

Propertization and Markets for Spectrum: Think “Real Estate”

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Overview

- The problem: interference
- The (past) response: command-and-control regulation
- Auctions as an interim step
- Propertization and markets as the way to achieve efficiency
- The real estate analogy
- How to get from here to there
- Conclusion

The problem

- Interference

Past efforts to deal with interference

- Command-and-control regulation (since 1927)
 - Specified uses
 - Specified parameters of service
 - Specified users
 - “Beauty contests”

The costs of command-and-control regulation

- Inefficiency
- Inflexibility
- Delay in developing new products and services
- “Shortages”

Recent changes

- Applications for cell phone licenses swamped the FCC in the 1980s, making beauty contests infeasible
- Lotteries authorized by Congress
 - Yielded large private windfalls
- Auctions authorized by Congress in 1993
 - Revenue was a major initial motive
 - Greater flexibility, greater efficiency
 - Establishes valuation
 - But no direct secondary market

Best route: complete propretization (1)

- Think of spectrum as real estate
- Delineate boundaries and power limits
 - Geographic boundaries
 - Spectrum band boundaries
 - Power limits at the boundaries
 - Renegotiable among “neighbors”
 - In-band limits
- Right of exclusion
 - Trespass enforceability

Best route: complete propretization (2)

- Complete flexibility of use, of sale, of aggregation, of subdividing
 - Subject to not trespassing on neighbors
 - Subject to antitrust laws
- Permanent (perpetual) property rights
- Secondary markets
- Maintain a registry of ownership

Advantages to propretization

- Efficiency
 - Private sector
 - Public sector
 - Government pays for other “property” inputs
- Flexibility
- Innovation
- Agile radio technology will help spectrum property owners amass the spectrum that they need

Spectrum is analogous to real estate (1)

- Finite resource
- Scarcity
- Divisibility
- Different “geologies” have different efficient uses
- Technological change can improve, expand, and/or alter efficient uses
- Changing economic demands can alter efficient uses
- Problems of trespass/interference

Spectrum is analogous to real estate (2)

- The analogy isn’t perfect
 - The physics of the spectrum may require some special adaptations
- But real estate ownership has its ambiguities as well
- The gains to propretization and markets would surely swamp any costs
 - Owners will learn to make accommodations with each other

How to get from here to there

- Auction unused spectrum
- Expand flexibility of already auctioned spectrum
- Encourage economizing of government’s spectrum
- Auction occupied spectrum?
 - Buyer can clear incumbents but must compensate?
 - Buyer has no right to clear incumbents?
- Auction voluntarily supplied spectrum?
 - Incumbents can repurchase existing rights?
 - Incumbents get equivalent-value vouchers?

Conclusion

- Spectrum is too valuable to waste, to be used inefficiently
- There are large social welfare gains from a better framework
- That framework is proptertization and markets
- Problems can be accommodated; don't let the pursuit of perfection stand in the way of substantial improvements and gains
- Just do it!