

Why don't we just auction the 'white space'?

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http://www.news.com/Why-dont-we-just-auction-the-white-space/2010-1036_3-6072534.html

Story last modified Tue May 16 06:08:06 PDT 2006

In this new wireless era, the electromagnetic spectrum is surely one of the most important economic policy issues the government faces, with hundreds of billions of dollars of economic benefits at stake.

Economists who study the spectrum issue are virtually unanimous in concluding that the only way to assure that spectrum is allocated to its highest-valued uses is by allowing a market in spectrum rights to develop. They argue that spectrum is analogous to real estate, which operates efficiently only under a market-allocation regime.

In recent years, the Federal Communications Commission has been slowly moving in the direction of a spectrum market, with auctions and other measures to provide licensees greater flexibility. It is therefore extremely disappointing that Congress, supported by a large part of the technology industry that apparently believes it will sell more products in an unlicensed regime, is now proposing to take a big step backward by allocating a significant chunk of "beachfront" spectrum--the TV broadcast spectrum "[white space](#)"--to "unlicensed" uses. This is the polar opposite of a market-allocation regime.

Bills have been introduced by Alaska Sen. Ted Stevens (Chairman of the Commerce Committee), Virginia Sen. George Allen and Washington Rep. Jay Inslee. The bills have co-sponsors from both parties. A similar provision has been incorporated into the Senate Commerce Committee's telecom bill working draft.

If policy makers want to subsidize broadband in underserved areas, they should do so by providing direct subsidies.

"White space" refers to underutilized spectrum on which productive activities could take place if permitted. When the [transition to digital TV is completed in February 2009](#), broadcasters will vacate channels 52 to 69, freeing up 108MHz. Most of this spectrum will be auctioned off to the private sector and allocated by the market. Some will be used by the government for public-safety purposes. The broadcasters will retain channels 2 to 51, space that most observers believe includes a substantial amount of underutilized spectrum that is potentially very valuable for the build-out of wireless broadband or other activities.

Spectrum has historically been allocated under a "command and control" regime, under which the FCC assigned blocks of spectrum to specific uses--for example, broadcast television--over specific frequencies in specific locations under specific parameters of service. This system has imposed large costs and is clearly ill-adapted to the explosion of the demand for the airwaves for innovative new wireless technologies.

The alternatives to command-and-control are either a property-rights/market-allocation regime, or what has come to be called the "commons" or "unlicensed" model. Under the unlicensed model, interference is controlled through the establishment of rules, such as power limits for approved devices, that effectively determine what the spectrum can be used for.

Proponents of the unlicensed model make great claims for it, contending that it is more conducive to the development of new technologies and even that it will lead to the end of scarcity. These arguments are unpersuasive, essentially because the unlicensed model really is just a new version of a centralized allocation system. After all, it will be the FCC that has to establish the rules that govern unlicensed spectrum.

In that sense, it's not qualitatively different from the legacy command-and-control regime. And there's no reason to believe that the regulators are in a position to do a better job with this new centralized allocation system than they have with the old one. Moreover, as with command-and-control, there is no market mechanism in an unlicensed regime to move spectrum to its highest valued uses, and no way to determine the opportunity cost of allocating spectrum to unlicensed uses.

Proponents also argue that more unlicensed spectrum will spread the deployment of wireless broadband, especially to underserved areas. However, a property rights regime is really the only way to provide the certainty needed for businesses to make the very large investments that might eventually make a wireless broadband pipe a reality.

We see this already in the operation of the mobile telephone bands, where service providers with secure priority rights--quasi-property rights--have made and continue to make billions of dollars worth of investments in providing new wireless services.

If policy makers want to subsidize broadband in underserved areas, they should do so in a technology-neutral way, by providing direct subsidies.

Finally, a market allocation regime will do a better job of controlling interference, a major concern of the broadcasters (who, by the way, are not without political clout). Under a market regime, a relatively small number of people have the responsibility not to overstep their boundaries. In contrast, under an unlicensed regime, there are likely to be tens of millions of people using approved devices and perhaps some using unapproved devices.

In sum, managing spectrum the right way will speed the delivery of innovative new wireless communications technologies to consumers. Doing it the wrong way will impose hundreds of billions of dollars of costs on the economy. The FCC will follow a market allocation model when it auctions the advanced wireless service spectrum later this year and the DTV spectrum in 2009.

There is no obvious reason that the TV broadcast white space should be allocated any differently. The white space bills now pending in Congress are doing it the wrong way and, if enacted, will constitute a significant setback on the road to a rational spectrum policy.

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