IF A TV STATION BROADCASTS IN THE FOREST…*

An Essay on 21st Century Video Distribution

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EXECUTIVE SUMMARY

Eyes were wide when television was unveiled at the 1939 World's Fair. Incredulous onlookers were so suspicious of the technology that a glass TV set had to be constructed, an attempt to convince skeptics that the product was not a hoax. But the awestruck were right to be wary. Social upheaval was soon to follow.

Television signals traveled the path then efficient: terrestrial broadcasting. That drew in regulators to supervise airwave use. They quickly seized the opportunity to police not simply the mundane conflicts of overlapping contours, serving as spectrum traffic cops, but assumed the role of market engineers. The TV Allocation Table of 1952 defined a paradoxical structure: vast over-capacity and extreme under-use. Huge bandwidth was set aside for potential broadcasts, but few licenses were issued to enable actual competition. Indeed, when a fledgling fourth national broadcast network emerged to challenge the early market leaders, it was extinguished by 1955 – the consequence of a regulatory regime hostile to competition and consumer choice.

The public's hunger for more interesting fare was left dangling for a new set of entrepreneurs to satisfy. By the early 1960s, cable TV systems saw the opportunity and sought to create a "Wired Nation" to serve it. That window was slammed shut in Washington. Regulators moved aggressively to block cable systems and pre-empt cable programming.

The "deregulation wave" of the 1970s reversed many Federal Communications Commission rules, allowing that Wired Nation to emerge. Competitive conduits delivered popular new programs, challenging America's broadcasters. By 1988,[1] most U.S. households subscribed to cable TV. By 1996, two national satellite TV platforms were in operation; by 2000, telephone carriers had begun building out video networks, adding a fifth TV delivery platform – joining terrestrial broadcasting, cable, and two national satellite operators. Today, broadband data networks, fixed and mobile, have emerged as yet additional options for delivering video programming to viewers.

Of these platforms, traditional TV broadcasting is the most expensive and the least valuable. This is because the radio spectrum walled off for terrestrial TV broadcasts is extremely valuable in alternative uses, like mobile voice and data applications, and because newer systems – cable, telco and satellite – efficiently substitute for over-the-air video delivery. Indeed, the great majority of Americans have already opted out of terrestrial broadcasts. By mid-2009 just 9% of households relied on over-the-air TV signals. The remainder paid fees to receive both (improved) broadcast signals and "basic cable" packages that average in excess of 150 channels in 2009-10.[2] And the last 10

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[1] Hazlett & Spitzer (1997), p. 115.

[2] The median number of channels delivered on cable or telco TV "triple play" packages, using 2007-09 data, was 160. Scott Wallsten & James L. Riso, *Residential and Business Broadband Prices, Data Appendix*, Technology Policy Institute (Dec. 2010), p A-6; http://www.techpolicyinstitute.org/files/residential%20and%20business%20broadband%20prices%20data%20appendix.pdf.

million "broadcast-only" homes could be easily served by the existing (non-broadcast) platforms.

Hence, over-the-air broadcast TV is today a needless expense, propped up not by customer demand, technical efficiency, or business necessity, but legacy regulation generations outdated. This Article considers what miracles might be accomplished by simply allowing such rules to go the way of *Cavemen*.

Consider three powerful factors driving changes in underlying economic realities.

First, the airwaves allocated to TV broadcasting, 49 channels in all 210 TV markets, could productively enhance other wireless deployments, of which mobile phone networks are today's most prominent example. The emergence of wireless broadband services, and "smart phone wars," have triggered a mobile data tsunami: carriers are scrambling to find the bandwidth to accommodate exploding customer demand. Ironically, much of this tsunami flows from dramatic increases in video consumption – but expressed on-demand, abandoning the old broadcasting model of one-to-many. Enormous social gains could be unleashed by allowing stations to deploy bandwidth allocated TV licenses to their highest valued uses, supplying programs to customers via alternative distribution platforms – as done in 91% of U.S. households already.

Second, the competition between video distribution platforms, following the emergence of satellite and telco TV, has pushed content providers into an enviable space. The ratio of program network revenues to cable TV system revenues, grew from just 10% in 1990 to over 50% in 2005. Content may or may not be king, but it surely benefits from the new downstream rivalry. By itself, this is not a social problem. What is problematic is that the rules crafted to protect certain programmers – in particular, TV broadcast stations – have long since ceased to hold water.

Consumers and the overall economy lose as a result of decisions made decades ago to subsidize a particular business model. The idea that cable or satellite platforms can snuff out a popular local TV station was Bad Science when it was advanced on behalf of "must carry" and "retransmission consent" rules in the 1990s. Today, it is absurd. Video platforms compete intensely to provide vast, diverse viewing packages to subscribers, knowing that if viewers want more local programming their rivals will be happy to provide it to them. In this environment, protections for broadcast TV signals are trade barriers favoring one politically selected interest over another, stifling consumer choice and market efficiency.

Third, yet another revolution is now underway. Linear network TV line-ups – broadcast or cable – are being challenged by "over the top" video delivered via the Internet. Comcast, Time Warner Cable, Verizon, AT&T or DirecTV now compete with Hulu, Netflix, Apple TV and Google TV as they do with broadcast station owner Disney. The rivalry between video providers has already forced a migration to the "triple play," with distribution networks supplying voice, video, and high-speed data. More far-reaching changes are – and should be – coming, as existing business models are replaced by

newer, more efficient, methods for creating and distributing content. Old rules, blocking market flexibility, are both defunct in purpose and dangerous as obstacles. They protect outmoded forms of organization, impeding innovation and reducing consumer welfare. Protecting broadcast TV in a world where "broadcast TV" is already an anachronism and video programs are themselves fleeing to new media is not a good way for the government to support the emerging markets of the 21st Century.

Legacy regulations protecting the "killer app of 1952" can go gracefully, or put up a fight. The latter path is proving very expensive. Considering just the opportunity cost of the 49 channels set aside for broadcast television, and subtracting the (relatively minor) cost of switching all non-subscriber households to cable or satellite, produces an astounding estimated loss of $1 trillion in social welfare.[4]

Fortunately, the ancient edifice is already crumbling. The social evolution that will deliver exponentially superior opportunities for video viewers and program producers is now well underway. It is not a radical gamble to advance our legal framework, syncing it with reality. By removing the remaining impediments to free and open competition in video, the miracle of the 1939 World's Fair will truly be upon us.

[4] See Richard Thaler, *The Buried Treasure in Your TV Dial*, NY TIMES (Feb. 27, 2010).

I. TELEVISION BROADCASTING'S BRILLIANT RUN TO OBSOLESCENCE

When the wonder of television was unveiled at the 1939 World's Fair in New York City, even a world perched on the precipice of world war took notice. The idea of moving pictures, with sound, transported at the speed of light to a small screen in the living room was a fantasy. The new contraption seemed to move reality itself; events occurring on one continent, in one century, were now delivered to a different time and place, boxed conveniently in the living room. Promoters at the World's Fair went so far as to display a transparentTV set, hoping to dispel skeptics who saw the new technology as a hoax.[5]

The war interrupted adoption. But when the guns went silent, America turned up the volume on the electronic marvel. Televisions were again manufactured, and audiences began to form. U.S. regulators, sensing the buzz, intervened by slowing things up. The Federal Communications Commission's first important post-war action was to freeze the assignment of additional broadcasting rights in 1948. Just 108 licenses had been issued to that point. The government decided to let no more until a grand plan was readied.[6]

That august moment occurred in 1952. The FCC's "TV Allocation Table" adopted a licensing scheme advanced by the CBS Corporation, rejecting that of the DuMont Network. The CBS plan emphasized "localism," while DuMont's created more competition for viewers (and upstart TV networks). Regulators opted to focus on putting just a few stations in lots of cities, rather than enabling lots of stations (and networks) to compete head-to-head across the national market. Instead of New Yorkers and residents in the Northeastern U.S. choosing between 10 or 12 strong VHF (channel 2-13) signals, they would have many fewer choices so that places like Philadelphia, Trenton, and New Haven could host channels of their own.

"Localism" was, unsurprisingly, a policy strongly favored by Congress. A federally-licensed TV broadcaster in one's state or district was a political plum. This did not go unnoticed by the FCC, an agency authorized and funded by congressional appropriation. Nor did the fact that most Americans would be able to watch only 3 national networks (CBS, NBC, ABC), with smaller rivals like DuMont – which went belly-up in 1955 – falling by the wayside.[7] DuMont had made just this case. Regulators answered, not with rules allowing the DuMonts to challenge the incumbent triopoly, but by setting aside vast frequency space for more *theoretical* competition. Some 492 MHz, or 82 TV channels, was allocated, including 69 UHF channels.

Terrestrial broadcasting was probably a smart choice for efficient video distribution in the post-war economy. Wireless transmissions, blasting one-to-many across local markets from a powerful transmitter atop high ground, supplied a fast and

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[5] Website of the Early Television Museum; http://www.earlytelevision.org/worlds_fair.html.
[6] John W. Wright, Matt Fisher, C. Alan Joyce (Eds.), THE NEW YORK TIMES GUIDE TO ESSENTIAL KNOWLEDGE (St. Martin's Press, 2007), p. 819.
[7] Ibid., 820.

easy system for transmitting the data loads required for moving pictures. Ironically, however, regulators squandered this technological ace with an economic blunder. Under FCC rules, stations using UHF spectrum (channels 14-83) were at a sharp disadvantage. Pictures were fuzzy and unreliable compared to the crisper images of VHF. Advocates for UHF proposed that "inter-mixture" be barred; each local market would be all-VHF or all-UHF, smoothing the competitive edge conferred by FCC assignments. That competitive option, too, was rejected.

By the early 1960s, entrepreneurs had sniffed out America's demand for greater viewing choice. Creative thinking led them to ponder how they might bring it to them. The answer soon appeared: if the FCC would not part with the spectrum resources needed to supply what Americans wanted to watch, they would build new airwaves themselves.

Since the 1920s radio listeners in areas with poor reception had received their signals not off-the-air, but via a cord. Cable TV extended the practice beginning in 1948. The electromagnetic spectrum, which exists naturally in space, was recreated in a wire. Coaxial cables, made of copper, transported frequencies in a controlled space that could be programmed to carry audio or video signals.

What began as simply an extended reception device – C.A.T.V., or Community Antenna Television – busing improved over-the-air signals to the viewer's home, could deliver new signals altogether. The first possibility was welcomed by broadcast TV stations, who profited when their signals were stronger, transmitted to more homes. Advertisements, which financed the free-to-viewer broadcasts, reached more eyeballs and, hence, generated higher revenues.

The second pathway for cable, however, posed a threat to TV stations.[8] Bringing additional signals into a TV market "siphoned" viewers, in the FCC's artful term, hurting station ad fees. Regulators took ill over the prospect that the very stations they had licensed would be caught in the clutches of market rivalry. Weakened by protectionist fever, the FCC restricted cable systems from entering the Top 100 markets, from offering their customers popular shows like live sports, regular series, or recently released feature films. Cable's growth was stymied. It took nearly two decades for the "deregulation wave" of the late 1970s to break. When it did, anti-cable rules were scrapped, the country was cabled, and "spectrum in a tube" forced over-the-air broadcasting to compete for audience share.

Today, just 39% of primetime TV viewing goes to programs broadcast over-the-air. But that's the good news for traditional broadcasting – many of its shows are still popular, and command large audiences. What is far more important in terms of industry

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[8] "Pay TV" was also attacked by theater owners. In California, a trade association organized a campaign to outlaw the new rivals, and succeeded in getting a statewide initiative, Proposition 15, passed in 1964. It was then overturned by the courts. A commercial for the initiative is here: http://www.flickr.com/photos/jeffs4653/4365510211/. A creepier propaganda piece played in movie theaters: http://www.youtube.com/watch?v=QIgZHZpiq1U. See also, David H. Ostroff, *A History of STV, Inc. and the 1964 California Vote Against Pay Television,* 27 JOURNAL OF BROADCASTING 371 (1983), pp. 371-72.

evolution is that just 9% of U.S. households rely on programming received via their rooftop antenna, and that those households without cable or satellite connections could be connected to existing, non-broadcast distribution platforms at relatively low cost.

The deregulation of cable demonstrated that new technologies can provide Americans with the far wider video choice and diversity they desire. The 3-channel dial of Broadcasting's Golden Era has been replaced by the 300-channel converter box, which today competes with the virtually unlimited program choices of IP television. "Cutting the cord" is the rage among early adopters, who combine their broadband connections with flat screens, turning their computer into a 21st Century television set.

Yet, even as the market evolves, old rigidities are locked in place by legacy policies. While some radio spectrum allocated to broadcast TV in the post-war era has been peeled away for mobile communications – fetching over $19 billion in license sales in March 2008, e.g.[9] – the vast majority of bandwidth is frozen in place, dedicated for use only in the cutting-edge broadcast business model of 1952. Liberalization of spectrum rules would allow markets to send frequencies to their highest valued uses, retrieving (just in the TV band) over $100 billion in license bids,[10] and generating easily over $1 trillion in additional consumer surplus.[11]

The video distribution market also stumbles over old-growth regulatory underbrush. The broadcasting marketplace was an engineering feat performed by FCC bureaucrats. It was dedicated to a system of "localism" that gave short shrift to competition, and has now spent six decades undermining competitive forces that would deliver (and, in many cases, ultimately have delivered) far greater choice to American consumers. The plan relied upon a quid pro quo: the government would distribute valuable TV licenses to favored companies, free of charge, but demand certain commitments in return. These "public interest" obligations would entail local programming, educational programming for children, and station coverage of news and public affairs. In each of these areas, TV stations have performed poorly, producing little if any content not offered in an unregulated market. Conversely, the FCC's actions to suppress competitive rivalry have been doggedly pursued.

The overall regulatory strategy focused, indeed, on the financial health of the local TV station. Licenses were awarded free of charge. New competition, including cable in the 1960s, was explicitly excluded to enhance broadcast station returns. And when the U.S. Supreme Court ruled, in 1968[12] and again in 1974[13], that cable operators

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[9] FCC Auction 73 website; http://wireless.fcc.gov/auctions/default.htm?job=auction_summary&id=73.

[10] This uses prices paid for 700 MHz licenses, auctioned by the FCC in March 2008, to estimate the value of the TV Band. See Thomas W. Hazlett, *Unleashing the DTV Band: A Proposal for an Overlay Auction*, Comment Submitted to the Federal Communications Commission, NBP - Public Notice #26, Data Sought on Uses of Spectrum (Dec. 18, 2009).

[11] Ibid. See also, Thomas W. Hazlett, *Optimal Abolition of FCC Spectrum Allocation*, 22 JOURNAL OF ECONOMIC PERSPECTIVES 103 (Winter 2008), and Thomas W. Hazlett & Roberto E. Muñoz, *A Welfare Analysis of Spectrum Allocation Policies,* RAND JOURNAL ON ECONOMICS 424 (Autumn 2009).

[12] *United States v. Southwestern Cable Co.*, 392 U.S. 157 (1968) and *Fortnightly Corp. v. United Artists Television, Inc.*, 392 U.S. 390 (1968).

could freely retransmit TV broadcasts, improving reception of (unaltered) signals, the Congress moved to extend new rights to stations.

First came license fees imposed on cable systems for retransmitting broadcast signals, the monies then sent to content creators via a regime put into place in the Copyright Act of 1976. Second came the Cable Act of 1992, allowing TV stations to elect either "must carry," obtaining a place on the cable operator's basic program line-up free of charge, or "retransmission consent," giving the broadcaster the opportunity to negotiate a fee for carriage of its signal (withholding its signal if its terms are not met). With the increasing rivalry between cable, telco, and satellite video providers, these fees have lurched skyward in recent years, from just $215 million in 2006 to about $762 million in 2009.[14]

Such negotiated prices would simply constitute market signals, similar to those revealed in license fees paid to cable TV networks by MVPDs (DuMont video program distributors, including both cable and satellite TV), were government regulations not mandating a particular market structure, truncating competitive forces. By federal law, a cable operator is blocked from contracting with an "out of market" station to acquire a broadcast network's programming.[15] In addition, regulations mandate that the local broadcast TV signal be contained on the most basic tier of programming, removing the cable operator's option to place the programming on a higher tier. This is a key constraint, as negotiations for carriage of basic cable TV networks often revolve around menu placement; program networks are encouraged to moderate license fee demands in order to remain on the more widely distributed basic package (benefitting ad revenues). Similarly, cable systems are legally prohibited from assigning stations undesirable channels (on the cable TV line-up).

Via regulation, broadcasters enjoy *heads we win, tails you lose*. For weak stations that would have to pay for cable carriage in an unregulated environment, a government entitlement allows them to ride cable conduits for free – "must carry," no negotiations allowed. But for stations that control more valuable product, the cable operator is forced to deal, and with important competitive options taken off the table: no negotiating with out-of-market stations offering similar programming, or over channel or tier placement.

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[13] *Teleprompter Corp. v. Columbia Broadcasting*, 415 U.S. 394 (1974).

[14] SNL Kagan, Broadcast Retransmission Fee Projections, 2006-2016 (March 22, 2010).

[15] A cable TV system in Columbus, Ohio cannot, e.g., carry the CBS (or NBC or ABC) affiliated station in Cincinnati, unless it also carries the Cincinnati station *and* the Cincinnati station is "significantly viewed" in the Columbus market via over-the-air antennas (indoor or rooftop) *and* the Cincinnati station is carried only to those subscribers who live in the "community" or area – not just in the cable franchise or the local broadcast TV markets – where the Cincinnati station is "significantly viewed." There is no subtlety as to the purpose of this regime, which applies to both cable and satellite TV operators. As the FCC states, in a Nov. 2010 rule making, these "restrictions are intended to prevent satellite carriers from favoring an SV [significantly viewed] network station over the in-market (local) station affiliated with the same network." Federal Communications Commission, *In the Matter of Implementation of Section 203 of the Satellite Television Extension and Localism Act of 2010 (STELA), Report and Order*, MB Docket No. 10-148 (Rel. Nov. 23, 2010), par. 2.

