these ventures, they rarely prove sustainable. Propping them up via CAF only prolongs their inevitable demise to the disadvantage of consumers who could see more benefits from commercial service providers.
- *The intercarrier compensation system be overhauled.* The mechanism must reflect the true cost of call completion and end its use as an opaque, indirect subsidy system that, in today's environment of VoIP's ability to mask call origin, has become a playground for arbitrage.

Market dynamics have changed the business of telecommunication services—and not just at the urban and suburban levels. True, rural deployment lags, but it is catching up quickly, in part because in the years since FUSF reform debate began, new technologies, especially wireless services, have demonstrated their capability to support competitive broadband speeds. This is not futurism: LTE wireless is being deployed now and will soon be a standard baseline across wireless systems. Private, competitive providers of data transmission services will have greater incentive to ensure that their services are available to the widest audience possible, since the enormous community of third parties for whom universal broadband means greater growth and opportunities demands it. These forces make universal availability more likely than a federal mandate on monopolistic operators to provide universal service. A universal service obligation is an obsolete concept designed for monopoly providers of copper wire analog transmission and makes no sense in the modern world.

Part 2

Internet Sales Tax Policy Update

Faced with decreasing tax revenues due to the slow economy and persistent unemployment, combined with escalating budget commitments and debt obligations, states have begun to eye hungrily the sales taxes they believe are rightfully owed by out-of-state on-line retailers. In the past several years, a number of states have proposed or passed legislation aimed at capturing sales taxes from on-line retailers, even as these retailers push back.

At the heart of the debate over the constitutional validity of Internet sales tax collection are the cases *Quill Corp. v. North Dakota* and *National Bellas Hess v. Illinois Department of Revenue*, in which the Court stipulated that a business must have a *nexus* in the state in order to be liable for tax collection. Following those cases, “nexus” has generally been interpreted narrowly to mean a brick and mortar store, or at least a sales office.

Lawmakers Exploring Different Approaches

In crafting legislation, states such as New York, Connecticut, Michigan and California have sought to extend the definition of “nexus” to include so-called “affiliates” of Net-based retailers such as Amazon.com, Overstock.com and others. An affiliate generally is a small, independently operated website, such as a blog, that contains an ad or link to an on-line retailer. The affiliate earns a commission when a reader uses the link to visit the retailer and make a purchase. Legislation that applies the nexus definition to affiliates has been controversial and largely ineffective. In states where this type of legislation has passed, Amazon, for one, has dropped all of its affiliates. In-state residents lose a source of income and the state still fails to capture the sales tax.

States may have a stronger case, however, when it comes to physical distribution centers. Distribution centers are indeed brick-and-mortar, or at least materially occupy space. They use the common public road and highway infrastructure and depend on local police and fire departments for protection and safety. These are the same justifications states and municipalities use to impose sales tax on retailers. A closely watched bill in the Texas legislature defines distribution centers, such as Amazon’s hub in Ft. Worth, as a physical nexus, thereby obligating the on-line retailing giant to collect taxes on sales to residents of the Lone Star State. This bill passed on a second go-through of this year’s session, overcoming an initial veto by Gov. Rick Perry.

Amazon's distribution center is essentially a warehouse that fulfills online orders and employs 200 people. Amazon previously said it would close the center if the bill passed, but has yet to make good on the threat. However, it could be dangerous to dismiss the threat as a bluff. When South Carolina passed a similar bill, Amazon closed a distribution center there, only to return once the legislation was reversed.

Opinion is divided among free-market advocates as to the collection of taxes from on-line retailers. A standing resolution by the American Legislative Exchange Council, which leans toward Jeffersonian political philosophies of federalism, low taxes and light regulation, considers a physical distribution center a nexus. Others favor a tight reading of the *Quill* decision, which says that in order to qualify as a nexus, the physical presence must be "significantly associated with business in the state." The task of tax collection must also not present "an undue burden." Proponents of the close reading say these are critical tests, not clever semantics, because they tie back to the Commerce Clause of the U.S. Constitution that limits the power of states to interfere with interstate commerce. While much of the argument for online sales taxes relies on competitive fairness, (e.g., the U.S. Senate's on-line sales tax bill is called The Main Street Fairness Act), fairness was never an issue in *Quill* or *National Bellas Hess*. The rulings are about applying constitutional limits on the ability of governments to disrupt business operations in the pursuit of tax revenues.

