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THE RATIONALITY OF U.S. REGULATION OF THE BROADCAST SPECTRUM*

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> [An] option that was totally overlooked in the early radio debates was for spectrum to be allocated, like paper, ink, and printing presses, by market mechanisms rather than by licensing. The policy makers in the 1920s and 1930s, wrongly it now appears, did not believe spectrum was abundant enough to be handled in that way.[1]

IN his classic 1983 *Technologies of Freedom,* Ithiel de Sola Pool so elucidated the prevailing wisdom concerning broadcast licensure in the United States. While the key legal questions surrounding this institution involve important First Amendment questions (hence, Pool's scarcity analogy to paper, ink, and presses), economists and other policy analysts have often remarked on the more general incongruity in federal licensing: while spectrum is regulated on the "physical scarcity" premise, it is awarded to private users on a no-fee basis, thus conferring significant economic rents on private parties at substantial opportunity cost to the fisc. Moreover, Federal Communications Commission (FCC)[2] policies have openly sought, virtually throughout the agency's entire life span, to restrict broadcast licenses and competition for broadcasters (particularly cable television) to far below the quantity technically available.[3] The

* I am indebted to Peter Huber, Stanley Ornstein, Lucas A. Powe, Jr., Eric Rasmusen, and Matthew Spitzer as well as to seminar participants at George Mason University, California State University, Hayward, the Office of Policy and Plans at the FCC, the 1989 Public Choice Society Meetings, and the USC–UCLA Applied Microeconomics Workshop for comments on an earlier draft. Myungwhan Kim and Hong-Jin Kim supplied fine research assistance.

[1] Ithiel de Sola Pool, Technologies of Freedom 138 (1983).

[2] The FCC licenses all radio and television broadcasters in the United States and regulates some aspects of cable television. It succeeded the Federal Radio Commission in 1934, in legislation virtually identical to that creating the FRC in 1927.

[3] The pointed restriction of TV broadcasting licenses is described in Roger M. Noll *et al.*, Economic Aspects of Television Regulation (1973); Robert W. Crandall, The Economic

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regulatory institutions appear to miss the point of scarcity entirely and have repeatedly been described as mistaken, accidental, and counterproductive: the historical product of policymakers who failed to understand the nature of property rights to airwaves.

This article seeks to revise such thinking about the "wrongheadedness" of U.S. regulatory policy toward the broadcast spectrum. Rather than stumbling into a legal structure under erroneous pretenses, a careful examination of the early radio broadcasting market and the legislative history of the Federal Radio Act of 1927 reveals that subsequent decision making under the "public interest, convenience, or necessity" licensing standard was a compromise designed to generate significant rents for each constituency influential in the process. Most fundamentally, the nature of rights in the "ether" was precisely understood; the regulatory approach adopted chose not to reject or ignore them but to maximize their rent values as dictated by rational self-interest.

This article is arranged as follows. First, the traditional interference rationale for licensing is outlined in Section I; this reasoning has served as the basis for important First Amendment law in the United States. Section II describes why this line of argument has been rejected by contemporary analysts of broadcast regulation, who have themselves set forth an "error theory" explaining the licensing and regulation of broadcasters. Sections III and IV explain the 1920s radio broadcasting market and the shock to that system in the 1926–27 "breakdown of the law" period. Section V details the 1926 *Oak Leaves* decision establishing private property rights to spectrum at common law. Sections VI, VII, and VIII discuss the legislative agendas of the major broadcasters, the regulators, and public interest advocates, respectively. Section IX interprets the Federal Radio Act of 1927 as an equilibrium solution for these competing interests, brought together by a rent-sharing arrangement created from the proceeds generated in the spectrum-assignment process. In concluding, Section X attempts to identify the source of analytical confusion as stemming from a focus on auctions, when vested rights in the ether were

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Case for a Fourth Commercial Network, 12 Public Policy 513–36 (1974); Bruce M. Owen, Economics and Freedom of Expression (1975); Harry J. Levin, Fact and Fancy in Television Regulation (1980). The protectionist policy (for incumbent broadcasters) against cable entry is detailed in Stanley M. Besen, The Economics of the Cable TV "Consensus," 17 J. Law & Econ. 39–51 (1974); Glenn O. Robinson, The Federal Communications Commission: An Essay on Regulatory Watchdogs, 64 U. Va. L. Rev. 169–262 (1978); Stanley M. Besen & Robert W. Crandall, The Deregulation of Cable Television, 44 L. & Contemp. Probs. 77–124 (1981); Thomas W. Hazlett, Cabling America: Economic Forces in a Political World, in Freedom in Broadcasting 208–23 (C. Veljanovski ed. 1989).

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TABLE 1

ESTIMATED "LOST RENTS" FROM ZERO-PRICED TELEVISION SPECTRUM ALLOCATION (1975)

	No. of Stations	1975 License Rents (December 1985 $)	Capital Value of Rents (1985 $) at 5 Percent (Real Discount Rate + Risk Premium)
VHF	492	846,731,500	16,934,630,000
UHF	177	11,170,000	223,400,000

SOURCE.—Harry J. Levin, Fact and Fancy in Television Regulation (1980), at 114–15; and Economic Report of the President (1987), at 315.

quickly established de jure and de facto, thus biasing all future rent distribution schemes.

I. THE INTERFERENCE RATIONALE FOR LICENSING

The first U.S. spectrum policy was to seize the entire band for government use: the Navy took it for military communication.[4] But private users demanded access for purposes of radio telegraphy, and were successful in persuading Congress to direct the secretary of commerce to license private radio operators in the Radio Act of 1912. The federal government was asserting ownership of the electromagnetic resource, but in a rather peculiar way: the secretary took no payment and issued no exclusive frequency rights. "Licensing" was but a zero-priced club admission to unlimited use of the band.

The electromagnetic spectrum was, fortunately, an abundant resource; these initial transmissions occurred on point-to-point bases, and congestion was not an issue. That changed soon after radio broadcasting became viable in 1920–21 (see Table 1). Hundreds of commercial stations began emitting into "the ether," bringing the zero-cost band to an end. The prevailing "ownership" rule became increasingly bizarre, a fact which was only to become evident in a federal court case in 1926 and a subsequent opinion of the U.S. attorney general shortly thereafter. These revealed that the secretary of commerce was legally unable to enforce frequency exclusivity; many radio stations roamed the spectrum at will, crossing into desired areas and frequencies without constraint. The market degenerated into "chaos," as the Supreme Court would observe in

[4] This was not a unique political response. In China, the northern warlords monopolized all radio communications in the 1912–27 epoch as "[t]hey considered radio to be military equipment" (Zhenzhi Guo, A Chronicle of Private Radio in Shanghai, 30 J. of Broadcasting & Elec. Media 379–92 (1986)).

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NBC[5] and *Red Lion*[6]—but a chaos mandated precisely by the fact that there was little private in this "private sector."[7]

With the creation of the Federal Radio Commission on February 23, 1927, the government began to behave more like an actual owner. The commission was empowered to allocate exclusive, enforceable broadcasting rights; in this straightforward manner the interference problem was solved. But in an interesting twist, the commission chose to assign rights only on a short-term lease basis, according to the broadcaster's furtherance of "the public interest, convenience or necessity" (the phrase appears in sections 4, 9, 11, and 21 of the Radio Act of 1927). The government would retain ownership of the spectrum on the premise that frequencies were inalienable public property. Despite remarkable economic and technological changes in the intervening six decades, the current regulatory regime in broadcasting is essentially that created in the Federal Radio Act of 1927.

To subsequent analysts, the most curious aspect of this contractual setting was the failure of the U.S. government to set a monetary price for the rental use of the airwaves. Broadcasters were to compete vigorously for radio (and later television) broadcast frequencies, yet the competitors have not been allowed to bid in cash at the "auction." (Instead, the Federal Communications Commission has historically elected to hold "comparative hearings" to select between competing license applicants based on various criteria deemed important to the "public interest.") While licensees are empowered to use a scarce "public" resource, much as buyers of public lands, drillers for federally owned oil, miners of government-held mineral deposits, or purchasers of Army surplus, the public treasury fails to reap the rents associated with spectrum allocations. The trading of radio and television stations in the United States has allowed economists to estimate that taxpayers are sacrificing nearly $1 billion annually by pricing band use at zero (see Table 1), without even counting nonbroadcast uses of the spectrum.

The ironic nature of this "nonmarket" policy regime was articulated by the late Ithiel de Sola Pool.

> In fact, however, there is a market in spectrum. It is a market in tangible things because what is bought and sold is broadcasting stations. The government initially

[5] National Broadcasting Co., Inc., v. United States, 319 U.S. 190 (1943).

[6] Red Lion Broadcasting Co., Inc. v. Federal Communications Commission, 395 U.S. 367 (1969).

[7] See Ronald Coase, The Federal Communications Commission, 2 J. Law & Econ. 1–40 (1959); Jora Minasian, The Political Economy of Broadcasting in the 1920s, 12 J. Law & Econ. 391–403 (1969).

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gives away licenses for free; these are then sold in a second hand market. What is excluded from market allocation is only the initial grant of a frequency by the government to its first "owner." . . . Under existing practice the original licensees make a windfall profit by selling the license to someone else. . . . If the market mechanism created for broadcasting had been pushed one level further back and the government had offered spectrum rights for lease or sale at a price reflecting market value, any windfall would have gone to the public, not to politically favored individuals.[8]

The essential question, then, is: Why does the FCC not simply divvy up the electromagnetic spectrum into noninterfering "parcels" and auction them to highest dollar bidders? This has been advocated repeatedly since at least the early 1950s,[9] could be easily accomplished technically,[10] and has been suggested as a politically advantageous solution to spectrum scarcity in that it captures for the public treasury any available rents associated with band use. As Congressman Henry Reuss noted in 1958, in defense of his (unsuccessful) bill to require certain applicants to bid dollars for spectrum space: "The airwaves are public domain, and under such circumstances a decision should be made in favor of the taxpayers, just as it is when the government takes bids for the logging franchise on public timberland."[11]

II. The Existing Economic Interpretation

Economists,[12] political scientists,[13] and lawyers[14] generally agree that the interference rationale for licensure in "the public interest" is nonsens-

[8] Pool, *supra* note 1, at 139–140. Of course the right to transfer a license is a limited one; the FCC must approve sales and can deny license renewal. This implies that ownership rights are traded for prices lower than what would obtain under fee simple, all else equal.

[9] Leo Herzel, "Public Interest" and the Market in Color Television Regulation, 18 U. Chi. L. Rev. 802–16 (1951).

[10] De Vany *et al.* describe a market for defining spectrum rights such that market bids would allocate competing uses of the band. This would promote social efficiency by driving marginal values for each frequency toward equality. Without any innovation in the legal system, however, assignments now made in comparative hearings could be auctioned to initial assignees. While pure market allocation of this subset of the spectrum would not represent as large an efficiency savings as a full auctioning of rights (its primary cost savings would be to eliminate significant rent-seeking activities), it is very useful to consider as a policy alternative because it abstracts from any real or imagined difficulties in trading private frequency rights across uses. See Arthur S. DeVany, Ross D. Eckert, Charles J. Mayers, Donald J. O'Hara, and Richard C. Scott, A Property System for Market Allocation in the Electromagnetic System: A Legal-Economic Engineering Study, 21 Stan. L. Rev. 1499–1561 (1969).

[11] Cited in Coase, *supra* note 7.

[12] See Herzel, *supra* note 9; Coase, *supra* note 7; Minasian, *supra* note 7; Bruce M. Owen, Differing Media, Differing Treatment? in Free but Regulated: Conflicting Traditions in

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ical.[15] The interference problem is widely recognized as one of defining separate frequency "properties"; it is logically unconnected to the issue of who is to harvest those frequencies. To confuse the *definition* of spectrum rights with the *assignment* of spectrum rights is to believe that, to keep intruders out of (private) backyards, the government must own (or allocate) all the houses. It is a public policy non sequitur, as has recently been noted in an important District of Columbia circuit opinion.[16]

Indeed, even when the government assumes legal ownership of property, a renegade broadcaster could still interrupt an assigned frequency. The interference problem is solved by allowing the assigned user (that is, the effective owner) the right to punish such interloping. And that comes by virtue of his title to the frequency right, which could be awarded by lottery or sold on the open market just as easily as it is assigned by federal comparative hearings to a particular broadcaster on the grounds of "public interest, convenience, or necessity."[17]

The standard economic interpretation, then, has been based on what I shall call the "error theory" of federal licensing. It holds that government

Media Law 35–51 (Daniel L. Brenner & William L. Rivers eds. 1982) and Matthew Spitzer, Controlling the Content of Print and Broadcast, 58 S. Cal. L. Rev. 1349–1405 (1985).