In the great majority of markets, the "retransmission consent" bargaining takes place between the MVPD operator, which has built a valuable distribution grid, and a TV station owner who has acquired a valuable FCC license. This licensee did not produce the content that the cable system is most interested in acquiring; by virtue of its license, it simply retransmits it. The network producing such content might do this directly, but media ownership rules also serve to block that, mandating that most TV stations are not network-owned.[16] Cable operators then negotiate with network affiliates to acquire popular network programs, allowing a regulation-created middleman to extract a generous chunk of the value.

Stations often do, in addition to retransmitting network shows, produce video content such as local news shows. To the extent that such programs are popular they can be sold to cable operators quite apart from the "must carry/retransmission consent" regulatory artifice. Indeed, local news channels have been created for cable carriage all over the country,[17] and independent companies – including those spun off from broadcast TV stations – have formed to produce local news for cable, satellite, and telco TV systems. No FCC-style regulations are needed to create or distribute such content.

In today's video marketplace, the traditional broadcast TV distribution platform has been virtually abandoned by consumers. It has been pushed to the brink of oblivion by new forms of technology, emerging modes of competition, and innovative business models that now threaten to swamp broadcasting's *successors* – namely, cable, satellite, and telco TV.

- Video productions are emerging from every direction, Hollywood to Bollywood, Pixar to Photoshop.
- About 600 cable channels now beam from North American satellites, and more than 100 million MVPD subscribers have, on average, at least 160 channels to choose from.[18] The 9% of U.S. homes that don't subscribe for video service tend to be those who watch little television, or have already migrated online for their

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[16] As per a 2004 statute, which replaced similar FCC rules, no broadcast network can own stations serving markets in which more than 39% of U.S. population lives. *Congress Approves New Media-Ownership Cap*, Associated Press (Jan. 23, 2004); FCC website, http://www.fcc.gov/cgb/consumerfacts/reviewrules.html. Fox TV is a national network, e.g., but owns stations in just 17 of the 210 U.S. TV markets. CBS owns stations in 19 cities, Disney/ABC, in 10, and NBC 10. *Who Owns What?* COLUMBIA JOURNALISM REVIEW website, http://www.cjr.org/resources/index.php?; Station Index: The Broadcasting Website, http://www.stationindex.com/tv/tv-markets-100.

[17] NY1, Channel 12 (Long Island), and Bay News 9 (St. Petersburg, Florida) are examples. See the website of the Association of Regional News Channels, www.arnc.com. Many such networks are affiliated with local TV stations, which share news gathering assets. TBD (formerly News Channel 8) in the Washington D.C. area is operated by the firm that owns WJLA, an ABC affiliate. See TBD website, http://www.tbd.com/. RNN serves local programming to cable systems in New York, Connecticut, and New Jersey. It evolved from a broadcast TV station: "Originally launched in 1985, WRNN started out as WTZA, transmitting on channel 62 in analog from Overlook Mountain in Woodstock, NY. Purchased by the French family in 1994, WTZA was renamed WRNN - the Regional News Network - and transformed into the informative, innovative and quality news station it is today." RNN website, http://www.rnntv.com/about-rnn.php.

[18] Wallsten & Riso (2010).

TV fix. Revealingly, this is called "cutting the cord," as cable long ago replaced wireless as the default TV delivery platform.

- Curiously, 1,785 commercial broadcast TV stations[19] in 210 markets[20] continue to blast signals into space. The stations largely retransmit videos produced by national networks (or syndicators), and both this content and what they produce locally – such as news at 6 and 11 p.m. – are rarely watched via the signals they send. These emissions are an extravagant delivery system for the small number of viewers who continue to rely on terrestrial over-the-air technology. In reality, broadcasters have themselves abandoned broadcasting as the optimal path. They transport video content to cable TV systems, satellite operators, and station web masters typically via fiber optic links, and have created scores of new *cable programming networks* distributed to viewers via MVPDs, not traditional broadcast.

This transformation is a cause for celebration, not despair. It is a feature of capitalism's creative destruction, not a bug. The vision of the FCC's TV Allocation Table of 1952 has simply been surpassed, replaced by structures that produce more product, choice, and change. Whatever the value of "localism" enforced by regulatory fiat, the policies they promoted are today inoperative. Maintaining these historical artifacts is a socially costly indulgence.

Far more "localism" than was ever imagined in the *ancien regime* has flowered, without mandates. Hundreds of video program networks are created, marketed, and delivered to American homes by carriage deals that require no regulation beyond the standard legal framework.[21] Countless websites are now offering 'non-linear' video content to customers via (unregulated) broadband connections, with some – including YouTube, Hulu, and ABC.com -- garnering millions of users and explosive revenue growth.[22] See Table 1. Cable TV operators finance 24/7 video news channels in hundreds of markets around the country, each producing hundreds or even thousands of hours of news programs annually. Specialized websites are attempting to improve upon that coverage exponentially. Among the innovations are "location-based services" delivered via mobile handsets and social networking tools like Twitter and Facebook – revolutionary applications that are moving markets. Their ultra-efficiency in connecting small communities of interest is, in fact, redefining "localism." It is no longer a limited, geography-only concept.

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[19] *List of Full-Power TV Stations: Excel File,* FCC website; http://www.dtv.gov/publications.html

[20] A.C. Nielsen website; http://nielsen.com/content/dam/nielsen/en_us/documents/pdf/Fact%20Sheets%20II/Nielsen%20DMA.pdf.

[21] Including property, contract, and antitrust law.

[22] Laura Rich, *From Hulu to Google TV: Battle is On in Distribution Turf War*, AD AGE (Feb. 16, 2011; http://adage.com/article/mediaworks/hulu-google-tv-battle-distribution-turf-war/148893/; J.P. Mangalindan, *Could Facebook Be the Next Threat to Netflix?* FORTUNE (March 11, 2011); http://tech.fortune.cnn.com/2011/03/11/could-facebook-be-the-next-threat-to-netflix/?section=magazines_fortune.

TABLE 1. TOP TEN VIDEO WEBSITES BY TRAFFIC, DEC. 2010[23]			
Property	*Total Unique Viewers (000s)*	*Viewing Sessions (000s)*	*Minutes per Viewer*
Google Sites	144,757	1,924,214	274.3
Yahoo Site	53,050	191,367	30.0
VEVO	50,594	266,448	89.9
AOL	48,550	252,561	31.2
Viacom Digital	45,880	148,321	51.6
Facebook	41,119	124,546	14.6
Microsoft Sites	36,589	132,747	50.4
Fox Interactive Media	28,902	90,959	19.3
Turner Digital	26.943	89,204	23.4
Hulu	26,493	131,127	217.1
Total Internet	172,109	5,156,086	873.1

This rising content tide is swamping the "quid pro quo" in TV licensing. Interviewing the town councilman at 4 am on a Saturday morning, satisfying "public interest" requirements in a standard approach called – by the FCC – "graveyarding," has been a waste of resources, a charade to maintain valuable government permits. Now, city council members run all about the Internet, hog camera time on local cable-only news channels, communicate via web pages, YouTube videos, and social networking sites. It may or may not be a benefit, but now Americans can actually find out what that municipal official had to say about the transit strike.

Yet, in the midst of this lush garden of content remains a rusty transmit tower: the local TV station. Cemented to earth by an FCC-licensed wireless transmitter and protected from business rivals by federal regulations such as "must carry" and "retransmission consent," the transmitter owner remains a force to be reckoned with. When that antenna owner creates programs that local audiences want to watch, like popular news programs, the station provides a valuable service. But, for such products, there is no need for rules against "distant signals" or mandating cable carriage. Most of the programs on cable or satellite are owned by broadcast networks, who sell them to these rival distributors because there are important gains from trade. As emerging video distribution networks expand -- like telco TV (which likely passes more than 40% of U.S. households[24]) or online video sites optimized for residential broadband subscriptions (now held by over 70% of homes) – these opportunities grow.

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[23] Source: Rich (2011).

[24] Bernstein Research charts telco fiber buildouts (delivering large video packages) over the footprints of major cable TV operators. The largest U.S. cable system owner, Comcast, is estimated to face advanced telco TV competition in 43% of its market area (homes passed), Time Warner Cable (second largest) in 44%, Cox (third) in 42%, and Cablevision (fifth) in 72%. (The fourth largest cable system, Charter, is

The TV license continues to hold value not as a gateway to airwaves but as a toll booth for broadcast network programming. Yes, the spectrum allocated to the license (6 MHz for each station) is highly sought by mobile carriers; at the winning bids for 700 MHz licenses in the March 2008 FCC sale (Auction 73), the TV Band (all 49 channels, nationwide) would bring about $108 billion in license bids. But to realize those values regulators would have to de-zone the TV Band, allowing cellular technologies to productively utilize what is now reserved for one-way, high-powered broadcasting service. In this 1952 designation, the use of the spectrum yields far less value, as fixed receivers (to TV sets in house) are largely connected to cable, satellite, or telco TV links – and virtually all that are not could easily be. [25]

The power of the local TV antenna is afforded not by what it can broadcast, but what it can broker. National TV networks – ABC, CBS, Fox, NBC – have popular programs that customers do want to watch, are willing to pay for, and generate advertising revenues to boot. Such program producers have, ironically, been fleeing the broadcasting market. Even as the digital TV transition, phasing out analog broadcasts in favor of digital streams that can deliver six or more standard-definition TV programs per channel, dramatically increased the capacity of broadcast stations, broadcast networks have declined to distribute their expensive new shows on the platform. Instead, they have been pouring resources into creating new content for the cable TV networks they own, expanding non-broadcast media. Disney may own many ABC TV stations having lots of digital broadcast channels begging for content. But it saves its ESPNU (launched in 2005) for cable and satellite platforms, and ESPN3 (formerly ESPN360) for Internet distribution.

Earlier networks were established when "TV Antenna" was the input used to hook-up the household TV set. Viewers now plug their flat-screen into the "Cable/Sat," "Component," or "HDMI -1; HDMI-2, or HDMI-Side" ports, bringing their digital video signals from everywhere *but* a local TV broadcast. They do not sacrifice broadcast TV content. Many of the shows with the largest audiences – including special events like the Olympics or the Super Bowl – are still found on broadcast networks. These programs continue to flow; the local TV station determines how.[26]

The local TV station bargains with cable, satellite, and telco video distributors for access to this valuable programming. The estimated pay for "retransmission consent" in 2009 was $762 million, a sum that is rapidly rising.[27] The term of art reveals the

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privately held and not included in the statistics.) Craig Moffett, *Cablevision: Is There Gold at the End of the Rainbow?* BERNSTEIN RESEARCH (Feb. 7, 2011), p. 13.

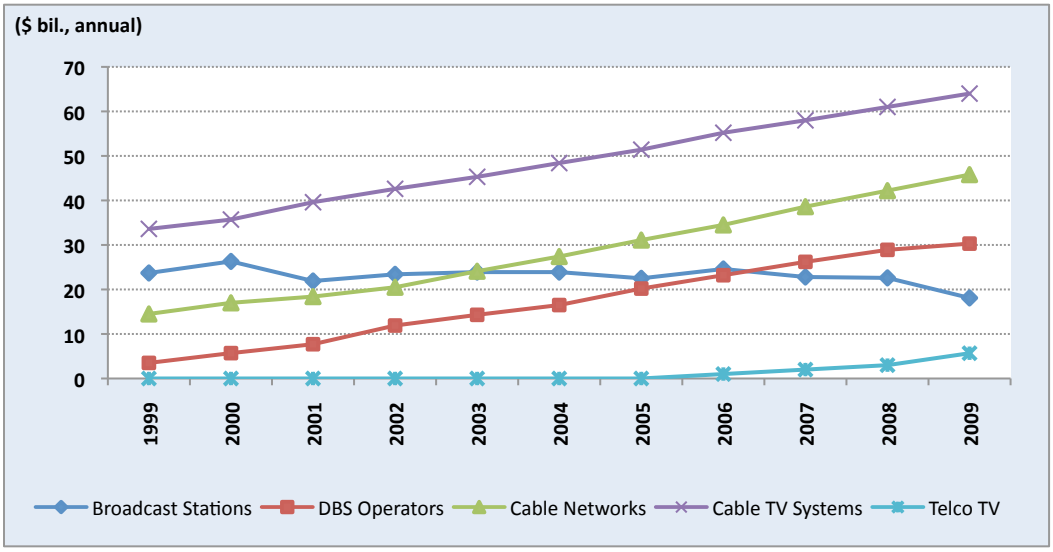
[25] See discussion in Hazlett (2009), and Thaler (2010).

[26] Placement on "local into local" broadcast station delivery by satellite TV operators works similarly. There, "must carry" rules kick in after the satellite operator elects to provide some local broadcast TV stations to subscribers in a given TV market – "if any, then all." TV stations are protected from distant signal importation (allowing Tampa viewers to watch a, say, Miami TV station) by a different set of rules than apply to cable TV operators, but the force of the regulations in either instance is to protect carriage for local TV stations and prevent their displacement by "distant" rivals.

[27] See Table 3.

substance of this transaction. TV stations charge payments for consenting for others to "retransmit" material that they have already transmitted. That act – extending a broadcast by improving its signal quality, bringing it to larger audiences, all while leaving its content intact (including commercial messages generating revenues for the broadcaster) – is benign. That is why, previous to federal legislation in 1976, two U.S. Supreme Court verdicts established that cable operators who retransmitted broadcast signals (in whole, leaving commercials unaltered) were engaging in lawful commerce and owed broadcast stations nothing. "Retransmission" assisted the party creating the "transmissions," much as a TV set maker or antenna installation professional helped the TV broadcaster, and owed no royalty payment for her effort.

FIG. 1. REVENUE BY VIDEO INDUSTRY SEGMENT, 1999-2009



To protect broadcasters against encroaching competition, however, both the FCC and the Congress – in the 1976 Copyright Act – sought to change the terms of trade. The existing framework came packaged in a gift delivered to broadcast TV stations, the deftly-labeled Cable Television Consumer Protection and Competition Act of 1992.[28] This measure aimed to punish cable TV operators for raising rates since deregulation in late 1986. It also sought to protect broadcasters from competition by establishing a two-

[28] The National Association of Broadcasters pushed the legislation strongly, and funded a nationwide ad campaign alerting citizens to the importance of its passage to stop rising cable TV rates. Of course, were cable TV rates to be lowered, in adjusting for quality, broadcast TV stations would have been hurt by the measure, which included a mandate that the FCC institute a rate re-regulation campaign. In the event, rates were lowered from long-run trend, but with disastrous consequences – cable systems lowered quality so markedly (reducing expenditures for popular cable programming) that subscriber growth sharply declined from trend. See Robert W. Crandall & Harold Furchtgott-Roth, CABLE TV: REGULATION OR COMPETITION? (Brookings, 1996); Hazlett & Spitzer (1997). The counter-productive consequences occurred so quickly that the FCC almost immediately suspended its rate reduction program, so as to encourage program quality incentives to restore industry growth. See references above, and Reed Hundt, YOU SAY YOU WANT A REVOLUTION (Yale, 1999).

sided property right carved out of local cable operators' assets: "must carry" (MC) and "retransmission consent" (RC). Each broadcaster has the option to, every three years, declare MC rights, giving the station carriage on the basic service package offered by any local area cable system. Under this scenario, no money changes hands; the MC option is exercised at a price of zero.

Alternatively, the station can forego the must-carry path, choosing to negotiate retransmission consent, establishing a price to be paid by the local cable operator to carry the local TV station. Here, the TV station might fail to strike a deal. If so, the cable operator could leave the channel off its menu; it would be another three years before the station could exercise its MC right. Naturally, the stations that choose RC are those that have little to fear from this threat. And the fact that popular stations were given rights to charge for programming, while stations with small audiences – often engaged in religious programming or home shopping, where cable carriage was the key to generating larger audiences and enhanced revenues – were entitled to mandatory carriage, made this a 'heads we win, tails you lose" proposition for the broadcast industry. As Stanford economist Bruce Owen writes, "It is difficult to imagine a more one-sided arrangement."[29]

These options were laid onto broadcasting's privileges previously levied by federal regulators – free licenses, limited competition among on-air broadcasters, rules barring "distant signal importation," and copyright over the broadcasting signal – and served to further ensconce the local broadcaster. Policy makers have argued, notably in the Supreme Court's 5-4 decision in *Turner Broadcasting*,[30] that such goals as "localism" and enhanced educational programming for children could be advanced by such regulatory measures. Not only have the arguments themselves been laid bare by the actual result of such initiatives – a long record of failure[31] -- but the marketplace assumptions on which such "public interest" arguments were crafted has now dissolved. No longer is the TV broadcaster the default TV distributor. Quite the reverse; the TV broadcast station now distributes almost none of the video programming viewed, and is simply a broker for retransmission via the modes of transport that now serve as the platforms of choice.

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[29] Bruce M. Owen, THE INTERNET CHALLENGE TO TELEVISION (Harvard, 1999; p. 114).

[30] *Turner Broadcasting v. FCC,* 512 U.S. 622 (1994), This 1997 decision failed to strike down the 1992 must carry statute as unconstitutional. A vigorous and compelling dissent by Justice Sandra O'Connor makes the far superior case. The outcome of the verdict – allowing the Government to prefer some forms of programming over others on the basis of the "public interest" – is reckless First Amendment precedent. And the empirical result, that lower-valued programming was demonstrably substituted for higher-valued programming even including the Governmen's "public interest" objectives, shows that the policy of shaving Constitutional protections has here paid no dividends.

[31] Thomas W. Hazlett, *Digitizing Must Carry under Turner Broadcasting v. FCC* (1997), 8 SUPREME COURT ECONOMIC REVIEW 141 (2000). There is a long history of economic analysis documenting the failure of stated FCC "public interest" goals in broadcasting to achieve their announced ends. See, e.g., Roger Noll, M.J. Peck, and John J. McGowan, ECONOMIC ASPECTS OF TELEVISION REGULATION (Brookings, 1974); Robert W. Crandall, *Regulation of Television Broadcasting: How Costly is the "Public Interest"?* REGULATION (Jan./Feb. 1978), http://www.cato.org/pubs/regulation/regv2n1/v2n1-5.pdf; Harvey J. Levi, FACT AND FANCY IN TELEVISION REGULATION (Russell Sage, 1980); Ithiel de Sola Pool, TECHNOLOGIES OF FREEDOM (Harvard, 1983).

