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The Five Percent Solution

A SPECTRUM FEE TO REPLACE THE 'PUBLIC INTEREST OBLIGATIONS' OF BROADCASTERS

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In the emerging information economy, there is no more valuable public asset than the airwaves, also known as the electromagnetic spectrum. Auctions conducted in Europe and the United States in the past two years indicate that the market value of the spectrum currently allocated to U.S. commercial licensees is well in excess of $300 billion. This is driven, in part, by the exploding demand for spectrum for wireless communication services, as companies providing cell phones and wireless Internet access hope to soon offer always-on, high-speed connections. The potential boon to the economy has made the shortage of spectrum for emerging technologies a matter of urgent public concern.

Unfortunately, the prevailing regulatory model for allocating spectrum is grossly inefficient and inequitable to both the business sector and the public who own this valuable resource. Under current spectrum policy, cell phone companies have paid billions of dollars for licenses at auctions while other commercial users occupy the airwaves without paying the public anything. While a market mechanism is being employed to promote efficient allocation of frequencies assigned to the wireless industry, an outdated industrial policy allows other incumbent licensees to hoard spectrum that in many cases they no longer use efficiently.

Commercial broadcasters are the biggest beneficiaries of this policy failure. Broadcasters originally were granted free spectrum on the condition that they act as "public trustees" of the airwaves and deliver educational, civic, and other informational programming. However, for decades the industry has shirked its public interest obligations. Although the frequencies controlled by broadcasters are worth more and more each year—both as an asset and in terms of the opportunity cost because it is unavailable for other more valuable uses—taxpayers are not receiving a sufficient return for use of this scarce natural resource. Adding insult to injury, broadcasters are demanding that they be allowed to sell for a profit the extra spectrum space that Congress temporarily allocated to them in 1996 for the purpose of converting to digital television.

Reform of spectrum policy must ensure that the public airwaves are used with optimal efficiency and that all commercial users of spectrum pay a fair return to the public. This paper proposes charging commercial broadcasters a spectrum fee equal to five percent of gross advertising revenues is an important first step to achieving these goals.

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Why Broadcasters Don't Pay for Spectrum: A History

The regulatory framework that governs broadcast spectrum today is the product of a deal struck between a group of large commercial broadcasters and Congress over 70 years ago. Radio broadcasting began in the United States in 1920 at a Pittsburgh station. Religious, musical and news broadcasting soon flourished across the country—an outpouring of expression similar to the proliferation of websites after the Internet caught on. By 1922, 500 stations were on the air. Retailers promoted a "Radio Christmas" in 1924 that prompted millions of consumers to buy radio receiver sets.[1] Political, religious and community leaders recognized the potential of radio broadcasts to become an integral part of the cultural and civic life of the nation and actively embraced it. Business people also saw great commercial value in broadcasting's mass audiences and began to invest in radio stations across the country.

Under the 1912 Radio Act, it was illegal to transmit without a license from the Department of Commerce, which actively policed broadcast stations to minimize interference. However, by 1926 burgeoning demand for spectrum space led to clashes between stations over signal interference and culminated in a successful federal court challenge by Zenith Radio Corporation to the Department of Commerce's approach to licensing and policing the airwaves.[2] After this case was lost, the Commerce Secretary Herbert Hoover stopped enforcing airwave assignments altogether, and interference problems escalated everywhere.

This left broadcasters and Congress in a quandary. Here was a new medium of great cultural and democratic importance, and an infant industry that promised to be very lucrative. But a breakdown in regulation was stunting the development of both the medium and the broadcasting market. A new allocation method for the limited number of broadcast frequencies had to be found.

Free speech advocates from religious, education and labor groups proposed (among other policy remedies) a common carrier system.[3] Just as the railroads carry freight for any product—or today's local phone lines carry content for any Internet service provider—they argued that a common carrier approach to managing the airwaves would serve the public interest best by requiring broadcasters to allow anyone to buy airtime. The largest commercial broadcasters, represented by the National Association of Broadcasters (NAB), opposed common carriage and claimed the broadcast market was too splintered and hyper-competitive. They sought to retain editorial control over programming and to merge individual stations into national broadcast networks.

After much lobbying and debate, Congress forged a compromise between the demands of industry and free speech advocates, establishing two core principles with the Radio Act of 1927 and the Communications Act of 1934 (which remains the charter for broadcast television today). First, Congress prohibited common carriage and mandated a government-controlled licensing regime that assigned broadcasters to designated channels in the spectrum. Second, in order to justify this exclusionary zoning policy,

Congress also required that broadcast licensees act as trustees of spectrum on behalf of all of the others who are kept off the airwaves by the government.

As guardians of a scarce, publicly owned resource, broadcasters were ordered to operate in the "public interest, convenience and necessity." This phrase was given no particular definition, but over time Congress and the Federal Communications Commission (FCC) have imposed several public interest obligations (PIOs) on broadcasters, including requirements that they serve local needs and interests, be a balanced source of news about political affairs, and offer educational children's programming.

This deal—giving broadcasters free spectrum in exchange for delivering PIOs—remains the law's framework today. Although generally ineffective in promoting the public interest, the deal became entrenched because it served both the interests of the NAB's members and the interests of lawmakers well. Major commercial stations received preferential frequency assignments and benefited when federal regulators imposed costly technical requirements that put many noncommercial stations out of business.[4] This protective industrial policy allowed broadcasters to create national networks that generated lucrative advertising revenue streams. For their part, Congress and the FCC gained leverage as the adjudicator of broadcasters' public interest obligations to regulate the very politically influential content of broadcasts. Although the First Amendment generally bans Congress from regulating speech, the broadcasters' "public trustee" role as licensees of scarce spectrum, combined with the imprecision of the public interest standard, provided Congress with some authority over broadcasters' speech. As Thomas Hazlett, resident scholar at the American Enterprise Institute, argues:

> The [PIO] regulatory standard was not casually chosen, but carefully crafted to facilitate the cartelization of the broadcasting market. Legislators implemented the regime pushed by the major commercial radio interests, thereby gaining an entrée to regulate an emerging medium of great social influence.[5]

Fulfilling their side of the bargain, broadcasters have historically paid very close attention to the demands of powerful members of Congress.[6]

In recent times, commercial broadcasters have made strategic use of their deal with lawmakers to maintain and expand their lucrative rent-free control of public airwaves. Since 1994, the wireless phone industry has paid taxpayers roughly $36 billion at auction for the privilege of using public spectrum. By contrast, the broadcast television industry not only pays nothing for a far larger allocation, it also successfully lobbied Congress for a free, temporary doubling of its allocation of spectrum under the 1996 Telecommunications Act. Now, the industry is in a position to receive a multi-billion-dollar windfall in exchange for the early clearance of frequencies they were expected to return to the government.[7] Broadcasters have justified their special treatment by promoting the value of the public service their stations provide, but, as the following section explains, their case is a thin one.