[13] See Pool, *supra* note 1; and Edwin Diamond and Norman Sandler, The FCC and the Deregulation of Telecommunications Technology, in Telecommunications in Crisis 3–56 (1983).

[14] See Mark S. Fowler and Daniel L. Brenner, A Marketplace Approach to Broadcast Regulation, 60 Tex. L. Rev. 207–57 (1982); Lawrence H. Winer, The Signal Cable Sends, Part I: Why Can't Cable Be More Like Broadcasting? 46 Md. L. Rev. 212–83 (1987).

[15] The interference rationale for regulation is based on the common pool problem with spectrum since without rights definition the resource tends to be squandered. The act of rights definition is one of entry barriers, in the sense of excluding nonowners from the use of resources. This act of property enforcement to eliminate the interference problem has given birth (in *NBC* and *Red Lion*) to the notion of "physical scarcity" of the airwaves, thus placing government regulation in a unique light. It is the interference problem, then, that motivates the "physical scarcity" rationale for government licensing and regulation; hence, the two notions tend to be employed interchangeably. By whatever name, this doctrine has lost credibility in the contemporary legal literature. "The 'scarcity' rationale for treating broadcasting differently from other media of mass communications for purposes of substantive regulation has worn so thin that continuing to refute it would be gratuitous." Daniel L. Polsby, Candidate Access to the Air: The Uncertain Future of Broadcaster Discretion, 8 Sup. Ct. Rev. 223–62 (1981).

[16] Telecommunications Research Action Center and Media Access Project v. Federal Communications Commission, 801 F. 2d 517 (D.C. Cir. 1986).

[17] More easily, in fact. Comparative hearings consume large agency resources. Indeed, the FCC has, in recent years, pleaded for increased authority to assign frequency rights by lottery or auction primarily due to agency funding constraints. See Evan Kwerel & Alex D. Felker, Using Auctions to Select FCC Licensees (working paper, Office of Policy and Plans, FCC May 1985). The Congress has allowed the FCC to assign cellular phone spectrum rights by lottery in recent years but refuses to allow FCC auctions (or license fees).

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frequency assignment, while logically uncompelling as a solution to the common property problem in spectrum allocation sans property rights, was a logical—if naive—response to a series of regulatory events that occurred in the early days of commercial radio broadcasting. This economic analysis was crafted largely in response to the "chaos theory" of the Supreme Court. "[B]efore 1927, the allocation [of radio broadcast] frequencies was left entirely to the private sector, and the result was chaos."[18] Ronald Coase, in his important 1959 article in this journal,[19] corrected this analysis by pointing out that chaos was not a product of the private sector, but the predictable consequence of ill-defined property rights.

At this stage, however, both sides of the debate accepted the two-stage (pre-1927, post-1927) analysis. The actual history of the marketplace turned out to be further truncated, though, as revealed by Jora Minasian.[20] Employing the basic property-rights approach developed by Coase, Minasian has established the current stylized history of the rights-assignment institution in broadcast spectrum, focusing on four distinct policy eras.

1920–23.—Radio broadcasting began in the United States in November 1920,[21] and developed very rapidly. By the end of 1922, there existed 576 broadcast stations (see Table 2). Each had received a federal license (zero priced) from the secretary of commerce, empowered to issue such by the Radio Act of 1912 (which, obviously, predated broadcasting and was designed for radio telegraphy). As excess demand for zero-priced broadcasting rights developed, Secretary Herbert Hoover (an engineer by training, and an enthusiastic booster of the emerging radio industry) pointedly withheld additional licenses on the grounds that interference would otherwise result. In a 1923 federal court case,[22] however, it was determined

[18] *Red Lion, supra* note 6, at 380. This reasoning piggybacked on Felix Frankfurter's 1943 *NBC* decision (*supra* note 5, at 212–13).

[19] So important analytically, in fact, that it led directly to the "discovery" of the Coase Theorem. George J. Stigler, Memoirs of an Unregulated Economist 75 (1988).

[20] Minasian *supra* note 7.

[21] Early voice broadcasting experiments ("radio telephony") had begun as early as 1908, and a San Jose, California, transmitter had broadcast phonograph music to receivers in San Francisco on an experimental basis in 1915 (Glenn A. Johnson, Secretary of Commerce Herbert C. Hoover: The First Regulator of American Broadcasting, 1921–28, 40–45 (unpublished Ph. D. dissertation, Univ. Iowa 1970)). But the first regularly scheduled and ongoing (to this day) broadcasts began on KDKA in Pittsburgh, November 2, 1920—announcing election returns in the Harding-Cox race (Gleason L. Archer, History of Radio to 1926, at 201–4 (1938). The station was owned by Westinghouse and began service in order to increase demand for radio receiving equipment.

[22] Hoover v. Intercity Radio Co., 286 Fed. 1003 (App. D.C. 1923).

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TABLE 2

EARLY RADIO STATION DEVELOPMENT

Year	New Stations	Deletions	Increase	Decrease	Total
1921:					
September	3	...	3	...	3
October	1	...	1	...	4
November	1	...	1	...	5
December	23	...	23	...	28
1922:					
January	8	...	8	...	36
February	24	...	24	...	60
March	77	...	77	...	137
April	76	...	76	...	213
May	97	...	97	...	310
June	72	...	72	...	382
July	76	...	76	...	458
August	50	...	50	...	508
September	39	23	16	...	524
October	46	22	24	...	548
November	46	29	17	...	565
December	31	20	11	...	576
1923:					
January	28	34	...	6	570
February	24	13	11	...	581
March	30	29	1	...	582
April	21	14	7	...	589
May	27	25	2	...	591
June	32	50	...	18	573
July	19	25	...	6	567
August	7	11	...	4	563
September	15	16	...	1	562
October	22	14	8	...	570
November	12	33	...	21	549
December	12	34	...	22	527
1924:					
January	27	20	7	...	534
February	21	7	14	...	548
March	32	11	21	...	569
April	27	19	8	...	577
May	23	11	12	...	589
June	27	81	...	54	535
July	22	13	9	...	544
August	7	18	...	11	533

SOURCE.—Hiram L. Jome, Economics of the Radio Industry (1925), at 70.

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that the secretary had no legal authority to withhold a license, on the grounds that Congress had not given him any standard on which to select among competing applicants. The Court, however, allowed the secretary to select times and wavelengths so as to minimize interference.

1923–26.—The secretary continued, in practice, to ration scarce broadcasting licenses by selecting frequency, location, and wavelength assignments, and even by refusing (in defiance of the *Intercity* verdict) to process a continuing stream of broadcast license applicants. This allowed property rights questions to be solved at low cost, and the industry progressed smoothly until another unfavorable court decision for the Commerce Department. In April 1926, in *United States v. Zenith Radio Corp.*,[23] the Hoover licensing method was again found without force of law, and this time the court explicitly denied the department discretion over time and wavelength assignment, as well as over license issuance generally. Rather than appeal, Hoover turned to William Donovan, acting attorney general of the United States, for an interpretation of the law. Donovan sided with the *Zenith* decision (and against *Intercity*) in his July 8 opinion and declared the federal government without authority to define rights to spectrum.

July 8, 1926–February 22, 1927.—Faced with open entry into a scarce resource pool, a classic "tragedy of the commons" ensued. Stations had to be licensed by the secretary of commerce; once licensed, they were free to roam the dial, select their own transmitting location, choose their desired amplification level, and set their own hours. A breakdown of the rights allocation scheme resulted in a predictable (in theoretical hindsight) chaos; the *Red Lion* opinion's "cacophony of competing voices."[24]

February 23, 1927–present.—Given the anarchy of the airwaves, Congress finally sought to establish a system of excludable property rights in the electromagnetic spectrum by passing the Federal Radio Act. Yet it made a fatal analytical mistake: it confused the "chaos of the ether" with a private enterprise policy regime and solved the interference externality problem with an overdose of federal intervention—licensing by a "public interest" standard as determined by the Federal Radio Commission (born in the act, signed into law February 23, 1927). While simply defining and not assigning rights would have dealt with the externality problem in broadcasting (or assigning rights without prejudice, as in an auction or a lottery), Congress mistakenly squeezed two distinct activities into one.

The entrusting to federal regulators of power over the life and death of

[23] United States v. Zenith Radio Corp., 12 F. 2d 614 (N.D. Ill. 1926).

[24] *Supra* note 6, at 380.

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American broadcasters slipped through Congress and remains public policy today, due to a fundamental misunderstanding. "It is difficult to avoid the conclusion that the widespread opposition to the use of the pricing system for the allocation of frequencies can be explained only by the fact that the possibility of using it has never been seriously faced."[25] And, in some detail, Minasian outlines this historical episode when chaos erupted and was ended:

> Neither a regulatory agency existed that had control over the use of radio frequencies, nor was there a private property exchange system in operation. Indeed, the latter by definition cannot exist where there are no private rights to be exchanged. . . . Yet, the chaotic conditions have served as the basis for choosing a system of central control over the use of radio frequency spectrum. Aside from the incorrect assessment of the problem, the radio frequency use provides us an opportunity to evaluate the outcome of governmental action in terms of the original goals for which solution was sought—the desire to control interference.[26]

This view now dominates the received wisdom on broadcast licensing. That understanding has been stated thus:

> The drafters of the Radio Act [1927] and the Communications Act [1934] probably never considered creating a property rights mechanism; indeed, had they thought about it, they would have assumed its impossibility. As late as 1958, CBS President Frank Stanton, the acknowledged intellectual of the industry, stated that he had never considered an auction system for allocation of broadcast rights. Just a year later, Chicago's Ronald Coase demonstrated in a path-breaking article that just such a system not only would work but was also the typical way of allocating resources. In fact, despite the naive belief that allocation by government is the only sensible way of doing things, a private market in broadcast licenses now flourishes.[27]

[25] Coase, *supra* note 7, at 24.

[26] Minasian, *supra* note 7, at 403.

[27] Lucas A. Powe, Jr., American Broadcasting and the First Amendment 201 (1987). Further elucidations of the error theory may be found in De Vany *et al.*, *supra* note 10, at 1499–1500; Pool, *supra* note 1, as seen above; Owen, *supra* note 12, at 36–37, 43; Harry J. Levin, The Invisible Resource 111–12 (1971); John Fountain, The Economics of Radio Spectrum Management: A Survey of the Literature, New Zealand Dep't of Trade & Ind., at Executive Summary (1988); Bruce M. Owen *et al.*, Television Economics 139 (1974); David Bazelon, The First Amendment and the "New Media"—New Directions in Regulating Telecommunications, in Free but Regulated: Conflicting Traditions in Media Law 52 (Brenner & Rivers eds. 1982); Daniel L. Brenner, "Commentary," in Brenner & Rivers eds., 60–64, at 60; and Ida Walters, "Freedom for Communications," in Instead of Regulation 93–134, 97 (Poole ed. 1982). One must venture into the communications field to find assertions that a private rights-based answer could not solve the interference problem. Melody writes that "[r]ights to use the spectrum are not susceptible to legal enforcement as are private property rights" (William H. Melody, Radio Spectrum Allocation: Role of the Market, 70 Am. Econ. Rev. 393 (1980)). But this is analytically incorrect, as is demonstrated by the

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Under this interpretation of the policy solution to chaos in the ether postulated as a good-faith error, great confusion surrounded the technical problems of establishing rights to the airwaves, and the path mistakenly chosen led to inefficiency and antisocial economic transfers.[28] In economic terms, the error theory posits the solution to the common resource allocation problem as the only argument in policymakers' objective functions, with distribution questions so misunderstood as to be unanswerable in any reasonable way. Yet in building an explanation of broadcast regulation on the "absence of any serious attempt to establish by legislation a system of transferable property rights in the spectrum,"[29] the modern interpretation identifies not the error of the political marketplace in regulating broadcasters but its own examination of the evidence. The historical record makes it abundantly clear that the allocation problem in avoiding a "tragedy of the commons" in spectrum confused neither radio's first regulators nor its regulatees. Quite the contrary, the property rights regime chosen was selected primarily due to its distributional consequences.