Amazon argues that its Ft. Worth distribution center is not significantly associated with business in Texas, as it ships to neighboring states as well. It does not have a consumer-facing storefront. It does not accept walk-in returns, nor will it replace or repair a defective product.

As for "undue burden," it is arguable that the *Quill* decision implied that collection of sales tax is a burden on merchants to start with. The states authorized collection at the point of sale out of a realization that there was no other way to capture that revenue (even now few consumers comply with use tax reporting requirements). In the spirit of enumerated powers, *Quill* placed limits on states' ability to deputize the private sector into tax collection. *Quill* protects businesses in one state from being preyed upon by others. Texas-based retailers may complain about Amazon but their own online sales to other states are not taxed.

Considering there are now more than 9,000 sales tax jurisdictions in the U.S., some argue compliance would still be a burden, even in these days when a software add-on or smartphone app can be easily devised for making a location-based tax calculation on the check-out page.

Online retailers also challenge claims from other trade groups, such as the International Council of Shopping Centers, that the lack of sales tax drives online sales. NetChoice, the e-commerce trade group, pointed to data from New York State, where, for purposes of documenting the effect, Amazon agreed to collect sales taxes. Purchases from Empire State residents have not declined, the company said, maintaining that Amazon's advantage derives from lower prices and perks like free shipping.

That may be true to a great extent, however critics argue it is somewhat disingenuous to suggest that sales tax avoidance isn't part of the equation. As combined state, county and city sales taxes in some jurisdictions like Chicago, Illinois reach nearly 10 percent, consumer arbitrage becomes a factor. Here, \$500 worth of items purchased on-line saves almost \$50, no small sum.

At the end of the day, many find it hard to give cash-strapped states a sympathetic ear. On-line shoppers have been avoiding state and local taxes since the mid-1990s, as the Web lets them reach a global market with the click of a mouse. Yet all this time, states, counties and cities have continued to raise sales taxes in their quest for revenues to offset ever-increasing spending. Even William Fox, a co-author of the University of Tennessee report mentioned above, argues that on-line sales tax legislation should be accompanied by across-the-board cuts in sales tax rates. In a time of fiscal crisis it is hard to imagine a legislature willing to make that trade-off.

Part 3

Privacy Mandates for Search, Social Networking and E-Commerce Websites

Over the past year, lawmakers have zeroed in on the data collection methods inherent in certain popular Internet services, contending that they pose a threat to personal privacy.

Indeed, Internet social networks, such as Facebook, coupled with the technological sophistication of search engines like Google and Bing, not to mention the spurt of online couponing services like Groupon, do collect and correlate personal information from users. What remains debatable is the degree to which the personal information these sites collect is truly confidential, and whether its use poses true harm to consumers.

The problem is that privacy is subjective. The willingness to share personal information differs from person to person. Most of us have had the experience of being a captive audience to a complete stranger who seems perfectly content to share all sorts of intimate details about his or her likes, dislikes, health, diet and romantic life. Then again, sometimes a person we have known for years surprise us with a significant fact about that his life we never knew: that he is a decorated veteran, or she is a cancer survivor.

Since privacy is subjective, it is more or less impossible to design an acceptable government mandate that would limit the ability of websites to acquire and share certain kinds of information. Some people will almost certainly feel that too much information is being disclosed regardless of the “strength” of any such mandate, while others will object that they are not able to benefit from the tailored offerings that are made possible by the use of information acquired as a result of their browsing habits. So what is the best way to address people’s concerns over online privacy?

The Fourth Amendment recognizes the right to be secure in person and documents, and it is reasonable to expect those protections to extend as much to digital information as to paper. Yet there is already an established body of law that addresses this. Identity theft is illegal whether it is accomplished via the Internet or through old-fashioned impersonation. So are other forms of fraud, such as fraudulent misrepresentation.

Numerous bills proposed in the past eighteen months targeting privacy aspects of search, social networking and other areas of e-commerce go way beyond the protection of individuals from theft or fraud. As such they threaten to be intrusive and generally interfere with individuals’ freedom of association.

Legislatures in New York and Connecticut, for example, have drafted bills that require social networking sites to disclose that they are gathering information from users and offer opportunities for users to “opt-out.” These are probably the least intrusive because they don’t try to alter the way social networks work.

California’s Social Networking Privacy Act, by contrast, would have been much more disruptive. The bill, defeated in May, would have required social networking sites to default to “no information sharing” for all new members. Given that the motive for joining social networking sites is to share information about oneself, critics argue that demanding these sites make such sharing impossible at the outset seems counterproductive and belies a basic misunderstanding on the part of lawmakers as to what social networking is all about.

