Political Spectrum without Borders: Interests and Influence in Global Telecommunications Policy

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Abstract In this paper, we extend Thomas Hazlett's "political spectrum" framework, which emphasizes the interaction of political institutions, interest groups, and regulatory incentives, to the International Telecommunication Union (ITU) and the forthcoming World Radiocommunication Conference 2027 (WRC-27). While the ITU and its conferences have played a pivotal role in enabling the growth of the global Internet and fostering international coordination, they are subject to the classic challenges identified in public choice economics, including rent-seeking, bureaucratic inertia, and strategic behavior by national and commercial actors. Analyzing the institutional design, national interests, and stakeholder dynamics that shape global spectrum decisions provides insight into the achievements and the limitations of the current international system of spectrum governance. A public choice perspective offers insight into how transparency, accountability, and institutional adaptability might strengthen global spectrum governance, especially in the face of new pressures like orbital congestion and conflicts between active and passive spectrum users.

Introduction

Thomas Hazlett's *The Political Spectrum: The Tumultuous Liberation of Wireless Technology, from Herbert Hoover to the Smartphone* (2017) criticized the romantic vision that spectrum allocations and standards are decided in the "public interest," revealing instead a long history of regulatory capture, institutional dysfunction, and industry-driven policymaking. Far from acting as neutral arbiters, regulators, particularly the U.S. Federal Communications Commission (FCC), often reinforced the market positions of dominant incumbents. Broadcasters, telephone monopolies, and federal agencies lobbied to entrench their interests, delaying the adoption of transformative technologies such as FM radio, cable television, and mobile telephony. Rather than fostering innovation or consumer welfare, much of spectrum policy was characterized by protectionism, bureaucratic inertia, and stagnation, with valuable spectrum allocated through opaque processes and bureaucratic discretion. What is especially significant is that this constructive criticism continued to ring true even in the era of "liberal spectrum," which is hailed as a triumph of rational economic thinking about how to allocate spectrum.

Though Hazlett's analysis considered global regulation of spectrum resources, Hazlett developed the concept of the "political spectrum" primarily with examples from U.S. spectrum policy. Yet the central ideas of the political spectrum – special-interest influence, regulatory inertia, and misaligned institutional incentives – are universal features of spectrum governance.

To that end, we extend Hazlett's insights into the international realm, where spectrum governance is increasingly complex and contested. The International Telecommunication Union

(ITU), a United Nations specialized agency tasked with managing transnational spectrum and satellite allocations, is the center of global coordination efforts stands.[1] The ITU's World Radiocommunication Conferences (WRCs), held every three to four years, play a central role in amending the binding international Radio Regulations that structure the global division of frequencies and orbital slots.[2] These conferences are formally multilateral, but in practice are influenced by the priorities and strategies of national governments and the powerful corporate interests embedded in their delegations. The same political and institutional frictions Hazlett observed domestically between innovation and incumbency, transparency and capture, flexibility and inertia continue to shape the direction and outcomes of global spectrum policy.

Our emphasis is on how these political and institutional tensions play out in the current international regulatory landscape, with particular focus on the upcoming WRC-27. The stakes are high: emerging wireless technologies – from 5G and 6G terrestrial networks to sprawling non-geostationary satellite constellations – are straining the capacity of existing coordination frameworks. The surging demand for spectrum, coupled with the increasingly global nature of interference risks, has compelled governments and industries to navigate a regulatory arena that is both densely populated and institutionally fragmented. In this context, we ask: is there a "public interest" rationale in global spectrum management? If so, who shapes it? What are the feasible institutional reforms that can better manage special interest politics and overcome inertia in global spectrum management?

Rather than assuming global institutions operate as impartial technocratic bodies, we examine the political economy of spectrum governance as an ongoing negotiation among institutionally-defined actors with different levels of capacity and influence. These include nation-states with varying regulatory philosophies and agendas, commercial firms with transnational footprints, and scientific or civil society stakeholders whose influence often depends on access to formal channels or alignment with broader state agendas. Our approach draws from institutional analysis to illuminate how spectrum decisions at the international level are shaped not only by engineering constraints and economic efficiency, but also by political bargaining, rent-seeking, and institutional lock-in. Hazlett's account provides a useful starting point, but our extension aims to show how similar logic plays out in a more decentralized, multilateral, and geopolitically charged environment. In this regard, our analysis draws on Mueller's (2010, 2002) longstanding emphasis to develop more multistakeholder and inclusive approaches to Internet governance. We also recognize parallels with research critical of global space governance as overly centralized (Shackelford, 2009, 2014; Tepper, 2021). As corporate actors interested in global spectrum access, such as Elon Musk's Starlink – which requires truly global coordination to advance its contributions to spectrum accessibility – gain prominence in global telecommunications, consideration of the political economy of international spectrum governance is an especially significant issue for global telecommunications policy (Taylor 2024).

[1] https://www.itu.int/

[2] https://www.itu.int/en/ITU-R/conferences/wrc/Pages/default.aspx

Hazlett's *The Political Spectrum* and the Logic of Domestic Spectrum Policy

The "political" aspect of political spectrum is informed primarily by public choice theory, which is an economic approach to the study of government decision-making. At its core, public choice applies the tools of economic analysis to political decision-making. As Nobel laureate James Buchanan (1984) famously put it, public choice is "politics without romance." It challenges the idealized notion that governments naturally act in the public interest, instead emphasizing that political actors – whether voters, bureaucrats, or elected officials – respond to incentives, pursue self-interest, and operate under constraints of information and accountability (Aligica, Boettke, & Tarko, 2019). Rather than treating governments as neutral planners, public choice scholars analyze how institutional structures shape incentives and outcomes, often revealing how private interests influence the design and implementation of public policy (Olson, 1965). By focusing on institutional incentives and information asymmetries, public choice theory helps explain why spectrum governance often deviates from textbook ideals – and why reform efforts must grapple with political realities as much as technical ones.

Public choice theory is especially well-suited to analyzing settings where government institutions are responsible for allocating valuable resources. In such cases, the potential for rent-seeking, regulatory capture, and incentive misalignment is particularly high. Rent-seeking is where a stakeholder gains economically without creating any value. In regulatory capture, close ties between a regulator and the industry being regulated renders regulation ineffective and regulations end up catering to the needs of the industry rather than for the public good. An example of incentive misalignment is actions that yield short term gains and not long-term value or leading to unintended outcomes.