III. A Market for the Ether

> One of our troubles in getting legislation [in 1923–26] was the very success of the voluntary system we had created. Members of the Congressional committees kept saying, "it is working well, so why bother?" A long period of delay ensued.[30]

The pricing mechanism was more than considered an allocation device in the early days of radio—it was, in effect. There existed a very lively

current (and hence easily observable) regulatory regime under which private rights to spectrum are today leased at a zero price to private broadcasters by the government. Such rights would not be fundamentally different in any technical sense if identical claims to spectrum were deeded over to private interests outright. A similar confusion is embodied in Dallas Smythe, Facing Facts about the Broadcasting Business, 20 U. Chi. L. Rev. 96–106 (1952). Both Professors Melody and Smythe are (were) in communications departments to which these faulty analyses appear to be confirmed. (Also note, however, that Hugh C. Donahue, of the Ohio State University journalism department, makes no such error. See Hugh C. Donahue, The Battle to Control Broadcast News (1989)).

[28] These transfers were ill advised on equity grounds (creating excess profits for the regulated industry) and led to dynamic inefficiencies, as the industry (reacting to the exogenous imposition of a regulatory scheme) then lobbied for protectionist barriers. Regulators were tempted to dictate wasteful cross-subsidies: Posner's "taxation by regulation" (Richard A. Posner, Taxation by Regulation, 2 Bell J. of Econ. & Mgt. Sci. 22–50 (1971)).

[29] Owen, *supra* note 12, at 36.

[30] Herbert C. Hoover, The Memoirs of Herbert Hoover: The Cabinet and the Presidency 1920–1933, at 142 (1952).

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market in broadcast properties, sold with frequency rights attached, early in the development of the industry (that is, pre-1927). For instance, in Senate testimony taken February 26–27, 1926, Senator Burton Wheeler engaged Judge Stephen Davis, solicitor general of the Commerce Department and the preeminent government expert on radio policy, in the following exchange concerning trafficking in broadcast licenses, with Senator Howell interrupting:

SENATOR WHEELER: I want to get that clear. Supposing I have a wave length and sell it to you, I do not sell you my permit. They have got to come to the department and get their permit or else the permit is not any good to me.

SENATOR HOWELL: Yes; but the practice is to transfer that permit with the apparatus.

SENATOR WHEELER: Of course, they are not bound to do that.

SENATOR HOWELL: No; they are not bound to, but that is the practice. . . .

MR. DAVIS: The practical situation is as the Senator says—the wave lengths to-day are taken and used and occupied. . . . The Senator is correct in saying that we have, as I said before the committee the other day, recognized transfers of that sort. In other words, we recognize the purchaser as stepping into the shoes of the licensee.[31]

Station licenses were known to be scarce, were commonly taken to confer exclusive rights, and were traded freely, often at prices reflecting considerable rents. Indeed, as the spectrum policy problem of this era (1923–26) was that the secretary of commerce had been ordered to issue licenses to all comers, the secretary still relied on market transactions to minimize broadcasting disruptions, à la the Coase Theorem. On January 8, 1926, Judge Davis answered Senator Smith:

SENATOR SMITH: Now, in those licenses, do you give the total control of that wave length to the licensee? . . . For instance, if I had a license to use a certain wave length, could I sublet it to others to use it for such time as I, or whoever had the principle use of it, might not be using it?

MR. DAVIS: That situation is worked out somewhat similar to this, Senator. For instance, take the situation here in Washington. We have two stations, WRC and WCAP. Both operate on a single wave length. In other words, we assign one wave length to both of those stations. Then, Senator, they for themselves work out their time division.

SENATOR SMITH: Yes; that is what I meant.

MR. DAVIS: In other words, we do not say to one, "You go until 12 o'clock to-night. . . ." But they get together and work out the time on this

[31] Radio Control, Hearings before the Committee on Interstate Commerce, United States Senate, Sixty-Ninth Congress, First Session 118–19 (1926).

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wave length, the fact being that they do not both go on the same wave length at the same time.

SENATOR WHEELER: Then suppose they do not agree, what do you do?

MR. DAVIS: We would have authority to enforce such a time division.

SENATOR WHEELER: How?

MR. DAVIS: Because, instead of giving—if it ever became necessary to do it, instead of giving full time to each of them, we would give them licenses which would allow them to operate only at certain limited times. That situation, however, has not arisen. In other words, the stations which are operating on one wave length have been able to get together and agree among themselves. And, obviously, that is what the department wanted them to do, rather than itself to attempt to dictate the times for operation. So that plan has worked out fairly.[32]

Not only do these passages indicate the philosophical disposition of the Commerce Department, more importantly, they illustrate that the price mechanism was the institutional tool used to allocate frequencies in the 1920s, it was understood by the regulators (who then explained it to the legislators) to be such, and it was accepted as socially efficient. Trades of spectrum rights were commonplace; the market was robust (indeed, the Washington radio band discussed above by Stephen Davis ended in Coasian optimality as WRC bought WCAP's air time).[33] It is clear that such chaos as potentially could exist was explicitly remedied by federal establishment of property rights, followed by market trading to assign such rights to their highest valued employments.

Property rights were no mystery in this market, nor, significantly, was the inherent conflict between market allocations and political discretion. Beginning in September 1921, when the Commerce Department first recognized radio broadcasting as a distinct license category, the department initially allowed just a single frequency (360 meters, or 833.3 kHz) to be used for broadcasting, necessitating complicated time-sharing arrangements. (What interference took place during this 1921–23 period was, in essence, an outcome of government control: over 500 broadcasters were ''responsibly'' bunching up all at the same point on the spectrum to which they had been directed by the Commerce Department, and operations were not always perfectly synchronized.) When this single channel became scarce, Hoover denied new licenses. The *Intercity* decision in February 1923, growing out of just such a denial, determined that the secretary had no authority to withhold a license but did have the legal right to set hours of operation and frequencies.

[32] *Id.* at 16.

[33] Erik Barnouw, A Tower in Babel 185–86 (1966).

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The department quickly responded in the radio reallocation of 1923 by enlarging the band to accommodate about 70 channels (using ten kilocycles separation). These were assigned to existing stations, with larger broadcasting interests (such as AT&T and RCA) being granted clearer channels (and, hence, higher wattage assignments). The licenses of stations that failed to broadcast regularly were, conversely, revoked.[34] As these wavelengths became scarce, however, Hoover resorted first to time-sharing (that is, rights splitting) and then to a deliberately slow response time on new license applications. Secretary Hoover agreed to the request from broadcasters that "no further licenses could be issued," as Erik Barnouw writes, which "produced a new phenomenon. Though a channel could not now be obtained by applying, it apparently could by purchase. A traffic in licenses quickly developed. The Department of Commerce, far from discouraging it, furthered it by a policy it adopted."[35] That policy, of course, was to recognize the frequency allocation as a tradeable commodity. "Thus via the market place, channels were still available."[36]

This prompted a political backlash, as spectrum rents were being capitalized by private owners and, hence, being sacrificed by Congress. Whereas the *Chicago Tribune* would (in 1924) purchase one of forty local radio outlets (and its broadcast license) for $50,000, the Chicago Federation of Labor (CFL) chose to apply to the Commerce Department for a zero-priced license. In January 1926, the Department responded that all available frequencies were allocated, and "[t]he Secretary of Commerce has no right under existing law to select the individuals who should exercise the broadcasting privilege."[37] Morris Ernst of the American Civil Liberties Union testified in Congress in 1926 that the market price faced by the CFL was a healthy $250,000,[38] noting, "A brisk trade . . . had already developed in licenses, which were sold for exorbitant sums."[39]

[34] Philip T. Rosen, The Modern Stentors: Radio Broadcasting and the Federal Government 1920–1934, at 72–73 (1980). Both policies were efficient in the sense that the more commerically successful broadcasters would have bid the most for such rights (indeed, they were often doing just that) and awarding such rights to likely end users constituted a transactions cost minimizing allocation. See Harold Demsetz, When Does the Role of Liability Matter? 1 J. of Legal Stud. 13–28 (1972).

[35] Barnouw, *supra* note 33, at 174.

[36] *Id.*

[37] *Id.* at 175.

[38] Apparently the largest such sale was in September 1926, when the highly successful radio station WEAF in New York City was sold by AT&T to RCA for $1 million, of which $200,000 was allocated to physical capital and $800,000 for its favorable clear channel frequency right. Barnouw, *supra* note 33, at 185–86.

[39] As Ernst's testimony was summarized by Pool, *supra* note 1, at 122.

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Political outrage quickly followed. "Senator James Couzens of Michigan expressed shock over the situation. . . . The Commerce Department policy seemed to Senator Couzens to invite a private auctioning of channels to the highest bidders. 'Anyone that buys the apparatus controls the situation.' "[40] Both Senator Couzens's understanding, and his "shock," are key pieces of evidence in evaluating the error theory. It was the distribution of rights, not their socially inefficient lack of definition, that was driving the demand for legislative action.

IV. The "Breakdown of the Law"

The extent to which the businessmen, lawyers, and policymakers of the era understood that establishment of property rights in spectrum constituted the necessary and sufficient condition for the efficient functioning of the pricing system[41] is revealed by the anticipation of, and reaction to, the seminal policy regime switch embodied in *Zenith*. Hoover had been assigning frequencies on a "first-come–first-served" (or "priority-in-use") basis, either withholding licenses to latecomers or issuing them only on a time-sharing arrangement, and he was openly enforcing license transfer via sales of stations. As this was the case, the great calm prevailing in broadcasting prior to the *Zenith* decision (and the confirming opinion of the attorney general) was abundant proof that no "public interest" licensing standard was necessary to eliminate the externality problem. That the sole solution to interference lay in enforceable, excludable rights was a commonplace; Hoover was commended enthusiastically (indeed, fawningly) by the broadcast industry for enabling a smoothly functioning market, despite imposing no more than a noninterference rule for license issuance. It was not until the Radio Act of 1927 that any public interest standard was adopted, yet the market was thought to have worked well until July 8, 1926.

In fact, the federal court's overruling of Secretary Hoover's rights-definition rule, not the "free market," was then universally credited with creating anarchy in radio broadcasting. A typical press report explained the property rights dilemma rather succinctly, if colorfully, in December 1926:

> Until last July, order was maintained on the broadcasting highways by the Department of Commerce, which assigned a channel to each station on which it could

[40] Barnouw, *supra* note 33, at 175.

[41] Further allocational efficiences could, of course, be gained from allowing market trades between uses (as in selling marine band for radio broadcasting, for example). The question of global spectrum efficiency, while interesting (see De Vany *et al.*, *supra* note 10; Levin, *supra* note 3; Owen, *supra* note 12) is not the primary focus of this article, which concerns itself largely with the assignment of rights *within* the broadcasting band.

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operate without bumping its neighbors. After the wave lengths were all assigned, the Department refused to create confusion by licensing more stations. Then court decisions and Attorney General's opinions denied the right of the Department to regulate in any respect, and threw open the radio door to everyone who wished to enter. The air was declared free—that is, free to the broadcasters; but it is not free to the listening public, who now have no liberty of choice in radio reception. They may be able to get a desired station, but they receive its programs only to the tune of disturbing squeals, whistles, or jumbled words from some unwelcome intruder. For as soon as the bars went down, the expected occurred. Since July, some seventy-five new stations have pushed their way into the crowded lanes, and a like number have added to the jumble by shifting wave lengths, all jostling each other and treading on the toes of the first comers, who, from the height of their respectability, style the intruders "pirates" and "wave jumpers." The disturbed public uses still stronger appellations.[42]

So widespread was this understanding of the allocational importance of private property rights without a public interest award standard that a *Yale Law Journal* article of 1929 wrote plainly that, "in 1926, after a second adverse decision to the effect that the Secretary of Commerce had no power under the Act of 1912 to restrict the time of operation or frequency of any station, there came a period of unregulated confusion generally known as 'the breakdown of the law.' "[43] Similarly, Frank Rowley noted that "Until April, 1926, the situation was fairly well in hand. There was some interference, due to the surplus of stations over the number of available channels, but in almost every case, station owners showed a willingness to cooperate in making beneficial adjustments. In April, however, the comparative security of the broadcasting situation was disturbed by a decision in the Federal District Court for Northern Illinois in the case of *United States v. Zenith Radio Corporation*."[44]

V. An Innocent Solution Preempted

As interference plagued much of the broadcast spectrum during the "breakdown" period, an end to radio interference was being crafted not only in Washington but also in the courts. If the common resource problem was clearly identified by contemporary analysts, so was its solution: "establishing legally the priority to an established wave length," as *Radio Broadcast* magazine then put it.[45] In the fall of 1926, a simple and compelling state court decision did just that.

