Assigning Property Rights to Spectrum Users: Why did FCC License Auctions Take 67 Years?

by Thomas W. Hazlett

Columbia Institute for Tele-Information
Graduate School of Business
809 Uris Hall
New York, New York 10027
(212) 854 4222

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March 28, 1995

Since Leo Herzel (1951) and Ronald Coase (1959) argued for auctioning off FCC licenses in lieu of awarding them according to "public interest" criteria, the idea has been popular with a wide range of economists and policy analysts, as well as the FCC itself. Yet not until 1993 did the U.S. Congress grant the Federal Communications Commission authority to assign operating licenses for users of the airwaves via competitive bidding. While it has been shown that "priority-in-use" rules, not auctions, were the efficient assignment tool initially, only zero-priced licenses were awarded, after the Radio Act of 1927 ended the homesteading era, for 67 years. Why were auctions, with obvious efficiency and distributional advantages, so long in coming? And why were comparative hearings in the "public interest" first abandoned as assignment tools in 1981 not for auctions, but for lotteries? The theory advanced herein sees license rents as analogous to "forfeitable collateral bonds" used to monitor franchisee behavior in the industrial organization literature. Four factors -- the special interest of regulators in influencing broadcasting content, the limits placed on explicit regulatory demands by the U.S. Constitution, the recent increase in the relative economic importance of nonbroadcast wireless services, and the agency problem embedded in central planning decisions -- are used to explain both the political stability of economically inefficient licensing methods, as well as the current reforms instituting auctions for nonbroadcast licenses.

*Associate Professor of Agricultural Economics, and Director, Program on Telecommunications Policy, Institute of Governmental Affairs, University of California, Davis.

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1 Introduction.

> The idea of auctioning airwaves to the highest bidder was first proposed in the late 1950's by Ronald Coase, the economist and Nobel laureate. The Reagan Administration pushed the idea during the 1980's, but Democrats in Congress resisted. After the Clinton Administration embraced auctions as a way to fatten Federal coffers, Congress converted, voting last year to require auctions for most nonbroadcast licenses.
>
> -- Teresa Riordan, "Bids Soar at Auction by F.C.C.," *New York Times* (27 July, 1994), p. D1

> It is sometimes said that I introduced the idea of using prices to allocate the spectrum. But this is untrue. The first time this was proposed, at any rate in print, was by a student author, Leo Herzel, in an article in the University of Chicago Law Review in 1951. When I first read this article I thought, and it was quite natural to think this, that Leo Herzel had been influenced by Aaron Director and Milton Friedman. But this is also untrue. While he was an undergraduate, Herzel had become very interested in the debate over whether a rational, efficient system for allocating resources would be possible under socialism. As a result, he read Abba Lerner's *The Economics of Control* soon after it was published in 1944. This debate, particularly Lerner's detailed proposal for market socialism in *The Economics of Control*, was the inspiration behind his views.
>
> -- Ronald H. Coase (1993, pp. 248-9)

Issuing spectrum rights by means other than auctions has been a curious policy to economists. Since Coase's influential analysis of property rights to radio spectrum (1959), it has been well-known that licenses were distributed in an inefficient manner. While recent research (Hazlett 1990, Lueck 1994) has shown that the initial assignment rule used in the 1920s radio broadcast market-- priority-in-use rights established on a 'first come, first served' basis -- was optimal for determining effective property rights prior to the enactment of legislation, this fails to explain the use of comparative hearings to award rights after the Radio Act of 1927.

From 1927 to 1981, these administrative proceedings (where competing applicants were ranked by a "public interest" standard) assigned access rights to spectrum in a socially wasteful and politically charged manner. In 1981, the U.S. Congress adopted legislation permitting the

FCC to issue some licenses by lottery, depoliticizing assignments but leaving much rent-seeking waste. Only in 1993 did the Congress permit auctions to be held for (some) FCC licenses. These auctions began 25 July, 1994, and have raised over $8 billion for the U.S. Treasury.[1]

The long policy march to FCC license auctions was painfully slow, a fact that is all the more remarkable in that Congress was frequently petitioned to institute license fees or auctions, almost from the very inception of regulation itself. Over the decades came repeated calls to end zero-price license awards from academics, the popular press, individual members of Congress, budget committees in Congress, the White House, Office of Management and Budget, the Commerce Department, the Federal Radio Commission, and the Federal Communications Commission. Indeed, the FCC unilaterally imposed fees on licensees in the early 1970s, was rebuffed by the courts as having exceeded its statutory authority, and was forced to refund monies collected (Ray 1990).

The use of zero-priced awards not only sacrificed billions of dollars which could have been made available for spending, deficit reduction, and/or tax relief, it incurred large rent-seeking expense in the initial license distribution phase (Kwerel & Felker 1985; CBO 1992; Hazlett & Michaels 1993). This social cost has been depicted as all the more wasteful because the licenses have been freely traded in secondary markets after government issuance. In addition, comparative hearings proved to be highly politicized, a seemingly dangerous condition given the importance of broadcasters' independence under the First Amendment's "freedom of the press" clause. Objectifying assignments via competitive bidding, which in any event took place once

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[1] Mary Lu Carnevale, "Gore Says Part of FCC-Auction Revenue Should Go for Schools' High-Tech Link," *Wall Street Journal* (6 December, 1994), p. B6; Gautim Naik and Daniel Pearl, "Wireless Sale Winners Include AT&T, Sprint," *Wall Street Journal* (14 March, 1995), p A3.

licenses were assigned, would improve social efficiency and eliminate a serious First Amendment problem (Kalven 1967, Pool 1983). Given that Becker (1983) informs us that efficient solutions tend to dominate over time, how could non-auction methods prove so stable a solution to the license assignment problem when the social costs were so high and the arguments for reform so overwhelming?

Several competing hypotheses have emerged to explain the reluctance of policymakers to employ auctions. None are compelling. An alternative theory is developed in this paper which draws on three distinct elements of the economics literature.

First, it builds on the public choice logic of Posner's "taxation by regulation." Zero-priced licenses endow broadcasters with the rents which form the pool out of which cross-subsidies are transferred in a politically advantageous manner. As competitive bidding would eliminate rents, it would end such transfers, to the detriment of regulatory constituencies.

Second, the story has direct parallels in industrial organization theory, where local franchise rents are strategically used to monitor the behavior of agents. An implicit contract between regulators and broadcasters is crucial to a political bargain when constitutional law severely limits the negotiating freedom of the parties involved. The public sector assignment of rents leads to a twist in the franchise rents analogy, however, taking us to a third area of the literature. A squandering of rents is in evidence, but it is not due to irrationality. Rather, it stems from policymaker incentives to internalize returns from awarding franchise rights. Hence, the agency problem so evident in socialism, where state enterprise managers persistently underprice their outputs so as to exploit conditions of excess demand, is observed in the distribution of FCC licenses. Finally, this new hypothesis explains why, as broadcasting services became relatively

less important in the total scope of FCC regulation, auctions were instituted to assign licenses for such nonbroadcast services as common carrier wireless telephony.

2 Four Ways to Assign Property Rights to Spectrum[2]

Since 1920, the United States has employed four distinct methods to assign property rights, *de facto* or *de jure*, to private users. The first method was called "right of user" or "priority-in-use," and was the system that prevailed when radio wave access became an economic good in the early 1920s (Dill 1938, Hazlett 1990). Then, in the Radio Act of 1927, a regime of zero-priced licensing commenced, creating a system in which users of spectrum were awarded operating permits via comparative hearings, the ranking criterion being the "public interest." The regulatory structure which developed was based on a "social compact" between the government and the licensees: free licenses were traded for public interest behavior on the part of the licensee.[3] This regime is routinely referred to as "public trusteeship." Until 1984,[4] this was the only assignment tool used.

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[2] The Federal Communications Commission only assigns license rights which are, technically, "radio station authorizations." They allow the licensee to access certain frequencies using certain types of equipment to provide certain types of service -- as regulated by the Commission. Hence, the licenses are not *spectrum rights* but *use permits*. A UHF-TV licensee cannot go dark and use the same spectrum space to deliver mobile telephone service, for instance. A *de facto* spectrum right, however, is conveyed within the context of that legal and exclusive authorization, and it is in this sense that I use the terms "spectrum rights" and "spectrum license." (See Robinson 1985; Kwerel & Williams 1992.)

[3] Both this terminology and logic are still very much alive. A trade journal recently reported the following on a Q&A session featuring the Chairman of the Federal Communications Commission, Reed Hundt, before the National Association of Broadcasters: "After Hundt's address, National Association of Broadcasters President Eddie Fritts questioned the FCC chairman on several issues, including the social compact theory of government regulation of broadcasting. Hundt said he has not met a broadcaster who did not have the public interest in mind." Hundt's comment was seconded by Fritts, who noted: "There is a public obligation foundation that broadcasting is built upon." (Donna Petrozello, "Hundt to Radio Show: Truth in Broadcasting," *Broadcasting & Cable* [17 October, 1994], p. 11.)

TABLE 1
Spectrum Use Property Rights Regimes in the United States

Period	*Rights Assignment Method*	*Enforcement Body*	*Legislation*
pre-1920	open access	Department of Commerce	1912 Radio Act
1920-27	priority-in-use	Department of Commerce; common law	1912 Radio Act
1927-1984	comparative hearings	FRC (1927-34); FCC (1934-84)	1927 Radio Act; Communications Act of 1934
1984-1994	comparative hearings (broadcasting licenses); lotteries (most others)	FCC	Comm Act of '34; 1981 Budget
1994-present	comparative hearings (broadcasting licenses); auctions (most others)	FCC	Comm Act of '34; 1981 Budget; 1993 Budget

Then, faced with the daunting administrative task of awarding over 1400 licenses for cellular telephony (2 in each of 734 local markets), the Commission prevailed upon Congress to allow lotteries to be used in place of comparative hearings. (Congress had to authorize any changes in the assignment procedure.) While the FCC (as well as the White House and Commerce Department) had asked for auction authority as well, the Congress rejected this request. The lotteries, limited to one entry per market per U.S. citizen, were used to assign cellular licenses between 1984 and 1989.[5] The FCC required all lottery applicants to be "real" telephone companies (*i.e.*, entrants had the burden of showing that they possessed the financial and technical ability to construct and operate a cellular system). Nearly 400,000 such

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[4] While authorized by Congress in 1981, the FCC did not begin to employ lotteries until 1984. The enabling legislation appears in the Omnibus Budget Reconciliation Act of 1981, Pub. L. No. 97-35, Sec. 1242, 309, 95 Stat. 736-37 (1981), amended in Communications Amendments of 1982, Pub. L. No. 97-259, Sec. 115, 309 (i), 96 Stat. 1087, 1094-95 (1982).

[5] A small number of cellular licenses -- only those in the first 30 markets licensed -- were issued via comparative hearings in 1982-84. Lotteries were then adopted and used for the rest of the assignment process.

"companies" materialized, helped by so-called application mills which prepared engineering materials and financial documents making just such a showing. Between $500 million and $1 billion in wasteful rent-seeking was likely expended on the cellular license lotteries, while several times this sum was lost for the U.S. Treasury (Hazlett & Michaels 1993).

Throughout virtually the entire period in which zero-priced licenses were assigned by the FCC, economists and government agencies have called for spectrum fees and/or competitive bidding (see Table 2). These calls became pitched and constant by the 1970s, with the Administration (Democrat or Republican) regularly requesting authority to charge for licenses, only to be denied by Congress. Finally, in the Omnibus Budget Reconciliation Act of 1993 (OBRA), auction authority was granted the Federal Communications Commission.[6] And it was a relatively liberal grant: "what started [under the Bush Administration] as a limited auction experiment grew to mandatory auctions for a wide array of spectrum licenses" (Allard 1994, p. 124).