Spectrum governance fits this especially well. Radio frequencies are scarce, economically significant, and often allocated through centralized regulatory processes, making them a prime target for political maneuvering for economic benefit. While elements of private ordering – such as private coordination – do play a role in managing spectrum (Bustamante et al., 2020, 2023; Sandvig, 2004, 2004), government agencies remain the primary gatekeepers in most jurisdictions, be it the US, nations in Europe, or in Asia. Allocations, once in place take a long time to change even if the value of reallocation is clear. This combination of public control and private value makes spectrum a textbook case for applying public choice insights.

Spectrum regulation in the United States provides a rich illustration of this logic. Over much of the 20th century, spectrum was managed through a "command-and-control" regime, in which the Federal Communications Commission (FCC) assigned frequencies based on administrative judgments rather than competitive bidding or market signals.[3] While nominally in service of the public interest, these allocations often reflected political influence and industry lobbying. Well-organized incumbents, which at different times and with varying levels of influence included AM radio broadcasters, local television affiliates, and established telecom carriers, frequently secured favorable treatment, while new or disruptive technologies were delayed or suppressed (Everett 1973).

[3] https://www.fcc.gov/engineering-technology/policy-and-rules-division/general/radio-spectrum-allocation

These outcomes are not anomalies, but the predictable result of institutional incentives and bureaucratic discretion. The political spectrum extends these observations. Hazlett documents how FM radio was delayed to protect AM broadcasters, how cable television faced regulatory barriers to preserve the broadcast lobby's dominance, and how cellular services were introduced only after years of hesitation and opposition within the FCC. Pointing out these issues is not entirely new, as the case for open wireless was an aspiration long before Hazelett's book and based on much of the same criticism of spectrum policy (see, for example, Noam 2003). And Hazlett had written about these issues for decades before *The Political Spectrum* was published. What the 2017 book did is clarify the fundamental and inescapable significance of spectrum politics.

Hazlett identifies three interrelated problems: the persistence of command-and-control allocation, the role of regulatory capture in shaping decisions, and the difficulty of reform even in the face of clear inefficiencies. Hazlett credits the introduction of spectrum auctions in the 1990s as a major reform that limited rent-seeking by replacing zero-price administrative licenses with market-based allocation. But he cautions that auctions are not a cure-all: as long as spectrum remains under centralized control, political actors and interest groups will continue to shape outcomes through lobbying and strategic delay. In this view, spectrum is not merely a technical input to wireless communication – it is *political* resource, and its distribution reflects the architecture of institutional decision-making.

This public choice perspective offers more than a historical critique of U.S. telecommunications policy. It provides a durable analytical lens for understanding spectrum governance across time and jurisdiction. As we argue in this paper, the core dynamics Hazlett describes – regulatory inertia, interest-group pressure, and institutional path dependence – are not confined to national settings. They also appear in international arenas, such as the ITU and its WRC, where global spectrum decisions are negotiated. Applying a public choice framework to these international settings reveals both the constraints and possibilities for institutional reform in global spectrum coordination.

Extending the Logic to Global Spectrum Governance

The dynamics of the political spectrum are by no means limited to the U.S. context. International spectrum governance, particularly through the ITU and its quadrennial WRCs, exhibits many of the same features. Although the actors and procedures differ, the underlying logic remains familiar: outcomes are shaped not only by technical considerations but also by political negotiation, institutional inertia, and strategic influence.

At first glance, global spectrum governance may appear more formalized and rule-bound than its national counterparts. The ITU, a specialized agency of the United Nations headquartered in Geneva, is tasked with coordinating the global allocation of radio frequencies and orbital slots. Within the ITU's Radiocommunication Sector (ITU-R), the Radio Regulations serve as a binding treaty that structures spectrum frequency use worldwide. These regulations are

periodically updated at WRCs, where member states vote on amendments, national footnotes, and allocation tables that define the international use of spectrum.[4]

Despite this procedural architecture, the ITU is not a neutral technocratic forum. Decision-making power lies exclusively with member states; private firms and civil society actors may participate as sector members but have no formal vote. As a result, the ITU has been described as "more closed to stakeholders" than many other global governance bodies (Wingfield 2022). Smaller states, scientific users, and civil society actors often find themselves sidelined unless their interests are championed by more powerful delegations.

In this environment, public choice theory offers a useful framework for understanding how decisions are made. Although the ITU operates through multilateral procedures, it is not insulated from domestic political pressures or interest-group influence. National delegations are typically composed of government regulators, defense officials, and industry representatives, each with distinct agendas and incentives. These delegations act not as impartial stewards of global welfare (which is itself hard to define objectively), but as advocates for domestic priorities – pushing for spectrum allocations that benefit national and regional champions, promote homegrown technologies, increase regional or broader geopolitical influence, or protect incumbent users (DeNardis 2014). Thus, international spectrum policy operates as a kind of political marketplace, where coordination is achieved not through abstract appeals to the public interest, but through bargaining among actors with competing objectives. The challenge, as in domestic settings, is that well-organized and resourceful interests often shape outcomes more effectively than diffuse or underrepresented stakeholders.

To further illustrate how institutional incentives shape outcomes in telecommunications policy, historical analyses shed light on the political economy of interconnection. Mueller's (1993, 1997) reconstruction of telephone history in the United States challenges the conventional narrative that universal service was achieved through regulated monopolies and government subsidies. Instead, he shows that it was the *lack* of mandated interconnection between competing networks – Bell and the independents – that drove both sides into a race to achieve broader geographic coverage and greater user penetration. What emerged as "universal service" was not simply ubiquitous access, but a negotiated interconnection of fragmented systems. This historical example underscores a critical insight for spectrum policy: connectivity and coordination are not purely technical matters, but outcomes of institutional incentives and strategic behavior. In the international spectrum domain, where the challenge is not just who has access to frequencies but how systems interoperate across borders, the politics of interconnection remain just as salient.

This historical example underscores a central insight of public choice theory: that connectivity and coordination emerge not from benevolent planning, but from the strategic behavior of actors operating within institutional constraints. In the international spectrum domain, the politics of interconnection remain deeply salient in determining who gains access to frequencies and in shaping how interoperable systems are developed, deployed, or blocked. Just as Hazlett revealed how domestic spectrum policy was shaped by incumbent advantage and regulatory inertia, international coordination today reflects the bargaining power of national delegations and the strategic interests they represent. The ITU process, though framed as a

[4] https://www.itu.int/en/ITU-R/Pages/default.aspx

technocratic exercise, functions as a forum where institutional incentives, rent-seeking, and path dependence dictate outcomes as much as engineering studies or economic efficiency.

These dynamics underscore why international spectrum governance cannot be understood solely through technical or legal frameworks. To fully grasp the outcomes of global coordination efforts, particularly in high-stakes venues like WRC-27, it is necessary to examine the institutional context in which they unfold: the structure, processes, and politics of the ITU itself. The next section does just that, examining the history, organization, and decision-making mechanisms of the ITU and its WRCs, with special attention to the upcoming WRC-27.