[42] The Survival of the Loudest, Independent 623 (December 11, 1926).

[43] Federal Control of Radio Broadcasting, 29 Yale L. J. 247, footnote omitted (1929).

[44] Frank S. Rowley, Problems on the Law of Radio Communication, 1 U. Cin. L. Rev. 5, footnote omitted (1927). This explanation became official doctrine in the Federal Radio Commission's first annual report. See Federal Radio Commission, Annual Report 10 (1927).

[45] The Courts Aid in the Radio Tangle, Radio Broadcast 358 (February 1927).

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In *Tribune Co. v. Oak Leaves Broadcasting Station,*[46] the classic interference problem was encountered, litigated, and overcome, using no more than existing common-law precedent. In the matter, radio station WGN was owned by the *Chicago Daily Tribune* (hence, "World's Greatest Newspaper") and had broadcast popular shows for some time in order to sell its newspapers; the evening's programming was listed in each day's edition.

Radio station WGN built up a good following broadcasting at 990 kilocycles. In September of 1926, that is, during the "breakdown of the law," another Chicago broadcaster moved to an adjacent wavelength, causing WGN to file a complaint in state court alleging that it was necessary to maintain at least a fifty-kilocycle separation on stations located within 100 miles of each other. The "wave jumper" was thus accused of injuring the plaintiff's lawfully acquired business property, consisting of the capitalized "good will" associated with its established broadcasting frequency.

It is interesting that the defendant did not get far in contesting the premise of the suit—that willful interference with WGN's broadcasts would constitute a tort.[47] Instead, it argued that 40 kilocycles was sufficient band width separation to prevent most interference, and what static remained was the product of listeners' substandard receiving equipment. Most pointedly, they did not argue that licensing was necessary to prevent interference which, it appears, would have been a nakedly spurious argument given the straightforward manner in which excludable rights to spectrum space were then understood.

Chancellor Francis S. Wilson decided the case wholly within the spirit of a property rights solution to a common resource problem. His landmark decision, the first to deal with vested private rights in "the ether," noted that the facts "disclose a situation new and novel in a court of equity"[48] but was still able to uncover substantial precedent. The decision found that "unless some regulatory measures are provided for by Congress or rights recognized by State courts, the situation will result in chaos and a great detriment to the advancement of an industry which is only in its infancy."[49] It went on to analogize the right in broadcast frequencies to other long-protected propertied interests.

[46] This 1926 Cook County, Illinois, Circuit Court decision is reprinted in Cong. Rec.–Senate 215–19 (December 10, 1926).

[47] The defendants did, in typical fashion, object to the suit on jurisdictional grounds, claiming that the federal Radio Act of 1912 preempted any state court authority and "that a wave length can not be made the subject of private control" (*Oak Leaves, supra* note 45, at 217).

[48] *Id.*

[49] *Id.* at 219.

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While it is true that the case in question is novel in its newness, the situation is not devoid, however, of legal equitable support. The same answer [that no rights in air space exist] might be made, as was made in the beginning, that there was no property right, or could be, in a name or sign, but there has developed a long line of cases, both in the Federal and State courts, which has recognized under the law known as the law of unfair competition, the right to obtain . . . a property right therein, provided that by reason of their use, he has succeeded in building up a business and creating a good will which has become known to the public and to the trade and which has served as a designation of some particular output so that it has become generally recognized as the property of such person.[50]

Using the further analogy of riparian rights, it concluded "that a court of equity is compelled to recognize rights which have been acquired by reason of the outlay and expenditure of money and the investment of time. . . . We are of the further opinion that, under the circumstances in this case, priority of time creates a superiority in right. . . ."[51] Judge Wilson then issued an admonition to the respondents, pending a final hearing, for the "pirate" broadcaster to keep a distance of at least fifty kilocycles from the established WGN frequency. Owing to his fundamental understanding of radio law and the crucial nature of *Oak Leaves* to the policy outcome, I quote the magistrate's findings at length.

[S]o far as broadcasting stations are concerned, there has almost grown up a custom which recognizes the rights of the various broadcasters, particularly in that certain broadcasters use certain hours of the day, while the other broadcasters remain silent during that particular period of time. Again, in this particular locality, a certain night is set aside as silent night, when all local broadcasters cease broadcasting in order that radio receivers may be able to tune in on outside distant stations.

Wave lengths have been bought and sold and broadcasting stations have changed hands for a consideration. Broadcasting stations have contracted with each other so as to broadcast without conflicting and in this manner be able to present their different programs to the waiting public. The public itself has become educated to the use of its receiving sets so as to be able to obtain certain particular items of news, speeches, or programs over its own particular sets.

The theory of the bill in this case is based upon the proposition that by usage of a particular wave length for a considerable length of time and by reason of the expenditure of a considerable amount of money in developing its broadcasting station and by usage of a particular wave length educating the public to know that that particular wave length is the wave length of the complainant and by furnishing programs which have been attractive and thereby cause a great number of people to listen in to their particular programs that the said complainant has created and carved out for itself a particular right or easement in and to the use of said wave length which should be recognized in a court of equity and that outsiders should

[50] *Id.*
[51] *Id.*

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not be allowed thereafter, except for good cause shown, to deprive them of that right and to make use of a field which had been built up by the complainant at a considerable cost in money and a considerable time in pioneering.[52]

It was on this homesteading principle that the judge found a common-law remedy to the potential "tragedy of the commons." Relying on established law, without resort to any "public interest" or other political selection criterion, the opinion granted a priority-in-use property-rights rule the force of law in radio broadcasting.[53] Private rights in the ether under common law were immediately recognized as a solution to the interference problem. As an injunction had been issued to restrain the Chicago interloper on October 9, 1926, and the "Decision of Judge Wilson on Defendants' Motion to Dissolve Temporary Injunction" was issued November 17, the radio industry applauded instantly. *Radio Broadcast* noted in its February, 1927, issue that the case was key in "establishing legally the priority to an established wavelength," and concluded that "it establishes a most acceptable precedent."[54] Other stations beleaguered by spectrum trespassers quickly moved to file similar claims in state courts. And legal experts were soon to comment, citing *Oak Leaves*, "The claim to 'Property Rights' may be either in the use of the physical apparatus or in the right to freedom from interference by subsequently established stations. . . . Indeed, unless one adopts the suggestion of 'the government ownership of the ether,' an admission of property rights seems inevitable."[55] (A clue as to the motivation of the 1927 Radio Act to which I shall return, is contained herein.)

It was clear that a system of excludable, transferable property rights in spectrum (1) was widely understood as necessary and desirable so as to efficiently solve the radio allocation problem and (2) could well be expected to come by way of common law, via the priority-in-use principle. A single trial court decision would in no definitive way answer the national property rights question, but the analysis—and its political implications—were clear.[56] This ignited legislative activity in Washington where,

[52] *Id.* at 217.

[53] What is most remarkable, perhaps, is that this common law precedent arrived at precisely the interference-separation rule adopted the following year by the Federal Radio Commission. "To improve radio reception in New York, Chicago, and other large cities, the Commission decided that a separation of 50 kilocycles is necessary between local stations. All allocations were made on that basis" (Federal Radio Commission, *supra* note 43, at 8).

[54] Radio Broadcast, *supra* note 45.

[55] Yale L. J., *supra* note 43, at 252–53.

[56] Stephen B. Davis, solicitor general of the Commerce Department, "contended that a ruling following up this decision in a higher court would protect businessmen against wavelength piracy" (Rosen, *supra* note 34, at 103 footnote omitted).

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since 1923, three separate bills to establish a politically discretionary licensing process had died after passage by one house (and dozens more had been introduced since 1921). In the interim, chaos had come to broadcasting—but the state courts were moving toward a solution at common law. The opportunity to construct a federal regulatory system would have to be seized quickly. In the winter of 1927, it was.

VI. The Agenda of the Radio Broadcasting Interests

Secretary of Commerce Herbert Hoover had been advocating broadcasting legislation since the early 1920s.[57] The legislation he advocated had always included a "public interest" standard in awarding franchises by federal authority. This was consistent with Hoover's belief that "we can surely agree that no one can raise a cry of deprivation of free speech if he is compelled to prove that there is something more than naked commercial selfishness in his purpose."[58]

Hoover sought radio legislation even as he conceded (boasted, actually) that the American broadcasting industry was progressing in dramatic fashion. In 1922, Hoover initiated a series of annual radio conferences, attended by major broadcasters and orchestrated by the Department of Commerce. By 1925, he was able to open the conference by remarking that they had "established principles upon which our country has led the world in the development of this service. . . . We have not only developed, in these conferences, traffic systems by which a vastly increasing number of messages are kept upon the air without destroying each other, but we have done much to establish the ethics of public service and the response of public confidence."[59]

Hoover was the political champion of major radio broadcasters.[60] In this 1925 conference, they outlined a policy agenda in which they advocated a "public interest" standard for licensing. Indeed, the newly formed National Association of Broadcasters presented their resolution (for the record, not for consideration) "that in any Congressional legisla-

[57] See, for example, Herbert C. Hoover, The Urgent need for Radio Legislation, 2 Radio Broadcast 211 (January 1923).

[58] Herbert C. Hoover, Opening Address, Fourth National Radio Conference Proceedings (1925), reprinted in Radio Control, *supra* note 31, at 50–68.

[59] *Id.* at 50.

[60] Hoover, however, was not entirely "captured" by industry interests, as will be seen below. He advanced both the incumbent broadcasters' agenda and a regulators' agenda—interests that most often intersected in Hoover's policy recommendations. He therefore played a large role in advancing either group's interests and will be discussed as multidimensional in the analysis herein.

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tion . . . the test of the broadcasting privilege be based upon the needs of the public. . . . The basis should be convenience and necessity, combined with fitness and ability to serve, and due consideration should be given to existing stations and the services which they have established."[61]

Moreover, the industry plainly saw Hoover as their man in Washington. After the 1924 Radio Conference, it was noted that "Almost everyone feels that Secretary Hoover has done an excellent job. And few groups feel that more strongly than the radio folk."[62] In 1925, the broadcasters went so far as to pass a resolution endorsing a blank check backing Hoover's regulatory efforts: "[T]he members of this conference express to the Secretary their appreciation of this opportunity for offering their suggestions and pledge their best efforts to help carry out the various provisions thereof . . . [and] the members assure him of their hearty approval and cooperation in any individual deviations from these provisions if, in his judgment, greater service may be rendered to the public thereby."[63]

It is apparent why the major broadcasters, unified behind Hoover, were agitating for federal regulation. In November 1925 (the date of the Radio Conference discussed above), the radio broadcast market was developing well, radio-set sales were brisk, programming was expanding, and interference from rival broadcasters was not an issue. What was at issue was the ability of the secretary of commerce to exclude new requests for spectrum space (that is, broadcasting licenses), as the *Intercity* case had cast a shadow over Hoover's discretion without a standard issued by Congress explicitly granting him such. The industry was fearful that new licenses would, in fact, be issued—if not voluntarily by Hoover, then mandated by the courts (as did happen with the *Zenith* decision in April 1926)—and, moreover, that spectrum rents would be further dissipated either through forced time-sharing agreements or by expansion of the available broadcasting spectrum, which had been done in the spectrum reallocations of 1923 and 1924. Indeed, the 1925 Radio Conference voted down a proposal to extend the radio band to include wavelengths between 1500 and 2000 kHz, thereby effectively increasing available frequencies by one-half.[64]

By imposing a standard whereby the secretary could exclude new licensees on the grounds of "public interest, convenience, or necessity," the desired federal imposition of property rights could be achieved constitu-

[61] Radio Control, *supra* note 31, at 59.