Why the Public Interest Obligations Are Inadequate Compensation

The broadcast television industry earned $44 billion in ad revenue in 2000 from its free use of publicly owned spectrum.[8] The only payment it offers to U.S. taxpayers for use of this asset is fulfillment of public interest obligations (PIOs).

In the 1927 Radio Act and 1934 Communications Act, Congress established a clear principle that broadcasters must serve the public interest. The Federal Radio Commission, the predecessor to the FCC, interpreted the principle this way in 1930:

> [Despite the fact that] the conscience and judgment of a station's management are necessarily personal…the station itself must be operated as if owned by the public…It is as if people of a community should own a station and turn it over to the best man in sight with this injunction: 'Manage this station in our interest.'[9]

Unfortunately, the regulatory framework that defines and enforces these obligations has been recognized for decades by political commentators as an almost total farce. Broadcasters are simply not meeting their obligations to the public and therefore taxpayers are being denied a fair return on their asset. Congress never designated a regulatory structure to enforce broadcasters' obligations nor even established guidelines for implementing the public interest standard.

In practice, the FCC was granted broad discretion in setting and revising specific PIOs over time, with Congress occasionally stepping in to impose requirements on broadcasters as circumstances dictated. Because the regulation of broadcast content is governed by a unique First Amendment jurisprudence, several Supreme Court rulings—most notably the *Red Lion* case—have also been important in refining the substance of public interest regulation of broadcasts.[10] In theory, regulators of broadcasters have employed the public interest standard in the name of cultivating a more informed citizenry, greater democratic dialogue, diversity of expression, a more educated population, and more robust, culturally inclusive communities.[11]

These general regulatory objectives have been targeted through rules pertaining to the content of broadcasts in several specific areas, most notably: (1) educational programming for children; (2) local culture and community affairs; and (3) electoral campaign coverage and civic information.

1. Educational Programming for Children

The first mention of programming for children as part of broadcasters' public interest obligations came in an FCC policy statement in 1960, when it was listed as one of 14 components usually necessary for a station to meet the needs of a community.[12] A formal FCC rulemaking on this point occurred in 1971 and the NAB voluntarily changed its code of practice in 1973, committing its member stations to several targets that recognized their special obligation to serve young people.[13] The NAB agreed to separate

advertising from children's programming, to ban selling of products by shows' hosts, to run no drug and vitamin ads during children's shows, and to reduce the number of ads per hour from 16 minutes per hour to 12 on weekdays and 9 on weekends. However, the FCC's *1979 Children's Television Report* found major shortcomings in this self-regulation regime and by 1984 the FCC and NAB had abandoned formal guidelines governing children's programming.

Disturbed by the failure of the deregulated broadcast marketplace to serve children, Congress enacted the Children's Television Act (CTA) in 1990, overriding President Bush's veto. The CTA set limits on the number of ads that could be broadcast per hour and banned commercial tie-ins during children's programming. Under the Act, postcard renewal of station's licenses would not be available. At renewal, the FCC would have to determine whether the overall programming of each broadcast licensee had served the educational needs of children and whether the broadcaster had aired so-called "core programming" that was specifically designed to meet children's information needs. The Act went into effect in October 1991.

In March, 1993, the FCC found that there had been no increase in the hours of educational and informational programming. The maneuvers broadcasters used to evade the spirit of the CTA included relying on PSAs (public service announcements) and vignettes to meet the CTA obligation and counting animated programs like "The Flintstones," "The Jetsons," and "GI Joe" as educational, on the grounds that such programs offer a variety of generalized pro-social themes. In addition, licensees evaded the spirit of the Act by scheduling educational programming before 7 a.m., when the child audience is minimal.[14] For example, The Walt Disney Co., the licensee of a Los Angeles VHF station, presented its core children's programming (i.e., programs specifically designed to educate children) as one half-hour show at 5:30 a.m. (later augmented by another half-hour show at 6 a.m.).[15] This picture certainly demonstrates the weakness of relying upon voluntary public service efforts. Moreover, in 1991 and 1992, the CTA was administered by an FCC Chairman hostile to the notion of requiring broadcasters to render public service in specific categories like children's educational fare, and was poorly enforced.

In 1996, after stations' evasions of the CTA requirements were publicized, the FCC under its then-new Chairman Reed Hundt set a guideline that stations, in return for expedited license renewal, should air three hours a week of "core" programming (specifically designed to meet children's needs); that such programs must be at least 30 minutes in length; and that they must be regularly scheduled. [16] The guidelines had some impact, as many licensees increased the amount of children's programming they aired from one hour to three hours per week, in order to win expedited license renewal.

2. Local Culture and Community Affairs

Broadcasters' service to the local community has been cited since 1946 as a key criterion to be considered in license renewal. In the FCC's *1960 Program Policy Statement* the first two of 14 priorities for broadcasters in meeting public interest obligations were

providing "opportunity for local self-expression" and "the development and use of local talent."[17] After 1971, the FCC also formally requested evidence that broadcasters had conducted "ascertainments," consultative sessions where they sought out needs of local community, when assessing license renewals.[18] This specific requirement was eliminated in 1984 as part of a move toward deregulation, and replaced with the more general standard that broadcasters supply "community issue-oriented programming."