Institutional Context: ITU and WRC-27

History and Structure of the ITU

The ITU is the world's oldest intergovernmental technical organization. It originated as the International Telegraph Union in 1865 and formally became a United Nations specialized agency in 1947. Its mandate has expanded over time from telegraphy to include telephony, radio, television, satellite systems, and modern broadband and mobile networks.[5] Today, the ITU plays a central role in global telecommunications governance by developing technical standards, facilitating international connectivity, and coordinating spectrum and satellite orbits.

The ITU's legal foundation rests on two binding treaty instruments: the International Telecommunication Regulations, which govern general principles for global connectivity, and the Radio Regulations, which define rules for the use of the radio-frequency spectrum and satellite orbits ITU Treaties.[6] As of 2025, the ITU includes 194 member states and a wide array of sector members, including industry, academia, and regional organizations within its membership.[7] The organization is structured into three main sectors:[8]

- **ITU-R** (Radiocommunication), which coordinates global spectrum use and satellites;
- **ITU-T** (Telecommunication Standardization), which is responsible for developing international technical standards known as Recommendations; and
- **ITU-D** (Telecommunication Development), which promotes access and capacity-building, particularly in developing countries.

Each sector convenes a dedicated world conference every 3 to 4 years: WRC, the World Telecommunication Standardization Assembly (WTSA), and the World Telecommunication Development Conference (WTDC), respectively. Broader governance is handled by the Plenipotentiary Conference, which is held every four years to set general policy and elect leadership, and by the ITU Council, comprising 48 elected member states, which oversees the organization between plenipotentiaries ITU Structure.[9] Key operational bodies within ITU-R include the Radiocommunication Bureau, which supports the study groups and coordinates day-

[5] https://www.itu.int/en/history/pages/ITUsHistory.aspx
[6] https://www.itu.int/en/wcit-12/Pages/itrs.aspx
[7] https://www.itu.int/hub/membership/our-members/
[8] https://www.itu.int/hub/membership/how-we-are-governed/
[9] https://www.itu.int/en/ITU-R/conferences/wrc/Pages/default.aspx

to-day technical work, and the Radio Regulations Board, which assists in interpreting and applying the Radio Regulations.

The governance structure of the ITU reflects its role in the global system for managing spectrum. National governments have their role, but the overarching structure is provided by the UN. While the organization engages with private sector actors and technical experts through its sector membership system, formal decision-making authority remains with its member states. This constitutes a multilateral model of governance in which outcomes are shaped through intergovernmental negotiation rather than through open, multistakeholder processes (Pandey and Ravishankar 2022).

The rationale for the ITU is recognition of a need to coordinate spectrum globally. A significant reason is because the spectrum transcends national boundaries. Its constitutional mandate is to balance the competing demands of efficiency and equity in spectrum use. The reality of its governance is that policies are shaped by a combination of political negotiation and technical compromise. In this regard, the ITU is an arena in which global spectrum management is politically contested as well as one where technical standards that enable global connectivity and interconnectedness are worked out.

Role of World Radiocommunication Conferences

The WRCs are the ITU's most important events for global spectrum governance. This global gathering brings together representatives from all ITU member states to negotiate changes to the Radio Regulations, the binding international treaty that governs the use of radio frequencies and satellite orbits.[10]

Each WRC reviews and revises the global frequency allocation tables, considers proposals for new services (such as mobile broadband or satellite communications), and resolves technical and regulatory issues that affect spectrum use worldwide. The agenda for each conference is set in advance and reflects years of technical studies and national proposals. For example, the agenda for WRC-27 was determined at the conclusion of WRC-23.[11]

The process combines expert input with political negotiation. National administrations and regional organizations submit proposals; technical study groups evaluate compatibility and interference concerns; and state delegations negotiate final outcomes. While the discussions are grounded in engineering principles, the decisions often reflect broader political and economic priorities. For example, one country may advocate opening a frequency band for 5G services, while another may oppose the move to protect satellite-based weather monitoring.

Decisions at WRCs are made by consensus wherever possible, though formal voting can occur. Once adopted, updates to the Radio Regulations become binding on all member states and are gradually incorporated into national regulatory frameworks. In practice, WRCs function as treaty conferences that play a leadership role in setting the agenda to manage the global spectrum

[10] https://www.itu.int/en/ITU-R/conferences/wrc/Pages/default.aspx

[11] See https://www.itu.int/en/ITU-R/terrestrial/fmd/Documents/WRC_23_Resolutions/E/RES_813(WRC-23)-E.pdf for the WRC-27 agenda agreed at the WRC-23.

environment for the years ahead, balancing competing interests to shape the technical and political foundations of wireless communication.[12]

Formal Mechanisms for International Coordination

Because no single country can allocate spectrum beyond its borders, international coordination is essential. While the ITU serves as the primary global forum for binding decisions, much of the groundwork for international agreement occurs at the regional level. The ITU formally recognizes six regional telecommunication organizations (RTOs), each of which brings together countries from a particular part of the world to develop shared positions in advance of the WRCs.

These regional groups, which span Africa, the Americas, Europe, Asia-Pacific, the Arab region, and post-Soviet states, play a significant role in shaping the global negotiation process. They organize preparatory meetings where governments, regulators, and industry stakeholders work together to draft common proposals. For instance, European countries coordinate through European Conference of Postal and Telecommunications Administrations (CEPT),[13] while Asia-Pacific states convene under the Asia-Pacific Telecommunity (APT).[14] When regional consensus is reached, it is submitted as a unified proposal at the WRC, giving the bloc greater negotiating weight and reducing fragmentation in the global dialogue.[15]

This multi-tiered structure includes national consultations to regional coordination and finally to global decision-making. This structure helps streamline what would otherwise be an unmanageable set of bilateral negotiations. Within each region, stakeholder engagement varies, but many RTOs facilitate input from both public and private actors, including telecom firms, satellite operators, regulators, and sometimes civil society or researchers and academics. These forums often host joint meetings to resolve technical differences and align strategic interests.

In addition to formal regional processes, informal alliances and coalitions also influence the landscape. Countries may coordinate within political groupings like the European Union or the BRICS, while industry associations and commercial consortia advocate for specific technical outcomes. Still, only national administrations can formally represent positions at the WRC. In this way, the global coordination of spectrum remains a state-driven process, but one embedded within a complex web of regional, bilateral, and commercial relationships.