[62] What the Hoover Conference Did, Radio Broadcast 251 (December 1924).

[63] Radio Control, *supra* note 31, at 61.

[64] Rosen, *supra* note 34, at 80.

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tionally,[65] and this would allow possibilities for enhanced rents via restriction of band width as well. As a magazine summed up the conclusions of the 1925 Radio Conference, "Radio has done a wonderful job of regulating itself. But there should be a limit upon the total number of broadcasting stations, and this limit can be fixed and maintained only by Federal authority."[66] This legislative goal was doggedly pursued by the industry throughout the period, which is to say, both before, during, and after the "breakdown of the law."

That agenda focused on "the non-issuance of additional broadcasting licenses, the freedom from further division of time with other broadcasters, [and] the maintenance of the present distribution of frequency channels," as the 1925 Radio Conference's resolution cited above put it. In the months preceding the February 23, 1927, passage of the Radio Act, this strategy was quite clear, and its influence in shaping the Act was understood by informed observers both within and without the industry. As Morris Ernst wrote, "the proposed legislation contains phrases such as 'public utility,' 'public necessity,' and 'public interest,' but the operation of the bill is for private profit and for stabilization of investment."[67]

This agenda was artfully accomplished. When the Federal Radio Commission (FRC) was born out of the Federal Radio Act of 1927, it immediately grandfathered rights for major broadcasters, while eliminating marginal competitors and all new entry. Indeed, the FRC restored order out of chaos by ordering stations to "return to their [original Commerce Department] assignments,"[68] thus revealing much about the previous rights regime and the privatization of airwave properties achieved in "the public interest."

Still, the industry was most concerned about how the FRC would deal with "such dangerous propositions as the pressure to extend the broadcast band . . . ; the fatuous claims of the more recently licensed stations to a place in the ether; and the uneconomic proposals to split time on the air rather than eliminate excess stations wholesale . . . ," as one trade journal forthrightly summarized.[69] (The article went on to advocate the "principle of priority" in wavelength allocation, their self-interested conception of

[65] As explained in Louis G. Caldwell, The Standard of Public Interest, Convenience or Necessity as Used in the Radio Act of 1927, 1 Air Law Review 295–330 (1930). (Caldwell was formerly a general counsel of the Federal Radio Commission.)

[66] Ruling the Radio Waves, Outlook 463 (November 25, 1925).

[67] Morris Ernst, Who Shall Control the Air? 122 Nation 443, 444 (April 21, 1926). Notice, too, that Ernst's ACLU opposition to major broadcasters focused (correctly) on distributional issues, as the article's title makes plain.

[68] Rosen, *supra* note 34, at 125.

[69] Welcome to the Radio Commission, Radio Broadcast 555 (April 1927).

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"public interest," and advocated reducing the number of broadcasting stations by "about four hundred"—or over *one-half.*)

Radio men were quickly assured that the newly appointed commission was politically sensitive to their needs and aspirations. Only two months after its inception they could be relieved that the commissioners had acted wisely. "Broadening of the band was disposed of with a finality which leaves little hope for the revival of that pernicious proposition; division of time was frowned upon as uneconomical . . . the commissioners were convinced that less stations was the only answer."[70]

Indeed, the second agenda item[71] dealt with by the Federal Radio Commission (on April 5, 1927) concerned possible enlargement of the "Broadcasting Frequency Band." The commission decided not to widen the band beyond 550–1500 kc, "[i]n view of the manifest inconvenience to the listening public which would result."[72]

The decision not to expand the broadcast spectrum serves as yet additional evidence for rejection of both the "chaos" and "error" theories of broadcast licensing. If regulators had made a good-faith, even if analytically unsophisticated, attempt to deal straightforwardly with overcrowding of the airwaves, their first step should have been to allow for an expansion of available broadcasting frequencies. Indeed, the European countries had devoted a larger portion of the electromagnetic band to radio despite a far smaller number of stations, a fact that was not missed by American commentators. Moreover, in 1927, radio broadcasters were allotted just one megahertz (MHz) of spectrum, when twenty-three MHz were in use, having been apportioned in an international radio conference that year,[73] and at least 60,000 kHz were known to be potentially available given then current technology.[74]

The radio industry's argument against broadening the band was that it was anticonsumer: it would "require" listeners to purchase new sets in order to receive new signals. The analysis is transparently false when

[70] Stabilizing the Broadcast Situation, Radio Broadcast 79 (June 1927).

[71] The first item, on March 29, 1927, was a perfunctory matter dealing with license extension for certain point-to-point radio operators. So band width broadening was the first substantive broadcasting issue taken up.

[72] Federal Radio Commission, *supra* note 44, at 13.

[73] Levin, *supra* note 27, at 20–21.

[74] That international conference specifically set aside several higher-frequency bands for radio broadcasting, including 6,000–6,150 kHz, 9,500–9,600 kHz, 15,100–15,350 kHz, and 21,450–21,550 kHz. Federal Radio Commission, Annual Report 233–34 (1928). Radio waves are now known to occupy at least 100,000 MHz of the electromagnetic spectrum. Christopher H. Sterling and John M. Kittross, Stay Tuned: A Concise History of American Broadcasting 506 (1978).

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placed over the alternative: simple elimination of the marginal (interference-causing) broadcasters. Clearly, consumers would be better off having a choice between listening to an uncluttered one-MHz band on an existing radio and purchasing a broader-band receiver so as to enjoy enhanced program selection, than in being given only the first alternative. But that is precisely what was argued as a "proconsumer" response to "short-sighted would-be broadcasters and selfish set manufacturers."[75]

Similarly, time-sharing was viciously opposed by the industry for all the right (economically correct) reasons: it would dissipate rents of existing license holders. Their opposition had nothing whatever to do with any illusions concerning the relation between time-sharing and radio interference, or with poorer quality programming and productions. The Commerce Department had long assigned some licenses on a time-sharing basis, causing no great difficulty. As Rowley observed, stations commonly "by contract worked out a satisfactory and amicable schedule of hours."[76] (The one instance he cites in which a radio disagreement went to the courts concerned two nonprofit institutions, the Missouri State Marketing Commission and the Mormon Church.)[77] It was well known that efficient programmers would, if given a suboptimal level of air time, trade for the efficient allocation. A contemporary analyst noted that "the splitting of time on any one day being a disadvantage, the stations would tend to trade their time so as to minimize this difficulty."[78] This was alertly resisted by existing broadcasters, not missed due to ignorance.[79]

Given that the major radio stations wanted an end to time-sharing *and* a freezing of the spectrum at 550 kHz–1500 kHz, the question of expropriation arose: how could the band accommodate all those who had been broadcasting (many on shared frequencies)? The solution was to vest a trusted authority with discretionary authority, which could be legally upheld, in the licensing process. The "public interest, convenience or necessity" standard was chosen as the appropriate vehicle. It had been seen as such since 1922–23, when David Sarnoff, the young general manager of

[75] Radio Welcomes Government Control, Lit. Digest 21 (April 9, 1927).

[76] Rowley, *supra* note 44, at 22.

[77] Another dispute arose in the Cincinnati radio market in early 1925. Two stations were unable to reach agreement on a shared allocation and broadcast over one another's signal for weeks before Secretary Hoover settled the dispute. Barnouw, *supra* note 33, at 179.

[78] Carl Dreher, A New Plan to Regulate Radio Broadcasting, Radio Broadcast 59 (November 1926).

[79] As the above commentator, author of a column called "As the Broadcaster Sees it," saw it, "Half time on the air is worth much less than full-time." Carl Dreher, What Constitutes Fair Dealing in Radio Matters? Radio Broadcast 60 (May 1926).

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the Radio Corporation of America,[80] argued (as over 550 radio broadcasters were sharing *one* frequency) that "the elimination of interference is most important and I believe that the well-organized station, charged with responsibility of disseminating information, instruction, and entertainment to the masses, should enjoy the greatest protection which it is possible for the government to provide."[81]

This plan to edge out competition from smaller broadcasters, on the grounds that the latter rendered poorer service to the public, worked perfectly; in Secretary Hoover's April 1923 reallocation plan, the major stations received favorable assignments, while numerous nonprofit stations emerged with severely truncated frequency rights. As Barnouw concluded, "The reallocation seemed to reflect a value judgment in which educational and religious interests were low on the scale."[82] And in the official rights allocation under the Federal Radio Commission in 1927–28, the agency chose to employ the market success standard of public interest—in essence, a simulated auction, with awardees keeping rents.

> Since Congress had described the regulatory standard the bureaucrats should use in terms of public interest, convenience, and necessity, the FRC's first step toward establishing a national system involved defining these terms. Four radio conferences and seven years of control by the Department of Commerce had already begun the process. The commissioners agreed that the prevailing scarcity of channels required that those available be used economically, effectively, and as fully as possible. In practical terms, this meant that they favored the applicants with superior technical equipment, adequate financial resources, skilled personnel, and the ability to provide continuous service. According to this interpretation, established broadcasters with demonstrated ability best fulfilled the public interest standard. In most instances, priority and financial success guided the FRC in favoring one operator over another.[83]

When the dust had settled, the established broadcasters had gotten virtually all they could hope for from the new commission. As the *Harvard Business Review* was to comment in 1935, "[T]he point seems clear that the Federal Radio Commission has interpreted the concept of public

[80] Sarnoff was the quintessential advocate (and visionary) of broadcasting interests. He was the moving force behind RCA's radio sales, broadcasting interests, and creation of the National Broadcasting Company in 1926. He assumed the mantle of industry leadership very early in his, as well as in radio's, life. Eugene Lyons, David Sarnoff 117 (1966).

[81] David Sarnoff, Looking Ahead: The Papers of David Sarnoff 48 (1968). In a June 1922 letter he had posited the view that radio should "be distinctly regarded as a public service" (*id.* at 41).

[82] Barnouw, *supra* note 33, at 122.

[83] Rosen, *supra* note 34, at 133.

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interest so as to favor in actual practice one particular group. While talking in terms of the public interest, convenience, and necessity the commission actually chose to further the ends of the commercial broadcasters. They form the substantive content of public interest as interpreted by the Commission.''[84]

VII. The Agenda of the Regulators

Ironically, ''chaos'' was a necessary input to achieve this political result. It was clear that the ''breakdown of the law'' created the urgency Herbert Hoover had been unsuccessfully using as an argument for new legislation since at least 1922. He did not want to squander the moment (steadfastly forgoing the attempt at any enforcement of law) nor to promote some industry coordination post-*Zenith*; he appeared bent on using the confusing period as his contingency to obtain regulation. When Congress again failed in 1926 to enact any radio law, Hoover ''refused to regulate radio transmission by common consent, although nearly all the broadcasters urged it. This, as one United States Senator observed, 'seemed almost like an invitation to the broadcasters to do their worst.' Certainly, it tended to fulfill the Secretary's gloomy prophecy about chaos.''[85]

This inaction was not due to technical miscalculation: ''Secretary Hoover understood the critical nature of the *Zenith* case. He, like McDonald [the Chicago broadcaster/defendant who had forced the case by broadcasting on an unassigned wavelength], utilized the ruling to pressure Congress for action.''[86] Others, including Congressman Sol Bloom (D., N.Y.) and James C. Harboard, president of RCA, saw the situation in just the same light.[87] Chaos was strategically introduced into the political process, much in the spirit of the movement for municipal fire departments in the mid-nineteenth century, as described by Fred McChesney.[88]

By any nonstrategic standard, the regulatory reaction to market confusion was inexplicable. This lack of industry cooperation was grossly out of order for Hoover; state-corporate alliances were the hallmark of

[84] In Barnouw, *supra* note 33, at 219.

[85] Silas Bent, Radio Squatters, Independent 389 (October 2, 1926).

[86] Rosen, *supra* note 34, at 94.

[87] *Id.*

[88] Fred McChesney, Government Prohibitions on Volunteer Fire Fighting in Nineteenth Century America: A Property Rights Perspective, 15 J. of Legal Stud. 69–92 (1986). A general principle is that crisis tends to raise the demand for government controls, a hypothesis argued persuasively in Robert Higgs, Crisis and Leviathan (1987).