TABLE 2. PAYMENTS FROM BROADCAST NETWORKS TO BROADCAST STATIONS ($MIL.)

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
548	493	380	330	300	330	297	247	170	134	82

Broadcast TV networks have had to pay local stations to broadcast the programs they produce and want the American people to watch; these payments are rapidly drying up. See Table 2. Payments of $548 million in 1999 had declined to just $82 million as of ten years later. The broadcast networks have options to go around the local TV stations, negotiating for cable and satellite carriage, just like they do for most of their program channels – also known as cable TV networks. Like ESPN, ESPN2, ESPN3, ESPN News, ESPN Classic (Disney-ABC), CNBC, MSNBC (GE-NBC), F/X, FMC, Fox News (News Corp.-Fox).

On the other side of the ledger, broadcast TV stations enjoy a rising tide of retransmission consent payments. See Table 3. Given the increased rivalry among video distributors, content owners – broadcast TV stations and cable TV networks – have reaped higher returns. The trick is that the stations largely obtain retransmission fees for programming that is, itself, retransmitted from broadcast networks. The question is: Why not cut out the 'middleman' and send this popular (and expensive) programming directly to MVPDs, like cable programming networks? Call this the "nuclear option."

The unthinkable is being considered by the networks themselves. CBS CEO Leslie Moonves calls the straight-to-cable option "a very interesting proposition."[32] He, and other experts, augur that staggered contracts with affiliate stations, network ownership of "O & O" (owned and operated) stations,[34] and dicey political concerns have thus far blocked such radical moves.

There is another roadblock. Were a network to determine that it could more efficiently distribute its product directly to cable and satellite distributors, it would leave behind a vacant nationwide distribution platform. The network-less broadcast stations might not be able to command RC fees. But they would retain their must-carry rights and cable channel slots, property rights awarded to the stations not by contract but by the 1992 Cable Act. In a transition, they would not only stay on-the-air, but on cable and satellite, albeit with new programming, in channel slots customers are used to tuning in. The stations would likely capture some audience share from the new "broadcast-cable network" by maintaining the old channel assignments. The audience loss for the broadcast network – already hemorrhaging market share at the hands of 500 cable networks – could be costly.

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[32] John Fine, *Why Broadcast Networks Can't Just Turn Cable?,* BUS WK (May 27, 2009).
[34] CBS owns 14 stations; NBC and ABC, 10.

TABLE 3. RETRANSMISSION CONSENT FEES COLLECTED NATIONALLY ($ MIL.)[37]

2006	2007	2008	2009
215	313	500	762

These factors help block the nuclear option. Incrementally, however, the shift is already on. Direct payments from broadcast networks to broadcast stations are evaporating. Affiliation fees, which were paid by networks to stations affiliated with the network as a payment for airing network programming (with ad spots split between the station and the network) have been declining for years. In 1999, total network-to-station payments were $548 million; in 2009, they were under $82 million. See Table 2. For some programming, networks have charged affiliates, shifting the payment flows. NBC, Fox, CBS, and ABC have all extracted payments from affiliate stations to defray the costs of such content as NFL football.[38]

Networks have also used the RC rights, obtained in the 1992 Cable Act, to obtain – in lieu of fees for broadcast TV retransmission – carriage deals for new cable TV networks.[39] These marketing deals shift payments for network programming, delivered through the local affiliate, into revenues for new channels owned by the network. This trend took a leap forward when the recent deal between Fox TV and Time Warner Cable was announced. Fox network-owned stations sold retransmission consent rights to TWC systems for cash and an agreement that, were TWC systems to fail to reach carriage deals with other Fox affiliates, Fox TV would provide those TWC systems Fox network programs.[40] In general, networks are attempting to extract from affiliate stations the value of the retransmission rights they hold.[41]

The flow of assets to cable networks is obvious even to casual viewers who are seeing their favorite programs skip across the channel menu. The *Oprah Winfrey Show*, the most popular daytime TV programming of all-time, announced that it would end its off-air run in favor of a start-up cable channel, the Oprah Winfrey Network ("OWN").[42] When announced, the deal – a 50/50 venture between Winfrey and Discovery Communications -- was seen as "painful for TV stations – particularly ABC's owned stations, which make up the show's core station group – that use the show to lead in to

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[37] Source: SNL Kagan, TV Station Revenues: 1999-2009 (2010).

[38] Bill Carter, *NBC to Seek Affiliates' Aid To Help Pay Costs of 'E.R.'*, N.Y. TIMES (Feb. 9, 1998).

[39] Charles Lubinsky, *Reconsidering Retransmission Consent: An Examination of the Retransmission Consent Provision (47 U.S.C. § 325 (b)) of the 1992 Cable Act*, 49 Fed Comm L J 99 (1997).

[40] *Fox Clause is Focal Point of Fight Between Time Warner Cable and Sinclair Broadcast Group*, L.A. TIMES (Dec. 6, 2010); http://latimesblogs.latimes.com/entertainmentnewsbuzz/2010/12/fox-clause-is-focal-point-of-fight-between-time-warner-cable-and-sinclair-broadcast-group.html.

[41] See, e.g., *Fox Playing Hardball with its Affiliates in Dispute Over Money*, L.A. TIMES (Feb. 10, 2011); http://latimesblogs.latimes.com/entertainmentnewsbuzz/retransmission-consent/.

[42] Brian Stelter, *A Tearful Winfrey Explains Her Departure*, N.Y. TIMES (Nov. 20, 2009); http://mediadecoder.blogs.nytimes.com/2009/11/20/a-tearful-winfrey-explains-her-departure/.

local news programs."[43] The migratory path soon hosted additional traffic, as *The Martha Stewart Show* left broadcast syndication to find a home on cable's Hallmark Channel.[44]

These shifts follow one of the biggest hits in broadcast television history, *Monday Night Football*, which made the switch from ABC (broadcast) to ESPN (cable) in 2006.[45] It continues to thrive: "Monday Night Football remains popular even with the jump to cable routinely ends up in the Top Ten Nielsen ratings chart every Monday."[46] This move was made by Disney, the 80% owner of ABC, because its cable network leverages the value of the MNF franchise.

> [S]ources told the Associated Press that ESPN will pay $1.1 billion a year through its contract, basically double what ABC has paid the league in the current eight-year pact. ESPN is better able than ABC to absorb those fees because it can generate ad revenue throughout its properties (including ESPN Radio, ESPN.com and ESPN the Magazine) and it gets subscriber fees from cable and satellite companies. ABC, which relies solely on ad revenue, reportedly has been losing $150 million per year with its Monday night package.[47]

ESPN has proven such a successful venue for football that it reportedly signing a blockbuster contract with the NFL, paying nearly $2 billion year, receiving a five year extension of its rights to carry MNF, far more than ever paid by broadcasters.[48] Overall, ABC continues to shift prime sporting events from broadcast to ESPN. In 2010, it moved popular car races, college football bowl games, and golf tournaments to its cable programming channel, infuriating ABC Television affiliates.[49]

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[43] Paige Albiniak, *Harpo Says 'Oprah' Leaving Syndication In 2011 Not Final Discovery's David Zaslav says Winfrey will come to OWN*. BROADCASTING & CABLE (NOV. 7, 2008); http://www.broadcastingcable.com/article/116210-Harpo_Says_Oprah_Leaving_Syndication_In_2011_Not_Final.php.

44 Alex Weprin, *'The Martha Stewart Show' Leaving Syndication For Cable: Will Air Exclusively on Hallmark Channel Starting Fall 2010; MSLO Will Also Produce New Series and Specials for Cabler*, BROADCASTING & CABLE (Jan. 26, 2010); http://www.broadcastingcable.com/article/445917-_The_Martha_Stewart_Show_Leaving_Syndication_For_Cable.php.

[45] '*Monday Night Football' Enjoys Best TV Ratings in Five Years*, SPORTS ILLUSTRATED (Dec. 28, 2010); http://sportsillustrated.cnn.com/2010/football/nfl/12/28/mnf.ratings.ap/index.html?eref=si_latest.

[46] *Monday Night Football*, TV TROPES; http://tvtropes.org/pmwiki/pmwiki.php/Main/MondayNightFootball.

[47] Steve Kroner, *Monday Night Football to Leave ABC for ESPN / After 36 years, NFL Showcase Goes to Cable*, S.F. CHRONICLE (April 19, 2005); http://articles.sfgate.com/2005-04-19/news/17370143_1_mark-shapiro-espn-espn-radio-espn-com-abc-sports.

[48] *ESPN and NFL Close to $2 Billion Annual Rights Deal: Report,* IBTIMES (Jan. 7, 2011); http://www.ibtimes.com/articles/98803/20110107/espn-and-nfl-close-to-2-billion-annual-rights-deal.htm#.

[49] "ABC affiliates are boiling mad that corporate sibling ESPN is being handed live sports events that they initially were supposed to carry… the most recent move came last month, when ESPN said it will take eight NASCAR races this fall off ABC to run on ESPN. Even before that, though, ABC coughed up the Rose Bowl beginning in 2011 and golf's British Open this year to ESPN, which is majority-owned by Disney, the full owner of ABC." John Consoll, *ABC Affiliates Upset About Losing Sports to ESPN*, REUTERS (Feb. 9, 2010); http://www.reuters.com/article/idUSTRE6180JF20100209.

Broadcast TV protections, including must carry, are a drag on this transition. That is a public policy mistake. The local station is fully capable of producing and distributing valuable local programs – exactly as national networks produce and market national programs – without special rules, "free licenses," or rigged markets. Sweeping away the structural mandates of yesteryear would unleash abundant spectrum for more socially important uses, permit producers of popular programs to distribute their content efficiently, and give innovators the opportunity to push aside old business models.

To continue to obstruct this process of creative destruction is to get lapped *twice* in the technology race. Broadcast TV is today obsolete as a distribution grid, the overwhelming majority of households electing to opt for cable, satellite or telco TV. The multi-channel video model, having eclipsed terrestrial broadcasting, is now itself being challenged by Internet TV, an emerging threat to linear network programming launched by "over the top" video products flowing via fixed or mobile broadband. There is no reason to prefer, as a policy matter, one model over the other. There is every reason to prefer that government get out of the way, permitting markets to discover the structure that best suits customer needs given the options available.

II. WHERE DID ALL THE TV ANTENNAS GO?

As posited in the Negroponte Switch, inspired by MIT technologist Nicolas Negroponte,[50] the Baby Boom generation was born into a world where phone calls came via wires and TV shows via wireless, and will die in a world just reversed. The forecast has been heralded by many as descriptive of the coming media transformation in society.[51]

But let us be careful. One large set of TV antennas have disappeared. They have left rooftops and set-tops ("rabbit ears"). But a new and potentially much larger number have popped up in mobile devices and backyard satellite dishes. This upsets the idea that technology is mandating unstoppable change.

While the switch to wireless is clearly ongoing in voice telephony, the migration of video to wireline networks is far less clear. Satellite TV subscribers number over 33 million in the U.S.,[52] the total having increased quarter-by-quarter since the mid-1990s. Moreover, the deluge of smart phone data traffic to mobile handsets is overwhelmingly attributed to the popularity of video downloading. See Figure 2. "Over-the-air" television is gaining in popularity every day. But it is being delivered by platforms other than that established in the TV Allocation Table of 1952.

George Gilder's 1994 *Life After Television* challenged conventional thinking. Written at the height of cable's dominance in the multi-channel video provider market, it forecast that video broadcasting – by whatever distribution platform – would be relegated to irrelevance in just a few years time. Given the explosive growth of personal computers (PCs) in homes, consumers were gaining the ability to both receive video entertainment and to create their own. Shifting intelligence from the core of the network, where video was produced, to the edges, where consumers could produce their own, drove this revolution.[53] "Physical laws," including those governing microchips and networks, were asserted to be forging an inevitable pathway: "During an age when technology is unleashing an ever-more-varied array of specialized products, the television-broadcasting pyramid is the supreme anachronism…. In place of the broadcast pyramid, a peer network will emerge in which all the terminals will be smart – not mere television sets but interactive video receivers, processors and transmitters."[54]

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[50] Nicholas Negroponte, BEING DIGITAL (Vintage, 1996), p. 24.

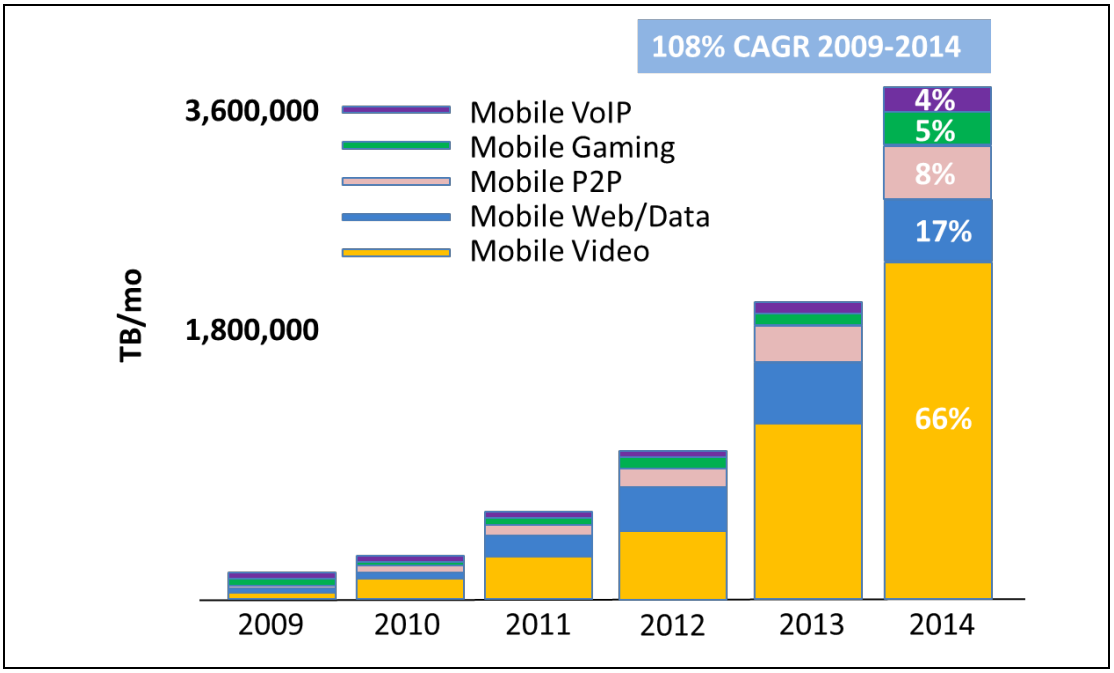
[51] Including the author of this White Paper. See Thomas W. Hazlett, *The U.S. Digital TV Transition: Time to Toss the Negroponte Switch*, AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 01-15 (Nov. 2001); http://papers.ssrn.com/sol3/papers.cfm?abstract_id=292655.

[52] Totals are for DirecTV and EchoStar as of 3rd Quarter 2010. See Leichtman Research Note 4Q2010; http://www.leichtmanresearch.com/research/notes12_2010.pdf.

[53] In many respects, the Gilder hypothesis echoed Peter Huber's classic tome, written for the U.S. Department of Justice to assess the state of competition in telephone networks for the first triennial review of the consent decree splitting AT&T into a long distance carrier on the one side, and seven Baby Bells, on the other. See Peter Huber, THE GEODESIC NETWORK, Government Printing Office (1986).

[54] Gilder (1994), p. 63.

FIG. 2. GLOBAL MOBILE DATA TRAFFIC, 2009-14 (CISCO FORECAST)[55]



Grading on the curve, George is a star student. But as a social scientist, his technological determinism fails him. The "supreme anachronism" of small-choice broadcast network programming, with its reliance on the parsimonious FCC licenses for over-the-air terrestrial transmissions, has fallen by the wayside. But that transition was well underway by the mid- to late-1980s. What remains, delivered by multi-channel video providers, is a vast expansion in the one-to-many programming model. In this sense, "broadcasting" is not dead, but flourishing. Customers desire an ongoing flow of high-quality, high-cost video programming, and the scale economies inherent in TV production are powerful.

In fact, TV shows are "public goods." One person can consume an episode of *60 Minutes, House,* or *Curb Your Enthusiasm* without anything of value being lost to other consumers. Unlike the consumption of an apple, a Prius, or a waterfront condo, use by one does not preclude full enjoyment by another – or *unlimited* others.

Some analysts incorrectly concluded that this implied "market failure," given the assumption that every unit consumed must (for social efficiency) generate a payment equal to marginal cost. Given that marginal cost for a public good is zero, pricing the good at this level would produce no revenue; no units would be created, and the value of the product would be lost.

[55] Cisco Visual Networking Index (VNI), Global Mobile Data Forecast, 2009-2014 (Feb. 2010); http://gigaom.com/2010/02/09/cisco-the-mobilpocalypse-is-coming/.

Of course, in real-world markets, units are not priced exactly at marginal cost. Instead, imaginative business models have been developed, including "multi-part tariffs" or "two-sided markets" where payments are made to support production and distribution networks without denying consumers access to "zero-cost" programming. TV broadcasters place advertisements in between shows; cable and satellite carriers opened a "dual revenue stream," charging for commercials but also gaining revenues via subscription fees. These charges support the creation and distribution of very large video viewing packages to the mass market.

The past twenty years have seen a revolution in the dissemination of low-cost video production technology. This has enormous social importance. From the video-taping of the Rodney King arrest by L.A.P.D. officers in 1991, to the innovation offered by low-budget independent films, to the user-generated content (UGC) sites of MySpace and YouTube. But there has been no visible decline in the demand for high-cost, expert video productions of the sort found on cable channels, distributed by Netflix, or accessed online at Hulu. The distribution pathways used by these newer media sources may not look like the broadcasting model of yesteryear. Indeed, they are characteristically distinct. But they share one very crucial trait: they send highly popular viewing fare from a relatively small (albeit growing) number of producers to very large number of viewers. This is the one-to-many "broadcasting" model, and the powerful economies of scale of video public goods fortify its existence.

Hence, the changing structure of video markets is not a categorical shift that rejects everything that once was. In many ways, today's marketplace – like tomorrow's – will do just what network producers and TV stations did in the 1950s, only do far more of it, do it better, and deliver it on demand.