Stakes and Agenda of WRC-27

WRC-27, scheduled for late 2027, will address several complex and politically sensitive spectrum issues. One of the most prominent agenda items concerns identifying new frequency bands for advanced mobile services, commonly referred to as "6G." Candidate bands under study include 4.4–4.8 GHz, 7.125–8.4 GHz, and 14.8–15.35 GHz.[16] These ranges are attractive

[12] https://www.itu.int/pub/R-REG-RR
[13] https://www.cept.org/
[14] https://www.apt.int/
[15] https://www.itu.int/en/ITU-R/conferences/wrc/2027/Pages/reg-prep.aspx
[16] Agenda Item 1.7 https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A0000110007PDFE.pdf

because they offer relatively wide, contiguous blocks of spectrum needed for next-generation mobile networks. They are of particular interest in parts of Asia and the Americas. However, each of these bands overlaps with existing services, creating difficult tradeoffs. Aviation systems, satellite downlinks, maritime communications, and radar applications already occupy many of the proposed frequencies. As a result, national delegations will need to balance the push for expanded mobile capacity with the need to protect incumbent systems, including safety-of-life and scientific operations.

Beyond mobile services, other agenda items focus on updating satellite regulations. The ITU develops standards to support the expansion of non-geostationary satellite systems, especially in LEO, as well as evaluates the use of high-altitude platform stations to improve rural connectivity.[17] Passive spectrum uses will also be on the table. For example, several agenda items examine the potential impact of new services on Earth observation satellites, which rely on interference-free bands to monitor climate and weather conditions. Some regional groups have already flagged this as a priority. Likewise, satellite navigation systems such as GPS will be seeking continued protection from proposals that could open adjacent bands to shared use.[18]

Positions on these issues vary widely. Many developing and liberalizing countries view WRC-27 as a chance to expand access to spectrum for broadband deployment. Others, including those with critical scientific or defense infrastructure, are more cautious and may prioritize stability over reallocation. Institutional preferences also shape engagement. Some regions, such as Europe, coordinate through bloc-level processes involving regulators and industry. Others, like the U.S. or China, operate through more centralized governmental approaches but remain responsive to major corporate stakeholders. Geopolitical dynamics further complicate negotiations. With rising influence from major players, such as China's leadership role within the ITU, technical discussions are increasingly shaped by broader strategic considerations (Schaefer & Pletka 2022).

Taken together, the WRC-27 agenda reflects both cutting-edge technological ambitions—ranging from 6G and satellite megaconstellations to spectrum for Internet of Things devices—and deeper systemic questions about how spectrum is shared, protected, and equitably accessed. Later in this paper, we apply a public choice lens to analyze how states and corporations engage in coalition-building, trade-offs, and strategic obstruction to shape the rules of the global spectrum regime—and whose interests ultimately prevail.

Politics without Romance in Global Spectrum Governance

Shaping the Agenda: How States Prepare for Spectrum Negotiations

Countries pursue different strategies to advance their interests at the ITU, with larger powers typically investing heavily in preparation. For example, the United States coordinates its WRC

[17] High-altitude platform stations are stratospheric aircraft, such as balloons, airships, or drones, that operate between 18 and 25 kilometers above the Earth, offering broadband, remote sensing, and emergency communications services in hard-to-reach areas, and are regulated by the ITU as part of fixed and mobile wireless systems.
[18] https://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-27-studies.aspx

proposals through the State Department in consultation with agencies like the FCC and NTIA.[19] These proposals, based on technical studies and interagency input, are submitted to the ITU and circulated at regional and global meetings. CEPT similarly coordinates a common European position through structured working groups.[20] Emerging powers like China and India also bring large, well-resourced delegations and have significantly ramped up their technical and diplomatic engagement—especially in areas like 5G, 6G, and satellite services. Less influential nations and regional blocs, such as those within the Inter-American system or the African Union, often align proposals with shared development priorities.

A key distinction lies in how countries incorporate stakeholder input. In more open political systems, such as those in the U.S. and many European countries, private firms, scientific communities, and civil society groups often play a role in shaping national positions. For instance, U.S. telecom companies routinely provide input through advisory committees and consultations. In more centralized systems like China or Russia, the process is typically state-driven, with key decisions shaped by government ministries, state-owned enterprises, and national defense interests.

While non-governmental entities such as companies, academic institutions, and NGOs may participate in ITU activities as sector members, they do not hold formal voting power. Their influence is indirect – through submitting technical contributions, joining advisory groups, or lobbying national delegations – highlighting the ITU's fundamentally intergovernmental structure. This arrangement reinforces the importance of national and regional preparatory processes, where decisions are ultimately shaped by state actors, even when informed by private or scientific expertise.

These dynamics play out clearly in the preparatory process. Regional telecommunications organizations often convene meetings that include industry advisors to refine regional proposals. For example, CEPT and the Inter-American Telecommunication Commission (CITEL)[21] have both facilitated dialogue between regulators and industry to shape regional positions. China and India also consult domestic firms, sometimes incorporating industry representatives into official delegations. In contrast, many smaller or developing countries rely on regional coordination or outside expertise, as they may lack the capacity to fully engage in all preparatory discussions. This creates asymmetries: wealthier and more technologically advanced countries often arrive at WRCs with well-defined strategies and strong industry backing, while others participate through broader regional alliances or by aligning with more influential partners.

Competing Priorities, Fragmented Visions

Even apart from differences in domestic regulatory processes, countries often diverge sharply in their policy preferences at the ITU, particularly on high-stakes issues like mobile and satellite spectrum. These differences reflect a mix of industrial priorities, development goals, and broader strategic concerns.

[19] For example, see the FCC WRC-27 advisory group: https://www.fcc.gov/wrc-27

[20] https://www.cept.org/ecc/groups/ecc/cpg/client/introduction

[21] https://www.oas.org/ext/en/main/oas/our-structure/agencies-and-entities/citel/About/Details/about-citel

The United States typically advocates for expanded access to mid-band spectrum for mobile broadband, influenced by the interests of large carriers and technology firms. U.S. delegations have supported international identification of bands like 3.5 GHz and 24 GHz for 5G and beyond. (5GAmericas 2024) On satellite issues, the U.S. has defended the global coordination rights of American companies, such as backing filings for non-geostationary constellations like Starlink, while promoting more flexible rules for emerging space-based services (Rainbow 2024).