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Hooverism,[89] and 1926 marked the first year since 1921 that a Radio Conference had *not* been called by the Secretary of Commerce (this when "chaos" haunted the airwaves). Such industry conferences had been a "ritual" for Hoover.[90] The *New York Times* specifically implored the Secretary likewise to arrange some stopgap industry arrangement during the "breakdown" period.[91]

But Hoover had stated that "he would welcome a test case"[92] and saw his *Zenith* "defeat" and the ensuing confusion, which he had predicted,[93] as a predicate to achieving his policy agenda. That he surprised the broadcasting industry by not appealing the verdict in *Zenith* is consistent with this,[94] despite the fact that *Intercity* had earlier determined that Hoover did have authority to enforce time and wavelength exclusivity.

It was at this point that a visible schism appears to have developed between Hoover and major radio broadcast interests. With the *Oak Leaves* verdict giving frequency users the hope of outright endowments, vesting the federal government with a public interest licensing standard was suddenly less important (although constricting band width remained a key policy goal). Hoover noted, of "radio men," that "many . . . were insisting on a right of permanent preemption of the channels through the air as private property."[95] Hoover challenged this view directly, arguing that the key legal aspects of radio were, first, its "immense importance," and second, "the urgency of placing the new channels of communication under public control."[96]

Finally, radio legislation really was urgent. Officials at the Department of Commerce's radio division were reported to "welcome the [*Zenith*] decision . . . for the reason that it will force Congress to give Mr. Hoover or somebody else the authority to prevent such interference."[97] Momentum for legislation gathered among the public, who were "being forcibly convinced of the undesirability of increasing the number of broadcasting

[89] See Ray L. Wilber and Arthur M. Hyde, The Hoover Policies (1937); Robert B. Horowitz, The Irony of Regulatory Reform: The Deregulation of American Telecommunications 116 (1989).

[90] Rosen, *supra* note 34, at 74.

[91] *Id*. at 102.

[92] Barnouw, *supra* note 33, at 1980.

[93] *Id*. at 95.

[94] *Id*. at 189.

[95] Hoover, *supra* note 30, at 139–40.

[96] *Id*. at 139.

[97] Air Piracy and Chaos, Lit. Digest 13 (May 1, 1926).

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stations.''[98] But vested rights were respected in *Oak Leaves,* and ''wave jumpers'' could, apparently, be enjoined in state courts. The solution to interference presented a challenge to policymakers: how could effective federal regulation take place once private rights to broadcasting spectrum were assigned at common law?

The Congress responded to *Oak Leaves* instantly. After years of debate and delay on a radio law, both houses jumped to pass a December 1926 resolution stating that no private rights to the ether would be recognized as valid, mandating that broadcasters immediately sign waivers relinquishing all rights, and disclaiming any vested interests. The power to require such was the interstate commerce clause, but the motive was that Congress was nervous that spectrum allocation would soon be a matter of private law. As a law review article published during the three months between *Oak Leaves* and the Radio Act commented, ''The conclusion is unavoidable . . . that the license issued at present by the Department of Commerce amounts to nothing more than a perfunctory permission to broadcast. Therefore the issue of a second license to use a wave length already in use by a first licensee could have no effect on the permission of the first licensee to broadcast, the use or abuse of wave length being governed solely, at present, by common law principles.''[99]

Should those common-law principles apportion the spectrum to private users, the ''breakdown of the law'' would be remedied, but the federal government's ability to control or even influence broadcasting would vanish. Compromise legislation was quickly hammered together; a bill creating an independent five-member regulatory commission was passed by both houses, endorsed by Hoover, and signed by President Coolidge.[100] The motive was apparent; having seen the creation of property rights in the first state court decision, ''It is against such a conception that the

[98] The Wages of the ''Wavelength'' Pirate is Unpopularity, Radio Broadcast 474 (October 1926).

[99] Rowley, *supra* note 44, at 35.

[100] The nexus of licensing control was astutely seen to be a politically charged issue; hence, legislation had been held up for years in a contest between Congressman White, a House Republican from Maine wanting to vest the secretary of commerce with discretion in license awards, and Senator Dill, a Washington Democrat preferring to create an independent radio commission. (Both bills established a ''public interest'' standard for licensure, but no one was fooled as to the political leverage to be exercised therein.) Dill's legislation basically prevailed in the compromise, as the commission was established ''temporarily,'' with the Department of Commerce regaining authority after one year (Rosen, *supra* note 34, at 84, 95–96, 104, 106). Due to annual extensions and the Communications Act of 1934, such authority has yet to revert to the Department of Commerce. As Senator Dill commented, however, this was not a surprise; he understood that any ''temporary'' commission would become permanent. Barnouw, *supra* note 33, at 199.

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Radio Act is particularly directed."[101] A principal interest of the law, reinforced by the subsequent behavior of the FRC and FCC, has been to preempt such a solution to the interference problem. "[T]he proposed radio legislation in the nineteen twenties required a licensee to sign a waiver indicating that 'there shall be no vested property right in the license issued for such station or in the frequencies or wave lengths authorized to be used thereon.' . . . The Commission, fearful that licensees would assert property interests in their coverage to the listening public, has inserted elaborate provisions in application forms precluding the assertion of any such right."[102]

Whereas Hoover pushed for federal control primarily as an advocate of industry interests, Congress appeared more broadly based in its political concerns. Debate indicated that monopoly, the locus of licensing authority, and the geographical distribution of radio stations dominated the discussion. Regarding the latter, the first law amending the Radio Act (the Davis Amendment of 1928), ordered the FRC to allocate an "equitable" number of broadcast licenses to each of the nation's five zones (one commissioner was appointed from each zone, according to the 1927 act), on the claim that the South was being cheated out of its fair share of radio stations.[103] Congress was leery of the power of the radio broadcasters as "the press": they inserted an equal-time rule for all political candidates in the 1927 act. The new commission was also empowered to issue "special regulations applicable to radio stations involved in chain broadcasting" (sec. 4 [h]), to compel stations "to keep such records of programs . . . as it may deem desirable" (sec. 4[i]), and to prohibit "any alien or representative of alien" from owning a license to broadcast (sec. 12). The debate, the legislation, and subsequent legislative reaction to the commission all make it plain that lawmakers were primarily concerned about non-efficiency issues. "The 1927 Act was a quantum leap in regulation. Congress did not content itself with curbing interference among users of the spectrum, but instead included in the new Act provisions relating to programming, licensing and renewal, and many other aspects of broadcasting not related to electronic interference. Those provisions were incorporated seven years later into the Communications Act of 1934."[104]

[101] Carl Zollman, Radio Act of 1927, Marq. L. Rev. 121, 124 (1927).

[102] Paul M. Segal and Harry P. Warner, Ownership of Broadcasting Frequencies: A Review, 19 Rocky Mt. L. Rev. 111, 113, 121 (1947).

[103] This provoked a very bitter response in radio-dense New York; see Emmanuel Cellar, Will the Davis Amendment Bring Better Radio?: Con, 7 Cong. Digest 268–69 (October 1928).

[104] Anne P. Jones and Harry W. Quinlan, Broadcasting Regulation: A Very Brief History, 37 Fed. Comm. L. J. 107, footnotes omitted (1985).

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The fact was that the policy debate was led by men who clearly understood—and articulated—that interference was not the problem, interference was the opportunity. The efficiency issues were demarcated from political-distributional questions both in their words and their actions. In 1925, Herbert Hoover explicitly separated the respective issues of rights-definition and political control over licensees thus:

> It seems to me we have in this development of governmental relations two distinct problems. First, is a question of traffic control. This must be a Federal responsibility. From an interference point of view every word broadcasted is an interstate word. Therefore radio is a 100 percent interstate question, and there is not an individual who has the most rudimentary knowledge of the art who does not realize that there must be a traffic policeman in the ether, or all service will be lost in complete chaos of interference. This is an administrative job, and for good administration must lie in a single responsibility.
>
> The second question is the determination of who shall use the traffic channels and under what conditions. This is a very large discretionary or a semijudicial function which should not devolve entirely upon any single official and is, I believe, a matter in which each local community should have a large voice—should in some fashion participate in a determination of who should use the channels available for broadcasting in that locality.[105]

Senator C. C. Dill authored the bill that finally gained passage in 1927. He was equally unconfused as to the purpose of federal licensing. "Of one thing I am absolutely certain," he declared. "Uncle Sam should not only police this 'new beat'; he should see to it that no one uses it who does not promise to be good and well-behaved."[106] In the event any misunderstanding had arisen that placed interference control as the primary aim of the federal legislation, Dill was pointedly direct. "There is much agitation and much resentment to-day over the chaos in the air, but that does not concern me so seriously as the problems of the future. Chaos in the air will be righted as a matter of business. The pressing need for legislation is found in the fact that the Government must provide for the protection of the public interest as the numerous and urgent demands for the use of the air develop. That is the crux of the situation."[107]

Dill's concerns were devoted to monopoly and political fairness over the airwaves, both derived from his belief that radio broadcasting would become an important, powerful medium of expression. Instead, therefore, of rushing to protect this sector from regulation under the shield of the First Amendment, Dill saw his alternative priority clearly. "The one

[105] Hoover, *supra* note 57, at 57.

[106] C. C. Dill, A Traffic Cop for the Air, 75 Rev. of Revs. 181 (February 1927).

[107] *Id.* at 183–84.

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principle regarding radio that must be adhered to, as basic and fundamental, is that the Government must always retain complete and absolute control of the right to use the air."[108]

Senator Dill's only rival as a congressional authority on radio legislation was Representative W. H. White, Jr., who had been introducing pro-Hoover measures since 1921, and who authored the competing radio bill (but who endorsed Dill's compromise measure before its passage). Shortly after the Radio Act of 1927, the congressman explained the need for regulation as follows:

> [S]ome of us have . . . believed that in the absence of legislation by Congress it was inevitable that the courts of the country sooner or later would determine, as they have determined, that priority in point of time in the use of a wavelength established a priority of right.
>
> This is the situation that confronted us, and the necessity of dealing with this situation and of conferring an authority of regulation to minimize interference which now sadly impairs broadcasting has been the compulsion back of the effort to get legislation.
>
> This bill gives to the commission, and thereafter to the Secretary of Commerce, subject to appeal to the commission, the power to issue licenses if the public interest or the public convenience or public necessity will be served thereby.
>
> This is a rule asserted for the first time, and it is offered as an advance over the present right of the individual to demand a license whether he will render service to the public thereunder or not. It is one of the great advantages of the legislation. The bill gives to the Federal Government the power to determine the wavelength which every station shall use.[109]

This rich passage from the last of our trio of Radio Act prime movers demonstrates the salient points. It glides from the interference problem to the pressing need for legislation, despite implicitly revealing that such a goal had been sought for years, when the fear was not interference, but the assertion of private rights to spectrum. It focuses on the importance of the introduction of a public interest standard for broadcast licensing; it was well known that, while interference was but a recent phenomenon, the public trusteeship model of licensing had not been the old solution. But it would become the new solution, and therein lay "one of the great advantages of this legislation."

VIII. The Agenda of the "Public"

There existed nonbroadcaster, nongovernmental interests that shaped the debate creating the federal regulatory system in radio spectrum rights.

[108] *Id.* at 184.

[109] William H. White, Unscrambling the Ether, 42 Lit. Digest 7 (March 5, 1927).

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While it is doubtful that these constituencies carried decisive political weight,[110] it is instructive to examine the manner in which they sought to make their respective cases.

The major interests can here be summarized as belonging to two loosely organized constituencies: nonprofit broadcasters and listeners' associations. The former consisted of such disparate groups as the American Civil Liberties Union (whose counsel, Morris Ernst, was a frequent contributor to the radio regulation discussion in congressional hearings and in the popular press), the Chicago Federation of Labor (which had been attempting to gain a broadcast license by assignment rather than purchase, as noted above), populist political movements (which voiced fear of the "radio trust" and monopolization of the airwaves through such spokesmen as Progressive Montana Senator Burton K. Wheeler), an impressive list of institutions of higher learning (which had entered radio broadcasting very early, with 151 colleges and universities being granted Department of Commerce radio licenses as of the end of 1924[111]), and certain municipalities (for example, New York, which had established WMCA as a city-run broadcast outlet largely to gain goodwill for incumbent officeholders[112]).