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[6] Omnibus Budget Reconciliation Act, Pub. L. No. 103-66, 107 Stat. 312 (1993) (to be codified in various sections of U.S.C.).

TABLE 2
Unsuccessful Proposals To Price Spectrum Access > 0

Year	*Proposal & Forum*	*Cite*
1927	American Bar Association, Committee on Air Law: license fee proposal (Virginia Law Review)	Davis 1927, p. 614
1928	trade journal editorial advocates a license fee on radio broadcasters with proceeds used to compensate stations denied future licenses by Federal Radio Commission	Radio Broadcast Magazine (February 1928)
1929	U.S. Senate (Resolution No. 351) asks Federal Radio Commission to formulate a schedule of license fees for Congress to consider	Robinson 1929
1929	Federal Radio Commission proposes an extensive fee schedule for licensees based on power (wattage) and hours of operation	Robinson 1929
1931	Two of five Federal Radio Commission members support license fee proposal	Orton 1931
1932	license fee legislation passes House of Representatives, introduced into Senate	72 Cong. Rec. 542
1945-52	several congressional proposals for license fees from those in Congress concerned with budget policy	Smythe 1952
1951	Leo Herzel (lawyer): license auctions (University of Chicago Law Review)	Herzel 1951
1958	Congressman Henry Reuss (D-WI): legislation to auction TV licenses (introduced in U.S. House of Representatives)	Allard 1994, p. 120.
1959	Ronald Coase: license auctions (Journal of Law & Economics)	Coase 1959
1962	Harvey Levin: license auctions (Journal of Law & Economics)	Levin 1962
circa 1970-90	appropriations committees: license fees (U.S. Congress)	Ray 1990, p. 151
1967	Harvey Levin: license auctions (Iowa Law Review)	Levin 1967
1969	a scheme for selling private spectrum rights (Stanford Law Review)	De Vany et al., 1969
1971 - present	scholarly literature: license auctions, spectrum auctions (Levin 1971; Noll, Peck & McGowan 1973; Owen, Beebe & Manning 1974; Minasian 1975; Pool 1983; Powe 1987; see also Hazlett 1993)	
1972	Steve Rosen: auction spectrum rights (U.S. Department of Commerce study)	Jackson 1976, p. 64
1973	Office of Telecommunications Policy (White House): spectrum auction experiment in public sector	Jackson 1976, p. 65
1970-76	Federal Communications Commission: imposes fees on broadcast and non-broadcast licensees and is forced by courts to cease policy and refund monies on grounds of insufficient statutory authority, and Congress refuses to legislate such authority	Ray 1990, p. 151
1977	"Options Papers" produced by U.S. House Subcommittee on Telecommunications staff: reviews "mechanisms for extracting the value of the spectrum being used and translating that value into benefits benefits to the public"	Krasnow et al., 1982, p. 245
1978-80	Cong. Lionel Van Deerlin (D-CA), House Telecommunications Subcom. Chair: introduces bills to institute spectrum fees targeted to support Public Broadcasting	Krasnow et al., 1982
1979	Pres. Jimmy Carter: license auctions (State of the Union Address)	Telecom. Policy Review (8 February, 1993), p. 6
1979	FCC Commissioner James Quello proposes that "broadcast should be assessed an appropriate annual spectrum fee and then assigned licenses without expiration dates" in an official Commission proceeding	FCC 1979 (p. 57716)
1980	U.S. Dept. of Commerce: license auctions (executive branch policy position)	Geller 1991
1981-93	FCC and OMB: virtually annual proposals for license auctions	Clemons 1991
1982	FCC Chairman Fowler: license auctions (University of Texas Law Review)	Fowler & Brenner 1982
Feb. 1991	U.S. Department of Commerce: license auctions (spectrum report)	NTIA 1991
Mar. 1992	Congressional Budget Office: license auctions (Report to Congress)	CBO 1992

There were, however, three limitations placed on the FCC's authority by Congress. First, only subscription-based service licenses were to be auctioned; this took over-the-air television

and radio off the table (as opposed to land mobile telephone service, private radio, wireless data transfer, television, or satellite telephone). The second restriction on auctions was that they were not to be used for renewals of existing licenses, but only for new assignments. This exemption extended to lottery applicants who were waiting for drawings to be held, as happened with pending "wireless cable" licenses (Allard 1994, p. 124), and may be interpreted to extend more broadly than this (for instance, to allocations pending before auctions were adopted). The third limitation placed on auction authority directed the FCC to include minority, female, small business, and rural telephone set-asides in whatever competitive bidding scheme(s) it adopted. The "designated entities," as they were called, were to be given monetary discounts as bidders for certain licenses.

Auctions for 10 nationwide narrowband personal communications service (PCS) licenses commenced on 25 July, 1994. After 47 sequential rounds of bidding, these auctions ended on 29 July, netting $617 million (or $783 million per MHz). Other licenses were auctioned off shortly thereafter for IVDS (interactive video data services) and regional narrowband PCS, netting about $600 million. The largest auction to date began 5 December, 1994, and involved 99 broadband PCS licenses of 30 MHz bandwidth (2 per 51 regions minus 3 licenses to be awarded separately under "pioneer's preference" rules). The auction concluded on 13 March, 1995, generating total revenues of over $7 billion. (See Table 3.)

TABLE 3
FCC License Auctions, 1994-95

License Type	*Date Auction Began/Ended*	*No. of License per Market*	*Total No. of Licenses*	*Total Bandwidth Allocation*	*No. of Bidding Rounds*	*Total Auction Revenue*
Narrowband National PCS	7/25/94 - 7/29/94	10 (+1 pp)	10	787.5 kHz	47	$617 mil. (+ $33 mil. pp)
IVDS (MSAs)	7/28/94 - 7/29/94	2	594 (in 297 of 306 MSAs)	1 MHz	1 (open outcry)	$214 mil. ($249 minus DE discounts)
Regional Narrowband PCS	10/26/94 - 11/8/94	6	30 (5 regions)	450 kHz	105	$395 mil. ($489 mil. minus DE discounts)
National Broadband PCS	12/5/95 - (3/13/95)	2	99 (51 MTAs -3 pp's)	60 MHz	112	$7.02 bil. (+ $.7 bil. pp)

PCS = personal communications services; IVDS = interactive video data services; MSA = metropolitan service area (as opposed to rural service area); pp = pioneer's preference; MTA = major trading area (as opposed to basic trading areas); DE = designated entity (eligible for minority, female, small business or rural telephone company discounts).

Source: Federal Communications Commission.

3 Five Hypotheses About Why Auctions Were (Are) Not Employed

3.1 *The Error Theory* (Hypothesis 1)

The classic paper by Ronald Coase (1959) on the Federal Communications Commission, an analysis which blazed the trail in spectrum policy debates and in property rights research generally,[7] postulated that public interest licensing was instituted to due to as analytical error: "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" (Coase 1959, p. 24).

This initial mistake was, moreover, quickly compounded by the issuance of far too licenses. The result has been the regularly-observed incidence of substantial license rents (in the billions of dollars) awarded as windfalls to private firms licensed in the "public interest."

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[7] Ronald Coase places his research on the property rights of airwaves at the center of what became "law and economics at Chicago" (Coase 1993). Dean Lueck has elevated the research in this sub-field to virtually sacred importance: "The broadcast spectrum holds a special, almost holy, place in the economic analysis of law and the economics of property rights" (1994, p. 19).

Economists have always been curious about this paradoxical state of affairs: Why give away valuable licenses to "public trustees" -- and then award only enough so as to protect the windfalls of the first few? Coase answered that a lack of knowledge of market institutions was the answer, a view which became widely influential in the decades that followed.[8] Indeed, a chairman of the Federal Communications Commission was to escalate this error to one of "mythological" proportions:

> The grandest myth of the trusteeship concept is the belief that the value of licenses has remained unchanged since their granting. The Commission has ignored the fact that tremendous wealth attaches to the most desirable licenses, whose value far exceeds the tangible assets of the stations holding them. Instead of adopting regulations that would reflect the actual value of these licenses, the Commission has buried its head deeper into the regulation books and considered more obligations for these special stewards who, in turn, are usually willing to comply with whatever the Commission asks, as long as the cost of compliance is slight (Fowler & Brenner 1982, p. 221; footnote omitted).

The idea that broadcast regulation was anchored on error and myth became widely influential amongst economic analysts.[9] The system of licensing was seen as an ill-considered policy, when auctions would have provided greater economic efficiency. Moreover, whatever public interest obligations broadcasters could truly supply their audiences could be maintained as legally mandated terms and conditions on licensees. The auction alternative appeared fastidious:

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[8] "The climate of opinion generated by early uses of the technology resulted... in fiat allocation and in free (zero price) radio service. The 'accidental' beginnings were incorporated in the Radio Act of 1927 and later in the Communications Act of 1934... It is true that at first this regulation was quite general and benign..." (Owen 1982, p. 36).

[9] In some quarters, it remains so: "The disastrous experience of competition without property rights over the radio spectrum resource led to the Act of 1927, which gave the State the right of ownership and authority over the whole of the radio spectrum, instead of leading to the establishment and recognition of private property rights. This was an unfortunate decision" (Kalman 1993, p. 108).

it would eliminate rent seeking by capturing rents for the Treasury, thus creating a less political and more equitable distribution of benefits.

In short, the Coasian diagnosis led to the following two-step view: (a) Auctions were not only possible but socially efficient; and (b) were not employed due to policymaker error.

3.2 *The Chaos Theory* (Hypothesis 2)

This perspective was challenged by policy-oriented communications scholars from two directions. The first was a positive critique of the *possibility* of auctioning licenses for spectrum use. Dallas Smythe's[10] 1952 rejoinder to Leo Herzel, who had called for FCC license auctions in a 1951 paper, dismissed the auction idea as being "of the realm in which it is merely the fashion of economists to amuse themselves." Smythe pointed to competitive bidding for licenses as inconceivable due to the technology of wireless communications. Calling the medium "unique," he reasoned that:

> Generally speaking, the power and equipment used on any given channel at any given location may cause intolerable interference on other channels unless the whole is carefully engineered to avoid this result... As a matter of fact, any kind of broadcast service depends on the precise determination of these variables: geographic location of stations on the same and adjacent channels, and power... It is an engineering fact of life, learned the hard way in the chaotic period of market control of AM broadcasting, July, 1926 to February, 1927, which led to the conscious national decision to abandon the market controls and to substitute statutory and administrative controls as the basis of our radio policy (Smythe 1952, pp. 100-1).

This rejection of competitive bidding has been analytically unconvincing. Whatever technical externality problems are involved in private use of the airwaves are -- under public trusteeship -- dealt with by rules crafted before licenses are issued, and the licenses are demonstrably allocated (in secondary markets) by competitive bidding.[11] Ronald Coase writes

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[10] Smythe served as Chief Economist of the FCC.

[11] The logic is even more compelling when the nature of property rights enforcement under

that he had not been persuaded by Herzel's argument for FCC license auctions until reading Smythe's critique. "His objections were so incredibly feeble... that I concluded that, if this was the best that could be brought against his proposal, Leo Herzel was clearly right" (Coase 1993, p. 249).

Recently, it has been established that Smythe's interpretation of what was in 1926-27 dubbed "the period of the breakdown of the law" is historically inaccurate (Hazlett 1990; Emord 1991). Yet, as popularized by the U.S. Supreme Court's opinion in *NBC vs. United States* (1943), the historical "lesson" that private markets were incompatible with rational use of the spectrum resource became widespread.[12] And, in conflating private market distribution of licenses (*i.e.*, auctions) with private delineation of property rights, the rationale that the airwaves are unique resources that do not admit to being sold by competitive bidding forms the "chaos theory."