As this process plays out, many new products will come and many (new and old) will go. Innovators will discover new talent, and UGC will find its way to more eyeballs. But video distribution will remain easily scalable. Popular shows will, on average, remain expensive, either because they require high-priced inputs (like Hollywood studio crews), or because they consume vast amateur resources (as when 1,000 entries are submitted to *America's Funniest Home Videos* for each one to be used in the weekly show[56]). One-to-one will continue to be the standard for personal communications, and one-to-many the standard for TV viewing.

This means something quite fundamental. We are not searching for a Holy Grail, a divine blueprint that will upend history by implanting a new reality. Existing products and networks are, in total, highly valued now and in the future. What will help society the most is to unleash forces that will save what is most efficient and discover what is yet possible. A process that rewards innovation will self-finance the future. A process that protects the past will block it.

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[56] "At the series' peak of popularity, producers reported receiving close to 2,000 video submissions a day." *America's Funniest Home Videos*, The Museum of Broadcast Communications (accessed Jan. 2, 2010); http://www.museum.tv/eotvsection.php?entrycode=americasfun.

A. U.S. Video Distribution, Circa 1950

Television debuted in a demonstration at AT&T Bell Telephone Laboratories auditorium in New York City featuring Secretary of Commerce Herbert Hoover in 1927.[57] But progress in the market distribution was slow to emerge. Only with the World's Fair publicity in 1939 did popular interest, and regulatory action, follow. The Federal Communications Commission began allocating radio spectrum for TV stations beginning in 1937.[58] World War II disrupted the creation of new stations, and ended civilian production of items such as TV sets. Post-war, the new technology build-out resumed, but the FCC – imposing a license station "freeze" in 1948 – only got serious about enabling growth of the new industry following issuance of the TV Allocation Table of 1952.

That licensing scheme focused on the issuance of station permits to use TV channels 2-13, licenses allocated 6 MHz of VHF (Very High Frequency) airwave space. These signals accommodated generally excellent indoor reception in the broadcasting contours of station transmitters. But this created its own problems. Because the signals carried so well, they would potentially cause interference for viewers watching TV sets and tuned to a different station, transmitting on the same frequency 100 miles away. There were multiple ways to deal with this problem. Receivers could be upgraded to better differentiate the desired (or closer) signal. TV stations could be permitted to broadcast across multiple markets. Or many fewer TV stations could be allowed to broadcast into any given market.

The FCC chose the latter path, reducing the number of licenses it issued in major markets, leaving many channels unoccupied. These "taboo" channels could then be used in a market 100 or 200 miles away. While that would potentially create major conflicts if there were more channels used per market, the conflicts receded with the buffers – also known as "white space." In economic terms, the FCC chose to license TV stations in more cities, pursuing a policy of "localism," at the cost of more viewing choices for households in all markets, large and small.

The issue was not subtle, and the FCC was apprised of its costs. Four networks had emerged with the 108 station licenses issued in the pre-'freeze' period. The most economically fragile of these, DuMont, struggled to distribute its programs to viewers to compete with the Big Three – NBC, CBS, and ABC. Key to their survival was regulation: If spectrum allocators would award licenses allowing four (or more) broadcasters to reach 80% or 90% of U.S. homes, then competition would have a chance. Were licenses to be distributed such that the fourth network could only reach, say, half as many viewers as the Big Three, its ad revenues would be sharply reduced. This would, in

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[57] *History of AT&T and Television*, AT&T Company website; http://www.corp.att.com/history/television/.

[58] Experimental licenses had been granted since 1931; *U.S. Experimental Television Stations*, Terra Media; http://www.terramedia.co.uk/media/television/US_experimental_TV.htm. The first major FCC spectrum alloction for television broadcasting was made in 1941. Thomas L. Schuessler, *Structural Barriers to the Entry of Additional Television Networks: The Federal Communications Commission's Spectrum Management Policies*, 54 SOUTHERN CALIFORNIA LAW REVIEW 875 (1981), p. 886.

turn, reduce what it could afford to spend to produce programs, reducing its ratings in those homes that could watch its shows – a financial death spiral. A 'low coverage' network would simply be driven out by market forces.

DuMont publicly challenged the Commission's "local service" objective, submitting its "DuMont Plan" as an alternative. It suggested that the Commission convert some of the local broadcast licenses to regional licenses, thus expanding the scope for network competition. The FCC preferred a proposal put forward by CBS,[59] rejecting the views put forth by the competitive upstart:

> [T]he Commission cannot agree with the DuMont principle than an overriding and paramount objective of a national television assignment plan should be the assignment of four commercial VHF stations to as many of the major markets as possible… In the Commission's view as many communities as possible should have the opportunity of enjoying the advantages that derive from having local outlets that will be responsive to local needs.[60]

The approach failed on its own terms; broadcast stations have never devoted significant resources to producing unprofitable local programming. Shows satisfying regulatory mandates have been produced, but they would either have been produced anyway, or were buried in the broadcast schedule. Virtually no audiences watched, and no social benefits occurred. The practice did, however, acquire a term-of-art at the Federal Communications Commission: "graveyarding."[61]

Local news has proven profitable for many broadcast TV stations, meaning that regulatory requirements are unnecessary to bring this socially useful product to market. Indeed, those stations that do the most news, and win virtually one hundred percent of industry awards for community news reporting, are affiliates of national networks, not locally-owned independents.[62] By reducing networks to increase "localism," regulators have succeeded in reducing the production of "local news."

On the flip side, local and regional TV news operations unfettered by FCC "public interest" requirements have blossomed. Cable TV operators routinely feature 24/7 news "stations" covering the communities they serve. Examples include New York One (New York City), News 12 Long Island, News8 (Washington, D.C.), Bay News 9 (Tampa), Northwest Cable News and New England Cable News.[63] Thousands of cable TV systems carry such programming. This points the way to what might have developed without "localism" policies that foreclosed rivals while pre-empting market evolution in broadcasting.

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[59] Note, *The Darkened Channels: UHF Television and the FCC*, 75 HARVARD LAW REVIEW 1578 (June 1962).

[60] FCC, Sixth Report and Order, pars. 77, 79; Pike & Fischer, RADIO REGULATION, Vol. 1, Pt.3, 91.

[61] See, e.g., *Deregulation of Radio, Report and Order*, 84 F.C.C. 2d 968 (1981).

[62] Thomas W. Hazlett, *Digitizing Must Carry under Turner Broadcasting v. FCC (1997),* 8 SUPREME COURT ECONOMIC REVIEW 141 (2000).

[63] Association of Regional News Channels; http://www.newschannels.org/index.cfm.

It is safe to say that the FCC approach was a disaster for competition and consumer welfare. DuMont went dark in Sept. 1955, killing one of the four choices that viewers had been presented. Ironically, the surviving Big Three were enthusiastic supporters of the creation of "educational television" (which later became the Public Broadcasting System).[64] Focusing policy attention on non-profits, which would attract very small audiences and, in any event, would not compete in the advertising market, was a strategic coup for private broadcasters. A comfortable triopoly reigned for decades, a product of government policy.

The "public interest" justification offered for the outcome did not pan out. Statistical analysis of TV license awards, doled out in comparative hearings,[65] revealed that the policy aims stated by the FCC were a mirage. Instead of promoting "localism," the Commission tended to award licenses to non-local business interests. Far from enhancing "diversity," which the FCC claimed to be doing by distributing licenses so as to increase the number of independent media voices in a given market, the government tended to choose licensees that already owned radio, TV, or newspaper publishing interests over applicants who were de novo entrants into news and entertainment. As an important 1974 economic study found:

> An examination of the 45 applications for 16 television broadcast licenses between 1967 and 1970 shows that the Commission abandoned the "local service" objective in practice. News and public affairs programming seems to have decreased the likelihood of a successful license application. A similar statement can be made for local ownership as well. More specifically, an applicant with 10 percent more news and public affairs programming than its competitors was estimated to be 11 percent less likely to obtain a license, all other things being equal. Local ownership reduced the probability of obtaining a license by 25 percent.[66]

The policies were inefficient for the economy, as the Commission's preference for local licenses reduced head-to-head competition, reducing overall programming.

> An estimate of the costs of the Commission's "local service" objective shows that if the television broadcast stations present in 1968 had been replaced with six national networks, which would have been possible in the absence of "local service" requirements, then total system profits would have increased by 39 percent and consumer surplus would increase by 1 percent of personal income (or $10 billion in 1972 prices).[67]

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[64] Laurence Jarvik, PBS: BEHIND THE SCREEN (1997).

[65] Competitive bidding was not authorized as an assignment tool for FCC licenses until an act of Congress in 1993, and then the enabling legislation specifically excluded broadcast TV licenses. See Thomas W. Hazlett, *Assigning Property Rights to Wireless License Users: Why Did FCC License Auctions Take 67 Years?* 41 JOURNAL OF LAW & ECONOMICS 529 (Oct. 1998).

[66] Roger Noll, Merton J. Peck & John J. McGowan, ECONOMIC ASPECTS OF TELEVISION REGULATION (Brookings; 1973), pp. 112-4.

[67] Ibid., p. 118.

The fact that the "public interest" was not being advanced, even on the Commission's own terms, did not lessen the political importance of the licensing scheme. Policy makers clung fiercely to the idea that only government license awards could police the airwaves, an error in economic interpretation laid bare by University of Chicago law student Leo Herzel in 1951,[68] and eloquently restated by R.H. Coase in 1959.[69] Despite the fact that the logic of Coase's explanation, which revealed the importance of property rights in the coordination of economic activity, was to later win the scholar a Nobel Prize in Economics, Coase was unable to have additional research on the topic published. While the RAND Corporation had commissioned Coase, William Meckling and Jora Minasian to expand on the concept of market allocation of radio spectrum in 1962, the think tank suppressed the report when it received dire warnings in a referee's review about touching off a political firestorm, being attacked by key institutions (including CBS, Congress, and the Department of Defense), and consequently losing grant funding.[70] The paper was finally published in 1995 – one year after U.S. wireless auctions commenced.[71]

What would make regulators and interest groups cling so fiercely to a spectrum allocation regime that did not achieve its announced goals, stymied competition, and which could be (and which, after decades, was) jettisoned in favor of an alternative system that achieved substantial efficiencies while collecting billions of dollars for the U.S. Treasury?[72] The answer is that a system that gives licensees special market protections while awarding policy makers added influence – over who receives valuable licenses, and over what those licensees broadcast – has seemed a very good deal to both licensees and policy makers. While the *quid pro quo* has been publicly defended as a way to create social benefits like "localism," its operation in practice created a system only incumbents and connected Washington lawyers could love.

For all the misdirection of the policies embedded in the TV Allocation Table of 1952, one bright spot emerges. The TV stations licensed in the 1940s and 1950s actually did help provide a product. They enabled the emergence of over-the-air terrestrial broadcasting. There was then no ready alternative to distribute video programs to TV sets all over America. While regulatory restrictions produced far less competition than was possible virtually from Day 1, the TV broadcasting platform was itself likely a cost-

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[68] Leo Herzel, *Public Interest" and the Market in Color Television Regulation,* 18 UNIVERSITY OF CHICAGO LAW REVIEW 802 (Summer 1951). See also, Leo Herzel, *My 1951 Color Television Article,* 41 JOURNAL OF LAW & ECONOMICS 523 (Oct. 1998).

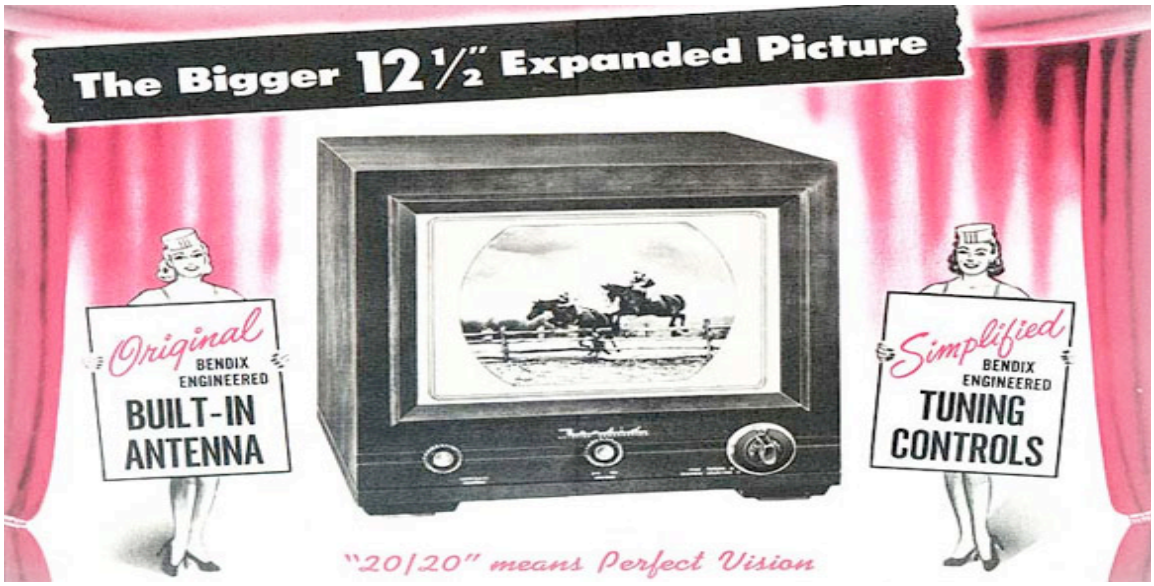
[69] R. H. Coase, *The Federal Communications Commission*, 2 JOURNAL OF LAW & ECONOMICS 1 (1959).

[70] R. H. Coase, *Comment on Thomas W. Hazlett: Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?,* 41 JOURNAL OF LAW & ECONOMICS 577 (Oct. 1998).

[71] R. H. Coase, William Meckling & Jora Minasian, *Problems of Radio Frequeny Allocation*, Rand Corportion, DRU-1219-RC (1995); http://www.rand.org/pubs/drafts/DRU1219.html.

[72] Thomas W. Hazlett, David Porter & Vernon Smith, *Radio Spectrum and The Disruptive Clarity of Ronald Coase,* 54 JOURNAL OF LAW & ECONOMICS (forthcoming, Nov. 2011).

effective way of pushing programming to an awestruck world. Broadcast television became the "killer app" of the era.[73]



This makes sense when one thinks systematically about the structure of the video market during the era, as we attempt to do in a simple schematic. See Figure 3. Television programs were produced by studios in Hollywood or New York. It was (and still is) a specialized production process, with substantial economies of scale; video creation was therefore restricted to a small number of well-financed venues. These programs were then sold to broadcast TV networks, of which just four existed circa 1950. These networks then distributed this content to viewers across the country via TV stations (today there are 210 local TV markets[74]). Millions of consumers then began tuning into television, buying sets and roof-top antennas to receive signals.

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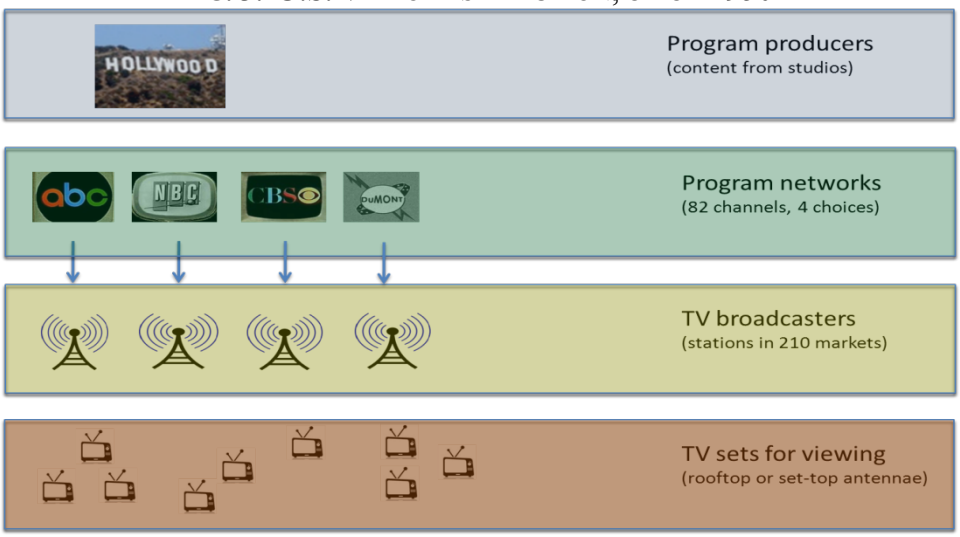
[73] The conflict with later spectrum allocation realities is described in Thomas W. Hazlett, *Transition to Yesteryear: Subsidizing the "Killer App" of 1952*, ARS TECHNICA (Nov. 18, 2008); http://arstechnica.com/old/content/2008/11/dtv-transition-to-yesterday.ars. The graphic in the text is from that article.

[74] Nielsen website; http://nielsen.com/content/dam/nielsen/en_us/documents/pdf/Fact%20Sheets%20II/Nielsen%20DMA.pdf.

FIG. 3. U.S. VIDEO DISTRIBUTION, CIRCA 1950



B. A Triopoly in the "Vast Wasteland"

Industry structure changed scarcely at all over the next twenty years. By 1970, one national broadcasting network had died, and a new national network – PBS, with government funding -- had arisen. Television had proven enormously popular. By 1960, 87% of U.S. households had at least one TV set. By 1970, that rose to 95%, and second generation technology – color TV – was rapidly advancing. There penetration rose from 3% of U.S. TV households in 1964 to 39% in 1970.[75]

It was an embarrassment, however, that so little competition had developed. Publicly funding non-commercial broadcasters relieved some of the political pressure. Indeed, PBS and the Corporation for Public Broadcasting were earnestly supported by the broadcast networks. It was a non-commercial construct, financed with tax dollars and donations, not competing for ad revenues. Moreover, it was designed to program educational shows, content destined to have limited audience appeal. So happy were the commercial TV networks to see the emergence of public stations in the 1960s that the leading public station –WNET – came into existence when Channel 13, an independent commercial broadcast licensee in New York City – was purchased in 1961 with generous contributions from CBS and other TV station owners. The deal was suspect, as a matter of competition policy: public broadcasting officials had to clear the transaction with U.S. Department of Justice officials.[76]

Another policy response was to consider repacking TV stations on the dial so as to bar "inter-mixture." This would separate local TV markets into either all-VHF or all-

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[75] *Television Facts and Statistics – 1939 to 2000*, http://www.tvhistory.tv/facts-stats.htm.
[76] Jarvik (1997), pp. 14-16.