The theme uniting such groups was that the "public interest" standard adopted for licensure should be interpreted to give substantial weight to nonprofit criteria, creating a license auction in which their particular resources, or "currency," would go the furthest. Hence, the ACLU argued that nonprofit institutions should be given special consideration so as to promote cultural and political diversity.[113] Most compelling were the arguments of the universities, which, presumably, were equipped with a comparative advantage in the manufacture of "public interest" rationales for favorable treatment.[114] When the House and Senate were stalled over competing bills (the White bill favoring Commerce Department control and the Senate version establishing an independent commission), the Association of College and University Broadcasting Stations "tried to profit

[110] The best evidence is derived by following Federal Radio Commission decision making after 1927. Virtually none of the substantive outcomes ostensibly sought by such interests were realized, including (most significantly) licensing of nonprofit radio stations. "[T]he number of operating educational standard broadcast stations dropped steadily from 98 in 1927 (approximately 13 percent of all stations) to 43 in 1933 (about 7 percent)." Sterling and Kittross, *supra* note 73, at 111.

[111] Barnouw, *supra* note 33, at 173.

[112] *Id.* at 109.

[113] See Ernst, *supra* note 66, and Morris Ernst, Radio Censorship and the "Listening Millions," 122 *Nation,* April 28, 1926, at 473–75.

[114] Rosen, *supra* note 34, at 164, 170, 175.

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from the deadlock . . . [by seeking] preferential treatment in the assignment of wavelengths and the division of time."[115] While Representative White rejected this on the grounds that it would open the door to similar demands from "labor organizations, amateurs, religious bodies and all manner of groups and interests,"[116] Senator Dill was more attentive. His Senate measure was amended to include special protection for educational broadcasters from commercial station rivalry. This was the legislation that eventually became the Radio Act of 1927, despite RCA and NAB support (representing major commercial broadcasters) for the White bill.

The listeners' groups generally supported Secretary Hoover's efforts at establishing de facto property rights and providing for orderly industry development. While the listeners and broadcasters could well have split over the issue of broadcast spectrum expansion (pro and con, respectively),[117] the fundamental concern during the "chaos" period was in reestablishing a traffic system. Rosen concludes that major radio broadcasters, Commerce Department officials, and listeners groups supported the White pro-Hoover legislation, while the nonprofits and anti-Hoover political interests backed the Dill proposal.[118] The only essential difference in the measures was distributional; the commission approach, with members chosen from each of five geographical regions and with specific nonprofit protectionist language, was seen as widening access to the regulatory process for those interests not well vested in the Administration. This latter group included Senate Democrats (a minority), and anti-Hoover Republicans, particularly Senator James E. Watson (R., Indiana), chairman of the Committee on Interstate Commerce.[119] This coalition won, and control of licensing was ostensibly wrestled away from Commerce Department control.[120]

[115] *Id.* at 99.

[116] *Id.* at 100.

[117] The Indiana Broadcast Listeners Association did, in sharp contrast to the major broadcasters, advocate an engineering study of the feasibility of expanding the broadcast "below 100 meters" (that is, above 3,000 kHz). As international agreements in 1927 set aside significant wavelengths in this region for broadcasting (see above), and as lower frequencies were reserved for mobile, amateur, and government use in the United States, this was a logical suggestion. Listeners Recommend New Bills be Drafted, N. Y. Times (January 9, 1927).

[118] Rosen, *supra* note 34, at 98.

[119] *Id.* at 96–97. Another "public" group consisted of small, independent broadcasters, who feared (correctly, it turned out) that they would receive poor time and wavelength assignments under the National Association of Broadcasters-backed legislation. They opposed both bills. *Id.* at 103.

[120] It is unclear which side actually determined policy actions following the Radio Act of 1927. While Dill's legislation clearly prevailed in law, establishing the Federal Radio Com-

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IX. The 1927 Radio Act as an Equilibrium Political Solution

Although licensing control passed into the hands of an independent commission, economic allocation was not much affected vis-à-vis the rights established in the pre-"breakdown" period. By virtually all accounts, the commission made legal what Secretary Hoover had accomplished via extralegal authority: it recognized priority-in-use rights to spectrum space, with discretionary power and time assignments favorable to those broadcasters serving larger audiences. Marginal broadcasters with irregular transmissions were expropriated altogether; nonprofit institutions were relegated to crowded spectrum "ghettos" where time was scarce and listenership difficult to attract. Many such licenses were soon withdrawn by their owners due to unsustainable financial losses. In its third annual report, the Federal Radio Commission described its interpretation of the "public interest, convenience, or necessity" standard it had utilized in establishing order in the airwaves.

> The first important general principle in the validity of which the commission believes is that, as between two broadcasting stations with otherwise equal claims for privileges, the station which has the longest record of continuous service has the superior right. This is not a doctrine of vested rights or an extension of the property law to the use of the ether; it applies only as between private individuals or corporations operating stations and not as between either of them and the plenary power of the United States to regulate interstate commerce.
>
> Where two contesting broadcastings do not have otherwise equal claims, the principle of priority loses its significance, in proportion to the disparity between the claims. In a word, the principle does not mean that the situation in the broadcast band is "frozen" and that existing stations enjoying favorable assignments may not have to give way to others more recently established.
>
> * * *
>
> Broadcasting stations are licensed to serve the public and not for the purpose of furthering the private or selfish interests of individuals or groups of individuals. The standard of public interest, convenience or necessity means nothing if it does not mean this. The only exception that can be made to this rule has to do with advertising; the exception, however, is only apparent because advertising furnishes the economic support for the service and thus makes it possible.[121]

This passage is entirely in line with FRC and subsequent FCC policy pronouncements, in coupling de facto property rights with the potential

mission by statute, Hoover moved quickly to exercise control over all presidential nominees for commissioner and even to use Commerce Department funds to pay for FRC expenses, strangely unprovided for in the initial legislation. Hence, Hoover's hand was decisive in all early FRC rule making.

[121] Federal Radio Commission, Annual Report 32 (1929).

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for agency discretion in the "public interest." The market is neither purely private nor, in substance, one of government control, but is ruled by a hybrid policy in which spectrum rents are shared by private users and government regulators or their assignees. This distribution makes eminent sense for the two principal transactors, Congress and broadcast license holders, and gives both equity "owners" incentives to maximize rent values.

That the arrangement was legally fashioned to wear the clothing of "public interest" led quickly to logical curiosities. While condemning all forms of "selfishness," it asserts that advertising—quite controversial in the 1920s radio market and often condemned even by radio champions such as Herbert Hoover—would not be so defined, on the grounds that the selfish aspect of advertising makes enjoyable programs economically possible. Yet that view may as well be substituted into the argument for self-interest as a motive anywhere. The commission's purpose in condemning private self-interest and then endorsing advertising (the manner in which financial self-interest was pursued in radio) was to endorse an implicit marketplace standard, allowing licensees to maximize audiences and, hence, ad revenues, while carefully regulating "selfish" speech—that is, the airwaves would not be used for controversial communications interesting merely to a minority of listeners. This was the "selfishness" that the FRC believed it had a mandate to regulate. And, interestingly, it is the form of broadcasting of least interest to major broadcasters, particularly when one's competitors are similarly constrained.

The commission's "public interest" solution to the property right problem essentially accomplished the following:

1) it served to establish quickly and cheaply de facto property rights to spectrum based on the priority-in-use rule;

2) it thinned out the spectrum by failing to renew licenses of 83 broadcasters in July 1927 and gave reduced power and time assignments to nonprofit organizations;[122]

3) it awarded enhanced power assignments (as high as 50,000 watts—up from 5,000 watts) to some fortunate large broadcasters, generally network affiliated;[123]

4) it established a rights-enforcement mechanism, wherein license holders were to self-police the airwaves by filing complaints against interfering broadcasters;[124]

[122] Barnouw, *supra* note 33, at 216.

[123] *Id.* at 218.

[124] Federal Radio Commission, *supra* note 44, at 16.

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5) it froze AM band width at essentially its 1924 size, using less than five percent of the then-utilizable capacity for broadcasting.

This solution represented an optimum politically because each of the influential parties was given a share of the rents created in proportion to their political influence, making each better off than they would fare in alternative nonlicensing arrangements. Such rents emanated from the allocation of spectrum rights to private users on a nonfee basis and from entry restrictions enhancing the values thereby created. In that vested rights were developing and lengthy, costly litigation would have followed had an expropriation of major broadcast license holders occurred, an outright nationalization of airwave property was not a desirable alternative for regulators. Such a course would also have carried the opportunity cost of an immediate loss of support by major broadcasters. It was far better for regulators to award broadcasters generous rents subject to "public interest" discretion in the licensing process that could be partially apportioned by incumbent officeholders.

Broadcast licensing became, hence, an inordinately political affair. FRC General Counsel Louis G. Caldwell noted the "political pressure constantly exercised . . . in all manner of cases," and the 1927 Act's creator, Senator Dill, pointedly rejected a later suggestion that congressional members treat the commission like a court of law and refrain from attempting to influence assignments.[125] The 1928 Davis Amendment was in the spirit of further politicization of wavelength assignments, and an authoritative Brookings Institution study soon reported that "probably no quasijudicial body was ever subject to so much Congressional pressure as the Federal Radio Commission."[126]

What was evident was that the issuance of zero-priced franchises could stimulate an effective rent-seeking competition from constituencies willing and able to pay for the broadcasting privilege, with the means of payment constrained by existing legal institutions. Hence, pecuniary transfers to the U.S. Treasury were not a viable option because they would have represented a de facto expropriation of not only private spectrum users, but also of political decision makers in both Congress and the regulatory bureaucracy. Instead, other margins in a quid pro quo arrangement were developed. For instance, Congress immediately acted to regulate content with such incumbent protectionist devices as the equal time rule (codified in the Radio Act), and the commission very quickly found it could exercise authority over broad forms of content, such as "fair-

[125] Barnouw, *supra* note 33, at 217.

[126] Laurence F. Schmeckebier, The Federal Radio Commission 55 (1932).

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ness.''[127] And, of course, pure influence peddling in the procurement of licenses could yield both legal and extralegal benefits for incumbent Congressmen.

It is interesting that ''public interest'' or ''citizen'' groups also acceded to the rent distribution form of regulation, even though their announced interests were soon liquidated by the regulatory apparatus selected. Educational broadcasters, for example, were treated very harshly by the Federal Radio Commission: ''virtually all stations operated by educational institutions received part-time assignments,'' sharply increasing educational station fatalities in 1928 and 1929.[128] Yet their advocates had supported placing the question of license distribution into a political context where nonprofit spokesmen had access; this was preferred to a pure market allocation where all such leverage would have evaporated. The preliminary evidence suggests that a principal-agent problem dominated the interest group action of such nonprofit lobbyists, biasing their actions toward the establishment of institutions in which the agents' specific human capital—advocacy in the press, testimony in public hearings, and so forth—and not announced group objectives, was maximized.

The basic stability of the broadcast regulatory structure derives from the commission's ability to establish an off-budget auction, in which the rents associated with licensure are appropriated to competitive constitutencies as merited by the political pressure they effect. This can lead to a shifting equilibrium, as groups rise and fall in influence, but the agency's task is to find, at any moment, the optimum solution given the various claimants' strength. This is achieved via public hearings, where such demand intensities are gauged, ex parte contacts, congressional liaison and funding levels, and the market for postagency employment.[129] (Similarly, the legislative and executive branches calculate optimal oversight strategies based on such factors, as well as campaign contributions and [for Congress] speaking fees paid by trade associations.) Zero-priced broadcast licensing is not a ''giveaway'' of public resources in the strict sense; rather, it is the stimulus generating a rent-seeking competition in dimensions where gains may be internalized by regulatory authorities. Auction claimants are rewarded with rents in proportion to their economic and political strength, which is only to say that licenses go to highest bidders denominated in currency that can be converted by actual decision makers.

[127] By 1929, the commission was taking ''fairness'' into account in licensing decisions. See Federal Radio Commission, *supra* note 120, at 33.

[128] Barnouw, *supra* note 33, at 218.

[129] Robinson, *supra* note 3, offers a fascinating overview of this general process.