While the "chaos theory" is interesting in explaining the foundations and structure of the regulatory system,[13] it is not interesting as a theory explaining why competitive bidding was not

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the traditional FCC regulatory regime is examined. Licensees are policed to transmit within their designated airspace not by federal monitors who scan the dial for trespassers, but by the licensees themselves. When interference disrupts a licensee's authorized frequency, it is the licensee who is relied upon to report the transgression. The FCC does maintain a skeletal monitoring operation to find radio broadcasting "pirates," but these are unlicensed operators who sneak into empty frequency space and typically do not cause disruption -- hence, the government's special effort to apprehend them. At bottom, spectrum interference is effectively monitored by private licensees exercising *de facto* property rights.

[12] "The plight into which radio fell prior to 1927 was attributable to certain basic facts about radio as a means of communication -- its facilities are limited; they are not available to all who may wish to use them; the radio spectrum simply is not large enough to accommodate everybody. There is a natural fixed limitation upon the number of stations that can operate without interfering with one another. Regulation of radio was therefore as vital to its development as traffic control was to the development of the automobile" (*NBC* [1943], p. 213).

[13] See *Red Lion* (1969).

used by the FCC for six decades. This is because its premises have been shown to be false since Leo Herzel blithely dismissed them in his rejoinder to Smythe (Herzel 1952), and Coase lucidly elaborated the issue of property rights in 1959. It is rebutted by the simple observation of lively, liquid secondary markets for FCC licenses, markets actually in existence before the "public interest" licensing existed (Hazlett 1990). It, moreover, cannot be an explanation today, in that New Zealand has auctioned both spectrum management rights and broadcasting licenses since 1990 (Mueller 1993), while the United States has auctioned FCC licenses since July 1994.

3.3 *The Public Trusteeship Theory* (Hypothesis 3)

A normative critique of auctions has held that competitive bidding has been rejected for sound public policy reasons. Specifically, this theory holds that if property rights were to be awarded objectively, by the market, then regulatory control over key outputs would be lost. As formulated by William Melody, the argument against auctions not only encompassed the chaos which would result from "market allocation,"[14] but included the undesirability of sacrificing public control in either allocation of spectrum or assignment of licenses: "The market cannot be an efficient substitute for the administrative process in achieving either allocational efficiency *or* the broader objectives of the process" (Melody 1980, p. 396; emphasis added).

What I will call the Public Trustee School argues that comparative hearings enable regulators to enforce the social compact in a way that could not be reproduced under the auctions scheme. Moreover, the outputs mandated under this structure are socially productive "public

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[14] "Rights to spectrum are not susceptible to legal enforcement as are private property rights. In the past, allocation by the market of rights to use the spectrum has been found to be impossible, or inefficient. The spectrum has been recognized as a social resource, by both domestic and international law, a unique form of social property" (Melody 1980, p. 394).

goods." Hence, in a global sense, comparative hearings are more efficient than auctions. Tim Brennan (1983, pp. 134-5) found the cross-subsidy system arguably efficent on these terms:

> Another approach to [program] content regulation is the prescription or subsidy of broadcasts of programs that lose significant value when laden with commercials or are of intense interest to a limited viewership... [F]or the government to require commercial broadcasters to carry specified programming without subsidizing that carriage constitutes... a tax on broadcasters to support that programming.

The key is that cross-subsidies disappear in a world in which auctions eliminate licensee rents. The public trusteeship view, seeing regulatory enforcement of merit goods as the essence of the FCC's "public interest" mandate, sees license auctions as disrupting the underlying *allocation* process which creates rents so as to encourage the provision of certain types of programs or services. It is possible to construct an efficiency defense of this regulatory framework (indeed, Brennan does so by emphasizing market failure aspects of broadcasting markets, including the problem with ad-supported media and the lumpiness of program outputs[15]). The Public Trustee Theory of licensing, moreover, survives as a possible explanation of public policy in that it focuses on why *broadcasting* licenses should not be assigned by competitive bidding. In that such licenses are specifically excluded in both the 1981 lottery reform and the 1993 auction legislation, the hypothesis cannot be currently ruled out as an explanation of federal policy.

Economists, however, have largely rejected Hypothesis 3, citing both theoretical and empirical criteria. Theoretically, any bundle of rights which regulators create for a firm can be sold at auction; the only difference with FCC licenses would be that the market allocation

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[15] Borenstein's (1988) critique of license auctions adds another dimension to this logic, noting that inframarginal demands will go unaccounted for at the auction. This critique applies equally to private auctions in resale markets, however, and so does not frontally attack the regulatory regime observable in spectrum access.

occurred in the initial assignment instead of in secondary markets.[16] Empirically, research some twenty years ago established that the public interest outputs which regulators claimed to be the objective of the licensing system were not, in fact, procured by the comparative hearing process. As Bruce Owen (1982, p. 43) wrote: "the government does not live up to its own theory of regulation."

This verdict has been supported by findings by the FCC itself. The overriding public interests objectives of television licensing policy, as stated by the Commission, have been to encourage "localism" and "diversity" (of competing viewpoints). Yet, in a Commission study of local broadcast programming in the state of Oklahoma, the evidence was that the policy was failing not just there, but everywhere:

> As far as Oklahoma broadcasting is concerned, the concept of local service is largely a myth. With a few exceptions, Oklahoma stations provide almost literally no programming that can be meaningfully described as "local expression.... it is unlikely that their performance differs greatly from the performance of broadcasters in other states (Cox & Johnson 1968, Chapter 3).

The benefits of diversity of expression are parallel to the benefits of competition: consumers are better off with additional choices. But the means chosen to provide such diversity have been curious. According to the FCC's 1980 study on the television networks, the Commission chose to protect existing networks from competitive entry and to redistribute the excess profits created via regulatory mandates to diversify programming. The study found these efforts, on net, had been counter-productive:

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[16] Moreover, the monies raised at auction could be dedicated as a subsidy to fund meritorious programming -- the ostensible aim of public trusteeship -- directly: "Even if one accepts the public service thesis, there are better ways of proceeding. For instance, auctioning of property rights or leasehold rights in the spectrum would produce a great deal of revenue that could be used to subsidize public service programming" (Owen 1982, p. 47).

> [T]he Commission limited the ability of new networks to enter and sacrificed the potential improvement in network competition in order to achieve some other goals. In no case have these other goals been realized (FCC 1980, p.6).[17]

This conclusion is no longer considered cynical or radical. One of the most respected telecommunications policymakers, former FCC general counsel (and Carter Administration Assistant Secretary of Commerce), Henry Geller, has written: "[T]he public trustee regulatory regime for [license] renewal is, and has long been, a failure." He also nods agreement with the following assessment: "In 1976, Commissioner Glen Robinson, echoing Ronald Coase, a University of Chicago economist and earlier critic of the FCC, described FCC regulation of broadcasting as a charade -- a wrestling match full of fake grunts and groans but signifying nothing" (Geller 1994, p. 15).

3.4 *The Homesteading Theory* (Hypothesis 4)

If the Chaos Theory is "incredibly feeble" and the Public Trustee Theory is contradicted by the empirical evidence, the Error Theory has also been recently critiqued in its reading of the original development of radio law. While Coase based his historical reading on that rendered by the U.S. Supreme Court in the *NBC* case (1943), a "revisionist" analysis has established that priority-in-use property rights allowed an orderly development of radio broadcasting, 1920-26 (Hazlett 1990). This view has been widely accepted by economists, lawyers, and communications analysts (Spitzer 1989, Donahue 1989, Emord 1991, Krattenmaker & Powe 1994, Lueck 1994).

The historical record is absolutely clear that the licensing scheme adopted under the 1927 Radio Act was not the result of naiveté concerning property rights,[18] but was intended to *overrule*

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[17] Noll et al. 1973 reach similar conclusions in their influential academic study.

[18] "From the beginning, congressional committees and courts, with no real understanding of the technology of spectrum utilization, combined with happenstance to produce a framework of

the orderly property rights regime then developing.[19] The bargain instituted was a classic regulatory *quid pro quo*, where incumbent radio broadcasters agreed to be subject to "public interest" licensing requirements (and renewals) in exchange for barriers to new entry. Since a rule of "right of user" would allow competitors to homestead new bands, broadcaster rents were protected by abandoning pure private property in favor of the *de facto* private property embodied in "public trusteeship." The most credible source on congressional intent is the author of the 1927 Radio Act, Senator C.C. Dill (D-WA):

> Why Congress Became Aroused on Subject
>
> The development of these claims of vested rights in radio frequencies had caused many members of Congress to fear that this one and only remaining public domain in the form of free radio communication might soon be lost unless Congress protected it by legislation. It caused renewed demand for the assertion of full sovereignty over radio by Congress...
>
> [T]he purpose of Congress from the beginning of consideration concerning broadcasting was to prevent private ownership of wave lengths or vested rights of any kind in the use of radio transmitting apparatus (Dill 1938, pp. 80-1).[20]

The homesteading theory explains why auctions were not the most efficient license assignment method before the 1927 Radio Act was enacted. But what it does not explain is the

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legal and policy attitudes favoring what now seem to be exactly the wrong institutional structures for the broadcast media" (Owen 1982, p. 36).

[19] Radio broadcast interests had been asserting priority-in-use property rights, both in the U.S. and abroad, since at least 1920, according to a 1924 article in the *American Economic Review* (Childs 1924). The author of that essay expressed concern, in fact, that private interests would indeed be recognized as sovereign over the airwaves, a policy outcome he saw as undesirable. The relevance is two-fold: (1) property rights to spectrum were not unknown institutions prior to federal regulation; (2) the policy debate was dominated by a concern over loss of governmental control of an important new medium of expression.

[20] Interestingly, it was the radio industry, in combination with their regulatory champion Herbert Hoover, which originally advanced the "public interest" standard for proposed legislation well in advance of the 1927 Radio Act (Hazlett 1989b). This seized on the precise remedy to the durable goods monopoly problem suggested by Ronald Coase (1972).

longevity of comparative hearings in the "public interest." Why were new band allocations for FM radio, VHF-TV, UHF-TV, mobile telephones, point-to-point microwave, DBS (satellite television), and MMDS (wireless cable) assigned to private users by non-auction methods? Certainly, the efficiency of the "right of user" or "pioneering" rules for first possession in encouraging the discovering of new, socially-useful property (as discussed in Lueck 1994) cannot explain federal policies over the decades following 1927.

3.5 *The Franchise Rents Theory* (Hypothesis 5)

The thesis of this paper is that the homesteading theory can be usefully extended to explain the survival of a system which economists have repeatedly characterized as mistaken and inefficient. While accepting the normative conclusion regarding social cost, the Franchise Rents Theory salvages the Public Trustree Theory's political dynamics. The licensing arrangement -- zero-priced rights in exchange for "public interest" obligations -- is seen as similar to devices employed in private sector bargaining situations where the costs of monitoring franchisee behavior are non-trivial.

While the franchise contract literature provides an able analogy to broadcast licensing at one level, the result is a more extreme outcome than that seen in private markets. Whereas competition between private contractees will constrain performance monitoring costs, no analogous constraint is in place in the public sector, leading to an agency problem. Specifically, those key policymakers with a vested interest in telecommunications law have been able to maximize influence by enforcing a zero-priced license policy much as managers of state-owned enterprises systematically underprice outputs.

Perhaps the key premise on which this theory builds is the reality that broadcasting presents policymakers with both a special opportunity and a special problem. Whereas the

benefits to be gained from influencing the distribution of rents in the broadcasting industry are particularly attractive to legislators who see the industry's outputs (programs) as inputs (publicity) into their own production functions (as suppliers of support-attracting policies), there exist important constraints on regulatory behavior not found elsewhere. The most severe of these is the First Amendment, which blocks any direct (or obvious) government influence over program content. The opportunity for policymakers to receive in-kind payments from those they regulate must contend with this institutional inconvenience.