UHF channels. This would allow many major markets to watch several more VHF stations, and many smaller markets to receive many more UHF stations. The idea of invigorating UHF drove Congress to enact the All Channel Receiver Act of 1962. This required TV sets sold in America after 1964 to include tuners that received channels 14-82. The mandate proved costly for manufacturers and set buyers, but – like each of the other proposals to ostensibly increase competition – came to nothing.[77] Three commercial networks dominated the dial; Americans could have whatever sitcoms they liked, so long as it fit comfortably into the prime time line-ups of the network triopoly.

The structure of the industry dictated "lowest common denominator" programming. This is true due to economic forces understood by economists for well over a half century.[78] A multi-part logic forms the crux of the analysis.

First, revenues from broadcast programming are highly correlated with audience size. This is due to the straightforward proposition that advertisers are willing to pay more when their commercial messages reach more potential buyers.

Second, the fact that there exist just three channels for the typical customer to select from, implies that each channel is able to draw a massive viewing audience (on average, one-third of total viewers). This makes each channel *enormously costly* to program. If shows appeal to only small market segments, the channel owner sacrifices the revenue it would have captured with more widely appealing programs. Economic forces drive stations and networks to avoid specialty niches, broadcasting only that content proven to draw broad, mass market interest.

Third, the three rival program networks will compete for these mass market audiences. Ironically, this produces less program diversity than were all three networks owned by the same company. In that event, three shows targeting three distinct audiences would likely maximize the total viewing audience; the monopolist gains not by duplicating a given genre, but by offering a mix of programs that brings more eyeballs to TV sets. But with three competing programmers, each tends to aim for the middle of the market, taste wise. Programs are formulaic and overlapping, steering clear of controversy and careful to avoid the risk of over-estimating audience preferences.[79]

When cable TV systems built out, Americans were given the opportunity to subscribe to a video service that delivered dozens of channels of programming. The first programming choices available via cable were local TV channels (with better signal reception), broadcast TV channels brought in from neighboring markets, and then (following its 1976 satellite distribution) broadcast TV "superstations" like WTBS from

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[77] Douglas W. Webbink, *The Impact of UHF Promotion: The All-Channel Television Receiver Law*, 34 LAW & CONTEMPORARY PROBLEMS 535 (1969); Matthew Lasar, *How Do You Spell Device Mandate Failure? U-H-F*, ARS TECHNICA (Aug. 31, 2010); http://arstechnica.com/tech-policy/news/2010/08/how-do-you-spell-device-mandate-failure-u-h-f.ars.

[78] Peter Steiner, *Program Patterns and Preferences, and the Workability of Competition in Radio Broadcastin*g, 66 QUARTERLY JOURNAL OF ECONOMICS 194 (1952); Bruce M. Owen and Steven Wildman, VIDEO ECONOMICS (Harvard University Press, 1992).

[79] Years ago this "LCD" effect became a textbook example of counter-productive government policy.

Atlanta. But almost instantly, cable operators sought to include additional choices, like Home Box Office (recently released feature films), ESPN (24/7 sports), and CNN (24/7 news) delivering content not available on broadcast TV. This menu quickly expanded; today there are over 500 cable TV networks. A handful – such as USA, TNT, and TBS (now a cable network, no longer a "superstation") – compete head-to-head for the mass market audiences of traditional broadcasting, But the great majority, from MTV to Science, from Nickelodeon to the Military Channel, target specific sub-markets with specialized content.

The consumer welfare losses imposed by the rigid restrictions of the traditional TV broadcasting market were not commonly understood – beyond the world of professional economists – in 1960. Yet as popular as the new video medium was, as wildly as the American people flocked to purchase and watch new TV sets, as quickly as it captured the imagination of the culture – its product left much to be desired. That this disappointing result was dictated by public policy was too subtle for many to see. And the FCC leapt to blame the disaster on others.

i. Decrying TV Quality

In the most famous speech ever given by a U.S. regulator, FCC Chairman Newton Minow blasted TV network executives in a May 9, 1961 session held at the annual meeting of the National Association of Broadcasters. Television was perhaps a hit with viewers, but an embarrassment to American society. Minow excoriated broadcasters, FCC licensees authorized to operate in the "public interest," for failing to "making ready for the kind of leadership that newspapers and magazine assumed years ago."[80] Citing the high profits that stations were enjoying, he took aim at the business executives and their professional duties. He challenged them to

> Sit down in front of your television set when your station goes on the air and stay there… and keep your eyes glued to that set until the station signs off. I can assure you that you will observe a vast wasteland.
>
> You will see a procession of game shows, violence, audience participation shows, formula comedies about totally unbelievable families, blood and thunder, mayhem, violence, sadism, murder, Western badmen, Western good men, private eyes, gangsters, more violence and cartoons. And, endlessly, commercials – many screaming, cajoling and offending. And most of all, boredom.[81]

Sad picture – but it was the FCC's TV license allocations that forced precisely this result. Regulation severely restricted viewer choice. And, while unmentioned by Minow, market forces were at that instant working to expand them. Entrepreneurs were discovering another path by which they could deliver video content to TV-hungry

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[80] Newton N. Minow, EQUAL TIME: THE PRIVATE BROADCASTER AND THE PUBLIC INTEREST (Athenium, 1964), p. 51 (passage cited is from the reprint of Minow's 1961 NAB speech).
[81] Ibid., p. 52.

customers: coaxial cables. As the government blocked over-the-air program choices by virtue of its airwave gatekeeper role, new "non-broadcast" enterprises could lay their own wired grid to transmit signals. The FCC had no jurisdiction over local cable systems creating "spectrum in a tube."

ii. Blocking Market Entry

The FCC did not welcome this marketplace fix. Rather, it moved to plug the 'loophole.' In a key 1962 decision,[82] it reversed an earlier license award to a microwave common carrier. The company had wanted to provide video transmission services. As a common carrier it would ordinarily not have to worry about the communications it transmitted, nor their effect on market competition downstream. The idea of common carriage, after all, is that the customers are free to purchase inputs without discrimination; the use they make of the service is left to them. So the FCC had held in approving the microwave operator's license.

But that award was protested by a TV station which explicitly argued that the content Carter Mountain Transmission Corporation (the new licensee) would transmit – video programming delivered to a local cable operator in the TV station's market -- would compete, and hence damage, the station by reducing its audience. Hence, in 1962, the FCC switched sides and revoked its award. [83] This violated both the principle of common carriage (as applied to the microwave operator), and extended the FCC's jurisdiction far beyond what the Congress had chartered the agency to regulate.

That legal problem was remedied when the FCC creatively developed the "ancillarity doctrine."[84] This permitted the Commission to regulate cable TV systems – effectively thwarting their development – in order to protect its regulatory mandate over TV broadcasters. Were cable operators to compete without such limits, they would "siphon" viewers from broadcasting, lessening the financial returns of TV stations. If that were to happen, the FCC's "public interest" mandates could would be rendered ineffective; the profits that were to fund the mandates would be competed away. Consumer choice was explicitly blocked to save the "public interest" mission of the Commission's broadcast regulatory function, as laid out in the Communications Act of 1934.

The justification was worse than ad hoc. It was an affirmative defense of anti-competitive regulation, a pro-monopoly policy that inflicted great collateral damage on

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[82] *Carter Mountain Transmission Corp. v. FCC*, 32 FCC 459 (1962), affd, 321 F.2d. 359 (D.C. Cir. 1963), cert. denied, 375 U.S. 951 (1963).

[83] See Stanley Besen & Robert Crandall, *The Deregulation of Cable Television*, 44 LAW AND CONTEMPORARY PROBLEMS 77 (W 1981), pp. 85-86.

[84] See Glen O. Robinson, ***Regulating Communications: Stories from the First Hundred Years,*** 13 THE GREEN BAG JOURNAL 303 (2010).

the First Amendment.[85] Its paradoxical creation has not gone unnoticed. As described by former FCC member and University of Virginia law professor Glen O. Robinson:

> The cable regulations were originally designed solely to protect licensed broadcast stations. But why protect broadcasting? In fact the protection rationale was a little ironic. The traditional rationale for the FCC's licensing broadcast stations was that they used a scarce spectrum resource. Since cable systems use shielded conduit they are not only not part of the scarce spectrum problem, they might even have been regarded as a technological fix to that problem so far as delivery of television programming was concerned. To an open-minded regulator the message might have been: The task you were assigned to perform – manage the use of the spectrum – is no longer necessary; collect your pension and retire to Sun City.[86]

Retire the regulators did not. Instead, they aggressively moved to restrict cable TV. Just as the FCC Chair had blasted broadcast television as offering nothing of value to American society, the American regulator moved to protect that business from competitive entry. Orders were issued, beginning in 1962, to limit the spread of cable TV, restrictions that included a federal licensing mandate: any cable TV franchise issued in a Top 100 TV market would have to demonstrate, to the FCC's satisfaction, that new video competition would advance the "public interest." That burden simply shut down major markets for competitive entry. But the Commission was not finished. Specific content rules were crafted to deprive cable systems of valuable product.

> The pay-TV or "anti-siphoning" rules adopted in the 1960s seem laughable today in their baldly anti-consumer, protectionist tone. Cable operators could not offer pat-TV (per-channel or per-program) service that included (a) sports programming that had been on free television within the past four years, (b) series programs, or (c) movies more than two or less than six years old.[87]

Because broadcasting was the nation's primary video distribution network, and the Commission asserted that cable TV would never be more than an "auxiliary service," and given that TV licensees were obligated to perform in the "public interest," the Commission justified its actions as protecting public airwaves. Moreover, it did not have to wait for these projected harms to materialize: "Remedial action in this area should not wait upon the threat becoming actuality."[88]

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[85] Not only has the U.S. Supreme Court found that cable TV operators themselves have free speech rights – limiting monopoly franchises, e.g. – but the expansion of speech and expression enabled by multi-channel competitors is substantial. *City of Los Angeles v. Preferred Communications* 476 U.S. 488 (1986).

[86] Robinson (2010).

[87] Owen (1999), p. 117.

[88] Memorandum Opinion and Order, 23 FCC 2d 825, 828 (1970). See also, Besen & Crandall (1981), p. 93.

iii. Broadcast Signals and Intellectual Property Rights

These anti-cable sanctions tiptoed around copyright claims. Broadcast TV signals were prime choices for filling "basic cable" line-ups in the earliest days of the emerging industry. Viewers in San Diego might really enjoy watching Los Angeles channels; a pioneering Cox Cable system in San Diego imported these signals to give viewers the chance. This competition, beginning to evolve in the 1960s, is precisely what drove TV stations to lobby the FCC for protection from cable. But quite apart from the "influence competition" that would decide which interests the regulators would choose to side with, the question as to who owns broadcast signals, and what such ownership rights entail, formed interesting issues. Two U.S. Supreme Court cases clarified them.

In 1968, the Court considered whether a cable TV operator, retransmitting local TV signals via wires, was infringing the TV station's rights by not paying copyright fees.[89] It was held that cable TV operators were perfectly within their rights. Just as companies selling TV sets or roof-top antennas were supplying products helping viewers receive broadcast TV signals, so was the cable TV operator. Indeed, the service provided – Community Antenna Television (CATV) – extended signals and improved their quality. Had cable systems spliced out the broadcaster's commercials and replaced them with their own, the case would likely have been decided differently. But, as constituted, the cable TV subscription service that improved intact broadcasts for delivery to subscribers was a complement to the broadcaster's off-air service. No copyright infringement was found. In 1974, the same verdict was reached for "distant signals" imported into a local market by a cable operator.[90]

These cases were perhaps great legal victories for cable TV operators, but political disasters. The broadcasting industry, huge in proportion to the fledgling cable "industry," asserted its political muscle first in obtaining FCC rules to enforce the "public interest" by creating large barriers-to-entry for new cable TV systems. Then, in a series of FCC rulemakings and Congressional statutes (including provisions in the 1976 Copyright Act), broadcasters won new protections and licensing fees (for copyrights that the federal courts had declined to find). As a 2008 report from the U.S. Copyright Office explains,

> In 1972, the Commission adopted comprehensive distant broadcast signal carriage quotas for cable systems and syndicated program exclusivity protections. The FCC took these actions to protect the economic interest of local television broadcasters threatened by the importation of out-of-market stations. The highly complex rules formed the foundation of FCC regulation of the cable industry throughout the 1970s.[91]

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[89] *Fortnightly Corp. v. United Artists Television, Inc.,* 392 U.S. 390 (1968).
[90] *Teleprompter v. CBS,* 415 U.S. 394 (1974).
[91] *Satellite Home Viewer Extension and Reauthorization Act, Section 109 Report*, U.S. Copyright Office (June 2008), p. 5.

The idea that a local TV station owns all rights to the programming it airs may not sound peculiar. Indeed, to the degree that the broadcaster invests resources in creating socially valuable content, economically efficiency – embedding incentives for productive enterprise – would suggest that such property rights be awarded. But the FCC's regulatory strategy was anything but an attempt to advance efficiency.

The producer of TV programming does enjoy copyright, be it a Hollywood studio, a television network, or a local TV station. It then chooses to send that content to viewers' TV sets. In this process it transfers its rights (typically for a license fee, some share of ad revenue, or both) to a distribution platform. Due to the FCC's anti-cable rules of the 1960s and 1970s, there was no alternative to local broadcast stations for this transport function. And there were very few of these outlets. Each station had considerable market power in extracting payments from video producers, or their assigns (program networks or syndication services), in distributing video.

FCC rules that limit "distant signals" resemble cartel enforcement devices, limiting cross-market competition among stations for viewers. While premised on the idea of copyright protection, they actually achieved something quite distinct: protection of local broadcast stations. The rules established did not create property rights for content owners, most of which are producers or networks, not local TV stations. Instead, the rules pre-empt whatever contracts would be negotiated by content owners, forcing them to deal with local TV stations for distribution.

Placing local TV stations at the center of U.S. video distribution may not have appeared odd in 1952. By the 1960s, however, it was already becoming plain that – given the tiny number of stations authorized in any given market – there were other possibilities. Cable TV and, soon, satellite TV would become efficient distribution platforms. Satellite could not emerge until the government monopoly, Comsat, was subjected to the competitive discipline of private rivals. That was achieved in the Open Skies policy put into place in 1972. "[F]or the first time ever, the United States had an opportunity for free competition in long-distance broadband communication."[92] While the development of cheap, small, rooftop receiver dishes would have to await the digital technologies of the 1990s, the competitive opening proved hugely important in saving the cable TV industry – left for dead by FCC regulators – viable. By sending nationwide video transport prices plunging, fledgling cable program networks could afford to transmit their video content to cable systems nationwide.[93]

Whatever the early arguments for local broadcasting, locking the TV station into place as the conduit through which national programs must pass was a political act with grave economic consequences. It drove regulators to perversely block additional

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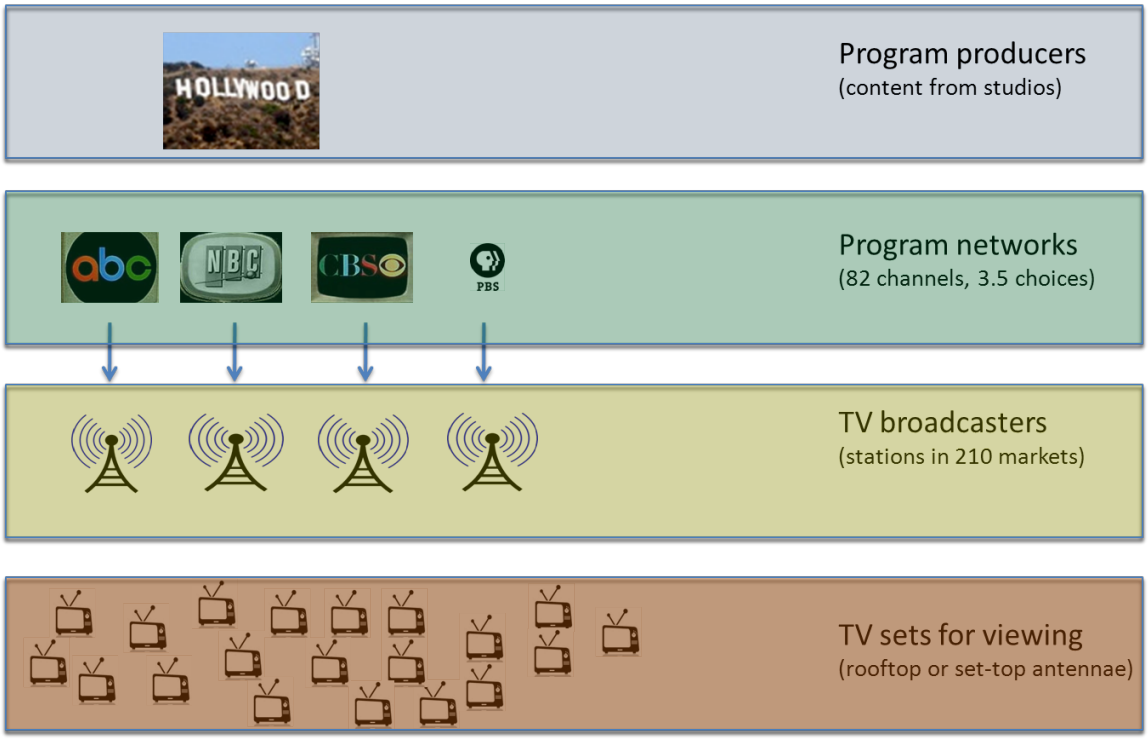
[92] Owen (1999), p. 146.