The European Union, coordinating through CEPT via the member state which holds the EU presidency, often presents unified regional positions. At WRC-23, the EU supported identifying 26 GHz and 40 GHz bands for international mobile telecommunications (IMT), aligning with the priorities of the European 5G ecosystem. The EU also frequently emphasizes harmonization and protection of public services, including aviation and meteorology, and supports rules that balance innovation with interference safeguards.[22]

India has increasingly asserted itself in ITU discussions, especially in areas tied to domestic digital infrastructure and satellite sovereignty. Indian delegations have at times challenged global filings they view as bypassing national approval processes, particularly in low Earth orbit systems. India also prioritizes low-band spectrum for rural broadband and public safety (Garg 2025).

African states tend to focus on development priorities and equitable access. Many have expressed caution over reallocating UHF bands traditionally used for television broadcasting, favoring gradual transitions and cross-border coordination over immediate reassignment to mobile operators. Spectrum access for education, community media, and public services remains central in many African proposals (ITU 2023a).

Russia and the Commonwealth of Independent States, coordinating through the RCC, often align on technical standards and spectrum footnotes that reflect legacy system architectures and long-standing design preferences. Their positions tend to support existing satellite and broadcasting services, and favor preserving national discretion over new spectrum allocations.[23]

Latin America, through CITEL, coordinates regional dialogue but often exhibits diverse national positions at WRCs. While there is growing alignment around mobile broadband expansion, countries in the region also emphasize issues like universal service, emergency communications, and satellite-based rural coverage.[24]

China, as discussed earlier, has become an especially active and strategic player at the ITU. Its delegations are highly organized and work closely with state-linked enterprises to promote favorable outcomes across a wide range of agenda items. China also cultivates alliances with partner countries to amplify its influence (Segal 2020).

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[22] See https://radio-spectrum-policy-group.ec.europa.eu/system/files/2023-01/RSPG22-040final-RSPG_Final_Opinion_on_WRC23.pdf

[23] https://en.rcc.org.ru/

[24] https://www.oas.org/ext/en/main/oas/our-structure/agencies-and-entities/citel

Across all these cases, national behavior at the ITU reflects more than just technical or engineering preferences. From the above, it is clear that the ITU is an arena of contestation – one in which strategic calculations shaped by domestic politics, industrial policy, and geopolitical rivalry drive the agenda. Countries use the ITU not only to coordinate spectrum use, but to promote their regulatory models, protect national champions, and shape global rules in ways that reflect domestic interests.

Returning to the political spectrum idea, there does not appear to be a coherent "public interest" in global spectrum governance. The language of consensus and public benefit often masks underlying competition among well-organized actors with distinct priorities. At best, what emerges are multiple "public interests," unevenly distributed across regions and sectors. But more often, the balance of influence tilts toward a mix of public and private interests – predominantly private – negotiated through a process where power and access determine whose vision of the global spectrum regime prevails.

Rent-seeking on the Global Stage

Global spectrum negotiations abound with examples of rent-seeking and logrolling. Here we highlight a few illustrative cases:

- **The 5.9 GHz "Car Band."** In the late 1990s, the FCC set aside 75 MHz in 5.9 GHz for vehicle safety (Dedicated Short Range Communications). After decades of little deployment, industry champions (Comcast, Google, Microsoft) lobbied in 2020 to reallocate the band to unlicensed Wi-Fi use. Hazlett notes this conflict as a lesson in "applied public choice:" automakers and traffic-safety regulators wanted exclusive spectrum for DSRC, while broadband giants coveted extra unlicensed capacity. The ultimate FCC compromise (sharing part of the band as "Wi-Fi" vs auto) reflects competing rent-seeking interests (Hazlett 2019). A similar tug-of-war is now underway globally: for WRC-27, proposals about 5.9 GHz may reappear, with European and Asian regulators considering broadband uses versus motor-safety uses.
- **L-Band satellite vs terrestrial (GPS and 5G).** At WRC-19 and discussions for WRC-23, the U.S. and others sought to allow 5G in the 1.5–1.6 GHz bands (currently used by Globalstar satellites), which would have interfered with GPS L1 signals. Aviation and defense groups strongly opposed this. The compromise was a locking of the status quo: the U.S. withdrew its proposal. This episode shows how international policy can be swayed by coalitions: as Council on Foreign Relations analysts note, the U.S. mobile industry pushed the change, while NASA, FAA, and military found allies abroad to resist it. The outcome protected incumbent aerospace interests at the expense of terrestrial bandwidth – a classic rent distribution.
- **Satellite spectrum filings and orbit slots.** States and companies also compete by filing for orbital "rights" and spectrum at the ITU. For instance, small states like Tonga have sold geostationary orbital slots (so-called "parking" in ITU filings) to emerging satellite operators, stirring controversy (see space law analyses). Meanwhile, global operators like Intelsat, SES, and SpaceX hustle to register downlink/up-link frequencies and footprint plans. Rent-seeking here can be opaque: a firm may rush to ITU-file a broad application

(e.g. for global beams) to lock in priority, hoping that later review will yield favorable conditions. Other countries protest if those filings seem to infringe on their airspace or markets. This game of "first come, first served" under ITU rules generates lobbying as much as technical work.

- **Radio astronomy vs. 5G.** Though not a headline at WRC yet, passive science groups (e.g. radio astronomy, atmospheric sensors) are already organizing internationally to protect key bands. They have petitioned ITU study groups to recognize more spectrum as "astronomy bands," potentially constraining wireless growth. For example, engineers have proposed that the 23.6–24.0 GHz band be reserved for Earth/space research, which would block cellular use there. At WRC-27, Agenda Item 1.19 will specifically examine whether to allocate 4.2–4.4 GHz and 8.4–8.5 GHz to Earth exploration satellite service, showing this conflict in process. Here, a longstanding issue is that scientific societies may act as interest groups seeking regulatory rents (protection rather than allocation) against commercial 5G/IoT interests (Jakhu et al. 2017).

These cases underscore that international spectrum allocations are won by coalitions and bargaining. When high-value services are at stake, every country with any claim tries to influence the decision. The ITU's neutral technical studies often give way to last-minute horse-trading. For example, WRC outcomes typically include footnotes specifying special conditions, pitting one service against another. Even when the official press says the outcome "balanced interests," an analyst can often trace which sectors prevailed. In public choice terms, each negotiation yields a distribution of rents: some companies or states emerge with expanded rights, others with protected niches, and the ostensible "public interest" – like cheaper services or more capacity – is rarely the explicit target of policy.