The mechanism chosen is "public trusteeship." It works in Posnerian terms: large rents are awarded and protected for licenseholders in broadcast markets by regulators; in return, licensees must satisfy implicit demands of regulators regarding program content. Transparent program regulation would not pass constitutional muster. Hence, a series of "public interest" rationales for regulation must be employed. These include "localism," "diversity of expression," and protecting the "rights of listeners." That such goals have not been achieved, on net, by Commission policies does not destroy their usefulness. They have permitted a politically optimal exchange to be consummated.

The failure of stated policy objectives has confused analysts. For instance, one of the most acute observers of broadcast regulation, the late D.C. Circuit Judge David Bazelon, observed:

> In many ways, we now have the worst of all possible worlds. The FCC's policies... have hindered diversity, suppressed creativity, and fostered the domination of three large, but virtually identical networks, which exercise an unprecedented influence over the national political and cultural life. Yet these networks, far from being a bulwark of independence from the government, have been made to cringe at the slightest questioning of the regulator. We reluctantly accepted content regulation in order to promote diversity. Yet we have not achieved significant diversity, and all we are left with is content regulation (Bazelon 1982, p. 56).

And rents. The television license, particularly for VHF stations, and especially for those owned or otherwise affiliated with the national networks, is a very valuable special right. Levin (1980, p. 115) reported that, for the year 1975, about 80% of total profits earned by VHF television stations ($417 million of $520 million) could fairly be considered FCC license rents. The Franchise Rents theory combines the Bazelon conclusion -- broadcasters are regulated in constitutionally ambitious ways while the public interest claims for regulation go unfulfilled -- with the empirical evidence that broadcast interests are compensated for their loss of legal standing. The hypothesis, while sharing the Error Theory's conclusion that comparative hearings are economically inefficient, also builds on the Public Trustee Theory's insight that regulators have constructed a licensing scheme to monitor broadcaster behavior. The normative implications of Hypothesis 5 are distinct from Public Trusteeship, however, in suggesting that the regulatory dynamics of the system have been inadequately understood by both economists and the federal courts.

TABLE 4
Why Comparative Hearings Instead of Auctions: 5 Competing Hypotheses

Theory	*Auctions Feasible?*	*Policymakers Rational?*	*Comparative Hearings Economically Efficient?*
(1) Error	Yes	No	No
(2) Chaos	No	Yes	Yes
(3) Public Trustee	Yes	Yes	Yes
(4) Homestead	No	Yes	No
(5) Franchise Rents	Yes	Yes	No

4 The Special Political and Legal Nature of Broadcasting

The broadcast industry and Congress have been described as linked by an "umbilical cord." Broadcasters control a very important commodity to politicians

-- electronic media exposure... Robert MacNeil's analogy describing the 'tense mutual interdependence' of Congress and the broadcast industry is apt:

> "Imagine a situation of a street peddlar who sells old-fashioned patent medicines. He needs a license to stay in business, and the city official who issues them is dubious about most of the peddler's wares. Yet it just happens that one product, a magic elixir, is the only thing that will cure the official's rheumatism and keep him in health. So the two coexist in a tense mutual interdependence, the peddlar getting his license, the official his magic elixir" (Krasnow et al. 1982, p. 90).

Political coalitions view control over broadcast licenses as a two-fer: It brings all the benefits typically enjoyed when adjudicating a rent distribution, and it yields influence over the broadcasters' output.[21] That is, broadcast licenses are analogous to export quotas or agricultural subsidies -- things of value which may be conferred upon those demonstrating the greatest effective (political support) demand -- *and* to suppliers of resources which politicians, as rational investors in human capital, demand. Publicity and policy "spin" are inputs into the electoral process, inputs which politicians are keen to buy at below-market rates. Looked at from a slightly different perspective: Broadcasters are able to compensate policymakers for awarding and/or protecting rents in all the traditional forms available to any private sector recipient, plus they are able to make *in-kind donations* to political maximization functions. These donations may actually increase broadcaster profits when they take the form of program content controls which having a "chilling effect" on news competition.[22]

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[21] The political pork incentive behind zero-priced licenses is widely recognized. As one industry analyst noted, regarding the reluctance of Congress to approve FCC license auctions: "But, then, who ever seriously thought politicians would concede -- to some bureaucratically-administered deus ex machina -- the essential role of dispensing goodies? If there are goodies to be dispensed, after all, why shouldn't politicians be able to take credit?" (Ken Robinson, "Selling the People's Airwaves, Hertz-by-Hertz, Supp. LV" *Telecommunications Policy Review 10* [31 July, 1994], p. 7).

[22] The most famous content control, the fairness doctrine, has been found by the FCC itself to have had a "chilling effect" deterring the presentation of controversial news programs (FCC 1985). This may be seen as a restraint on competitive behavior.

The legal difficulty stems from two constitutional clauses protecting FCC licensees: takings[23] and freedom of the press. They ironically endow the broadcast licensee with too many rights to execute a *quid pro quo* bargain with regulators. The central purpose of a contract is to bind parties in a manner that benefits both. Yet broadcasters cannot explicitly waive their constitutional rights, even if appropriately compensated. To resolve this legal impasse, the zero-priced broadcasting license is a key institutional innovation. Its importance turns out not to be diminished by positive prices paid for spectrum access licenses in resale markets.[24]

4.1 Takings

As a matter of law, regulators are typically allowed latitude to negatively impact capitalized market values, whereas they cannot be *confiscatory*. This would constitute a taking. A key Supreme Court precedent on this is a 1944 case, *Federal Power Commission v. Hope Natural Gas Company* (320 US 591). It considered federal rate controls to be constitutional (on both due process and takings grounds) only if they were "just and reasonable," an analysis that led the Court into specific (and lengthy) consideration of historic costs and appropriate depreciation rates. The primary point of contention in the case involved the "legitimate cost" of capital on which to regulate a natural gas company's return. The Court specifically rejected the

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[23] Due process claims are sometimes close takings substitutes in the area of government licenses. That is, when the government is alleged to have confiscated private property without compensation, it may be successful characterized as a violation of due process of law. This rationale for due process as a protection of property rights in radio licenses predates the 1927 Radio Act (see comments of Senator Dill in 68 *Cong. Rec.* 2870 [3 February, 1927]). The logic will be entirely parallel to the takings and even First Amendment causes of action, so the presence of a third strain of Constitutional protection for licensees only strengthens the logic presented here.

[24] Interestingly, the importance of the initial price set by the government has nothing to do with the sunk cost fallacy, which some economists have attempted to read into the issue.

suggestion that the Constitution gave the firm the right to "going concern value" (p. 609), relying instead on "prudent investment cost" -- *i.e.*, book value.

The Court differentiated between the Constitutional protection afforded quasi-rents and those afforded rents. As put by Justice Jackson in a concurring opinion: "[T]here is nothing in the law which compels a commission to fix a price at that 'value' which a company might give to its products by taking advantage of scarcity, or monopoly of supply. The very purpose of fixing maximum prices is to take away from the seller his opportunity to get all that otherwise the market would award him for his goods. This is a constitutional use of the power to fix maximum prices" (*Ibid.*, p. 655). While confiscatory rate controls were clearly impermissible, those which compensated for historical costs of "prudent investment" were not (*Ibid.*, p. 622). That calculations based on the sunk cost fallacy would result from such a legal analysis was even pointed out by Justice Jackson, but it did not change the law.[25]

4.2 Freedom of the Press

> Programming obligations have always been viewed as a trade for a near-perpetual renewal of broadcast licenses (Dyk 1988, p. 318).
>
> A proposal to [regulate print publishing] would, of course, be rejected out of hand as inconsistent with the doctrine of freedom of the press (Coase 1959, p. 7).

How has broadcasting -- unique among the press media -- come to be regulated? Take, for instance, the prevailing Supreme Court precedent ruling that the federal government can regulate broadcasters in ways the First Amendment prohibits for the printed medium, *Red Lion* (1969). The case concerned the ability of the FCC to impose obligations on radio licensees, specifically that a station be ordered to grant free equal time to a person who had been criticized

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[25] It is readily apparent that constraining regulators to respect quasi-rents will produce pro-investment dynamics.

on the air (the so-called right of reply, or attack, rules). Clearly, no such obligation could be imposed on a newspaper.[26] The rationale used by the Court in sidestepping the "freedom of the press" clause for broadcasting, however, hinged on excess demand in the market for FCC licenses:

> Where there are substantially more individuals who want to broadcast than there are frequencies to allocate.... [where] 100 persons want broadcast licenses but there are only 10 frequencies to allocate... only a few can be licensed (*Red Lion*, p. 388-9).

Economists have seen such reasoning as nonsense; the government could sell licenses for market clearing prices and eliminate excess demand in an instant -- just as secondary markets have been doing for seven decades (*i.e.*, even since *before* public interest licensing). Yet, if the government assigned licenses by an objective process such as competitive bidding, the "winning" licensees would not be privileged. They would merely be purchasers of property. The courts see this as changing the legal status of the broadcaster. As the First Amendment scholar Lee Bollinger has said of the *Red Lion* decision, the Supreme Court "never referred to the broadcast media as the press nor to broadcasters as editors or journalists; they were consistently described as licensees and fiduciaries" (Corn-Revere 1994, p. 280).

Auction opponents have, through the years, decried competitive bidding as the death of public trusteeship, only to be dismissed as non-analytical by economists who pointed out that all competitive bidding would do would be to soak up rents for the Treasury, while eliminating some rent-seeking expense along the way. Yet, the "social compact" for broadcasting cannot be duplicated under such a regime. If license rents were bid away in the initial assigment process,[27]

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[26] See *Miami Herald* (1974). Friendly (1975) compares these two cases in a fascinating analysis.

[27] Of course, as licenses are traded in secondary markets, license rents go to initial

the underlying rationale for greater regulatory discretion over broadcasters than over newspapers disappears.[28]

The federal courts have said this explicitly. In the 1974 case of *Citizens Committee to Save WEFM v. F.C.C.* (506 F.2d 246), the D.C. Circuit Court of Appeals was considering the appropriate scope of FCC regulation when faced with a request to approve a license transfer (coincident with a radio station sale) to a new owner who planned to change the station's format from classical music to contemporary music. Although regulating radio formats is highly problematic and clearly impinges on the freedom of the broadcast licensee to engage in speech or expression, the court strongly endorsed radio station format regulation: "We think it axiomatic that preservation of a format [which] would otherwise disappear, although economically and technologically viable and preferred by a significant number of listeners, is generally in the public interest" (*Ibid.*, p. 268). This passage ends with a footnote explaining how such regulation of content is permissible:

> It cannot be otherwise when it is remembered that the radio channels are *priceless* properties in limited supply, owned by all of the people for the use of which the *licensees pay nothing*. If the marketplace alone is to determine programming format, then different tastes among the totality of owners may go ungratified. Congress, having made the essential decision to license at *no charge* for private operation as distinct from putting the channels *up for bids*, can hardly be thought

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assignees, and (market) license values appear as quasi-rents. The legal interpretation differs somewhat from this economic view: the law sees the original book value of the license as constant across market transactions, and any premia paid as a purely private speculation on future returns. Hence, I shall use this logic in separating license rents from quasi-rents, even after licenses change hands at market prices.