In the 1990s policymakers continued to emphasize the importance of coverage of local and community affairs in broadcasting. Under the Cable Television Consumer Protection and Competitive Act of 1992, Congress forced cable operators to carry the signals of local broadcasters, and justified these "must-carry" provisions by saying that they served the public interest by providing citizens with access to the local, community-oriented content that broadcasters were required to air as public trustees.[19] A closely divided Supreme Court, while relying greatly on cable's "bottleneck gatekeeper" role, further reinforced the centrality of broadcasters' obligation to serve local culture and community affairs in its ruling dismissing cable companies' challenge to "must-carry" provisions in *Turner Broadcasting v. FCC.*[20]

3. Electoral Campaign Coverage and Civic Information

Another public interest obligation established by the Communications Act of 1934 is that broadcasters must air civic discourse and provide candidates for public office with access to the airwaves. One component of this is news coverage of candidates. However, in recent decades, academic observers and watchdog groups have chronicled a dramatic decline in substantive campaign coverage by television broadcasters. The 2000 presidential contest was a prime example; despite being the closest election in history, there was a clear drop-off in debate coverage, convention coverage and overall campaign coverage on broadcast television compared to previous campaigns. The nightly network newscasts, for example, devoted 28 percent less time to the 2000 campaign than to the last open seat contest, in 1988. Broadcasters whittled the presidential candidate sound-bite down to a mere 7.3 seconds; by comparison, in 1968, it was 43 seconds. And in October 2000, with polls showing the contenders neck and neck, two of the four major networks opted to carry sports and entertainment programming instead of presidential debates.[21]

The Act also contained a provision that granted candidates for public office the legal right to the same amount of airtime treatment that their opponent receives. Over time the FCC introduced a series of rules that refined how this "equal opportunities" regulation operates.[22] In 1972, Congress passed a law requiring broadcasters to offer candidates in the weeks preceding elections the same discounted rate for air time (known as the "lowest unit charge") given to year-round, bulk advertisers.[23] However, during the 2000 election cycle, local television and radio stations were able to exploit loopholes in this law and sell political ads to candidates, parties, and issue groups at extremely inflated prices, totaling $1 billion.[24]

The public interest standard has also been applied to promote citizens' access to the airwaves and to ensure the airing of a diverse range of viewpoints on controversial public issues. A 1929 set of guidelines issued by the Federal Radio Commission, the predecessor of the FCC, established what became known as the "Fairness Doctrine."[25] Under the Fairness Doctrine, broadcasts had to display fair-mindedness and balance viewpoints. In a 1941 rulemaking, the FCC went so far as to completely ban broadcast editorials. However, by 1949 it toned down its regulation by instituting new rules that required broadcasters to devote a reasonable amount of airtime to coverage of public issues of wide concern and for the presentation of contrasting viewpoints. Compliance with these guidelines was established as a priority in decisions on broadcast license renewal.

During the 1960s the FCC tightened its enforcement procedures for the Fairness Doctrine and formally ruled that a broadcaster cannot meet its public interest obligations by presenting only one side of an issue of public debate—a station must balance its coverage with competing viewpoints.[26] In 1969, this stance was ruled constitutional by the Supreme Court in *Red Lion Broadcasting v. FCC*. The Court found that: "It is the right of viewers and listeners, not the right of broadcasters, which is paramount."[27] Throughout the 1970s broadcasters actively campaigned against the Fairness Doctrine, claiming it had "a chilling effect" on free speech.[28] In 1987, the FCC agreed and revoked the Fairness Doctrine.[29]

The Failure of the PIO Regulatory Scheme

Although there are clear statutory principles underlying its operation, the regulatory scheme governing broadcasters' public service obligations has been a failure for decades. Indeed, the FCC has effectively deregulated broadcasting.[30] The FCC receives no programming information from which it might assess the public service efforts of its licensees, apart from the limited requirements of the Children's Television Act of 1990. Nor does it monitor the industry generally or conduct random inspections to evaluate public service efforts. Although the FCC requires broadcasters to maintain files indicating significant treatment of community issues, along with illustrative programs, broadcasters do not have to submit this material to the FCC. Instead, they send the Commission a postcard stating that the relevant material may be found by the public at the station.[31] As a result, the FCC relies *solely* upon the public to bring to its attention stations that are not fulfilling their public service obligations.

This reliance is wholly misplaced, as the 20-year experience with postcard-based license renewal shows. Even though people may send letters complaining about the disappearance of a favorite program or some content feature, they can hardly be expected to examine station files, analyze the data, and then file a petition to deny. Postcard renewal simply permits the FCC to avoid consideration of public service issues.

Moreover, without clearly defined and quantitative guidelines, the PIOs are a vague concept and essentially unenforceable. Commercial broadcasting is a business of fierce and ever-increasing competition with subscription cable and satellite services that already

provide the primary TV signal to 87 percent of American homes. In these circumstances, it is understandable that the commercial broadcaster very largely focuses on the bottom line—on maximizing profits.

The situation is similar to the issue of pollution: Some businesses will be good citizens and not pollute the water, land, or air, but many others, driven by strong competition, will take the profit-maximizing route and do great damage to the environment. The government therefore adopts specific regulations applicable to an entire industry.

Yet, with the qualified exception of the Children's Television Act, the FCC has never adopted effective, objective guidelines for local or informational programming—that is, quantitative guidelines for these categories during prescribed times (e.g., 6 a.m. to midnight, or during prime time). Because the FCC proceeded under a vague standard, there has been no effective enforcement of the public interest obligation. In 1976 FCC Commissioner Glen Robinson called regulation of broadcasting a charade—a wrestling match full of fake grunts and groans signifying nothing.[32] Today, with postcard license renewal, the charade continues and is even more starkly apparent.[33]

This is not to say that commercial broadcasters render no public service, but whatever public service is rendered by the commercial broadcasters has very little to do with the regulatory regime. Broadcasters commonly cite news programs like "Sixty Minutes," "48 Hours," and "Primetime" as examples of their public service. But these programs do not represent a commitment to public service; they are all presented because they serve the bottom line. The recent move by ABC to cancel "Nightline" because it wasn't generating enough profit illustrates the industry's ethos. If the FCC did not exist, the same programs would be broadcast. As veteran journalist Daniel Schorr, a one-time member of Edward R. Murrow's legendary news team, has said: "There was a time that television…to hold on to licenses for its stations would really say we have got to perform a public service…. Today it doesn't matter anymore. You just make your money where you make your money and to hell with public service."[34]