Powerful Corporations and National Regulators

Global telecommunications governance is heavily shaped by the influence of major industrial players, particularly in the satellite and mobile sectors. Large satellite operators and mobile equipment manufacturers often play an active role in shaping international spectrum policy, working closely with their home governments to secure favorable regulatory outcomes. For example, firms like SpaceX and OneWeb have lobbied for international recognition of their satellite constellations, while mobile industry leaders such as Qualcomm and Huawei have published technical positions on future 6G spectrum bands. These companies often coordinate with national delegations and submit technical studies or draft proposals through industry associations like the mobile industry advocacy group, Groupe Spécial Mobile Association (GSMA). National regulators, such as the FCC in the United States or Ofcom in the United Kingdom, lead their countries' delegations and act as intermediaries between commercial and policy interests.[25] They also bring ideological orientations to the negotiating table—some favor market-based mechanisms like auctions, while others, particularly in more centralized systems, advocate for fixed administrative assignments. As a result, global spectrum decisions reflect a complex interplay of commercial lobbying, geopolitical strategy, and institutional design.

[25] See https://www.fcc.gov/international and https://www.ofcom.org.uk/spectrum/international

These examples of rent-seeking cast further doubt on the public interest view of spectrum on a global scale. The ITU provides the forum, but the script is written by each side's lobbyists. Where a "public interest" could be defined (such as universal connectivity, climate monitoring, or aviation safety), those goals often lose to the immediate interests of incumbent businesses and bureaucrats pressing the hardest.

Political Dynamics and Institutional Constraints in Global Spectrum Governance

Interest-Group Influence and Strategic Delegations

As the preceding sections suggest, interest groups – corporate and national – wield significant sway over ITU processes. Unlike pure domestic politics, global spectrum interest groups are transnational yet organized around nations. This often means that a country's dominant firms effectively become its lobbyists. For instance, the U.S. Internet community fought against state oversight in the 2000s to keep the Domain Name System (the Internet's phonebook) in private hands.[26] Similarly, U.S. wireless carriers now push back when foreign governments' proposals might limit their exports. Meanwhile, European carriers combine with state regulators to press the EU line in ITU meetings, and satellite industry groups freely swap positions with their home regulators.[27] The upshot is that the ITU's nominally technical conferences are also political festivals of lobbying.

Even within the ITU's bureaucratic machinery, interesting dynamics appear. In public choice terms, this is bureaucratic capture: those with stakes (companies or agencies) invest effort in meetings to tilt the results. For example, if a new band is identified for IMT, the eventual sharing constraints (power limits, geographic blocks, adjacent-channel limits) are negotiated by technical working groups. Firms send engineers to propose favorable propagation models or interference criteria. Regulatory footnotes that protect incumbents are often the result of behind-the-scenes deals rather than from neutral, working technology.

Even "neutral" ITU officials may be subject to these pressures. The Secretary-General and Bureau directors are technically independent, but they depend on maintaining member-state support (the Council makes key appointments). Moreover, many long-serving ITU technical staff come from major states; their drafting of meeting reports or handbooks can subtly steer thinking. In short, while the ITU is not a democratic polity, it exhibits the same interest-driven behavior public choice predicts: people within it act to protect and expand their fiefdoms.

Bureaucratic Inertia and Institutional Lock-In

The pace of international spectrum governance is often glacial. Studies for a WRC agenda item may span years, and final adoption lags further. This inertia is partly structural (the 3–4 year conference cycle, multi-layer review) and partly psychological (governments are risk-averse about altering treaties) (Cave & Webb 2015). For example, a proposal to allocate new mobile spectrum must survive not only technical sharing studies but also political consensus at regional

[26] https://www.internetgovernance.org/2018/02/10/goodbye-good-riddance-enhanced-cooperation/

[27] See https://connecteurope.org/ for telecom carrier positions and https://gsoasatellite.com/ for satellite positions in Europe.

preparatory conferences, then negotiation at the WRC itself. If even one major country blocks it, consensus can fail. Thus, incrementalism is the norm.

This sluggishness has real consequences. As technology evolves rapidly (e.g. 5G, LEO constellations, satellite IoT), the ITU struggles to keep up. New spectrum demands emerge faster than regulatory cycles. The need for international harmonization (to avoid cross-border interference) clashes with fast-paced industry plans. An oft-cited example is the debate over 6 GHz unlicensed use: while many countries have approved Wi-Fi 6E in 6 GHz band regionally, ITU consensus on the adjacent 5925–6425 MHz will only be sought at WRC-23 or later, leaving a patchwork of national rules in the interim. In effect, bureaucratic processes mean that by the time a change is globally agreed, businesses may have already moved on to the next frontier (Jervis et al. 2024).

Moreover, the decision-making structure itself can hinder reform. Even a single country's opposition – sometimes over minor technical or political concerns – can stall an entire initiative. While voting is technically permitted, it is politically sensitive and rarely used. At WCIT-2012, where revisions to the International Telecommunication Regulations were negotiated, deep divisions among member states led to a formal vote and a split outcome, with many countries ultimately refusing to sign the final treaty. (Kleinwächter 2012) Similarly, at WRCs, contentious issues have either led to rare formal votes or been dropped altogether due to lack of consensus. Once adopted, the Radio Regulations (RRs) are binding under international law, which makes governments cautious about endorsing any change that could limit future policy flexibility without clear national advantage. This creates a form of institutional conservatism—akin to bureaucratic lock-in—where reforms occur only with broad support, often resulting in minimal change or heavily diluted compromises.

From a public-choice perspective, this is routine bureaucracy: organizations tend to protect their turf and only change under sustained pressure (Frey 1997). The ITU's bureaucratic culture and procedures create inertia that benefits status quo incumbents. Powerful countries (or blocs like the EU) can use expertise and preparation to overcome delays, but weaker actors may see their proposals endlessly studied. The combination of sluggish decision-making and powerful lobbying means that even well-justified new allocations can stall if not backed by strong interests.

Formal Mandates versus Political Realities

The ITU's formal mandate – to optimize spectrum use for all – often diverges from what actually happens. Officially, the RRs and WRC outcomes are meant to promote "efficient and economical" use of spectrum and to expand services globally.[28] In practice, however, the outcomes reflect compromises. For instance, an agenda item might nominally be about enabling rural broadband or aviation safety, but the final treaty text may simply tinker around the edges. One cannot point to a global entity at the ITU that aggregates all citizens' interests; rather, the "public interest" is expressed in sometimes vague treaty language or side agreements.

[28] See Article 1 of the ITU Constitution.

In the U.S., Hazlett noted that Congress often used "public interest" as a rhetorical cloak. (Hazlett 2017) Globally, the analogous phenomenon is that WRC proceedings are rarely driven by appeals to the (undefined) global public interest. Instead, countries justify proposals on national interest grounds (connectivity, national security, industry competitiveness). For example, at WRC-23 the goal of connecting the "hard to reach" (often cited as a public good) was used to support 5G band allocations, but equally to advocate for preserving UHF TV (for public broadcasting) (ITU 2023b). There is no world spectrum regulator to arbitrate the true public interest, so competing notions prevail.