Meanwhile, in Congress, Sen. Jay Rockefeller has introduced a “Do Not Track” bill that would regulate how social networking, search and other e-commerce sites gather and use information. This bill reflects similar legislation in various states that would force sites to either stop gathering information or offer extensive “opt-in” procedures.

Much of the concern raised by legislators is directed at what is known as “targeted advertising.” This is the use of information provided to a website, either through direct input and interaction or through browsing and site selection, which is then collected, collated and used to serve banner and button-ads to users when they visit certain ad-supported websites. That’s why, if you have visited a lot of travel-oriented sites, you will see an ad for a Las Vegas vacation when you visit a free content site like Accuweather.com. Another user, who may have visited many entertainment sites, may get an ad for DVDs.

Congress has also opened inquiries into Groupon’s information-sharing practices. Groupon is an online couponing service. Users who sign up for the service are given the opportunity to purchase coupons that in turn provide a discount for an item or service. For example, for a \$10 price, Groupon might offer a coupon for \$20 off a spa package at a local salon. Groupon directs coupons to users based on information they provide on sign-up, geographic information embedded in their browsers or smartphones, and on the basis of previous coupons viewed or purchased. Were Groupon to be limited in the extent that it could share information, it likely would not be able to make such tailored coupon offerings, which would harm both vendors and purchasers. This hypothetical outcome could not be categorized as an “unintended consequence” either, since it is entirely clear that businesses like Groupon rely on user information for their product offerings.

In the executive branch, the Federal Trade Commission is investigating Facebook’s practices and Google’s targeted advertising. Yet, many of us clearly benefit from such targeted advertising because it reduces our search costs by enabling us to receive information about products that might be specifically of interest to us. That in turn reduces the amount that companies need to spend to identify purchasers of their products, which means they can deliver better products to us at a lower price. It also enables the provision of free content. If the general public understood these benefits,

it is most unlikely that they would want the government to impose regulations limiting the use of such targeted advertising.

Bear in mind also that the information these sites collect, collate and process is not highly personal and confidential data, such as social security numbers, banking information or specific health-related data, that in the wrong hands could be used for malicious purposes. On the contrary, most of the information search engines, social networks and e-commerce sites glean has to do with individual habits and preferences that could otherwise be easily observed—does the person prefer beer or wine? The Cubs or the White Sox? Mystery novels or biographies? Michael Bay or Mike Leigh? True, Facebook and other sites allow users to post pictures and disclose more intimate personal details such as religion or sexual orientation, but again, *users can decide* whether to disclose these facts known and, if they do, who may see them.

To some critics, there is a degree of “future shock” in all this targeting—as in, “I-just-booked-a-flight-to-Hawaii-and-minutes-later-I’m-seeing-Web-ads-for-Maui-hotel-discounts!” Yet even as they fret about how well they can be targeted, they find it difficult to pinpoint the actual consumer harm. This is the chief reason to avoid hasty regulation. But, since they are a bit different, let’s address social networking and search a little more closely and show why.

A. Social Networking Issues

1. Social networking is a purposeful and deliberate breach of privacy.

The purpose of a social networking site is to facilitate sharing of information among a group of “friends,” who must be selected and confirmed in away akin to “opt-in.” This is what made critics argue the California bill was so absurd—its goal was to obstruct users from using social networking exactly in the way it was designed to be used.

2. It’s opt-in by definition.

Demanding that social networking require an “opt-in” tool for users to gain full utility from the site is redundant. The decision to join a social networking site by itself is an opt-in.

3. Social networks have privacy options, but they are difficult to condense to a single on/off button.

Legislators want these sites to have a single on/off, opt-in/opt-out option. Given the scope of sites such as Facebook, this is unworkable. Facebook actually offers a considerable menu of privacy options, allowing the user to specify information disclosure on many levels. This enables Facebook to offer many different features that use personal information, yet give consumers a high degree of control over their use.

4. Sites respond quickly when users object.

Facebook has experienced some contentious user objections—and it has responded rapidly to them. When many users complained about a change in information-sharing policy, Facebook reversed itself. When the company began automatically sharing information about user purchases without consent, again it stopped amid user protest. The company has repeatedly shown how important it is to be responsive to user privacy concerns in order to retain user goodwill. Legislation is unable to be as adaptive, responsive or nuanced as this, and would almost certainly result in restrictions being imposed that were not in the interests of consumers.