[28] It is not simply that broadcasters have access to an input controlled by the government, or owned by the public, that gives regulators the opportunity to assert jurisdiction. Newspapers use public streets to distribute their product. It is the *special* access, the right to do what is not generally allowed, that is the predicate for government regulation.

to have had so limited a concept of the aims of regulation (*Ibid.*, emphasis added).[29]

The rents which are granted to nonpaying licensees are legally distinct from whatever quasi-rents would become vested in licensees which had procured their licenses via competitive bidding. This has confused the economic analysis greatly, as seen in the following passage:

> The Commission allocated less spectrum to broadcasting than was demanded at the price of a license [zero]. The result was the creation of scarcity rents or excess profits associated with the license itself...
>
> The elementary economic and political error involved in this allocation decision might have been avoided either by providing more spectrum for broadcasting... or by charging a license fee that cleared the market at the supply level preferred by the Commission. These things might have been done at the outset with little political cost. The moment they were not done, the vested interests created a formidable block to reform which has continued to the present day. Perhaps worse, a myth was created that there was a limited supply of spectrum for broadcasting, and this myth provided the rationale for a long series of judicial decisions confirming the Commission's policies, and undermining freedom of expression in the electronic media (Owen 1982, p. 37).

Impressive, the power of myth.[30]

5 Broadcast License Rents and "Content Controls"

> [T]here are a large number of people who well recognize that the broadcasters function under a very splendid monopoly protection for their use of a particular section of the spectrum. If this section of the law or [Fairness Doctrine] regulations were to be repealed, I would be strongly moved to perhaps test their dedication to competition by offering provisions to the law which might necessarily either deal more fairly with renewals or something of that kind, or to deal perhaps with the issue of perhaps going so far as requiring payments for the use of a portion of the spectrum by broadcasters, or perhaps simply eliminating

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[29] This passage has been cited in other FCC proceedings in arguments against deregulation of radio. (See FCC 1979, p. 57720.)

[30] The word "myth" is a very popular descriptive term among policy experts describing the public trustee system of licensing via comparative hearings. (See: Fowler & Brenner 1982, p. 221, passage cited above in Section 3.1; Allard 1994, p. 112; Krattenmaker & Powe 1994, p. 18, discussing "twin myths [of] scarcity and interference.").

the monopoly under which they function so splendidly under the protection of a broad federal mandate which ensures them in their ability to enjoy splendid financial returns on the use of a public resource.

-- Cong. John D. Dingell,
Chairman, House Committee on
Energy and Commerce[31]

The economic rationale driving zero-priced license awards involves performance incentives for broadcasters. Licensees are motivated to provide cross-subsidies in the typical *quid pro quo* fashion, compensating policymakers and interest group supporters of the regulatory structure. Charging a monetary price for licenses reduces the incentive and ability of licensees to support politically advantageous redistribution.

Goldberg 1976 notes that firms are often given special rights so as to perform in fundamentally different ways; to invest more in specific capital, for instance. He uses regulatory barriers to entry -- licenses -- as an example of just such a situation. In broadcasting, it is clear that a threat to extract a firm's quasi-rents (returns on the upfront price paid to the government) would undermine the long-term game and constitute a taking. But the other side of this coin is that what would elsewise appear to be pure rents can be characterized as "forfeitable collateral bonds" -- devices keeping suppliers from shirking on quality by virtue of the economic incentive provided by lost future returns (Klein, Crawford, & Alchian [KCA] 1978, p. 306).

An analogy to the Coors case explains this logic.[32] Coors brewed a beer that relied upon a unique industrial process, one which required constant refrigeration of the finished product. If

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[31] Hearings held by the Subcommittee on Telecommunications and Finance of the House Energy and Commerce Committee, 100th Congress, First Session, on H.R. 1934 (legislation to codify the Fairness Doctrine) (7 April, 1987), p. 10.

[32] This discussion follows from facts and analysis in Klein and McLaughlin 1978.

cases of Coors were left at room temperature, the taste of the beer would be considerably diminished. The brewer was not vertically integrated to the end customer: a complex web of independent distributors and retailers handled the product after it left the factory. The costs associated with monitoring these agents were substantial. A potential free rider problem emerged: If agents handling Coors beer earned competitive returns (*i.e.*, were compensated just as those agents for standard brands), they would have dangerously weak incentives to maintain the refrigerated integrity of the product. This was because customers purchasing low quality (non-refrigerated) beer would associate the poor taste with the brand name Coors, and because the offending non-Coors agent would lose only competitive returns if terminated.

The solution adopted by Coors was to establish relatively lucrative distributorships for Coors wholesalers and to include lightening fast, unilateral termination clauses in their contracts. In a nutshell, the brand-name company offered its agents a premium, but threatened to revoke that premium with a minimum of delay or litigation expense should the agent be found cheating on quality. The specter of lost compensation was not a "giveaway of rents," but a payment for specialized performance where performance could not be directly monitored in a costless fashion. In an analogous situation regarding the Tastee Freeze franchise set-up, KCA (1978, p. 306) find that quasi-rents can also be use to monitor agent behavior. In general, firms which have specific capital at risk tend to behave more "responsibly." Indeed, it may pay manufacturers (or consumers -- see Klein & Leffler 1981) to consciously pay a premium so as to *create* specific capital.[33]

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[33] This logic goes far beyond Coors and Tastee Freeze; it is widespread in the marketplace. Franchise contracts involving resale price maintenance or exclusive territories can be seen as incentive structures motivating retailer sales effort (Telser 1960, Rubin 1978), and pension "cliff vesting" in labor contracts is used to motivate employee work effort (Rosen 1985, Lazear 1990).

This incentive structure describes the effect of zero-priced licenses on the underlying regulatory regime, public trusteeship. In the case of broadcast licensing, quasi-rents cannot be expropriated for non-performance for constitutional reasons already described. From the perspective of regulators, this makes (explicit) quality monitoring costs infinite. But the strategic use of rents to police the behavior of licensees (aka franchisees) can be substituted for an explicit contract.

The regulatory oversight of broadcasters has long been premised upon the *quid pro quo* owed the government by the licensee. As Congressman Edward Markey, then (and now) chair of the House Subcommittee on Finance and Telecommunications, argued in the Fairness Doctrine debate[34]: "It does not seem to me to be an outrageous idea that broadcasters -- who are granted, at no cost, the exclusive use of a scarce public resource, the electromagnetic spectrum -- be required to inform the public in a responsible manner... We do not exact any monetary payment for the use of the spectrum, but we do ask broadcasters to serve in the public interest" (Markey 1988, 26-7).[35]

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[34] The Fairness Doctrine, a 1949 FCC regulation, mandated that radio and television licensees present coverage of controversial public issues from balanced perspectives. The Commission abolished it in 1987, touching off a firestorm of protest in the Congress. (See Markey 1988; Hazlett 1989.)

[35] In 1987 House hearings, proponents of the Doctrine (including two former FCC Chairmen) repeatedly cited the manner in which broadcast licenses were obtained from the federal government. The implication, again, was that to be uniquely singled out for a special favor obligated a licensee to provide a certain level of quality, in this instance characterized as "fairness." (Hearings Before the Subcommittee on Telecommunications and Finance of the Committee on Energy and Commerce, House of Representatives, One Hundredth Congress, First Session, on H.R. 1934 [7 April, 1987].)

The standard economic critique of the Public Trustee Theory misses the contracting dynamic embedded within the regulatory contract. Hence, it has experienced difficulty in explaining decades of FCC policy. For example:

> It may further be argued that allowing radiation rights to be used as the owner wishes will emasculate "socially desirable" censorship -- control over the activities of the right holders. This argument rests on the mistaken idea that the market and *any* censorship (control) are incompatible. This, of course, is incorrect. Censorship can be, and is brought about by limiting the rights of private property, allowing them to be exercised within constraints established by the political process.
>
> A simple solution, as far as program control is concerned, would be to incorporate a proviso in the rights of radiation themselves -- similar to the licenses that are issued to taxicabs where property rights in the use of the automobile are restricted. In a similar fashion, it could also be required that those who hold rights of radiation can engage in, for example, television broadcasting, if and only if they are able to obtain a license to do so.
>
> Such a license could specify the required time to be devoted to certain types and quality of programs. There is no obvious reason why this method is inferior to the present method (Minasian 1975, p. 268).

The "no[t] obvious reason" Minasian's explicit censorship scheme is a non-starter is that it is unconstitutional. The "public interest standard" has only been able to wiggle free of this constraint due to an exemption granted by the courts on the basis of zero-priced license awards and the special privileges they convey. That this is bad law is not disputed here,[36] but is irrelevant in describing how the regulatory system has evolved. Moreover, the censorship which Minasian assumes would be desirable to state in explicit, contractual terms, may not be the censorship which the Public Trustee system desires to institute. If the government's motivation for enforcing "public interest" content controls is to compensate policy officials with favorable publicity and pro-incumbent news coverage, then the terms of the deal are best left vague.

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[36] The poor logic of the law has been known since Coase 1959. (See also: Corn-Revere 1994; Krattenmaker & Powe 1994.)

Certainly, the Federal Communications Commission has historically elected to leave its standards for deciding the "public interest" ill-defined. This pattern has been observed by the FCC itself. For instance, in a rulemaking on radio regulation, Commissioner James Quello, commented on the process whereby thousands of radio licenses are renewed, according to "public interest, convenience, or necessity," on a three-year cycle:

> For most licensees, the triennial shipment of pounds of paper to Washington, D.C. is [a] ritualistic, time-consuming, expensive and nonproductive... method of ferreting out those few licensees who have failed to meet a subjective "public interest" standard of performance (FCC 1979, p. 57716).

While vague statutes which regulate expression are routinely tossed out by federal courts as chilling free speech in violation of the First Amendment, the fact that FCC licenses are issued on "public interest" determinations -- requiring mounds of paper and "ritualistic" documentation precisely because there is no bright-line definition of the "subjective" standard -- has passed constitutional muster. This is no small achievement for policymakers who internalize gains from exercising such authority.

6 Are License Rents At Risk?

Although the number of actual non-renewals has been modest,[37] regulator leverage over licensees is not impotent. The existence of generally harmonious dealings in license renewals reflects a symmetry of expectations concerning the criteria employed by regulators, as well as the effectiveness of the economic incentives governing licensee behavior. David Bazelon described the regulatory enforcement scheme in television licensing thusly:

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[37] In the history of broadcast regulation only a handful of the thousands of radio and TV licenses issued, and renewed every 3, 5 or 7 years, have ever been revoked. (See Bazelon 1975; Powe 1987.) The FCC could cite only one instance of a content-based non-renewal in radio (FCC 1979, p. 57659).

> [D]espite their tremendous influence, the networks have never developed a leverage to free the broadcast media from government influence. On the contrary, the tremendous stakes in the highly concentrated television medium make the networks particularly sensitive to the prevailing political winds at the FCC, in Congress, and in the White House. And the government has fostered network sensitivity to government wishes by making clear that the failure to respond to the government's concept of appropriate program content would jeopardize the all-valuable license. I am reminded by one broadcaster who observed: "We all live or die... by the FCC gun" (Bazelon 1982, p. 55).

Licensees tend to be very responsive to regulators even if licensees are only rarely revoked (or not renewed). The expected cost of even a modest threat looms large, and there are other ways to shave rents. Legal costs are significant (and of much higher probability of being expended), and adverse rulings (including competitive entry) more likely, should the licensee challenge the contours of the implicit contract. It is clear that the greater the rents at stake, the more compliant will the licensee be to regulatory authority.