The same thing is true of public service announcements (PSAs), so heavily relied upon by commercial broadcasters to show public service. There is no FCC requirement for any amount or placement of such PSAs; they can be carried by the broadcaster without interfering with the commercial operation. They do constitute public service if they displace valuable commercial time, but recent surveys have found that they are rarely carried in prime time when both demand and price is high—and when they are, they are typically paid for, not free.[35]

Unavoidable Constitutional Limitations on PIO Regulation

Public interest groups, while acknowledging the failure of the present scheme, often argue that if the FCC adopted clearly defined guidelines as to public service in the local and informational programming, the public trustee regime would work and would bestow substantial benefits on viewers and listeners. However, an examination of the experience

under the Children's Television Act described above suggests that constitutional limits on the regulation of speech make the PIO system unsustainable.

Within the context of the PIO regime, it is clearly much better to have clearly defined guidelines, both from the point of efficacy and the First Amendment.[36] However a number of crucial flaws in the regulatory approach under CTA show why it is not an appropriate model to extend to other PIOs. The object of PIOs is not just quantity but high-*quality* educational programming. The non-commercial broadcast system is motivated to present such programming, in spite of its extra costs, and has a long track record of doing so. By contrast, the commercial system has no such incentive or history. The commercial system, with its profit incentive, cannot be expected to develop and revise a "Sesame Street," or to present separate programs for pre-schoolers and school-aged children, or to resent literacy or training programs for adults.[37]

There is great difference in quality between "Sesame Street" and a commercial children's program that is geared largely toward entertainment centered on a toy. Annual studies by the Annenberg Public Policy Center have questioned the educational value of a substantial amount of the core children's programming being offered by commercial broadcasters (e.g., one such review found that a quarter of programs have no educational value).[38]

The CTA approach cannot avoid straining against the First Amendment because it brings regulators in direct confrontation with difficult questions of judgment. To attract the young child, the program must have an entertainment component, and the FCC has wisely determined that there is no way to draw a line as to the amount of such entertainment fare. When this consideration is combined with a program that purportedly seeks to teach children a lesson as to some social goal, the FCC would be reviewing content in a most sensitive area.[39] The government is generally precluded by the First Amendment from considering such differences through PIO content regulation. However, since the provision of high-quality educational and civic programming is of great importance, the government should adopt policies that allow it to subsidize quality content, rather than a regime of PIOs through which it can at best influence quantity.

A final defect in the CTA model is that it is exposed to the shifting partisan environment at the FCC. Because FCC commissioners are appointed by the White House (subject to Senate confirmation) when a new President is elected, the approach to implementing public interest content requirements often changes—as described above in the case of the CTA. The current Republican Chairman, Michael Powell, has often stated his aversion to government intrusion into the programming decisions of broadcasters, so the FCC's enforcement of CTA goals is likely to loosen again.

Why Broadcasters Should Pay For Spectrum

Continuing the policy that allows the television broadcasting industry to occupy increasingly scarce and valuable airwaves at zero cost is unacceptable for two reasons. First, granting free spectrum to broadcasters contributes to a substantial distortion in the market for wireless and television services. Other businesses are denied access to spectrum, while consumers lose the benefits of new and lower-cost services. Second, it means taxpayers are denied a fair return on an extremely valuable public asset—rental fees that could be reinvested in new digital assets that benefit all Americans.

A Distorted Marketplace

Although the FCC's approach to broadcast spectrum began as a protective "infant industry" policy, five decades later it is clear that subsidizing an over-the-air cartel is harmful to consumers and competing services. Cable and broadcast TV are in direct competition, yet cable operators, unlike broadcasters, pay rent for their use of publicly owned assets. Under the Cable Communications Policy Act of 1984, cities and towns can and generally do charge cable operators up to five percent of gross cable service revenues as a payment for terrestrial "right-of-way" in streets, sewers and other conduits to run cable. An additional fee can be levied to pay for the capital costs of public, educational and government access (PEG channels). Most municipalities charge the full five percent and nationwide cable operators contribute more than $1 billion annually in right-of-way fees to local governments. Federal courts have recognized that the fee is not a tax, but a cost of doing business that is essentially a "form of rent" levied by the public for use of common assets.[40]

Broadcasters' other major television competitor, direct broadcast satellite providers (DBS) such as DirecTV and Echostar, transmit over a different part of the spectrum than broadcasting. Under the Telecommunications Act of 1996, DBS providers must reserve 4 percent to 7 percent of their channel capacity for noncommercial programming of an educational or informational nature, with prices not to exceed 50 percent of the total direct costs of making such a channel available.[41] Although DBS should similarly pay an "airwaves right-of-way" fee, this capacity allocation at least represents a concrete "in-kind" payment to the public that broadcasters are not levied.

Broadcasters get preferential treatment from U.S. taxpayers in other ways as well. For example, in 1992 Congress enacted laws that gave broadcasters the right to demand carriage on cable operators' systems.[42] The so-called "must-carry" provisions deliver broadcasters guaranteed, cost-free access to the more than 60 million households that subscribe to cable television services, a distinct competitive advantage.

Historically, policymakers have justified subsidizing broadcasters because this approach helped foster the development of "free" television accessible by any American with a TV set and antenna. However, today only 13 percent of U.S. households rely on free television delivered over the airwaves, with a large majority choosing to pay for a wider

choice of channels and better reception through cable or satellite operators. There are also a vast array of alternative media outlets and sources of information available to households including the Internet and video rentals. Clearly broadcasters no longer hold their paramount position as the nation's universal free source of information. Subsidizing their businesses with free spectrum and "must-carry" privileges serves only to undermine competition in the television industry and thwart the allocation of other spectrum services.