5. Search sites support many free services that have or create value (e-mail, maps, hosted applications).

If legislation substantially interferes with the targeted advertising business model, many services, such as newspaper and magazine content, videos, traffic, weather, route-mapping, that are taken for granted as free, would likely either no longer be available or would only be available at a price.

6. Algorithms are statistical, not personal.

Websites that collect information, either directly or from browsers, use statistical correlation to target advertising. Furthermore, since search engines only receive data from the browser, the information they gather tells them only the sites the browser has surfed. Sites visited by a shared computer would affect results. While search engines can track and correlate searches by IP address, they really can't tie specific search information to specific individuals. In addition, browsers themselves come with the option to block browser tracking.

7. Users choose Google, but have alternatives.

Google dominates search because it is very good at what it does, but there are alternatives. Microsoft's Bing and Yahoo are two. There is also Ixquick.com, which positions itself as an anti-Google, and all searches run on it are private and untracked.

B. Real Issues that Warrant Further Inquiry

No doubt there are some issues that warrant discussion about the role of regulation in search engines and social networking, such as whether and to what degree information about children and teens should be protected. There are also legitimate questions about how to deal with the postings of photos and videos without consent of all the subjects, even when done innocently. In addition, once created, a social networking page can be difficult to remove.

All the more reason that when on-line privacy legislation comes up, legislators give careful consideration to the scope and consequences it might have. Here are some questions to consider:

1. Does it protect me from theft or fraud or does it “protect” me from making “wrong” choices?

On principle, the government should not try to regulate the individual’s decision to exchange information about him- or herself. Different people put different value on their personal data. If someone wants to disclose likes, dislikes, preferences or prejudices, the government should respect the choice do so.

2. What specific harms does it address?

Before mandating privacy, legislation should spell out the specific dangers consumers face by sharing information with search engines, the scope and immediacy of these harms and how effective the proposed legislation would be in reducing or eliminating those harms. Conversely, are the harms so vague and the threats so negligible, that the net consequence would be substantial loss of individual choice and value for little or no gain in societal protection?

3. Does it punish success?

Google is not the first search engine, and Facebook is not the first social network. These two companies simply extended models that existed previously. In doing so they have created an efficient and user-friendly means for consumers to connect with others who have similar tastes and preferences, quickly to find content, products and services that interest them, along with a new advertising platform for small businesses. In the process they have become sustainable companies that have created jobs and sparked entrepreneurial ecosystems around on-line applications and software. That’s why to some observers, legislation that aims to disrupt their business models appears almost punitive. No one seemed to worry about search and social networking until Google and Facebook were so successful they became household words and—in the latter company’s case—Hollywood fodder.

C. Crafting Effective Privacy Legislation

Good privacy legislation is clear on whom and what it protects, addresses specific and identifiable harms, can be realistically enforced, and respects voluntary choice. The best privacy safeguards depend on personal responsibility: the simple choice of what to share and with whom, and the understanding that to a great majority of consumers, the information about their likes, interests and preferences is not easily understood by legislators.

Part 4

Spectrum Shortage Pits Wireless Companies Against Broadcasters

As sales of smartphone and wireless-compatible devices like the iPad soar, their data communications capabilities are increasing the load on wireless networks. In spite of service provider efforts to keep up through deployment of “fourth-generation” new technologies such as Long Term Evolution (LTE) and adding more transmitters and “microcells” to handle the traffic, these will remain incremental solutions until the U.S. addresses what amounts to a shortage of the radio spectrum required for first-class wireless service.

That means slow service, dropped connections and high latency on video and games will continue to grow worse as long as the FCC delays the action on making more radio frequencies available to wireless providers.

The problem is acute. In fact, the need for additional spectrum is the prime motivation behind AT&T’s bid to acquire T-Mobile—a fact acknowledged even by those who oppose the merger on antitrust grounds.

Other data bear this out. According to Mobilized TV, a website covering the mobile data and video business, Cisco Systems expects mobile data traffic to double every year through 2014, increasing 39-fold between 2009 and 2014, reaching 3.6 exabytes (10^{16} bytes, or 3.6 billion gigabytes) per month by 2014. The Internet router and switch manufacturer also forecasts that almost 66 percent of the world’s mobile data traffic will be video by 2014.