The logic of this regulatory enforcement tool is a commonplace within the broadcasting industry. So much so that a term of art, "raised eyebrow," has come to characterize the artful manner in which regulators skirt political, jurisdictional or constitutional challenges in the process of government censorship.[38] Indeed, Mayton (1989) describes the effort in the 1970s by Nixon's FCC Chairman, Richard Wiley, to influence the television networks' programming decisions:

> ... while he disclaimed the need for any "formal Commission action" (he worried that such action would raise "severe First Amendment... problems"), by various informal contacts, meetings, and telephone conversations with network leaders, nonetheless pressured the networks into adopting a "family viewing policy" that restricted prime time programming. This action was challenged in court, on the

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[38] Mayton (1989) cites Pierson, "The Active Eyebrow: A Changing Style for Censorship," *1 Television Quarterly* 14 (1962), for this term, and describes the process thusly: "The Commission in some manner suggests the conduct that it favors, and then depends on the tendency of broadcast stations to avoid putting their licenses at risk to bring in line the whole industry..." (p. 758).

> grounds that the Commission, while avoiding formal regulation, had by a pattern of threats and intimidation induced a system of program controls.
>
> The district court, in a long and elaborate opinion, found that Commissioner Wiley had "foisted a policy on the networks" in violation of the first amendment. On appeal, however, this judgment was vacated, but not on the merits. Instead, the court of appeals found that the Commission's action was not sufficiently definitive to support court intervention in an area "primarily" committed to the Commission. Ironically, the very practice at issue, the informal Commission pressures and intimidation, by that informality saved the Commission from the courts (Ibid., p. 759; footnotes omitted).

In 1962, the late economist Harvey Levin essentially saw through the "public trustee" contract. He argued that there were two relevant choices to be made concerning broadcast licenses. Either television broadcast regulations were to be spelled out in detail, such that public goals were actually identified and fulfilled, or licenses should be sold by competitive bid.[39] The problem he saw with the first approach was that: "Unfortunately, this might well impose a straight-jacket on program innovation, impair the industry's creative-experimental capacities, and raise unwanted threats of government intrusion" (Levin 1962, p. 66).

In logically presenting the auction alternative to this Catch 22 -- loose regulation does not work, and tight regulation will be neither wise nor legal -- Levin implicitly draws out the essential elements of the policy decision *not* to employ competitive bidding. While policymakers could have taken rents via auctions and used such rents to subsidize announced public interest goals directly (*Ibid*, p. 67), they chose to stick with an evidently failing regulatory structure.

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[39] "The issues facing American broadcasting today are twofold. Either the regulators must impose far less ambiguous service standards than hitherto, even to the point of requiring compulsory internal subsidization by licensees; or else Congress must authorize them to recapture franchise value for the whole community" (Levin 1962, p. 66).

7 Excess License Demand and the Public Sector Agency Problem

So regulators and licensees view public trusteeship as an implicit contract governing the distribution of regulation-induced rents. The analogy to private market transactions, particularly those involving long-term dealing in markets in which specific capital is an important component of production, is strong. But whereas the discovery of contract efficiency in private markets was seen as ultimately (or at least plausibly) proconsumer, the rationality driving the "social compact" in broadcasting demonstrates the existence of an agency problem. While the contractual institution devised meets the objectives of the parties to the agreement, it does not enhance the welfare of consumers as a class. Indeed, the purpose of the contract is to circumvent legal constraints placed on policymakers, allowing public sector officials to internalize benefits at the expense of the public. In this setting, another strong analogy comes to mind: That of the manager of the state-owned enterprise in a socialist economy who intentionally underprices firm output.

Schleifer & Vishny (1992) pose the following question: Why are there pervasive shortages under socialism? Their answer, that socialist firms seek to distribute rents in the interests of their managers rather than on behalf of their (government) owners, is highly instructive. Because official profits of the state owned enterprise will flow to the central authority, the socialist firm will elect to capture rents by selling its output for below-market prices plus some unofficial payment (which is captured by firm management).[40] Their logic is

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[40] The authors allow that firm managers may get to retain some of the firm's earnings; as the effective tax rate imposed on the firm drops from 100%, the results of the analysis change correspondingly. Firms may also be required to have some level of profit, an earnings quota, to repatriate to the central authority. This also mitigates the firm's incentives to underprice, as such quotas may be intended to do.

easily transferable: "if the industry could pick both its price and the quantity it produces, it would set the price equal to zero (to minimize what it perceives to be its marginal cost) and set the output at the point where the marginal revenue from producing more is equal to zero" (*Ibid.*, p. 241). This vividly describes both the entry barriers creating artificial spectrum scarcity and the intentional underpricing of spectrum access licenses issued.

The Schleifer & Vishny argument is compelling in describing the structural result, but is essentially unfulfilling regarding the stability of this equilibrium. Why does the central authority not simply eliminate such rent dissipation by instituting market clearing prices, maximizing social output, and redistributing via the tax system? Greater transfers are theoretically possible because national income is higher under a more efficient pricing rule (*i.e.*, market prices).

The inefficiency of price controls (or the inefficiency of zero-priced licenses) is seen in equilibrium due to an agency problem: Those policymakers who set prices may be "skimming" by diverting competition from money bids (which go to the corporate or public sector treasury) to other forms of payment. This is the explanation given in Alchian & Allen (1972) in describing the systematic underpricing of Rose Bowl tickets:

> Each New Year's Day, for the Rose Bowl football game in Pasadena, California, sure as fate, more tickets are wanted than are available at the price set... Why does the Rose Bowl Association refuse higher offers from frustrated buyers? Why does it refuse greater wealth? (*Ibid.*, p. 145).

The policymaker within this non-profit organization ethically takes advantage of excess demand by purchasing his own tickets below market value, and by "extend[ing] favors to selected applicants for tickets" (*Ibid.*, p. 146) This increases the policymaker's utility, as "his prestige is increased: he is invited to the best places, clubs and circles; and even when he buys a car or furniture, past favors are fondly and effectively recalled." (*Ibid.*) Hence, agents may have

strong incentives to dissipate an organization's rents by underpricing, in that non-profit organizations lack strong mechanisms (*i.e.*, residual claimants) for stopping such dissipation.

How have regulators priced access to the "public's airwaves"? Much as enterprise managers of socialist firms price their outputs: so as to produce excess demand. The agency problem is strikingly symmetric, as the squandered funds and real resource costs of "pervasive shortages under socialism" are not internalized by the managers making pricing decisions. In either instance, socialism or federal licensing policy, public failure is due to misalignment of agent incentives.[41]

8 Breaking Away from Comparative Hearings for Nonbroadcast Licenses

The primary motivation for "public trusteeship" has been the regulation of broadcasters. The Federal Radio Act established federal licensing with that as virtually its sole concern (Dill 1938), although certain bands have always been open to nonbroadcast use (for instance, ship to shore radios, amateur short wave[42]). As an economic matter, it is apparent that broadcasting played an overwhelming role relative to alternative wireless services licensed by the FCC up through the 1970s, while nonbroadcast services became dominant in the 1980s.

A simple comparison of the relative economic importance of broadcast services (AM and FM radio, VHF and UHF television) versus land mobile services shows this. In 1967 the Federal Communications Commission published annual "cost of ownership" figures for these two broad categories. These include amortization and operating expenses. In 1990, the Department of

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[41] This problem, of course, stems from property rights being ill-defined in the public sector. Elsewise, the efficient solution would obtain as per the Coase Theorem (Coase 1960).

[42] It is interesting to note that the 1912 Radio Act, motivated by the Titanic disaster and concerned mainly with these two services in a pre-broadcasting environment, allowed for open entry subject to Department of Commerce rules "minimizing interference."

Commerce provided estimates of the total transaction value of the licenses used in broadcasting (again including all radio and TV) compared to value of FCC cellular licenses used in metropolitan service areas. It must be remembered that while Table 5 deals with annual expenditures, Table 6 summarizes present values; hence, the numbers are not directly comparable between years. But changes in the *relative* economic importance of broadcasting to nonbroadcasting services can be inferred.

TABLE 5
The Value of Broadcasting vs. Land Mobile Service, 1967

Service	*Annual Cost of Ownership ($mil)*	*Allocated bandwidth*	*$mil per MHz*
Broadcast TV	4,236	492	8.6
VHF TV	4,186	72	58
FM & AM radio	1,222	21	58.2
Land Mobile	1,606	43	37.3

Source: Federal Communications Commission, Report of the Advisory Committee for the Land Mobile Radio Services (U.S. Government Printing Office, 1967); reproduced in Levin 1971, p. 129.

TABLE 6
Broadcasting vs. Cellular License Values, 1990

Service	*Net New licenses issued in 1980s (% increase)*	*Service Bandwidth (MHz)*	*Total license value ($bil)*
Broadcast TV	431 (42.6%)	408	n.a.
AM & FM radio	1,508 (19.2%)	21	n.a.
All Broadcasting	1,939 (21.8%)	429	11.5
Cellular MSAs	610 (∞)	50	80
Cellular RSAs	856 (∞)	50	10*

Source: NTIA 1991; CBO 1992.
*Source: Author estimates based on one-fourth as much population in rural service areas as in metropolitan service areas, and per-pop values one-half those for MSAs (Hazlett & Michaels 1993).

There has been a distinct shift in the importance of nonbroadcast services licensed by the Commission. While the year 1967 saw broadcasting about six times as economically "large" as land mobile services, by 1990 the situation was reversed: land mobile (now called cellular) demonstrated eight times the economic rent as broadcasting. The rise of nonbroadcast services began pushing the spectrum policy in the late 1960s, when a House of Representatives panel complained that "broadcast interests had been allocated 87% of the available spectrum below 960 MHz [then the most utilizable bands], compared to only 4% for mobile communication as a whole and less than 1% for mobile telephony" (Calhoun 1988, p. 48). The emerging cellular telephone industry drove the Commission and Congress to look for more efficient means to assign rights in a market where the *quid pro quo* of broadcasting's "social compact" was not an issue.

8.1 Lotteries

8.1.1 Reform in 1981

Congress granted the FCC authority to assign nonbroadcast license rights by lottery in the 1981 budget. The timing and context of reform was important for three reasons. First, 1981 was the first year of a new governing coalition in Washington, D.C. The White House and the U.S. Senate became Republican, changing the property rights structure faced by key federal policymakers. Political leadership was less vested in the old system of *quids* and *quos*, and more amenable to reform. Second, the budget does not go through the same legislative obstacle course as communications legislation. When a policy reform is considered separately, it must flow through the respective oversight committees.[43] The budget provided a short-cut, lessening the

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[43] Similarly, in current telecommunications reform efforts, a small number of committee chairs wield veto power: "'This is sort of playing a chess game with several senators, each of whom can have a checkmate,' Mr. Pressler said." (Edmund Andrews, "Changeable Senator Faces Big Test," *New York Times* [10 March, 1995], p. C12; Sen. Larry Pressler is Chairman of the

opportunity for policymakers vested in public trusteeship regulation to protect their turf.[44] Third, the 1981 budget was referred to as the first -- and only -- *Reagan budget*. That is, a Republican Senate was joined by an effective Republican House majority (the so-called boll weevils providing the swing votes) to pass the White House proposal. This coalition had a distinctively different set of long-run opportunities and ambitions than the coalition it (very briefly) supplanted.[45]

Still, allocation by lotteries is baffling: Why should the government allow rents to be distributed (almost) randomly to the public, incurring substantial ($500 to $1 billion) costs? The efficiency losses were well documented; for instance, in a 1985 FCC report (Kwerel and Felker 1985). And the political embarrassment associated with speculative efforts to win licenses, including a number of well-publicized fraud cases, was significant.[46] How could random

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Senate Commerce Committee.)

[44] Historically the sharpest support for abandoning comparative hearings *within* Congress has emanated from the budget or appropriations committees (see Table 2). These committees assert jurisdiction over the budget process.

