

Institutional Diversity in Spectrum Sharing: Exclusive and Nonexclusive Property-Rights Regimes



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SPECTRUM

BACKGROUND

- Wireless communication's cornerstone: effective transmission and reception in designated frequency bands
- Spectrum allocation pivotal for Wi-Fi, cellular networks, broadcast media, radar, satellites, telescopes, IoT devices, and more
- Advocacy for polycentric spectrum management, blending formal regulatory oversight with informal governance mechanisms

RESEARCH QUESTIONS

- How can spectrum management benefit from a polycentric approach, blending formal regulatory oversight with informal governance?
- What are the implications of recent shifts towards market-oriented spectrum policies on the balance between formal regulatory control and informal sharing arrangements?
- How can a flexible licensing framework accommodate both exclusive property rights and productive informal coordination?

METHODS

- Comparative institutional analysis
- Repeated games and relational contracting
- Case studies of alternative spectrum regimes
- Description of polycentric features of regimes

RESULTS

- Spectrum policy evolution in the US demonstrates the complexity and costs of flexible governance rules
- Formal regulatory bodies encounter obstacles like lobbying and bureaucratic inertia, leading to inefficient resource-sharing arrangements
- Flexible licensing delegates spectrum-sharing rule design to self-interested parties but may require regulatory oversight to enforce formal property rights
- Unassigned spectrum, a novel concept introduced in recent papers, offers a private commons model, enabling efficient spectrum management within flexible-licensing frameworks

CONCLUSIONS

- Spectrum management in the United States showcases the impact of regulatory institutions on industry growth and welfare, emphasizing the shift from command-and-control to Coasean frameworks
- Informal cooperation among "on-the-spot" actors should complement formal regulatory structures, especially within non-exclusive access paradigms

- Insights from spectrum management extend to the governance of resource allocation at a macro level
- Comparison with financial-capital regulation highlights contrasting challenges, with spectrum management facing issues of centralized control and exclusivity, while financial regulation grapples with complexities arising from insufficient coordination amongst financial institutions
- Spectrum regulation's journey reflects transitions toward more flexible economic systems, mirroring shifts seen in transition economies, underscoring the need for adaptive governance frameworks to accommodate diverse needs and technological advancements.

ACKNOWLEDGEMENTS

This work has been supported in part through SpectrumX, the National Science Foundation (NSF) Spectrum Innovation Center, funded via Award AST 21-32700 and operated under Cooperative Agreement with NSF by the University of Notre Dame.

REFERENCES

Ali Palida, Ilia Murtazashvili, and Martin Weiss, "Institutional Diversity in Spectrum Sharing: Exclusive and Nonexclusive Property-Rights Regimes." Working Paper.