A Fair Return on a Public Asset

By not charging broadcasters for the spectrum they occupy, policymakers are also denying taxpayers a fair return on their asset. Based on prices paid by telecommunications companies at the most recent auctions for spectrum in both the United States and Europe, one Wall Street analyst told the NAB last year that the theoretical market value of spectrum assigned to commercial broadcasters is as high as $367 billion.[43] Other public assets with substantial commercial value—such as mineral deposits, oil reserves, timber, and grazing on federal lands—are sensibly managed to ensure that the public receives a fair share of the revenues generated from them by business. But under current policy, spectrum is effectively given away as corporate welfare to the broadcast television industry and most other commercial licensees.

The public cost of this giveaway is even greater when one considers the spectrum squeeze confronting the nation's emerging wireless communication industries. The wireless industry estimates that it will need at least double its allocation of spectrum in order to make wireless Internet services widely available and affordable over the next five to 10 years.[44] Cell phone use is exploding and wireless Internet service providers are springing up in dozens of central city and campus locations. More than 110 million Americans now own cell phones that providers soon hope to enhance with always-on connections to the Internet, known as "3G," offering a bundle of services including email, video-conferencing and integrated credit-card-like payment tools. In areas around the nation's largest cities, the available spectrum is already becoming congested with voice traffic. Without new spectrum for wireless, the development of a host of new high-speed mobile Internet applications may be delayed or severely rationed by premium pricing. The "consumer surplus" generated by current wireless services ("1G" and "2G") was estimated at between $50 billion and $100 billion per year in 1999, according to studies cited in a report by the President's Council of Economic Advisors.[45] Widespread adoption of 3G applications could be far more valuable, the CEA report concluded.

In recent years, several European countries have auctioned large blocks of spectrum to 3G mobile wireless interests, raising over $100 billion during auctions in 2000 alone. The U.S. government, meanwhile, is still struggling with the politics of which incumbent users should lose a portion of their spectrum allocation to free them up for wireless Internet and other new services.

From the wireless industry's perspective, broadcasters occupy some of the most attractive frequencies in the spectrum. All spectrum is not alike: The propagation characteristics of some frequencies allow signals to penetrate buildings, trees, and inclement weather.

Broadcasters' spectrum has these useful qualities, so it is ideal for 3G mobile wireless services. But the current policy in no way reflects the value of broadcasters' prime position in the airwaves. New digital broadcast technology is available that allows a television station to deliver its programming in *one-sixth* of the spectrum used currently. However broadcasters get their spectrum for free, so they have no incentive to convert quickly to this more efficient way of using spectrum. They pay nothing to occupy spectrum for which wireless companies would pay billions and which would likely deliver valuable new services to U.S. consumers.

Charging Broadcasters For Their Use of Spectrum: The Five Percent Solution

Rather than continue on with the charade of "public interest obligations," Congress should impose ***a spectrum usage fee of five percent of gross advertising revenues*** on commercial broadcast television licensees. Since the advertising revenues of commercial television broadcasters (national and local) totaled $44 billion in 2000, this would represent an annual return to taxpayers of at least $2.2 billion.[46]

Five percent is the same levy Congress allows cities and towns to impose on cable companies' gross revenues for terrestrial rights-of-way along city streets. This fee scheme has been imposed on cable service for decades and has worked well, with only a very few disputes as to what constitutes a cable service within the definition. Five percent of gross revenues is also the rate that Congress chose to levy broadcasters who operated "ancillary services" (services other than free public video broadcasts) with the extra spectrum they were granted for high-definition television under the 1996 Communications Act.

Potential Uses for the Proceeds of the Five Percent Spectrum Fee

In the same legislation imposing a fee, we believe Congress should earmark the revenue structured to more effectively fulfill the purposes of the PIOs through direct subsidies. The examples listed below are illustrative of the great public service benefits that might be obtained through use of the spectrum usage fee.

Of the many public service requirements not being met by broadcasters currently, the funding shortfall is greatest for children's educational programming. The Public Broadcasting System requires approximately $280 million—or 20 percent of the annual revenue likely to be generated—to fully implement its expansive and much-needed educational plans for the digital era. In the multi-channel digital era, it would be feasible and desirable to have simultaneous program streams providing high-quality content for pre-schoolers (ready-to-learn), school-aged children (6-17), and adults (e.g. literacy programs or teacher training programs). John Lawson, President of the Association of Public Television Stations, has emphasized that the ability of local PBS stations to broadcast as many as six digital signals opens up rich opportunities for partnerships with

local educational and civic institutions. This is just one example of how a Trust Fund could finally fulfill the voluntary policy of Section 303b(b)(2) of the 1990 CTA.[47]

The Trust could also be used to fund adequately the other missions of public television (e.g., culture, arts, the humanities, drama, in-depth informational programming), thus solving its perennial funding problems.[48]

Another worthy use of the money would be to finance the purchase of substantial free time for political broadcasts in connection with campaign finance reform. Various plans have been advanced and are likely to be introduced soon in Congress now that the initial McCain-Feingold campaign finance reform, focused on restricting "soft money" contributions by special interests, has been signed into law. One proposal, put forth by Paul Taylor of the Alliance for Better Campaigns, recommends creating a system of free air time on broadcast television and radio by mandating such stations to (1) dedicate two hours a week to substantive content including political debates and town hall meetings in the period before an election and (2) provide free ad vouchers to candidates and parties prior to an election. This proposal would greatly reduce the dollar cost of campaign advertising and candidates' reliance on private contributions from special interests, while strengthening political communication by increasing the public's access to substantive election-related information.

Another possibility might be to use spectrum usage fees to fund the proposed "Digital Opportunity Investment Trust." In the tradition of the Land Grant Colleges Act signed by President Lincoln during the Civil War, former FCC Chairman Newton Minow and former PBS President Lawrence Grossman have proposed the creation of a trust that would support innovative uses of digital technologies for education, lifelong learning, and the transformation of our civic and cultural institutions.[49] Their proposal would capitalize that Trust Fund with the proceeds of spectrum auctions and fees to yield a permanent revenue stream of at least $1 billion a year, which could be supplemented with the proceeds of the five percent spectrum usage fee. Rep. Ed Markey [D-MA] recently introduced legislation in the House that incorporates this concept, proposing that spectrum revenue be earmarked for a Digital Dividends Trust Fund. Senators Dodd [D-CT] and Jeffords [I-VT] have announced plans to introduce similar legislation in the Senate.