[45] The relevance of this political fact may have been revealed a decade later when Cong. Ed Markey (D-MA), then Chairman of the House Telecommunications and Finance Subcommittee, held hearings on spectrum allocation. The White House dutifully sent its deputies to testify in favor of license auctions. One of their arguments was that lotteries had invited speculative applications and had led to abuse of process. After listening to some of the horror stories, Markey told Bush Administration Assistant Secretary of Commerce Janice Obuchowski: "Secretary Obuchowski, as you know, this idea is a Reagan idea, the lottery. It was a concept which was developed in order to streamline the system. If you are unhappy with the lottery system, fine. Come to us. But you have to remember that the reservations I had about the lottery system went to the point that it did away with the comparative hearing... My concern was that I wanted to have a comparative hearing right from the get-go, and that is something that we have avoided." (Hearings before the Subcommittee on Telecommunications and Finance of the Committee on Energy and Commerce, House of Representatives, One Hundred Second Congress, First Session, on H.R. 531 [21 February and 12 March, 1991], p. 89.)

[46] Ironically, Congress later called FCC officials to task for awarding such unseemly windfalls. As reported in the *Washington Post* in 1991: "Dingell and Markey wanted to know

assignment by lottery, squandering public funds without even a fig leaf of "public interest" cover, be considered superior to assignment by auction?

Consistent with Hypothesis 5, the answer offered here is this: Lotteries were an administrative convenience granted the FCC to facilitate licensing of cellular telephony. Lotteries became the political optimum in license assignment policy because they were preferred to comparative hearings, on the one hand, and auctions, on the other. Either comparison is revealing.

8.1.2 Why Lotteries Were Preferred to Comparative Hearings and Auctions

A nonbroadcast technology, cellular telephony (or land mobile radio service) had become the primary focus of FCC spectrum policy by 1981. While delayed for over a decade by a bureaucratic bottleneck at the Commission (Calhoun 1988), the wireless communication technology was ready to be licensed. The Commission had decided on a radically deconcentrated licensing scheme, carving the United States into 734 non-overlapping service areas, with 2 licenses issued in each area. This was a very popular policy on Capitol Hill, where the idea of

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what steps the FCC took prior to accepting applications 'to minimize the ability of speculators to abuse the commission's procedures...'" The article went on to note: "The reference is to years of cellular telephone lotteries whose winners would resell their licenses quickly to well-heeled buyers who paid millions of dollars. In fact, one of the administration's rationales for ending lotteries is abuse in the cellular market. It has estimated that the government lost anywhere from $46 billion to $80 billion [a 1990 Department of Commerce estimate of total cellular license values] on the resale of cellular licenses because of the lottery process. It is expected that Commerce Secretary Robert Mosbacher will point out when he testifies before the Senate communications subcommittee that there is a 'brisk business' in the sale and transfer of cellular franchises -- the equivalent of a private auction of spectrum rights. To make its point, the administration put together a three-minute video poking fun of the lottery system, editing in sections of the 'Lotto America' broadcast to show the capriciousness of the current system that uses four hot-air machines that pop out numbered Ping-Pong balls to pick winners." (Cindy Skrzycki, "Congress Mulls New Ways for FCC to Divide Broadcast Spectrum," *Washington Post* (26 June, 1991), F1, F3.) Nonetheless, the Congress declined to enact the Administration-backed auction legislation before it both that year and the next.

"localism" is strong.[47] The economic waste evident in such a structure was apparent, but not determinative.[48]

The task of awarding over 1400 cellular licenses was a daunting enterprise. Comparative hearings would have proven an administrative nightmare. And Congress was enthused about the prospect of hundreds of new federally-licensed "local" businesses. There was no program content issue at stake, so "public trustee" considerations were less important. A compromise was struck: the FCC would not be allowed auctions, but would be granted authority to use lotteries.

A factor lessening opposition to lotteries was the inclusion of lottery preferences for certain groups.[49] This saved at least a portion of the policy discretion afforded key telecommunications policymakers in Congress, who could continue to oversee such politically-determined assignment rules.

Most importantly, lotteries did not establish any precedent that license rents belonged to the Treasury. Hence, lotteries threatened the comparative hearings process for broadcast licenses far less than did auctions. The precedent will increase pressure to extract broadcast license rents

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[47] The Washington joke asks, "What is the perfect weapons system?" The answer: "A tank that may or may not fire, but is manufactured in 435 congressional districts."

[48] Because cellular is a mobile service, the economic efficiency case for allowing nationwide licenses is (was) quite strong (McMillan 1994, p. 151). Other countries routinely license nationwide cellular (and now PCS) suppliers; only Japan and Canada had as many as ten geographically distinct franchise regions for analog cellular among the 22 countries surveyed in an OECD study, with all the remaining (save the United States) having just one (Kalman 1993, pp. 85-6). The "mistaken" nature of U.S. policy has been documented by the Commission itself, which noted in 1992 that the cost of agglomeration in the few years of cellular had consumed over $1 billion just in brokers' fees.

[49] Congress only allowed the FCC to use lotteries if "weighted in favor of women, minorities, labor unions and community organizations" (Krasnow et al. 1982, p. 93).

as seen in the initial stages of nonbroadcast auctions (see below). Avoiding this outcome mitigated broadcaster opposition to licensing reform via lotteries.

8.1.3 Property Rights in Congress

It is apparent that the rent-seeking costs of lotteries (as well as comparative hearings) were clearly seen by policymakers; the Congressional Budget Office prepared a straightforward delineation of the differences between the assignment rules in March 1992 which could have been lifted from any good economic treatment of the subject (CBO 1992). The forces driving the political equilibrium opposing license fees may be suggested in the following passage from a tell-all book on the FCC by William Ray, a twenty-year agency bureaucrat and true believer in the "public interest" standard:

> For years, congressional appropriations committees badgered the FCC to charge fees for issuing licenses to those required by law to obtain them. The committees seemed to think that the Federal Communications Commission, alone among all agencies and departments of government, should become self-supporting by levying assessments on those whom it regulated.... The FCC at length yielded to this pressure [circa 1970] and adopted rules that set fees for licenses in both the broadcast and non-broadcast fields. The scheme did not long survive. The courts held it to be illegal [circa 1976], and the commission was forced to refund all fees it had collected. Of course, Congress could have adopted a statute to achieve the desired result legally, but it preferred to place the onus on the FCC (Ray [1990], p. 151; footnotes omitted).

It appears reasonable to conclude that the "license giveaway" has something to do with the distribution of power (*i.e.*, property rights) in Congress. Specifically, an equilibrium outcome is shaped by the battle between the various (House and Senate) oversight committees (with jurisdiction over the awarding of such rights to private parties) and the appropriations committees. The political reshuffling of power within the Congress in 1981, combined with the increasing importance of nonbroadcast licenses, weakened the pressure to maintain zero-priced

licenses sufficiently to overcome the forces of regulatory statis, even with a rather unimpressive policy reform -- lotteries.

8.2 Auctions

8.2.1 Reform in 1993

Can a similar story be told with respect to the emergence of auction authority in 1993? Yes. The economics are quite similar: nonbroadcast services continued to increase in importance. Indeed, a November 1992 FCC study specifically noted the fact a UHF TV station license in Los Angeles could be purchased for under $6 million per MHz, while cellular licenses were fetching from $70 to $160 million (Kwerel & Williams 1992). Personal Communications Services (PCS), the next generation of wireless telephony, had been readied by the Commission for licensing.[50] The existing value of the 50 MHz band devoted to cellular telephone service was known to be in the neighborhood of $90 billion (Table 6). PCS, to be licensed with at least 120 MHz of nationwide spectrum, was anticipated to be of huge social value.[51] So, the underlying economics were again shifting regulatory concern away from broadcasting to telecommunications.

Five political factors made the shift to auctions palatable to Congress, at least two of which were only in evidence as of 1993. The first was the continued exemption of broadcast licenses. Second, the strong opposition of broadcasters to the auctions precedent was mitigated

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[50] Auction authority, when granted by Congress, was linked to the PCS allocation implicitly and explicitly. The commission was required to issue its PCS rules prior to exercising auction authority, and was to lose auction authority if PCS were not licensed within two years (Allard 1994, pp. 126, 129).

[51] Although estimating the social value of the new spectrum is extremely difficult, as it depends on the demand curve at prices below current cellular rate schedules (which will fall with enhanced competition).

by passage of the 1992 Cable Act. The only veto overridden by Congress during the Bush Administration, the Cable Act was passed on 5 October, 1992. It was pro-broadcaster legislation at several levels: it shifted property rights towards broadcasters by reforming copyright law and reinstituting "must carry" rules, and it imposed rate controls on cable systems which broadcasters anticipated would lower cable program quality and increase broadcaster audience share (Hazlett 1993b). (So enthusiastic were broadcasters about these provisions, that the National Associations of Broadcasters financed a nationwide ad campaign urging citizens to pressure their congressperson to vote for the Act.) After the measure passed, the FCC was charged with implementing its component parts, putting broadcasters in a delicate position in lobbying against auctions.[52]

Third, the auction authorization required special treatment for "designated entities" -- small business, and female- or minority-headed firms which would qualify for discounts in auction prices (Allard 1994, p. 133). This allowed Congress some hand in continuing to distribute license rents (policies would have to be crafted to determine eligibility and the size of the bidding discounts).[53] Fourth, as auctions would capture license rents, as well as move tax

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[52] Allard (1944, p. 123) details this very well: "Previously, the historical opposition of broadcast interests and others to even the precedent of charging for broadcast use for some kinds of licenses would have been sufficient to derail each proposal. But the political dynamic changed rapidly. An explicit exemption in evolving auction proposals for nonsubscription broadcast licenses and also, perhaps, the ambitious efforts of the broadcast industry in pursuit of other priorities constrained the ability of broadcasters to effectively and openly oppose spectrum auctions." One footnote in the above passage refers to the 1992 Cable Act as the source of broadcaster preoccupation. Another cites the CBO's "camel's nose inside the tent" argument in the context of how nominally exempt broadcast licenses were put at risk (of losing their zero-price status) by auction precedents (CBO 1992, pp. 21-2).

[53] See, *e.g.*, Jonathon Rauch, "Color TV," *The New Republic* (__ December, 1994; pp. __); Max Boot, "Back to the Future" *Wall Street Journal* (15 December, 1994; op. ed page).

revenues up, they would produce at least short-term deficit-reduction benefit. The public visibility of the deficit issue had gained considerable strength during and after the 1992 elections. Yet, the pressure for federal revenues had been strong for at least a decade. Hence, the ultimate importance of the political sweetener offered Congress: a general deference to the Democratic leadership of Congress extended by the Clinton Administration.

TABLE 7
Five Political Factors Lessening Opposition to FCC License Auctions

Factor	*Anti-auction Interest(s) Assuaged*	*When Factor Available*
Limiting auctions to nonbroadcast licenses	Public and private beneficiaries of public trusteeship	Anytime
1992 Cable Act changed broadcaster-cable competitive margin	Broadcasters indebted to, and dependent on, Congress for favorable regulation	5 October, 1992
Designated Entities subsidized in auctions	DE's, congressional leadership	Anytime
Auction monies used for deficit reduction	None	Anytime (but not until 1993 were gains from trade feasible between Congress and Administration)
White House highly deferential to congressional leadership	Congressional leadership	1993

8.2.2 Congressional Side Payments

The date was Sept. 25, 1991, and Rep. John D. Dingell was hopping mad.

Senate Republicans had discovered a way to pay for an extension of unemployment benefits: auction off licenses for use of the radio spectrum rather than given them away.

Dingell, D-Mich., who chairs the Energy and Commerce Committee, accused the Bush administration of making a money grab with little concern that only those with the deepest pockets would win rights to the airwaves.

"This is the same old, tried, hackneyed approach that my colleagues on the other side of the aisle have carried forward at the behest of a bunch of unthinking dunderheads in the Office of Management and Budget," Dingell thundered in a floor speech. The House later stripped the proposal.