At the 2011 winter Consumer Electronics Show in Las Vegas in January, FCC Chairman Julius Genachowski said in a keynote address that “spectrum was the top priority of the FCC in 2011.” While the FCC is ultimately the agency responsible for a spectrum remedy, it is too simple to blame bureaucratic foot-dragging for the spectrum shortage. Complicating matters is that the spectrum best suited for wireless use lies in the hands of broadcasters—a large, vocal and well-connected group that doesn’t want to give it up without a fight.

By way of background, broadcasters, whether they are the national networks or individual affiliates in local markets, historically have never paid for their licenses. Policy changes in the 1980s and 1990s meant that wireless companies, on the other hand, bid for their licenses through auctions,

Spectrum blocks went to the highest bidder, with the funds paid over to the U.S. Treasury. Over the past two decades, spectrum auctions have generated billions of dollars for the U.S. government.

At the same time, the auction policy gave real asset value to the spectrum held by broadcasters. This value is reflected on the corporation balance sheet and is folded into the purchase price when a broadcaster is bought or sold, such as when Comcast purchased NBCUniversal. Naturally, if the FCC is going to force broadcasters to vacate spectrum for wireless, the broadcasters want just compensation in return.

Possible Spectrum Shortage Policy Outcomes

A number of outcomes are possible, each offering advantages and disadvantages to various parties. Also, since the government stands to gain revenues from this process, the FCC cannot be a completely impartial agency in terms of making a decision.

1. The National Broadband Plan

Under the reallocation scenario floated in its National Broadband Plan, the FCC proposes that the government take back the broadcast licenses, auction them, and compensate broadcasters out of the auction proceeds. That idea seems to imply that broadcasters would only get a percentage of the sale that the FCC deems appropriate, allowing the government to keep the rest. While the government gets paid, the broadcasters see less than full value for their licenses.

Needless to say, this plan has great benefit for the U.S. Treasury. The auction, which the FCC believes can net as much as \$25 billion, is among the considerations now before the congressional “super committee” on deficit reduction. However, if the government chooses this option, broadcasters will be paid less than their spectrum is worth. Although it will offend defenders of property rights, it stands to be the most likely outcome.

2. Government Buyback

In a second scenario, the government would first buy back the spectrum licenses from broadcasters, and then auction them to the wireless industry. While this would allow broadcasters more leeway in negotiating a price, it comes with the political consequence of having the government pay to get back something it gave away free. Also, it leaves the government with all the risk of the spectrum auction. This would be good if the spectrum indeed fetches more than the government paid the broadcasters, but what if it fetches less? Again, the political consequences of losing millions, if not billions, acting as an inept spectrum middleman may make this approach a non-starter. A solution to avoid this, say by setting a price ceiling for spectrum purchase and a floor for auction price, interferes with correct market valuation and ends up extracting an additional cost from both broadcasters and wireless companies.

3. Direct Sale of Spectrum Licenses

Free market advocates suggest that the FCC allow broadcasters and wireless companies to reach their own agreements. All it would take to begin the process would be for the FCC to remove the broadcast requirement on spectrum owned by the broadcasters. While it does result in broadcasters receiving compensation for spectrum they didn't pay for, the value is real and can't be waved away with a policy wand. Balancing this, consumers gain the most from this arrangement because a direct sale yields the best value for both buyer and seller. The broadcasters, and their shareowners, gain the marketplace value of the spectrum they hold; the wireless companies—and by extension their customers, do not pay a premium to the government.

4. Outlying Scenarios

There are also some outlying scenarios. First is outright broadcaster unwillingness to sell. Broadcasters do face some “public interest” pressure to vacate their frequencies; with the spread of cable TV and satellite service, today only 10 percent of the U.S. public gets their TV channels over-the-air. In what might be a long-shot bid to hold on to the spectrum, yet respond to FCC telecommunications policy, broadcasters have developed a prototype telecommunications technology called Mobile DTV—a standard that would deliver video programming to special mobile devices. Yet some technology analysts see this as a bluff. So far, no consumer electronics manufacturer has committed to commercialization of the standard, and even if some did, DTV products would take three to five years, if not longer, to reach store shelves.

In the other extreme, the FCC could choose to revoke the broadcasters' licenses outright, a move that the Communications Act law may indeed permit them to do. Even so, such a seizure likely would face a lengthy court challenge and an uncertain outcome. It would do nothing to address the pressing need for spectrum.

The FCC's course of action is difficult to predict. Nonetheless, the spectrum shortage confronts the agency like a Gordian Knot and the FCC may simply have to summon the political will to swing a big sword—an inelegant solution that might not please everybody, but it might be the only way to move forward.



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