[93] These developments have been credited as the key economic factor in the 1979 birth of C-SPAN, e.g., one of the very first cable-only program networks, by founder and CEO Brian Lamb. Brian Lamb, *C-SPAN: Present at the Revolution*, Tullock Big Ideas About Information Lecture, Information Economy Project, George Mason University School of Law (Oct. 6, 2006); http://iep.gmu.edu/event/tullock-lecture-c-span-present-revolution.

broadcasting licenses, to thwart emerging technologies, and to then buttress the market power of the few licensees permitted to compete by forging rules against "distant signal" importation. While millions of homes were buying TV sets, and then upgrading to color TV sets, and as TV productions were proving enormously popular and highly profitable, the structure of the TV marketplace in 1970s was almost precisely what it had been in 1950. One fewer commercial network was in place, and one new non-commercial network. See Figure 4.

FIG. 4. U.S. VIDEO DISTRIBUTION, CIRCA 1970



It was not that the market did not try to evolve; the FCC would simply not permit it. Stations were licensed in one community, and its broadcasts would stay there. TV shows were largely produced by national networks, and entry was blocked – one entrant (DuMont) actually killed. These firms were forced to send their shows to viewers via locally licensed transmitters. Emerging wired rivals – wherever they offered new, competing programs -- would have to back off. The lack of innovation in market structure was a testament to FCC industrial policy.

C. Unleashing Cable

The thaw in this frozen regulatory tundra began with satellites. Comsat had been established by the U.S. Government to provide telecommunications services to public and private customers in the Satellite Communications Act of 1962.[94] The enterprise was half owned by the Government, and half by AT&T. It was awarded an exclusive

[94] *Legislation Note: The Satellite Communications Act of 1962*, 76 HARV. L. REV. 388 (Dec. 1962).

franchise to launch, maintain, and operate communications satellites serving the U.S. market.

In 1970, Tom Whitehead, head of the White House Office of Telecommunications Policy, proposed a radical transformation. In the "Open Skies" reform, Comsat's monopoly would be stripped and private firms would be allowed to offer rival services. "The FCC somewhat grudgingly adopted this policy in 1972."[95]

By 1975, six private communications satellites were in operation. Prices for transport imploded. This soon impacted the state of video competition on the ground. While direct-to-home satellite services did not develop until the early 1980s, the appearance of cheaper video transport opened up brand new commercial possibilities. In particular, programmers now had the option to beam their video content to cable TV systems around the country, bypassing high-priced AT&T Long Lines and the even higher-priced Comsat. Innovators seized the moment. In 1975, Home Box Office, a movie channel launched in 1972 and "bicycled" to cable systems in New York and Pennsylvania, went on "the bird."[96] The impact was disruptive. Sending one electronic transmission nationwide, with cable systems able to pull down the channel via an earth station (dish receiver), created a new marketplace.

Quickly, other pieces of the puzzle were assembled. An entrepreneur in Atlanta took his local, non-network TV station broadcasts and pointed them to space. WTBS became the first "basic cable channel" in 1976. Owner Ted Turner acquired the Atlanta baseball franchise, the Braves (and later the basketball team, the Hawks), televised their games, and pumped new life into the emerging cable network. Fans in New York or Los Angeles found WTBS a prime viewing choice when their Mets or Dodgers played the Braves. Viewers started to tune in.

Cable TV operators began searching for additional content. Their first choice was to find a network that was cheap and delivered product not available via broadcast channels. A consortium of system operators launched the Cable Satellite Public Affairs

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[95] Owen (1999), p. 146.
[96] Besen & Crandall (1981), p. 107.

Network – C-SPAN – in 1979. The channel televised Congress, and filled down time with call-in shows. Network anchors were scrupulously non-partisan, allowing viewers to express views while offering none of their own. It then expanded its coverage to include public policy seminars, history lessons, and interviews with book authors. It could not be duplicated by broadcast TV stations; with only a handful of stations per market, the opportunity cost of following hours-long congressional hearings, debates, or news conferences was – compared to the limited audiences available – prohibitive. On a shoestring, a new video network was born. And it was unique to cable.

The programming created industry buzz. Its coverage of Washington politics was interesting to sophisticated viewers and, in many cases, to cable franchising authorities. But it was possible only due to Open Skies. As C-SPAN founder and CEO Brian Lamb explains the policy change this way:

> [I]n those days, if I needed time to get to all the cable systems in the United States it would have cost, we figured, about 15 million dollars [an hour] … to have a transmission system that I would buy from AT&T **…** Western Union put up the first [competing] domestic satellite in April of 1974; RCA… in 1975; Hughes Corporation; GTE the phone company put one up – there were six in the beginning… Which meant that they had schemes where I could buy [nationwide vide distribution for] 100 dollars an hour… [J]ust look at the difference between 100 dollars and 15 million… Without Open Skies, we would not have been a network.[97]

Soon, other networks were launching, including ESPN (1979) and CNN (1981). Why the rush? Why now?

In addition to cheap satellite distribution, the anti-cable rules of the 1960s had been stripped away in the "deregulation wave" of the 1970s.[98] The FCC's anti-cable rules, begun in 1962 and formalized in a 1966 Order,[99] had by 1980 been largely repealed. The deregulation was a product of a change in opinion among scholars and policy makers, reappraising the role of market competition relative to commission

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[97] Brian Lamb, Tullock Lecture on Big Ideas About Information, *C-SPAN: Present at the Revolution*, George Mason University, Information Economy Project (Oct. 6, 2006); http://iep.gmu.edu/event/tullock-lecture-c-span-present-revolution. (Quotation from transcript edited, for clarity, with respect to sequencing).

[98] Besen & Crandall (1981).

[99] "1966… was a watershed in the regulation of cable. Never, before or since, has the Commission's regulation of cable been more wide-ranging or restrictive. In adopting its Second Report and Order, the Commission restated the two bases of its previous policies:

> Our determination to adopt the carriage and nonduplication requirements rested on two basic grounds: (1) that failure to carry local stations and duplication of their programs are unfair competitive practices, which are inconsistent with the supplementary role of CATV . . . and (2) that these requirements were necessary to ameliorate the risk that the burgeoning CATV industry would have a future adverse impact on television broadcast service, both existing and potential…"

Besen & Crandall, p. 88, quoting Second Report and Order, 2 FCC 2d 725, 736.

regulation,[100] federal court decisions that restricted FCC interventions as beyond the scope of its charter in the Communications Act of 1934,[101] as well as the distinct failure of the rules themselves. The "vast wasteland" was not appreciably different in the late 1970s from when the FCC made its observation in the early 1970s. And a network triopoly continued to reign supreme.

But the market was about to change – radically. With the elimination of rules protecting broadcast TV stations from competition, cable TV operators wired America for television. The franchising wars were not pretty[102]; mayors, judges,[103] and cable TV company executives went to jail[104] or, in certain horrific cases, committed suicide to (presumably) avoid prosecution.[105] Some well-connected lobbyists got rich. But when the dust settled, broadcasters faced competition.

And Americans, at long last, had their MTV. And USA, Lifetime, Discovery, A&E, Showtime, TLC, TNT, AMC, VH1, and BET. Soon, far more would come.

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[100] Joseph Kearney & Thomas Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUMBIA LAW REVIEW 1323 (Oct. 1998).

[101] In *Home Box Office v. FCC*, 567 F.2d 9 (1977) the FCC's rate regulations over premium programming (like HBO) were over-ruled. In *FCC v. Midwest Video Corp.*, 440 U.S. 689 (1979) rules requiring cable TV systems to provide certain numbers of channels, making some proportion of them available for third parties to lease, imposed common carrier obligations on cable TV systems. Since the FCC had argued that its authority over cable was "ancillary" to its jurisdiction over broadcasting, and the Communications Act has explicitly deemed broadcasters to not be common carriers, the rules were invalidated.

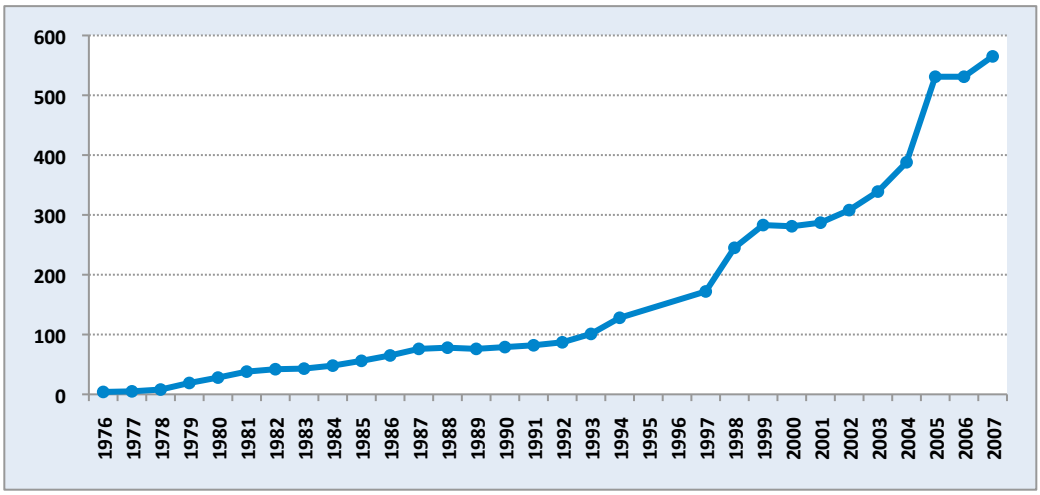
[102] Thomas W. Hazlett, *Private Monopoly and the Public Interest,* 134 UNIVERSITY OF PENNSYLVANIA LAW REVIEW 1335 (July 1986).

[103] New York Supreme Court judge Francis X. Smith was convicted of perjury and contempt for lying to a grand jury looking into cable franchising in Queens in 1987. Peter Blauner, *The Unplugged City: The Story of New York Cable is a Model Municipal Mess*, NEW YORK 36 (July 20, 1987), p. 36.

[104] The CEO of the largest cable system operator at the time, Teleprompter, went to federal prison, convicted in 1975 of bribing the mayor and two city councilman to obtain a cable franchise in Johnstown, Pennsylvania. The case is described in *Telemprompter Cable Systems v. Federal Communications Commission*, 543 F.2d 1379 (1976).

[105] Donald Manes, Borough President of Queens, killed himself when he was implicated in a major bribery-kickback scandal featuring cable TV franchises. Joseph Fried, *Queens Consultant Convicted In Cable-TV Bribery Scheme*, NY TIMES (Aug. 8, 1987).

FIG. 5. TOTAL CABLE PROGRAM NETWORKS, 1976-2007[106]



The official end of the federal policy to suppress cable came in the Cable Communications Policy Act of 1984. This measure effectively ended local rate regulation of cable TV systems (as of Dec. 29, 1986), and capped what municipal authorities could extract in the form of "franchise fees" at 5% of the cable operator's video revenues. This actually increased a cap previously set by the FCC (3% for most systems). The bill also banned telephone companies from competing (in their local exchange markets) with cable TV operators, and required that all cable systems obtain franchises from state or local authorities (some jurisdictions had relied on *laissez-faire*). The new rules, while protecting some important aspects of local government jurisdiction (cities were fearful that their cable franchise authority would be tossed out via court challenges), were decidedly "pro-cable." A new age in video had arrived.

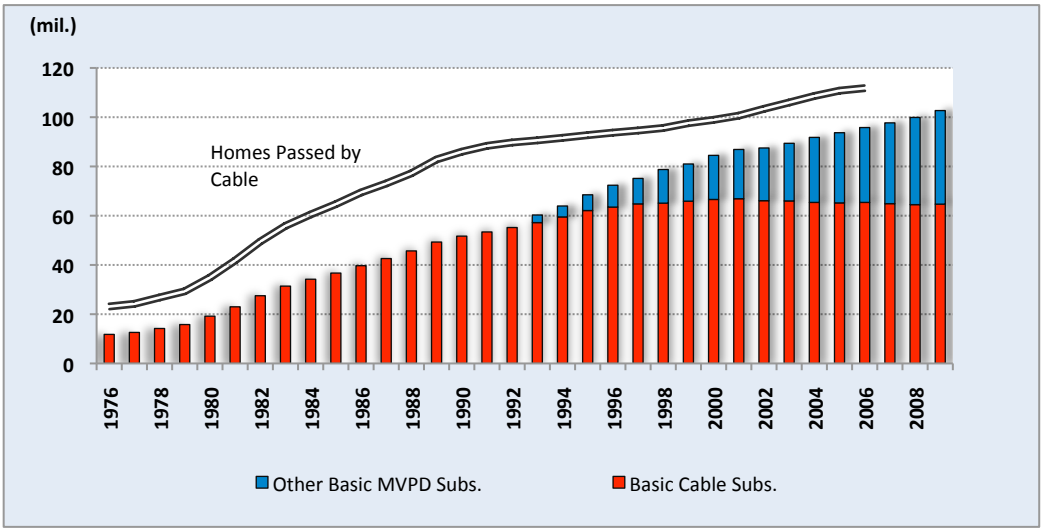
By the late 1980s, cable systems were expanding their geographic reach and upgrading their channel capacity. The early 12-channel systems were gone, and the newer 36-channel networks were being upgraded to 64-channel systems – or larger. Scores of new program networks were created to fill these new spaces. What had been a

[106] Data for 1976-1994 are from Hazlett & Spitzer (1997). pp. 96. Data for 1996-2005 are from the annual FCC reports. Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Twelfth Annual Report),* MB Docket No. 05-255 (Released Mar. 3, 2006). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Eleventh Annual Report),* MB Docket No. 04-227 (Released Feb. 4, 2005). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Ninth Annual Report),* MB Docket No. 02-145 (Released Dec. 31, 2002). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Seventh Annual Report),* CS Docket No. 00-132 (Released Jan. 8, 2001). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Fifth Annual Report),* CS Docket No. 98-102 (Released Dec. 23, 1998). Data for 2006 and 2007 are from NCTA reports. National Cable Television Association, Industry Overview 2008; http://i.ncta.com/ncta_com/PDFs/NCTA_Annual_Report_05.16.08.pdf. National Cable Television Association, Industry Overview 2007; http://i.ncta.com/ncta_com/PDFs/NCTA_Annual_Report_04.24.07.pdf.

handful of cable-only program networks in 1980 – HBO, C-SPAN, ESPN – had become nearly 100 channels of non-broadcast video by 1990. See Figure 5.

The transformation of American video markets was on the very instant that federal rules were relaxed to permit, more or less, free choice. Cable operators seized the initiative, investing aggressively to create new multi-channel platforms. Cable TV, having started in Mahony City, Pennsylvania in 1948, had only developed to the point where, in 1976, but 31% of U.S. homes could subscribe. By 1985, however, some 75% could. See Fig. 6.

FIG. 6. MVPD GROWTH, 1976-2009[107]



This dramatic increase in infrastructure deployment, in turn, triggered widespread investment in new programming. Some of the emerging cable-only program networks

[107] Cable data for 1976-1994 are from Hazlett & Spitzer (1997), pp. 115-16. Cable subscribership and homes passed data for 1995 through 2000 as well as subscribership data for other MVPDs are from annual FCC reports. Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Eighth Annual Report),* CS Docket No. 01-129 (Released Jan. 14, 2002). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Seventh Annual Report),* CS Docket No. 00-132 (Released Jan. 8, 2001). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Sixth Annual Report),* CS Docket No. 99-230 (Released Jan. 14, 2000). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Fifth Annual Report),* CS Docket No. 98-102 (Released Dec. 23, 1998). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Fourth Annual Report),* CS Docket No. 97-141 (Released Jan. 13, 1998). Federal Communications Commission, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming (Third Annual Report),* CS Docket No. 96-133 (Released Jan. 2, 1997). Household data are from Census Bureau. http://www.census.gov/population/www/socdemo/hh-fam.html#ht. The other MVPD subscribership data for 1997 is semi-annual, and since then data are given in the FCC reports as of June. Cable data are as of year-end.

mirrored the kind of video content long seen on broadcast television; it was not a stretch to project that what had been popular would continue to be, particularly if offered with more choices (in terms of broader program menus). Hence, Hollywood production companies – and producers elsewhere – experienced a boom in their economic fortunes that has not, to this day, abated.

Hence, cable was not only available to tens of millions more customers, subscribers had increasingly strong motivation to sign up. The expansion in video content seemed a non-factor to some; Bruce Springsteen famously sang, *57 Channels (And Nothin' On)*.[108] Good tune, but in a 3-channel world, the chance that there is something you want to watch tends to be much lower than in a 57-channel world. The fact that there is much more bad stuff on – perhaps even 56 unappealing programs – is irrelevant. What matters is that the expanded selection greatly improves the chance of finding one program of genuine interest. And if a Bruce Springsteen video strikes your fancy, you had better tune to cable channels MTV, CMT, or VH1, because ABC, CBS, NBC, or Fox are far less likely to accommodate.

The proof is in the pudding; demand for cable skyrocketed in the 1980s. Even at prices that were increasing faster than the rate of inflation, the growth in subscribership can only be described as torrid. In 1976, just 16% of U.S. homes subscribed to cable. By 1988, more than half of U.S. homes did. This watershed in TV history came less than a decade after "the deregulation of cable television," and is attributed both to an increase in system build-outs (saturation) and rising subscribership among those passed by cable (penetration). See Figure 6.

Broadcast TV stations were still key components of the market. But it was now becoming apparent that POTV (plain old television) was really two systems. On the one hand, the local TV stations spread across 210 local markets were a delivery platform, transmitting video signals to be watched by viewers with antennas and TV sets. On the other hand, broadcasters were producers of TV programming. Networks created national programming such as prime time series, sports events, and network news. Local stations produced local news shows. Syndicated programs were often produced at local stations, but then turned into ad hoc networks by gaining clearance on stations around the country.

Cable provided competition to all aspects of broadcast TV. But whereas the programming offered to viewers via cable TV networks was a direct competitor to broadcast video shows, the cable transmission platform was both a substitute (competitor) and a complement for off-air broadcasting. That has profound implications for the structure of the video market.

By the 1990s, exotic possibilities for reformulating the TV market were becoming clear. In 1994, George Gilder spied technological convergence, the "teleputer" replacing telephone and TV screen. He envisioned "Life After Television" by the end of the

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[108]Bruce Springsteen, *57 Channels (And Nothin' On)* (1992); http://www.brucespringsteen.net/songs/57Channels.html.

century.[109] His insight was to see that market forces would alter traditional models. His confusion lay in equating technological transformation with the disappearance of popular video applications. Television – on bigger, clearer screens, and with more program choice than ever before – is very much alive in 2011. It is evolving into myriad new formats, service models, and devices. What is disappearing is our reliance on the TV Allocation Table of 1952.