Consequently, the actual outcomes – the allocations and footnotes in the Radio Regulations – often reflect negotiated equilibrium among vested interests. As ITU News pointed out, each region preparing for WRC articulates different priorities (media preservation, satellite growth, broadband deployment) (ITU 2023a). The final compromise tries to address all these to some extent. The result is a treaty that is highly complex and filled with carve-outs, rather than a clear statement of serving consumers or innovation. The lack of a unifying public-interest guide is precisely the hallmark of public-choice-dominated policy.

Political Spectrum Goes Global

There are striking parallels between global spectrum politics and domestic allocation battles (like in Hazlett's U.S. narrative). Both domains suffer from special-interest influence, regulatory capture, and compromise allocations. For example, the FCC's move to spectrum auctions in the 1990s was intended to replace political giveaways with market allocations (Hazlett 1998). Yet even auctions have been shaped by politics: powerful bidders influence auction rules, and legislators earmark spectrum for favored uses (e.g. rural radio service, fixed wireless) rather than pure price signals. Likewise, at the ITU, even though countries often profess preference for market mechanisms, spectrum is not actually auctioned internationally – it is centrally allocated by treaty. The rhetoric of "harmonization" and "competition" exists, but on-the-ground decisions look more like the old public-radio bargains.

Another parallel is bureaucratic fragmentation. In the U.S., Hazlett describes how numerous FCC offices and state regulators muddle spectrum policy, sometimes protecting incumbents. Globally, a similar fragmentation occurs: ITU-R study groups, World Bank and ITU development programs, regional trade agreements, and bilateral spectrum deals all overlap. Each bureaucracy (like ITU-D or the UN Office for Outer Space Affairs) has its own agenda (development assistance, space law) that can buttress or undermine ITU-R's work. The outcome is often a patchwork of rules. For instance, some developing countries have adopted "blanket authorizations" or different licensing policies to attract investment, irrespective of ITU norms. These disjointed efforts resemble the U.S. experience where state and federal spectrum rules can diverge, requiring later preemption.

Global spectrum governance thus confronts the same incentive and structural issues as domestic policy: it is rarely led by a unified vision of public benefit. Instead, we see multiple parallel objectives and actors pulling in different directions, much like the "alphabet soup" of agencies and congressional committees in the U.S. spectrum saga. Hazlett's insight – that an unromantic politics explains allocation outcomes – thus seems equally apt for the world stage.

Future Spectrum Governance

Persistent Absence of a Global "Public Interest"

A key lesson is that there is no overarching "global public interest" guiding spectrum policy today. Neither the ITU nor any other body has a clear mandate to serve consumers or innovation above all; instead, decisions balance lobbying claims. This is not to say some long-term goals cannot emerge – for example, there is growing international recognition of issues like bridging the digital divide. But even goals framed as public goods (connectivity for remote populations, protecting weather satellites, avoiding harmful interference) have to compete against well-funded industry interests. Indeed, one could argue that the very belief in a "public interest" in spectrum is today mainly rhetorical. ITU documents often repeat this phrase, but actions (allocating thousands of MHz to incumbents, lacking enforcement of interference protections) show that private stakes dominate (Hoffman et al. 2020).

However, there are hints of a slowly shifting sentiment. Pressure is rising for more transparency and accountability in ITU processes. Civil-society coalitions are attempting to articulate public-interest positions (e.g. advocating for bridging digital gaps or conserving quiet bands). The "multi-stakeholder" vs "state-led" debate in global Internet governance spills over – some actors call for more civilian and academic input in spectrum decisions. But without institutional change, these voices remain subordinate. As long as the decision-makers (nation-state delegates) see spectrum policy primarily through the lens of national interest, the gap between technical public benefit and negotiated outcomes will persist.

Need for Reforms in Institutional Design and Negotiation Practices

If public-choice problems plague spectrum governance, what remedies exist? Some argue for procedural reforms. For instance, increasing the role of independent technical advice (from bodies like ITU-R Study Groups) over purely political decision-making could help (de Nardis 2014). The ITU already tries consensus decision-making to find common ground, but this often just finds the lowest-common-denominator. One could imagine more formalized cost–benefit analyses or impact assessments for agenda items – tools that economists promote – but these are not standard. Introducing elements of market signals (e.g. global trading or auctions) is theoretically possible but politically fraught: ITU operates by rule revision, not by allocation market.

Another idea is to revisit multistakeholder models. The Internet community's success in maintaining a largely private technical management (ICANN, IETF) suggests an alternative approach.[29] Milton Mueller observes that when policy authority is reserved to states, non-state actors are squeezed out.[30] One could envision a parallel "spectrum registry" managed by a consortium of operators and technical experts (ensuring efficient use and coordination), with

[29] The Internet Corporation for Assigned Names and Numbers (ICANN) is a nonprofit organization responsible for coordinating the global domain name system (DNS), IP address allocation, and protocol parameter assignments to ensure the stable and secure operation of the Internet's unique identifier systems. The Internet Engineering Task Force (IETF) is an open standards organization that develops and promotes voluntary Internet standards, particularly those related to the TCP/IP protocol suite, through a bottom-up, consensus-based process involving working groups and community input.

[30] https://www.internetgovernance.org/2018/02/10/goodbye-good-riddance-enhanced-cooperation/

states providing oversight on sovereignty issues. In practice, some partial forms exist: e.g. database coordination for certain shared bands (like the Citizens Broadband Radio Service, which provides a forum for spectrum sharing on the 3.5 GHz band in the U.S.) or multilateral frequency coordination arrangements in UHF broadcasting. Expanding such models globally would be a major institutional shift, akin to removing spectrum from the traditional UN framework.

Despite its formal procedures and technical mandate, the ITU is not a neutral technocratic forum. Decision-making power lies exclusively with member states; private firms and civil society organizations may join as sector members and contribute to discussions, but they have no formal vote. This governance model has been widely described as "more closed to stakeholders" than many other global institutions. Smaller states, scientific users, and non-state actors often struggle to exert influence unless their interests are taken up by more powerful national delegations. As Milton Mueller (2010) argues, the ITU exemplifies a statist model of governance—one in which authority resides with sovereign states, and global coordination is mediated through intergovernmental diplomacy rather than through open, transnational networks.