Addressing the Spectrum Shortage

A spectrum usage fee could also serve as part of a mechanism to get broadcasters to vacate their high-quality spectrum in order to free it up for the needs of the wireless industry and public safety. Broadcasters currently occupy twice the amount of space in the airwaves they need to deliver a conventional analog TV signal—and nearly 12 times the spectrum they need to broadcast a standard definition digital picture. They have 6 MHz channel for basic analog transmission and were each granted another 6 MHz for digital advanced television in 1996 by Congress. Under the terms Congress set, broadcasters were supposed to move to exclusively digital TV transmission programming and to return their analog channels to the government for public auctions by 2006, or

when 85 percent of households can view local channels in a digital format, whichever came later. But many broadcasters found little economic benefit in converting to digital. Crisper digital pictures do not attract new viewers—or ad dollars—especially when 87 percent of homes already receive their primary signal from a paid cable or satellite subscription. Today, fewer than three percent of U.S. households own a digital television set and broadcasters are still holding on to their extra spectrum.

In an October 2000 speech addressing this issue, the previous FCC Chairman, William Kennard, proposed that Congress introduce a "spectrum squatters' fee that would escalate yearly until broadcasters complete their transition to digital and return the analog spectrum to the American people."[50] President Bush has proposed a similar fee in his budget plan for fiscal year 2003. It is a basic microeconomic principle that when any input to production is freely available, business has no incentive to use it cost-effectively. If broadcasters were levied a spectrum usage fee of five percent and that was ratcheted up by, say, one percentage point every year after 2006 that they refused to vacate their analog channel, then their current strategy of hoarding spectrum would quickly become very costly.

There is an alternative, sound public interest solution to the broadcaster spectrum issue—namely, set out a date certain for relocation (e.g., Jan. 1, 2006); with this certainty, require that the auction be held late in 2004; and use the time for the government to insure the availability of a digital set-top tuner box to all those who would otherwise be unable to receive the TV signals on Jan. 1, 2006. With mass production, such a box would cost $100 or less, and could readily be funded from auction proceeds.

Fees on Other Commercial Users of Spectrum

Ideally, all commercial users of spectrum, not just television broadcasters, would pay some form of rent for their occupation of scarce space on the public's airwaves. These include radio broadcasters, cell phone companies (after their current licenses expires, for those who purchased those licenses at auctions after 1994), satellite services, the fixed wireless industry (sometimes called "wireless cable"), and private land mobile services, which are two-way radio services shared by firms in a variety of industries, including petroleum, taxicabs, forest products and utilities. The fee structure would have to take account of the different amounts of spectrum allocated to each category of user and whether the spectrum license had previously been purchased at public auctions, like certain types of cell phone licenses.

The case for applying usage fees to commercial radio broadcasting is especially compelling. There are almost 12,000 radio broadcast stations nationwide, and they all face the same public interest obligations as television broadcasters. These obligations are mostly ignored, even while radio stations profit from the use of the public's airwaves. In 2000, radio broadcasters took in $20 billion in ad revenue. Stations just send the FCC a postcard for renewal of their licenses. It is public radio that delivers in-depth informational programming, cultural fare, programming for the blind and so on. Alternatives to broadcast radio are growing rapidly. Satellite digital radio is coming on

stream. There are thousands of radio stations on the Internet, with hundreds of new stations added each month.[51]

In these circumstances, it is clearly time for Congress to confront the issue why there is a continuing behavioral content requirement as if radio were back in the early or mid-20th century. It would make better policy sense to eliminate the public trustee obligation and to substitute a spectrum fee, revenue that could be directed into the Digital Opportunity Trust described earlier, or even earmarked specifically for grants to no-commercial radio (especially non-commercial networks like National Public Radio, which are so inadequately funded). Commercial radio occupies much less spectrum than television broadcasters, but their national and local spot ad revenues come to roughly $20 billion per year.[52]

Addressing Potential Criticisms

Some free market economists have proposed that granting permanent private ownership rights in the airwaves ("propertization") is the most efficient way to cope with the scarcity and interference problems that justify licensing.[53] They argue that granting broadcasters transferable private property rights—including the ability to sell or lease their channels to wireless phone companies or other industries—would ensure that the invisible hand of the marketplace distributes this scarce public resource to the users who value it most. In this view, the economic efficiency of using a price mechanism should prevail over the historic conception that the airwaves are inherently a commonly owned asset.

The first problem with this approach is that it presumes that the FCC's current 50-year-old spectrum subdivision scheme with its discrete channels and guard bands will always be the optimal way of organizing access to the airwaves. This approach was certainly sensible in the past given the interference problems of existing transmitter and receiver technology. However newly developed ultra-wideband and software-defined radio technologies promise to allow multiple users to dynamically share the same frequency bands without causing interference. In light of the capabilities of these devices, several scholars and engineers have suggested that the most efficient model for managing the airwaves in the near future may be a "spectrum commons," with an open-access architecture similar to the Internet.[54] Turning today's antiquated allocation scheme into private property would lock in the current rigid channel-based zoning regime and create serious barriers to development of these innovative new technologies.

Another problem with privatizing spectrum permanently with auctions is that it deprives the public of long term returns on its asset, both monetary and with respect to First Amendment values. Wireless technologies are developing so rapidly that we simply do not know how scarce and how valuable spectrum will be in the future. In ten years, the airwaves could be so central to the nation's communications and economy that its market value could be in the trillions, not billions of dollars. If the federal government granted permanent ownership of spectrum to businesses with a once-off fire sale today, it would

in effect give up the taxpayers' capacity to derive fiscal returns from airwaves in the future. No private asset manager would choose to do this. In sum, "propertization" of the spectrum would result in both substantial inefficiencies and gross inequities.