The explosive growth of systems, networks, and customers in cable's "Golden Decade" of the 1980s is proof of concept: regulatory bypass was in the public's interest. Regulators had permitted far too little competition, and had seriously under-estimated the demand for diverse programming. The new pathway to viewers via "spectrum in a tube" became a conduit for video innovation almost the instant it was permitted to do so. Tens of millions of households have been willing to pay $50, $100, or even $150 a month to opt out of "free TV."

While broadcasting began to fade, broadcast networks prospered, investing in cable TV programming and riding the expansion of video distribution facilities even as their TV stations withered in the face of competitive rivalry. Broadcast networks were well-positioned to seize this opportunity, as the assets they had developed in TV content creation could be efficiently leveraged to produce more programming. For key financial reasons, TV show (and feature film) production is concentrated into relatively large blocks. The great uncertainty in a market where outputs are a "hit" or a "miss" forces this portfolio approach. Perhaps one in ten releases is a long-running TV success; it pays for losses across the other nine. Studios, networks, or large production companies hedge against this risk by creating a large flow of diverse programs, diversifying.

Hence, the largest owners or cable TV network programming are broadcast networks. Despite being arch rivals of cable TV systems, broadcaster Disney (ABC) owns major equity interests in ESPN, Disney, A&E, ABC Family, and Lifetime; NBC Universal (prior to its Jan. 2011 sale to Comcast) held USA, Bravo, Oxygen, CNBC, and MSNBC; News Corp (Fox TV) owns Fox News Channel, FX, Speed, National Geographic and Fox Reality; Time Warner (half-owner of the CW), CNN, TNT, TBS, HBO, Cartoon, and HLN.

The fact that broadcast networks invest so heavily in cable TV programming reveals something beyond economies of scope involved in TV production. In launching new program platforms, broadcasters do not seek out broadcast TV outlets – not even during or after the digital TV conversion giving existing TV stations multiple (generally, up to six) channels of off-air, standard definition video broadcast streams. Instead, they launch hundreds of cable-only programming networks. In the opinion of the broadcast networks, these multi-channel platforms are the most efficient way to transmit new video products to the public.

Beyond the economic gains for American consumers, Hollywood producers, and video device makers, cable deregulation also proved a boon to free speech. Recall that

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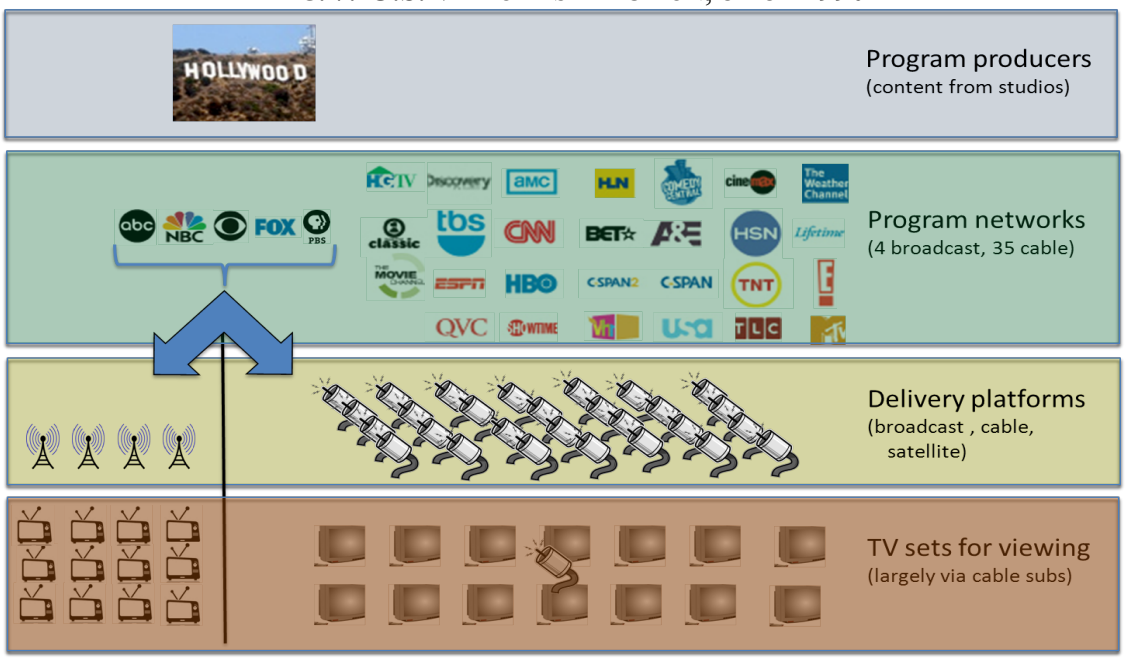
[109] George Gilder, LIFE AFTER TELEVISION (W.W. Norton, 1994).

cable had, ironically, been thwarted by the FCC on the grounds that news, information, and public affairs programming would suffer were cable to "siphon audiences," financially undercutting broadcast licensees with "public interest" obligations. In the event, cable TV networks actually delivered what broadcasters only promised, supplying orders of magnitude more informational programming. The flaccid network news shows of the 1960s and 1970s, providing just 15 to 30 minutes of daily down-the-middle national news, were the apex – the very best – of this shallow garden. Cable, from its very debut, offered viewers a public affairs option never even imagined by the broadcast networks – C-SPAN. Soon, CNN, Headline News, and CNBC were providing 24/7 news, while A&E, Discovery, and TLC were presenting documentaries. The artificial scarcity induced by the FCC's chokehold on video capacity was being rendered moot.

FIG. 7. U.S. VIDEO DISTRIBUTION, CIRCA 1990



D. Cable-Satellite-TelcoTV-IPTV-Netflix-AppleTV-Boxee-YouTube-Tivo-GoogleTV

By 1990, most households had shifted from over-the-air broadcasting to a cable TV subscription. The success of deregulation was undeniable in consumer welfare terms. While prices rose, consumers flocked to the new, improved services. The dramatic expansion of viewing choice was driving benefits in excess of costs, as revealed by subscribers own choices. This reality gave way to a more political interpretation, however, and pressure built in Washington for "re-regulation." The argument was that imposing price regulation, abandoned in the Cable Act of 1984, would bring rates down to more affordable levels without negatively impacting product quality. Subscribership would increase, as more households would be able to afford "pay TV."

That the broadcasting industry made just this argument, becoming the chief corporate lobbyist for cable re-regulation, was a clue that something was amiss. Were

rates to be effectively constrained, it would deal a harsh blow to broadcast TV revenues. More cable connections would occur, viewing would further shift from broadcasting to cable TV networks.

Whatever the merits of the case, the broadcaster-led campaign[110] worked: the Cable TV Consumer Protection and Competition Act was passed (over a veto by Pres. George H.W. Bush) in October 1992. The bill contained several provisions; the main features were two:

- Re-regulation of cable TV rates. Local governments would be permitted to control fees charged for basic cable service under benchmarks designed by the FCC.
- Must-carry/retransmission consent. TV broadcasters were given new rights over the use of their signals vis-à-vis cable TV. First, stations could elect to receive free carriage on the lowest-priced basic tier, and with favorable channel assignments, on any cable system in their broadcast TV market. Alternatively, the station could elect to withhold its programming pending a negotiated price, charging a license fee for retransmission by the cable TV system.

Cable TV rate regulation, kicking in May 1993, resulted in rate roll-backs – according to the FCC – of up to 17% as of July 1994. Rather than reducing quality-adjusted cable prices, and enhancing subscriber growth, however, the opposite occurred. Price controls changed operator incentives, slowing the flow of new programming, reducing the quality of existing programming. It also led operators to rearrange service menus, and to shift marketing activity from basic cable (regulated) to premium services (unregulated). Overall, cable subscriber growth slowed. This justified the broadcasters' endorsement, but was a public policy backfire. Regulators were flummoxed; by November 1994 the FCC was lifting price ceilings and permitting rate increases under the guise of "social contracts." According to Consumer Price Index statistics, by 1995 cable rates – still controlled under the 1992 Act – were increasing as fast as they had prior to re-regulation. The rate control regime was scrapped in the Telecommunications Act of 1996.[111]

Following the unfortunate regulatory hiccup, market forces returned to reshape customers' video delivery options. In 1994, DirecTV launched its direct broadcast satellite (DBS) system, sending cable TV networks not to cable system head-ends but to subscribers themselves. In 1996, a second competing system – Echostar, also known as the Dish Network – joined the fray. The satellite operators featured all-digital signals, over 100 channels of programming, and broadcast a footprint reaching the entire

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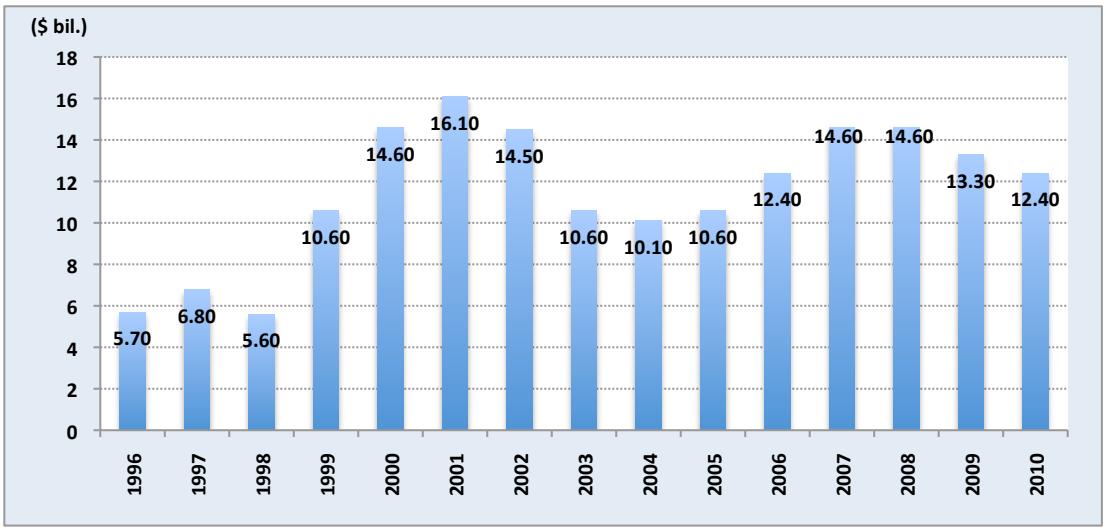
[110] A national ad campaign of groups lobbying for cable TV reregulation (including Consumers Union and Consumer Federation of America) was funded by the National Association of Broadcasters. See Hazlett & Spitzer (1997), p. 183.

[111] The formal end of rate regulation was March 31, 1999. The informal deregulation at the FCC made the statutory policy change largely irrelevant, however, and there was no "fly-up" in rates. See Thomas W. Hazlett, *Prices and Outputs Under Cable TV Reregulation*, 12 JOURNAL OF REGULATORY ECONOMICS 173 (Sept. 1997); Thomas W. Hazlett, *Surprise, Surprise: Cable Rates Fall After Deregulation*, BARRON'S (Feb. 28, 2000).

continental U.S.[112] They offered bigger "basic cable" packages than cable TV operators, and charged higher prices.

The entrants were perceived as interesting new players, but effectively competitive only in rural precincts not yet wired for cable TV. Analysts saw the DBS rivals as fighting for a small swath of the U.S. market, and cable incumbents ridiculed them as technologically inferior to wired systems. Before long, however, the laughing stopped: DBS was picking up substantial market share in urban and suburban areas. Subscribers were substituting satellite for cable. This market transition was assisted by the Satellite Home Viewer Improvement Act of 1999,[113] which permitted DBS operators to retransmit local TV signals to subscribers. The Act imposed a "carry one, carry all" requirement (all local stations must be transmitted in any market where any station is transmitted).

FIG. 8. CABLE TV CAPEX, 1996-2010[114]



Cable TV operators, beginning to feel competitive heat, responded vigorously. In 1999 capital investment (capex) in the industry jumped dramatically. See Figure 8. What had been an annual outlay of about $6 billion rose to approximately twice that. By 2010, the industry had spent over $150 billion on infrastructure, most expended to upgrade their physical networks. Systems, which had typically delivered 450 MHz of bandwidth, were expanded to 750 MHz – 125 analog TV channels – or more. Perhaps of greater importance was the additional of two-way digital technology, providing capacity for both digital video signals and high-speed Internet access. When the dust settled, cable operators had remade the market, sinking nearly $3,000 per cable TV subscriber, 1999-2010, to do so.

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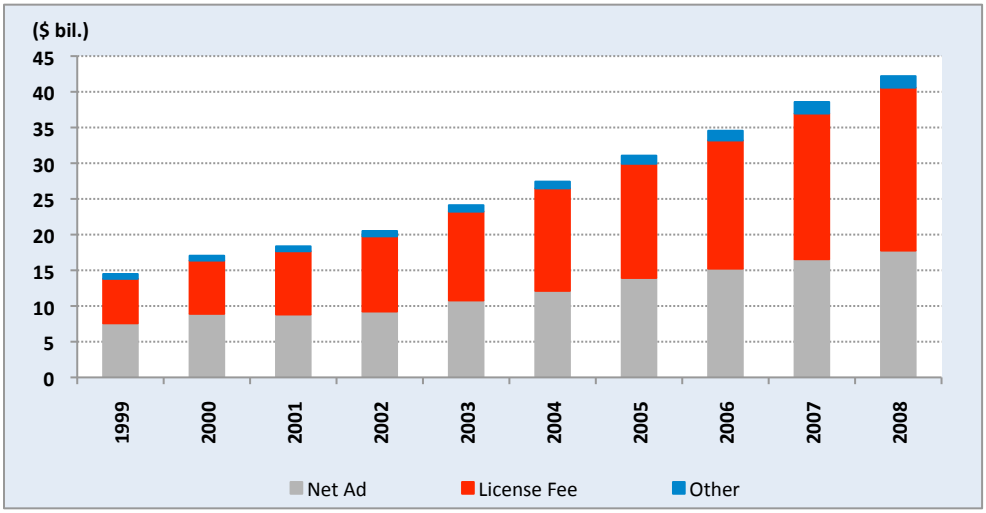
[112] Dish Network, *Milestones*; http://dishnetwork.mediaroom.com/index.php?s=8777.
[113] Pub. L. No. 106-113, 113 Stat. 1501 (1999).
[114] National Cable Television Association; http://www.ncta.com/Stats/InfrastructureExpense.aspx.

The outlays helped cable operators compete with satellite TV, but also equipped systems to develop high-speed Internet access services offered head-to-head against digital subscriber line (DSL) or fiber-to-the-home (FTTH) services supplied by telephone carriers. Cable modem networks, in turn, enabled cable operators to create virtual voice networks via voice-over-Internet (VoIP) technology. The combination of voice, data, and video put cable operators into the "triple play" market. The telcos were happy to return the favor, turning their voice networks into data and, then, video delivery platforms.

Between satellite TV operators on the one side and telephone companies on the other, the dominance of cable in video was coming to an end. Despite having expended high levels of capex to upgrade physical infrastructure for triple play rivalry, cable TV systems sold for no more – in inflation-adjusted terms – in 2010 than they had in 1990.

Nothing could have been better for content owners than the newly invigorated market competition. Each platform – cable, DBS, telco – aggressively expanded channel capacity in order to provide the diverse programming demanded by customers. Hundreds of cable TV channels launched new services to fill the dial. Overall, cable TV networks grew from under 300 in 1999 to nearly 600 in 2007. See Figure 5. Revenues exploded, going from $14.5 billion in 1999 to $42.2 billion in 2008. The majority of the gain came from rising license fees, as content owners drove harder and harder bargains with MVPDs, playing one platform off against the other. See Figure 9.

FIG. 9. CABLE NETWORK REVENUES, 1999-2008[115]

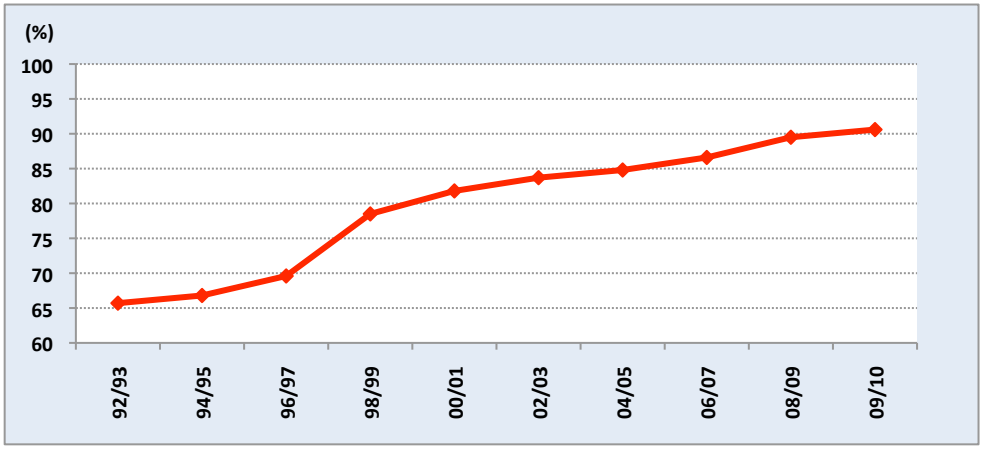


While the Golden Age of TV programming has arrived, darkness has descended on traditional television stations. Subscribership for multi-channel platforms passed the 90% threshold, meaning that very few households – and even fewer containing those who care to watch much television – rely on off-the-air broadcasting for their video. See Figure 10. This is reflected in program ratings, which continue to shift in favor of cable-only programming networks. By the 2009-10 TV season, basic cable (i.e., ignoring

[115] SNL Kagan (2009).

premium channels such as HBO or Showtime) had taken a 60-40 lead over broadcast TV in terms of audience ratings. See Table 4.