> That was then. Now, Dingell and fellow Energy and Commerce Democrats are embracing spectrum auctions as a way to raise $7.2 billion over five years for President Clinton's budget.[54]

The "ideological" opposition to spectrum auctions by Democratic lawmakers appears to have vanished.[55] Long-time auctions foe, and former House Telecommunications Subcommittee Chair, Edward Markey now touts auctions as "improving the licensing process while at the same time raising substantial revenues for the public."[56] [57]

Why the reversal? The primary distinction is surely political: a Democratic Administration now occupies the executive branch.[58] Not that a Democratic Administration

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[54] Mike Mills, "Auction of Frequencies Sets Up a 21st Century Marketplace," *Congressional Quarterly* (8 May, 1993), 1137-39.

[55] The lack ideological purity is symmetric across parties. Former Senator Barry Goldwater (R-AZ) fought tenaciously against the imposition of any system of fees for spectrum rights when the ranking Republican on the Senate Commerce Committee. In 1978 he strongly opposed Cong. Lionel Van Deerlin's proposal to deregulate broadcasters (eliminating content controls such as the fairness doctrine) while instituting a spectrum access charge, saying "I found it impossible to support a bill which included license fees based on the scarcity value of the radio frequency spectrum" (Krasnow et al. 1982, p. 255; footnote omitted).

[56] "House Panel Measure Would Allow Auction of Radio Waves," *Wall Street Journal* (7 May, 1993), p. B4.

[57] See: Hearings Before the Subcommittee on Telecommunications and Finance of the Committee on Energy and Commerce, House of Representatives, One Hundred Second Congress, First Session, on H.R. 531, A Bill to Establish Procedures to Improve the Allocation and Assignment to the Electromagnetic Spectrum, Serial No. 102-2 (February 21 and March 12, 1991).

[58] "Every year, congressional Democrats, who believed the airwaves were akin to the national parks, killed the [spectrum license auctions] idea. But now, a cash-strapped Clinton has proposed his own plan to sell off part of the radio spectrum, and this time Hill Democrats are behind him. The idea's toughest foe, House Energy & Commerce Committee Chairman John D. Dingell (D-MI), finds the notion far more palatable with a Democrat in the White House. Another long-time critic, House Telecommunications & Finance Subcommittee Chair Edward J. Markey (D-Mass.), has become a big booster. 'The government is losing out on much-needed revenue,' he says" (Mark Lewyn, "Airwaves for Sale: Contact Bill Clinton," *Business Week* [10 May, 1993], p. 37).

always gets auction authority when it asks: The Carter Administration request for auction authority was rebuffed by Congress. It appears, however, such a request must be done *nicely*; *i.e.*, some rent-sharing accommodations must be made on other margins. There is little disguising the fact that the Clinton Administration has gone to great lengths, and incurred large political risks, to share new rent streams with Congressional decision-makers.[59] Within the telecommunications sector, Clinton's top choices for key appointments came from the ranks of congressional staff. More generally, Clinton's primary first year domestic agenda, which revolved around adoption of a new budget and a five-year deficit reduction package, spent considerable capital to keep top lawmakers well compensated. So quiescent to congressional politics was Clinton in concocting his ill-fated "stimulus package," for instance, that he was led -- after the measure's demise -- to the following reconsideration:

> Later, Clinton unleased his fury. "I'm never going to be so vulnerable again," he asserted. "That bill had too much pork in it," he said. "It was designed to ring the bell of every committee chairman." Rostenkowski wanted this, another chairman wanted that, and he had granted it instead of offering a real investment package (Woodward 1994, p. 174).

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[59] See, e.g., Paul Gigot, "Congress Sees Itself in Clinton -- And Likes It," *Wall Street Journal* (2 April, 1993), op-ed page. Gigot wrote, "When Congress talks, Bill Clinton listens -- and then salutes... The president's rhetoric retains the 'outsider' shake-'em up quality of the campaign, but the policy is to give the members what they want. The pattern began with appointments right after the election... Clinton officials admit privately that their economic plan was more or less Congress-designed. When one visitor griped to Treasury Secretary Lloyd Bentsen about the many taxes and few spending cuts, he replied that 'it only has to pass the Democratic votes.'" It was also clear, however, that this Clinton Administration offensive did not extend to rank and file members of Congress. "'The President has worked closely with the Democratic leadership and some Members. But there has been some grumbling that not all Members are consulted,' House Democratic Caucus chairman Steny H. Hoyer of Maryland said." (Richard E. Cohen, "Doing Business," *National Journal* [12 June, 1993], p. 1394.) Clinton Administration congressional liaison Howard Paster, it should be noted, was hired by the Administration at the urging of House Commerce Committee Chairman John Dingell (*Ibid.*, p. 1396).

Indeed, the President was initially so deferential to Congress that some members of the Democratic leadership felt compelled to tell the President to be more assertive with the White House agenda (as opposed to Congress').[60] This extreme degree of attentiveness to the special needs of Committee Chairs may go a long way in explaining the dramatic reversal in the public pronouncements and policies of key Capitol Hill decision-makers. This view fits well with the observation that the general interest of Congress has not been so hostile to auctions. But experts on the politics of broadcast regulation have written that the chairs of the relevant FCC oversight committees have exercised enormous influence in the regulatory process:

> When we discuss Congress's role in the regulation of broadcasting we do not intend to refer just to the power of Congress as a whole. Power is distributed quite unevenly in that body, particularly in a specialized area like broadcast regulation... A highly placed FCC staff member once said privately that the word of then Senator Warren Magnuson, chairman of the Senate Commerce Committee, was practically law to the FCC: "They bow and scrape for him. He doesn't have to ask for anything. The Commission does what it thinks he wants it to do." This was also true of Oren Harris, former chairman of the House Interstate and Foreign Commerce Committee: "He cracked the whip lots of times down here." The same has been true of nearly every recent chairman of either the Senate or House Commerce Committee and the communications subcommittees (Krasnow et al. 1982, p. 88).

9 The Auction Regime

The recent change in policy allows us to further clarify the underlying forces at work. The regime switch has, as predicted,[61] established a precedent which is dangerous for all rent claimants under public trusteeship. The current Chairman of the FCC, Reed Hundt, has used spectrum auction revenues to make the following points:

- Maybe broadcasters shouldn't have to pay spectrum fees, at least not right now;
- But the industry should be alert to its social responsibilities;

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60 Sen. David Boren (D-OK) was one such counselor (Woodward 1994, p. 150).

61 This was not an after-the-fact prediction by the author, as seen in Hazlett 1993.

- Because Americans are 'about to watch the FCC raise billions of dollars auctioning off that which broadcasters receive for free.'[62]

Indeed, the Clinton Administration lost little time in moving to push the Public Trusteeship terms of trade after FCC license auctions had been initiated. The Administration suggested raising $4.8 billion (over five years) via a new spectrum fee on broadcast licenses. The issue was framed in the following terms by the *Wall Street Journal*:

> Radio and TV stations traditionally have been allowed to use spectrum for free in part because they agree to broadcast "in the public interest," providing news, public-service announcements, and discounted political advertising. "If you have to start paying for something, it changes responsibility," said Phil Jones, president of Meredith Corp.'s broadcast group, which includes six TV stations.
>
> However, administration officials have grown increasingly skeptical about whether TV stations are living up to that responsibility, and politicians in both parties may use the threat of spectrum auctions to browbeat broadcasters over content issues.[63]

The clear implication is that, if broadcasters want to continue to remain fee-free licensees they had better take their implicit contract terms (and cross-subsidy obligations) seriously. The reaction of the industry to such implied threats of license fees, however, is most revealing. According to the president of the National Association of Broadcasters, "It is unfair to maintain broadcasters' public-interest obligations and make them pay fees." An industry trade journal adds: "A number of industry members are starting to say, 'If the government wants us to pay, then it should remove all regulations.'"[64] Hence, post-auction political jockeying reveals that the

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62 Ken Robinson, "Broadcasting and the 'Social Compact,' Supp. II," *Telecommunications Policy Review 10* (30 October, 1994), p. 1.

63 Daniel Pearl, "Clinton Plan to Raise Nearly $5 Billion Faces Fight From TV Stations, Congress," *Wall Street Journal* (30 January, 1995), p. A4.

64 "NAB Strategizes Against Higher Costs," *Broadcasting & Cable* (6 June, 1994), p. 50.

underlying regulatory dynamic for broadcasters -- while made more tenuous and exciting by the existence of the competitive bidding precedent -- remains in force.

10 Conclusion

> Economists know what steps would improve the efficiency of HSE [health, safety and environmental] regulation, and they have not been bashful advocates of them. These steps include substituting markets in property rights, such as emission rights, for command and control... The real problem lies deeper than any lack of reform proposals or failure to press them. It is our inability to understand their lack of political appeal (Peltzman 1993, p. 830).

Nowhere is it clearer that economists have failed to understand the underlying dynamics of regulation than in U.S. broadcasting policy. For decades the regulatory structure has been studied and analyzed, and repeatedly the conclusion reached that the system was not merely inefficient, but illogical, error-prone, and a mere accident of history. When calls for market-based reform met with objections by those who favored public trusteeship, the economists' response was to pity the analytical naivité of those failed to grasp the essentials of the spectrum license assignment problem.

While economic analysis has been useful in forging logical policy prescriptions, including license auctions, and while much empirical analysis has helped us to understand that broadcast regulation does not accomplish what its sponsors say it is intended to do, the naivité assumed for non-economists is misplaced. In terms of the political forces driving regulation and resisting broadcast license auctions, it is the economic way of thinking which has been naive. This is a sad state of affairs, for there exists a considerable public policy payoff from more sophisticated political economy in the wireless telecommunications sector.

The positive analysis conducted herein attempts to move in that direction. On a broad view, it turns out that there can exist important linkages between license assignments and

spectrum allocation, and that such connections are analogous to those on display in countless private sector markets. Where the behavior of franchisees is to be monitored, creating a situation where rents are at risk can be a useful tool. Indeed, such implicit contractual arrangements quite typically police the quality provided by agents in markets where direct supervision is costly.

The zero-priced license scheme is anything but irrational for the key actors in the policymaking process. As rents emanating from regulation-imposed entry barriers are used both to compensate licensees and to cross-subsidize favored interest groups, political support for the program can be both substantial and stable. Politicians, who gain discretion over valuable licenses and access to in-kind payments in the form of program content, have zealously defended a structure which has encountered fierce opposition from scholars and First Amendment advocates.

The Franchise Rents theory advanced herein explains the durability of the seemingly wasteful and counterproductive regime of zero-priced licensing at the FCC as the result of a tractable political equilibrium. It explains why competitive bidding was not originally selected as the assignment rule, how reform gradually came, why lotteries were an interim solution, and why broadcast licenses continue to be exempted from market assignment. In incorporating the insights of the non-profit sector property rights literature, it also traces the longevity of license underpricing to the agency problem so widespread in public enterprise behavior: Artificially creating excess demand can produce significant benefits for the manager who controls the queue. The key policymakers in Congress have underpriced FCC licenses for decades, and -- for broadcasting -- continue to do so.

The analysis raises profound normative issues. Most pointed are the First Amendment questions. While courts have been diligent in striking down "prior restraints." and look askance at explicit censorship of program content (which raises the judicial standard to one of "strict scrutiny"), the implicit contract scheme selected to control broadcast speech has been blessed with an exemption to the First Amendment's blanket prohibition: "Congress shall make no law abridging freedom of speech, or of the press." In that public trusteeship has been deemed a failure, the danger is greater: If the "public interest" is not being advanced, then what *is* the regulatory rationale for public trusteeship?

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