It may be argued that with this spectrum fee reform, viewers—especially the 13 percent of household that do not rely on cable or DBS—might lose substantial public service programming in the absence of the public trustee content regulation of the FCC. But as discussed earlier, the impact on news, public affairs, quality children's programming and prime-time PSAs is likely to be minimal. Not only is such programming a shrinking shard of network offerings, but because 87 percent of households receive broadcast content via cable or DBS subscription—and have dozens of paid channels from which to choose—broadcasters have already largely transformed into competitive "content providers," offering primarily what they believe viewers (and advertisers) most want to watch. There could be a small loss in the children's educational programming area, but it could be greatly outweighed by earmarking spectrum revenue to finance high-quality educational fare over PBS and the Internet. The Internet will be increasingly making its contribution in this respect, particularly if a Digital Opportunity Trust is available to subsidize quality educational, cultural, and civic content.

It has been pointed out that a majority of today's broadcasters paid large sums to purchase stations (and the underlying valuable spectrum permit) from a licensee who originally obtained the free permit. But, in acquiring the station, this latter-day purchaser assumed the same obligation to render public service and not to maximize profits at the expense of such service (just as cable operators assume the obligation to pay the franchise fee when they purchase cable systems). It is this obligation for which the spectrum usage fee is to be substituted. As shown above, the sums so obtained could be used too much more effectively obtain public service.

Conclusion

By strategically leveraging a 70-year-old deal with Congress, the commercial broadcasting industry has managed to take control of a large allocation of the nation's airwaves while shirking the public interest obligations it is legally required to deliver as payment for its use of this public asset. The industry's actions are contributing to an alarming shortage of spectrum for higher value-added wireless services and are also denying the American public a fair return on its very valuable asset.

Charging broadcasters a spectrum usage fee of five percent of gross advertising revenues is a necessary first step to dealing with these problems. The proceeds from this "rental charge" on spectrum would be an ideal means of funding non-commercial education innovation and more high-quality children's, local, civic, and cultural programming for the digital era. It would also promote more efficient use of the spectrum by broadcasters who would finally be forced to internalize the costs of occupying this crucial public asset.

ENDNOTES

[1] Thomas W. Hazlett, "The Wireless Craze, The Unlimited Bandwidth Myth, The Spectrum Auction Faux Pas, and the Punchline to Ronald Coase's Big Joke: An Essay on Airwave Allocation Policy," 93 *Harvard Law and Technology Journal*, Spring 2001.
[2] U.S. v. Zenith Radio Corp., 12 Fed. (2) 614 (1926)
[3] Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998, 18.
[4] See Hazlett (2001), 97.
[5] Ibid., 91.
[6] For a thorough historical summary, see Thomas W. Hazlett and Matthew L. Spitzer, "Digital Television and the Quid Pro Quo," *Business and Politics*, Vol.2, No.2, 2000, 119-120. See also, Erwin G. Krasnow, & Lawrence, D. Longley, *The Politics of Broadcast Regulation (Second Edition)*, (New York: St Martins Press, 1978, 69-93).
[7] See Michael Calabrese, "The Great Airwaves Robbery," Issue Brief, New America Foundation, November 2001. Broadcasters were granted an extra channel for advanced digital television (including high-definition) under the Telecommunications Act of 1996 and were ordered to vacate their old analog channels to make space for wireless services by 2006, with the qualification that this give-back could be delayed until 85% in the viewing area of households could receive advanced TV. They have thus continued to occupy both channels, and will do so for a lengthy period after 2006 because of the 85% requirement. After intensive lobbying from broadcasters, the FCC, in its "Order on Reconsideration of the Third Report and Order", September 17, 2001, gave 21 broadcasting companies with 138 stations on channels 60 - 69 the right to conduct private auctions with wireless phone companies to clear their analog channels, with a public auction to follow. Under this approach, which has aroused considerable controversy on the Hill, broadcasters, not taxpayers, would retain the lion's share of the auction proceeds.
[8] Commercial television advertising revenue figures can be found in Universal-McCann, U.S. Advertising Revenues, 2001 and 2002. See also "State of the Television Industry: Television Revenues 2000 & Beyond," BIA Financial Network, Inc. 2000 as quoted in Alliance for Better Campaigns, *The Case for Free Airtime*, March 2002.
[9] *Schaeffer Radio Co.* (FRC 1930), quoted in John W. Willis, *The Federal Radio Commission and the Public Service Responsibility of Broadcast Licensees*, 11 Fed. Com. B.J. 5, 14 (1950).
[10] *Red Lion Broad. Co. v. FCCI*, 395 U.S. 367, 380 (1969).
[11] Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998, 21.
[12] Ibid., 28.
[13] Ibid., 29.
[14] FCC Notice of Inquiry, 8 FCC Rcd 1841, 1842 (par.6).
[15] See Petition of CME to Deny Applications for Consent to Transfer of Control of Broadcast Licenses Held by Capital Cities/ABC to Walt Disney Co., at 29-30.
[16] FCC Report on Children's Television Act, FCC 96-335 (1996).
[17] Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998, 27.
[18] Ibid., 28.
[19] See sections 4-6 of the Cable Television Consumer Protection and Competition Act of 1992, Pub. L. 102-385, 106 Stat.1460, 1461 (1992).
[20] *Turner Broad. Sys. Inc. v. FCC*, 512 U.S. (1990), *Supra* note 8.
[21] Paul Taylor and Norman Ornstein, "The Case for Free Air Time: A Broadcast Spectrum Fee for Campaign Finance Reform," Working Paper, New America Foundation, June 2002.
[22] For a good summary of FCC rulemaking in this area see Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998, 25.
[23] The lowest unit rate requirement was codified as 47 U.S.C. 315 (b) in 1972.

