

Propertization and Markets as the Way to Achieve Efficiency, Quantification, and Valuation of Spectrum

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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 -- and quantification and valuation
- 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 propertization (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 propertization (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 propertization

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

Spectrum is analogous to real estate

- 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

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 propertization and markets
- Just do it!