This contrasts sharply with the multistakeholder approach that emerged in other domains of Internet governance, such as domain name administration. Mueller (2002) documents how institutions like ICANN evolved to incorporate private actors, technical communities, and civil society into formal decision-making processes, reflecting the decentralized nature of the Internet itself. The ITU, by contrast, retains a top-down structure rooted in its legacy as a UN agency, where technical deliberation is often subordinated to geopolitical negotiation and national interest. From a public choice perspective, this structure tends to reinforce incumbent advantages and incentivize strategic behavior by well-positioned states and their affiliated firms, rather than producing outcomes that reflect a coherent or inclusive global public interest.

Reform advocates also call for more transparent and inclusive negotiation. Currently, many WRC preparatory meetings are not well-publicized and open only to sector members. If civil society and smaller carriers had clearer channels to influence national positions, the "public interest" could be better represented. For example, requiring that positions be made public and subject to comments (as some countries do domestically) could reduce "back-room deals." This is similar to the calls for open process in international trade negotiations.

Emerging Global Challenges: Orbital Crowding and Active vs. Passive Use Conflicts

Looking ahead, new technology trends will amplify governance problems. The explosion of satellites – particularly mega-constellations (large networks of coordinated satellites providing global coverage) and CubeSats (small, low-cost satellites often no bigger than a shoebox) – means the ITU must manage orbital slots and space-to-Earth links far beyond historic levels. Yet the Radio Regulations cover only geostationary slots and spectrum allocations, not space debris or traffic management. Without enforcement mechanisms, states and companies race to file satellites at ITU for priority. The risk is that crowded orbits lead to interference disputes and even collisions, as recently seen with near-misses and debris clouds. ITU cannot police these issues by itself; coordination rests on each state's cooperation. This "Wild West" in orbit is an emerging

rent-seeking contest: an operator who quickly obtains ITU filings for many satellites gains a competitive edge, potentially locking others out of spectrum.

Similarly, the boundary between active transmitters and passive users (radio astronomy, Earth/space science) is under strain. Spectrum used for remote sensing (e.g. passive sensors measuring atmosphere) is critical for climate research, but those services lack enforcement against interference. Commercial telecom interests eye adjacent bands for terrestrial 5G/6G expansion. At WRC-27, heated debates over 23.6–24 GHz and other passive bands are expected. The "penalty" for causing harmful interference to passive services is unclear internationally; domestic regulation varies. Public choice theory would predict that powerful industrial interests will push their agenda, potentially at the expense of scientific monitoring. Without global public oversight, passive-spectrum protection depends on scientists forming a coalition and lobbying at each WRC. Their success will hinge on forging alliances with officials concerned about national interests (e.g. weather forecasting for agriculture).

These challenges underscore the stakes. If urgent global problems (space safety, climate data) rely on preserving radio "commons," rent-seeking over spectrum could undermine the solutions. It will take concerted effort, perhaps beyond what the current UN-centric framework can muster, to balance these emerging demands.

Opportunities for More Transparent and Equitable Governance

Given the shortcomings, what opportunities exist? One thought is that a re-imagined governance architecture might be more democratic and market-based. If the current system were designed today, many argue, it would not look like a closed UN agency. Possibly, a new international body, or a reformed ITU, could allocate some bands by bidding or by applications of spectrum trading at the global level. Or a network of interoperable regional systems could allow secondary markets that effectively let users choose bands across borders. Another idea is creating stronger accountability mechanisms: for instance, requiring that WRC decisions be subject to periodic review with stakeholder input, or establishing an ITU Ombudsperson for small countries and NGOs.

Transparency is also key. The ITU could publish draft conference documents earlier, and allow commentary. The outcome (Final Acts) is often a lengthy treaty only diplomats fully parse. A plain-language "analysis of impact" – how many megahertz were reallocated for what services, which incumbents gained concessions – could help public understanding and pressure. This kind of analysis is rare now. Civil society groups and think tanks have begun to fill the gap, but their reach is limited. More openness might discourage pure rent-seeking (since deals would face scrutiny) and foster trust that any allocation has been vetted.

Finally, fostering competition in standards could ease spectrum tensions. As Weiss and Cargill explained, the standards process can serve incumbents by locking in one technology over another (Weiss & Cargill, 1992). In spectrum, this is mirrored by locking users into narrow allocations. Policies that encourage dynamic spectrum access or unlicensed use (à la Wi-Fi) could lessen the winner-takes-all stakes. Some global initiatives (e.g. ITU's Tech Watch) are exploring new paradigms like cognitive radio, but without universal agreement these remain

marginal. Empowering flexible uses and spectrum sharing (with technical safeguards) could reduce the zero-sum conflicts in WRC halls, though this too requires political will.

Conclusion

Hazlett's *The Political Spectrum* is more than a critique of U.S. regulatory practice; it offers a framework for understanding how spectrum governance—at any level—is shaped less by abstract ideals of the public interest than by institutional incentives, political bargaining, and the strategic behavior of stakeholders. While Hazlett's case studies focus on Washington, D.C., the same dynamics play out in Geneva, Beijing, and other hubs of global telecommunications policy. From FCC spectrum auctions to ITU treaty negotiations, decision-makers are rarely neutral arbiters. They are actors embedded in bureaucratic, commercial, and geopolitical systems that reward caution, protect incumbents, and allocate resources not by market efficiency but by political influence.

The ITU and the WRC process reveal the limits of the ideal of global, technocratic harmonization. Though treaty-based and formally multilateral, these processes are driven by national delegations whose positions reflect domestic industrial strategies, regulatory structures, and geopolitical priorities. Meanwhile, private actors, despite their central role in developing and deploying technologies, are relegated to influence through lobbying or indirect representation. This arrangement reinforces the kinds of coordination failures, rent-seeking, and slow adaptation that Hazlett diagnosed in the U.S. context.

Applying a political economy lens to global spectrum governance is not merely an academic exercise. As LEO satellite constellations crowd orbits, passive users struggle for protection, and 6G ambitions compete with legacy services, the stakes of spectrum allocation are increasingly planetary. Understanding how these decisions are made – who shapes the agenda, who gets heard, and who bears the costs – is essential to reform. Without confronting the political and institutional realities embedded in global governance structures, proposals for equity, efficiency, or innovation are likely to falter.

As telecommunications continues to globalize, so too must our frameworks for analyzing its governance. Spectrum is political: behind the language of cooperation and progress, spectrum remains deeply political. Globally, spectrum management is contested terrain in which one of our most valuable resources is allocated not only by scientific reasoning or economic optimization, but by institutions shaped by power, strategy, and negotiation.

Acknowledgments

This work was funded in part by a subaward from SpectrumX: An NSF Spectrum Innovation Center (NSF Award No. 2132700). The authors would like to thank members of the Economics, Rights, and Policy research community in SpectrumX for valuable conversations on spectrum governance, including the politics of spectrum.

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