[24] Alliance for Better Campaigns, *Gouging Democracy: How the Television Industry Profiteered on Campaign 2000*, 2001.
[25] The guidelines are contained in *Great Lakes Broadcasting Co*., 3 F.R.C. Ann. Rep. 32 (1929).
[26] This became known as the *Cullman Doctrine* and was set forth in a letter decision in 1963. *Cullman Broad. Co., Inc.*, 40 FCC 576 (1963)
[27] *Red Lion*, at 390.
[28] Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998, 27.
[29] Syracuse Peace Council, 2 FCC Rcd 5043 (1987), aff'd, 867 F.2d 654 (DC Cir. 1989) cert. Denied, 110 S. CT. 717 (1989).
[30] Deregulation of Radio, 84 FCC2d 968 (1981); Commercial TV Stations, 96 FCC2d 1076 (1984).
[31] The FCC does have an outstanding proposal to have the material placed on a website; this proposal is vigorously opposed by the NAB as onerous and wasteful, and is still pending.
[32] *Cowles Florida Broadcasting, Inc. v. FCC*, 60 FCC 2d 371, 439 (1976).
[33] For a fuller discussion of this long pattern of failure, see Henry Geller, Regulatory Reform for the Principal Electronic Media, Annenberg Wash. Program, Nov. 1994, at 12-17; Henry Geller, Public Interest Regulation in the Digital Era, 341 *Cardozo Arts & Entertainment Law Journal* 344 (1998).
[34] CNN, "Larry King Live," April 7, 1988.
[35] *Broadcasting & Cable*, March 6, 2000, 98.
[36] Administrative discretion to deny renewal must be "reasonably confined by ground rules and standards." *Greater Boston Television Corp. v. FCC*, 444 F 2d 841, 854 (D.C. Cir. 1970), cert. denied, 402 U.S.1007 (1970). The reform urged here would obviate the need for proceedings seeking to determine what the rules or guidelines should be in the digital era. See the Benton Foundation, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters*, 1998. This is a most difficult undertaking because the nature of that operation is so uncertain today (i.e., the mix of HDTV, SDTV, multichannel operation, ancillary activities); that mix will be determined by market forces, and once established, the broadcasters will resist any change proposed to meet new public interest obligations in the changed digital environment on the ground that it would now be too disruptive. The reform here obviates these issues.
[37] See James Steyer, *The Other Parent*, (New York: Simon & Schuster, 2002). Steyer, the CEO of an independent children's television production company, offers an insider's view of why children's programming is seldom educational and little more than a "giant marketing machine."
[38] The Annenberg Public Policy Center's surveys are available at: http://www.appcpenn.org. As a New York Times article ("Networks Comply, but Barely on Children's Shows," Dec. 11, 1997) reports, the "first batch of new shows to comply with the [FCC] rule is a mixed bag of reruns from PBS or cable, a few innovative shows, and some entertainment shows with an overlay of educational material slapped on like shellac." For example, NBC "continues to say that 'NBC Inside Stuff' is designed to teach 'life lessons,' not just promote basketball."
[39] See above note. As a further example, some broadcasters claimed that "The Little Mermaid," was educational in that it taught young girls how to be leaders; while this might seem ludicrous, it is not easy under the First Amendment for the FCC to rule on whether programs, which can have large entertainment quotients and still serve social purposes, constitute core educational fare (i.e., specifically designed to educate children). However, this problem does not arise with public broadcasting. Thus, Chairman Hundt, in commenting on an Annenberg study, observed: "The studies show that virtually all the programs aired for children on PBS were judged to be of high quality and educational; only a third of those aired on the 'Big Three' networks fell into the same category. This statistic about PBS is not surprising." *Television Digest*, June 16, 1997, 7. It is not surprising because PBS has no commercial motivation and wants solely to deliver high quality educational programming.
[40] *City of Dallas v. FCC*, 118 F.3d 393, 397-398 (1997).
[41] *Telecommunications Act of 1996*, [47 U.C.S 335] 169.
[42] *Cable Television Consumer Protection and Competition Act of 1992*, Pub. L. 102-385, 106 Stat. 1460, 1461 (1992).
[43] Tom Wolzien, "Whose Bandwidth is it Anyway?" Speech, National Association of Broadcasters Futures Summit, April 2001.

[44] At the 2000 World Radio Conference (WRC-2000), the International Telecommunications Union adopted Resolution 223, which states that approximately 160 MHz of additional spectrum will be needed to meet projected 3G system requirements in high traffic areas by 2010.
[45] Council of Economic Advisors, "The Economic Impact of Third-Generation Wireless Technology," October 2000, citing estimates by Brookings Institution economist Jerry Hausman.
[46] Universal-McCann U.S. Advertising Revenues, 2000 and 2001; see also, BIA Financial Network, Inc., "State of the Television Industry: Television Revenues 2000 & Beyond" (2000) as quoted in Alliance for Better Campaigns, "The Case for Free Airtime," March 2002. Overall, the broadcast industry took in $64 billion in advertising revenue in 2000—$44 billion from television ads and $20 billion on radio.
[47] This subsection provides that broadcasters who enable another broadcasters to present educational programming are to be given credit for this action at the time of filing their renewal applications. The provision has been little used. Unlike cable, which has fully supported the C-SPAN channels, commercial broadcasters have made no similar move to fully or very substantially support the PBS educational effort as a ready-to-learn channel or some other multichannel educational activity.
[48] Twentieth Century Fund Task Force on Public Television, "Quality Time?" 1993, 152 (showing the amounts spent per capita on public broadcasting in 1991: U.S., $1.06; Japan, $17.71; Canada, $32.15; U.K., $38.56).
[49] Newton Minow and Lawrence Grossman, *Digital Promise* (New York: Century Foundation Press, 2001).
[50] William Kennard, "What Does $70 Billion Buy You Anyway," Museum of Television and Radio, October 10, 2000. http://www.fcc.gov/Speeches/Kennard/2000/spwek023.html.
[51] "The Web Catches and Reshapes Radio," *The New York Times*, Jan. 16, 2000.
[52] Commercial radio advertising revenue figures can be found in "State of the Television Industry: Television Revenues 2000 & Beyond," BIA Financial Network, Inc. 2000 as quoted in Alliance for Better Campaigns, "The Case for Free Airtime," March 2002.
[53] See R.H. Coase, "The Federal Communications Commission," 2 *Journal of Law and Economics* 577 (1959) and Thomas Hazlett *supra* note 1.
[54] David P. Reed, "Why Spectrum Isn't Like Property," Presentation, Open Spectrum Working Group, May 18, 2001. Reed, a former professor of computer science and engineering at MIT, argues that spectral capacity can scale with demand by using "cooperative" wireless architecture interconnected with wired/fiber networks. See also Yochai Benkler, "Overcoming Agoraphobia: Building the Commons of the Digitally Networked Environment," 11 *Harvard Journal of Law and Technology* 287 (Winter, 1998).