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Hence this market exhibits Posner's classic "taxation by regulation," as has been noted (looking at regulatory decisions decades hence) by Bruce Owen.[130] What is noteworthy here is that the framework selected in 1927 was not the result of a series of "historical and technological accidents," nor did it reflect "simple ignorance on the part of courts, commissions, and Congressional committees of the economics and technology of broadcasting."[131] Private spectrum rights were not rejected in favor of government allocation out of "ignorance" but were actually established as part of a hybrid regulatory system that respected vested rights in broadcast spectrum and even enhanced them in value via supply restriction. Such private rights were "purchased" by broadcaster subsidies to "public interest" concerns, a tax which initially amounted to little more than nominal acquiescence to (and political support for) a federal licensing authority but would, over time, include significant payments to unprofitable local programming, "fairness doctrine" regulation, extensive proof of commitment to "community" in station renewals, and the avoidance of broadcasting content offensive to the political party in power.[132] That this means of payment is used to charge for the use of scarce spectrum, and not money bids to the fisc, is no more "mistaken" or "accidential" an arrangement than the sales price set by Oliver North on "bargain" missiles to the Ayatollah, allowing Colonel North to divert the excess demand not to the U.S. Treasury but to a *Contra* account in Switzerland.[133] Rents created by policy can be at least partially extracted by regulators exercising authority in the public interest, but property rights of the latter become severely diluted once such rents flow into the general budgetary pool.

The fact that spectrum fees and discretionary regulatory authority are substitutes has never been misunderstood in the U.S. regulation of the broadcast spectrum. While the Department of Commerce established a

[130] Owen, *supra* note 27, at 46–47.

[131] *Id.* at 43–44. Why the courts, specifically, have tended to endorse the constitutionality of the regulatory scheme chosen requires a different explanation than that given in this article for the behavior of regulators and politicians.

[132] See Robert Crandall, Regulation of Television Broadcasting, Regulation 31–39 (January/February 1978); Noll *et al.*, *supra* note 3; Owen *et al.*, *supra* note 27; Levin, *supra* note 3; Walters, *supra* note 27; and Powe, *supra* note 27.

[133] Whether regulators or legislators extract rent for "self-interest" or "ideological" purposes (assuming these to be distinct ends) is an interesting question beyond the scope of this article. While the North example prompts one to think of ideological preferences, the broadcast regulation experience suggests both motives to exist simultaneously (and, of course, as substitutes). The essential point is that rent may be extracted, whatever the ultimate purpose. See Fred McChesney, Rent Extraction and Rent Creation in the Economic Theory of Regulation, 16 J. of Legal Stud. 101–18 (1987).

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separate designation for radio broadcasters only on September 15, 1921, by early 1922 Herbert Hoover and the radio interests were already considering the nature of the tradeoff involved. "Now the radio world was anxious for regulation to prevent interference with each other's wavelengths. A good many of them were insisting on the right of permanent pre-emption of the channels through the air as private property. And I concluded that would be a monopoly of enormous financial value and we had to do something about it."[134] What Secretary Hoover did was to call the first radio industry conference (February 1922) where he established the "public interest" rationale for regulation. The regulatory strategy selected reflected a keen sense of the fundamental value and importance of the budding marketplace. "It is inconceivable that we should allow so great a possibility for service, for news, for entertainment, for education, and for vital commercial purposes, to be drowned in advertising chatter, or for commerical purposes that can be well served by other means of communication. . . . There is involved . . . in all of this regulation, the necessity to so establish public right over the ether roads that there may be no national regret that we have parted with a great national asset into uncontrolled hands."[135]

X. Auctions, Property Rights, and Coase: A Conclusion

Ronald Coase has theorized that policymakers of the twenties were largely unaware of the efficient solution to the common resource problem in spectrum, when "[T]he simplest way of doing this would undoubtedly be to dispose of the use of a frequency to the highest bidder, thus leaving the subdivision of the use of the frequency to subsequent market transactions."[136] Yet the early history of broadcasting shows why this was not the simplest assignment rule. Airwaves were not resources that had been carried in inventory by any public agency. In essence, the spectrum for broadcasting was discovered by radio pioneers and exploited by entrepreneurs who risked capital in the creation of valued rights. Early discoveries were rapidly communicated; the number of broadcast stations populating this new frontier jumped to several hundred virtually overnight. And by then the public auction idea was moot; resource owners were established, and auctioning their spectrum was far from the simplest allocation rule.

Homesteading was. Indeed, the legislation that established federal control of the airwaves owes its success in great measure to the methodical

[134] In Johnson, *supra* note 21, at 81.

[135] *Id.* at 83.

[136] Coase, *supra* note 7, at 30.

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manner in which the FRC and, subsequently, the FCC, have observed the homesteading principle in practice.[137] But, of course, this allocation mechanism is not identical to a priority-in-use rule enforced at common law. Market transfers are screened by federal authorities; license renewals are less than costless or riskless; new spectrum use for broadcasting is prohibited by law. The system has transferred net resources to incumbent broadcasters, broadcast regulators (including oversight congressional committees), and advocates of the "public interest."

One of the most interesting findings available in observing the actual establishment of these private rights is the manner in which political "rights" were quickly vested as well. The partnership of airwave holders (private) and airwave rights grantors (public) created a natural community of interest for those agents intimately involved in creating the rights structure itself. In essence, Secretary Hoover, Senator Dill, and Congressman White "homesteaded" broadcasting policy nearly as quickly as broadcasters staked out the spectrum. Reverting to a money auction would have expropriated the political agents' de facto rights as well.

Of course, new spectrum allocations were made as early as 1923, 1924, and 1927. They would be granted without dollar payment, as would later allocations of VHF and UHF television (1940s and 1950s), microwave and satellite broadcasting rights (1970s), and cellular telephone frequencies (1980s). It is interesting to note that the early assignments were made in a sort of prospective homesteading basis—awarded to comparatively advanced broadcasters who were likely to exploit the resources most quickly and fully. Yet the system of assignment which later developed to replace the pioneering rule (when government awarded de novo rights) came after an established legal structure demonstrating a political optimum was firmly in place in the radio market. This would guide policymakers in the creation and assignment of new rights. The institution then established was the comparative hearing, where political interests could be weighed in a formal procedure in order to achieve a social maximum—as determined by the assignment authority. Bringing themselves to the nexus of decision making in a brisk competitive rivalry for zero-priced frequency rights has given regulators and lawmakers a very well understood discretion over the life and death of lucrative and influential broadcasters.[138]

[137] It is also revealing that, even decades later, international divisions of spectrum rights were achieved via national homesteading. Levin, *supra* note 27, at 106–7.

[138] Comparative hearings were not a radical departure from the homesteading solution of the 1920s but an institutional adaptation to a new market where the vested rights of broadcasters to "ether" were somewhat weaker. But the principal result of the de jure outcome

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Once the initial homesteading had occurred, diverse constituencies came to demand their share of lucrative spectrum rights. These demands brought the prevailing industry attitude vis-à-vis property rights to the fore well before the Radio Commission was born. The May 1926 issue of *Radio Broadcast* featured a provocative essay dealing with the moral dilemma involved in deciding who—including the antivivisectionists—should be allowed to broadcast.

> [S]uppose that the anti-vivisectionist brethren want to broadcast, and have the money, but can't get a license because there are no wavelengths left? Isn't that a hardship, in a world where publicity is everything and the inarticulate go under? Already flour mills, vaudeville theaters, public service corporations, colleges, cabarets, Christian Scientists, Zionists, and the Y.M.C.A. have stations on the air, and why should not the anti-vivisectionists, who consider their cause vastly important, be given a wavelength? They would have got one, if they had come a little earlier. Let them divide time with an existing station, it is proposed. But the existing stations are filling their time. If a man or a firm has invested $100,000 in a broadcasting station, taking away some of its time may cut the value of the investment 50 percent, or more. That is confiscation, and not ethics.[139]

That the soon-to-be established Radio Commission would endow large commercial broadcasters not only with de facto private rights to airwaves but would also protect them with monopolistic restrictions (by freezing broadcast band width) was testimony to the broadcasters' perfect understanding of economics and politics, the eagerness of legislators and regulators to channel competitive forces to the political arena in their self-interest, and the willingness of "public interest" agents (antivivisectionist and otherwise) likewise to push the auction process toward the political sphere no matter what its ultimate economic effect on the constituencies they purported to represent. There was little confusion over the role of property rights; the political conflict was in constructing a prevailing "distributional coalition."

The public interest licensing arrangement has not come about due to "simple misunderstandings which are rife in discussion of government policy toward the radio industry."[140] Nor was "The main reason for government regulation of the radio industry . . . to prevent interference."[141] Indeed, as early as 1924, the *American Economic Review* very

was the de facto result of Hoover's "priority-in-use," *Oak Leaves'* "pioneering," and the FRC's "public interest" standards: the best television assignments were won by the major radio networks (which had, in essence, established a vested right in FCC influence).

[139] Dreher, *supra* note 77.

[140] Coase, *supra* note 7, at 32.

[141] *Id.* at 24.

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nicely framed the property rights problem in these words: "Are we not simply dealing with space in a fourth dimension? Having reduced space to private ownership in three dimensions, should we not also leave the wave lengths open to private exploitation, vesting title to the waves according to priority of discovery and occupation?"[142]

The policy pursued by the Commerce Department was then seen for what it was. In the most complete volume dealing with the economics of broadcasting to that time, Hiram Jome's 1925 analysis[143] saw that any spectrum confusion would be ameliorated by either effectively expanding the band width so as to eliminate scarcity, or by rights definition and rational market behavior. "Unless technical advances remedy the situation, the tendency will be for certain broadcasting stations to establish property rights to wave lengths as a protection against interference. In effect, this is what happens when wave lengths are assigned by the licensing authorities."[144]

The interference problem was not a puzzlement to the policymakers of the time. But later analysts would miss the obvious, apparent solution in favor of the theoretically appealing auction model of allocation. "Define and sell" is an analytically satisfying approach to resource allocation problems. It achieves appealing results in terms of both allocation and equity (that is, rents go to the public treasury). Yet it has led even the best economists astray in interpreting the intent and, hence, the actual origins of broadcast regulation in the United States.

In focusing on the idea of auctions, it was not recognized that the first claimants on broadcast spectrum resources were private prospectors whose rights became vested in fact, if not in law, before the government was generally aware of its "inventory." These rights seriously complicated any future auctioning of spectrum as it would upset the quasi-legal arrangements already established. Wave owners did not want the government charging for spectrum that they de facto owned. Significantly, "fiat allocation"[145] was not the initial assignment rule, "priority-in-use" was. Hence, private rights were vested in law and in fact from the earliest days of radio.

Conversely, regulators and legislators did not desire to part with their ownership rights, exercised in the license assignment process, which auc-

[142] William Wallace Childs, Problems in the Radio Industry, 14 Am. Econ. Rev. 520, 522 (1924).

[143] Dr. Jome was professor of economics at Denison University and dedicated his lengthy volume on radio economics to his teacher, Richard T. Ely.

[144] Hiram L. Jome, Economics of the Radio Industry 173 (1925), footnote omitted.

[145] Owen, *supra* note 27, at 36.

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tioning would do both legally (claimants could argue that they had established greater rights via their payment for such) and practically (as any pecuniary payment to the treasury for broadcast rights would necessarily lower the intensity of competition for new licenses or renewals). It is only the "public interest" discretion that legislators or regulators may realistically employ to internalize benefits, once we see license fees as common resources owned jointly by government policymakers. Moreover, in proportion to their political strength, agents for organized nonindustry, nongovernmental interests concerned with broadcasting tend to favor the licensing regime as transfers of wealth in terms of political currency. By being endowed with human capital specific to the public regulation process, they acquire rents not available to them in a common law-based regulatory structure for spectrum rights.

The behavior of regulators in this market is far less mysterious, or analytically error prone, than has been previously asserted. When viewed in the context of utility maximization, these actors have pieced together a regulatory apparatus that is entirely consistent. Although the modern interpretation of broadcast regulation has been built upon the view that federal licensing was a faulty allocational policy with unforeseen—and unfortunate—consequences, the construction of public interest licensing distributed property rights to spectrum in a manner in which the important regulatory players were compensated as anticipated. Most compellingly, a common-law solution to the "tragedy of the commons" problem was seen by the creators of the regulatory system as an unsatisfactory alternative, due specifically to its distributional effects. That the political marketplace pointedly vetoed a property rights solution that would bypass regulators and legislators while holding entry open into broadcasting was not a reflection of technical incompetence but of self-interested rationality.

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