FIG. 10. CABLE & SAT TV PENETRATION OF U.S. HOUSEHOLDS, 1993-2010[116]



The vaunted "digital TV transition" was scarcely a blip on the public's radar screen. It had been long feared by policy makers that ending analog broadcasts, leaving digital TV receivers as the sole means of over-the-air terrestrial TV reception, would be generate a political firestorm. Outrage would sweep the nation when Aunt Minnie found her rabbit ears defunct. Congress appropriated $2.2 billion to avert the outcry, subsidizing digital set-top boxes (each U.S. household was eligible to receive two $40 vouchers) and publicizing the upcoming departure of analog broadcasting. First scheduled for Dec. 31, 2006, it was twice delayed by acts of Congress. The last analog stations finally went dark on June 12, 2009. Few seemed to notice. The world had moved on.

[116] Source: Cable Advertising Bureau.

TABLE 4. TELEVISION ALL-DAY VIEWING SHARES, TV HOUSEHOLDS (CALENDAR-YEAR AVERAGE 1983-2007)[117]

	83	85	87	89	91	93	95	97	99	01	03	06-07
ABC/CBS/NBC	70	66	63	57	54	52	46	42	37	33	31	40
Independents	18	19	19	20	20	20	22	20	20	18	18	2
Ad-supported broadcast total	89	84	82	78	74	73	67	62	57	52	48	42
Cable networks	7	11	14	18	24	26	32	37	44	50	57	64*
Pay services	5	6	6	6	6	6	6	7	7	6	6	5
Public stations	3	3	4	3	3	4	3	3	3	3	3	2

Indeed, a new generation of technology is now moving to rival the cable-satellite-telco TV world. With the spread of broadband to over 70% of U.S. households,[118] new business models are emerging that send video content as just another application – "over the top." The idea is not complicated: plug the cable modem, DSL, or FTTH connection into the TV set, then download video to the flat-screen display in the family room. Or skip the TV set, and stream straight to the handset, notebook, or iPad. What is more challenging is to develop a business model that makes the operation as cheap and easy as flipping the TV remote, while yielding viewers access to content as entertaining as what can be found on the 200-channel basic cable TV menu.

The YouTube phenomenon has sparked a revolution in UGC, exploiting the theme, "Broadcast Yourself." With UGC the intellectual property (IP) issue is easily solved: those who post videos want others to see their work. When slick, expensively produced content – music videos, TV shows, or movies – was initially posted, program owners defended their IP rights. Much of that content has disappeared. Backyard videos, even by the thousand, are cheaper for the website. What such productions lack in professionalism, they at least partly make up for in numbers. Hence, Google (which purchased YouTube in 2008), is an early leader in online video, as seen in Table 1.

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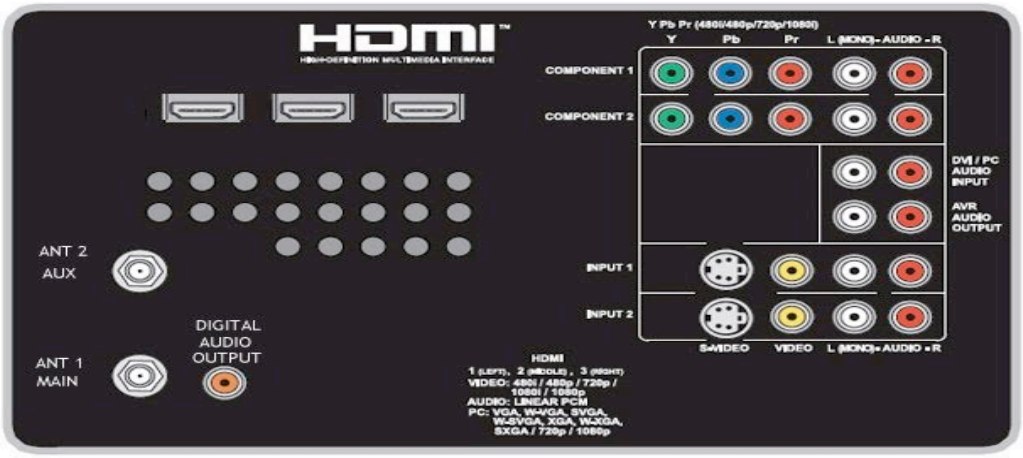
[117] Source: Kagan (2005) analysis of Cabletelevision Advertising Bureau compilation of Nielsen Media Research data; AC Nielsen Television Viewing Audience, 2007. *Notes*: Shares are rounded and sum to more than 100% due to multi-set homes. Effective Q3 1999, categories changed as follows: Disney moved from pay to cable network and non-cable homes no longer included non-wired forms of delivery such as DBS and SMATV. Historical superstation shares split equally between cable networks and independent stations. FOX, UPN, and WB affiliates included in independent total until 2006-07; then seven commercial broadcast networks included in broadcast network total. *Includes "all other cable" (except Ad Supported Cable and Premium channels).

[118] Using Leichtman Research Group data, in 3Q2010, there were an estimated 74.3 million subscribers for the broadband services of the 19 largest cable TV and telephone carriers. This covers 93% of the market. Adjusting the reported broadband subscribers (dividing by 0.93) and assuming 115 million U.S. households yields a penetration ratio equal to 69.5%.

Thus far, traffic has not led to significant, industry-altering revenues. Many entrepreneurs are looking to solve pricing issues by sharing fees or ad sales with copyright owners. Pay-per-download models -- Apple iTunes, e.g. -- are different from pay-per-view models (like Apple TV, which also uses iTunes for inventory). It is analogous to the difference between owning and renting. Other services offer fixed-fee, all-you-can-eat access to a library of videos. This would include Hulu Plus, where popular TV shows can be seen. Other services, provided by Amazon and Google TV, or devices such as Roku or Boxee, offer viewers navigational tools to access videos offered by various websites.



The early leaders in this space appear to be Hulu and Netflix. The former is further evidence that broadcasters are looking to non-broadcast media to distribute their video content. Netflix, a start-up launched when its founder became outraged over a $40 video rental late fee charged to him by Blockbuster, has now rendered its motivational nemesis bankrupt, and is shooting at new targets.[119] Capitalized at about $10 billion, while spending only $175 million on capex, it has executed a miraculously successful service by renting movies on DVDs. Until recently, the service relied solely on the U.S. Postal Service; but is transitioning to an online service. By 2010 it was sending so much video streaming traffic to its customers that it was consuming a reported 20% of the bandwidth of Comcast's peak hour cable modem network.[120]

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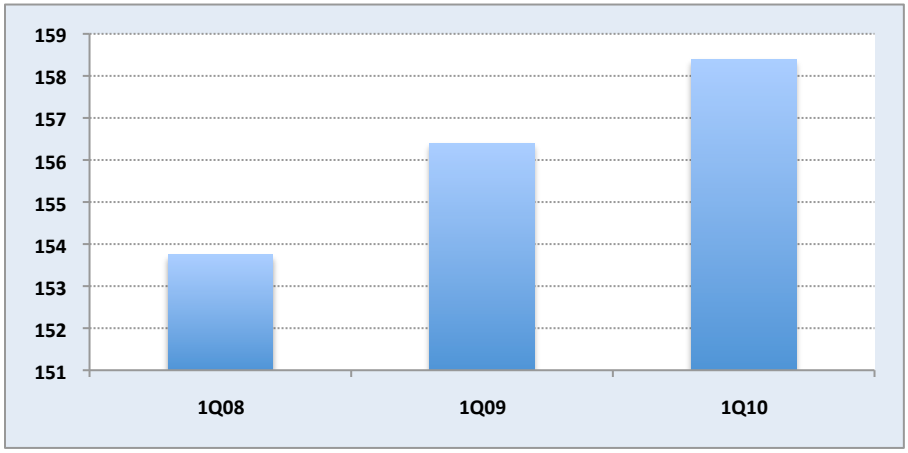
[119] Darren Murph, *Netflix Concept Spurred by $40 VHS Late Fee – Who Knew?*, ENGADGETHD (Jan. 29, 2009); http://hd.engadget.com/2009/01/29/netflix-concept-spurred-by-40-vhs-late-fee-who-knew/. See also Ashley Henshaw, *Netflix Company History*, eHOW; http://www.ehow.com/facts_5489980_netflix-company-history.html.

[120] David Goldman, *Netflix is a Bandwidth Hog. Who Will Pay? (Hint: You.),* CNN MONEY (Nov. 30, 2010).

FIG. 11. AVERAGE TIME SPENT WITH TV BY HOUSEHOLDS (HRS: MIN PER USER P2+ PER MONTH)[121]



While OTT is here, cord cutting has yet to go viral. A recent survey found that of 1,300 respondents, only one person had unsubscribed from TV service, replacing their video source with online content.[122] A Nielsen poll of the 18-49 demographic found frequent access to web video, but only 3% were planning to cancel their cable, satellite or telco TV subscriptions. Other surveys report that time spent watching TV is actually increasing. See Figure 11. Industry data through mid-2010 tend to show that while over-the-top video is growing extremely rapidly, it is still a small part of the video marketplace. Netflix, e.g., while a runaway success financially, still generates only about 1/20 the revenue of cable TV operators. See Table 5.

TABLE 5. REVENUES FOR DBS, CABLE, AND NETFLIX, 2Q2007-2Q2010[123]

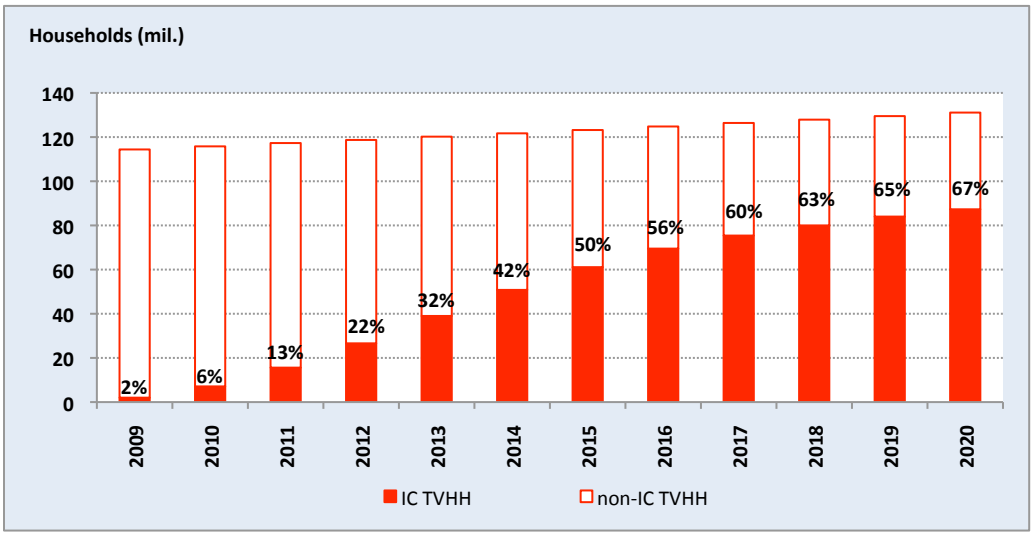
	Average Revenue per Subscriber				*Subs (000)*	*Monthly Rev ($mil)*
	2007 ($/mo)	*2008 ($/mo)*	*2009 ($/mo)*	*2010 ($/mo)*		
DBS Avg.	71.72	76.27	77.86	81.47	33,078	2,695
Cable Avg.	59.46	63.09	63.84	67.11	54,375	3,649
Netflix	15.24	13.78	13.29	12.29	14,577	179

Of course, mighty oak trees sprout from small oaks. Many investors are bullish on the prospects for online video. Seventy percent of U.S. households have broadband subscriptions, and the number is still growing rapidly. Most of these homes have digital TV sets. Connecting the former to the latter is simply "an internal wiring" problem.

[121] Source: Cable Advertising Bureau.
[122] Leichtman Research Note, 3Q2010.
[123] ARPU from SNL Kagan; DBS and cable subscriber counts from Leichtman Research Group; Netflix subscribers from Netflix News Release, *Netflix Announces Q2 2010 Financial Results* (July 21, 2010).

Navigating the TV set to find valued online content is simply "a software" issue. The vast reaches of the Internet when surfed with a 60" HD flat screen offers intriguing possibilities -- and consumers seem to be eager to explore the options. By 2020, e.g., some two-thirds of U.S. homes are expected to have an Internet-connected television. See Figure 12.

FIG. 12. INTERNET CONNECTED TV HOUSEHOLDS, 2009-2020[124]



A transition from cable, satellite, or telco TV would still require a broadband connection, the more capacious the better. Cable and telco operators are hedged against this transition, satellite less so. Mobile networks may also play a competitive role, "salvaging" over-the-air television by supplying 3G and 4G technologies that accommodate generous levels of throughput; indeed, the rising popularity of video on mobile handsets is pushing a "mobile data tsunami" that is driving – quite appropriately – discussion of how to solve the spectrum shortfall.[125]

However new business models develop, they will continue the marked transition away from traditional over-the-air broadcasting. The new momentum is a continuation of the trend begun in the 1970s deregulation of cable: American consumers want more video options. MVPD producers have expanded choices from 3 to 300. Today, emergent networks promise to expand the dial by even more than two orders of magnitude. Even those companies that own broadcast station licenses, vested in traditional broadcasting, have prospered in diversifying into cable network programming. They have joined the stampede – and, in some instances, are leading it.

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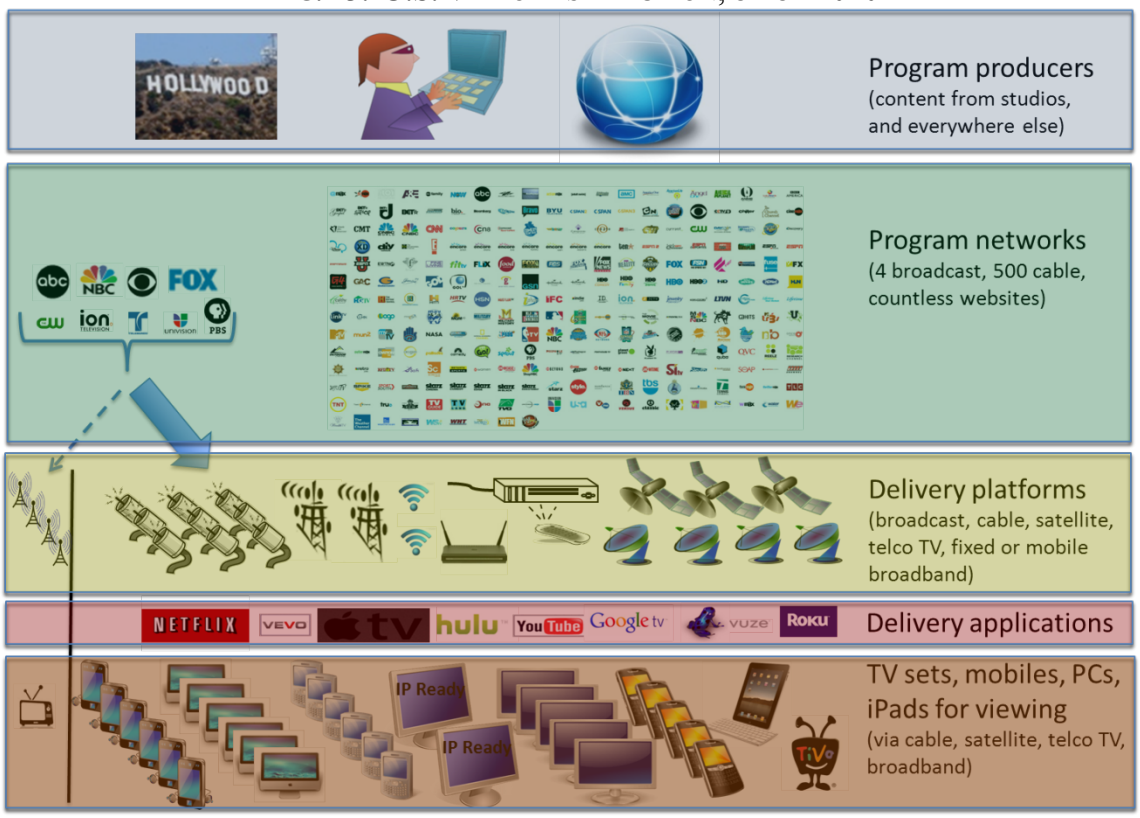
[124] Percentages show internet connected households as a share of total households with a TV set. SNL Kagan (2010).

[125] See, e.g., the FCC's National Broadband Plan (March 2010), Chapter 5; http://www.broadband.gov/plan/5-spectrum/.

FIG. 13. U.S. VIDEO DISTRIBUTION, CIRCA 2010



III. TOMORROW TV

How would television evolve were rules and regulations protecting the business models of yesteryear abandoned? Forecasting market development is fraught with uncertainty. Entrepreneurial returns are often extremely high precisely because the bets that must be made to capture them are inevitably longshots. But by examining existing patterns of market organization, and observing how many communications services – video broadcasting, among them – some intelligent guesses might be offered.

Let's think about a world in which spectrum was able to flow to its most highly valued employments, where video producers would freely bargain with video distributors, and consumers were free to patronize the platform of their choice. What might we expect would be different from today?

The safest prediction is to project that airwaves would be shifted from over-the-air terrestrial broadcasting to mobile services. Were TV stations to own the spectrum allocated to their licenses, rather than the FCC's limited authorizations which permit only terrestrial broadcasting, they would quickly release their radio waves to more productive employments. Just as with the hundreds of cable program networks owned today by broadcasters, they would utilize the more efficient distribution platforms, leaving high bidders for wireless capacity – presumably in the mobile marketplace, but perhaps elsewhere, as well – to use bandwidth more productively. The one thing stopping this socially beneficial transition is legacy regulation – a reality observed for years.[126]

The wireless marketplace has already moved strongly in favor of mobile phone services. Some broadcasting applications have been attempted; the innovative technology play, Qualcomm's MediaFlo, is one example. Liberal licenses auctioned between 2002 and 2008 allowed the mobile video service to hit the market. After a lackluster reception from customers, however, Qualcomm sold the licenses to a mobile phone carrier – reallocating radio spectrum from one market (or application) to another via secondary market transaction.[127] While some broadcasting services may yet outbid mobile applications for bandwidth, existing trends suggest that prime bandwidth (below 3 GHz, like TV frequencies) will be largely devoted to two-way mobile applications. These networks already generate very large social benefits; making the TV Band available for such services would likely generate at least $1 trillion in new consumer surplus.

Shifting the transmission of video from terrestrial broadcasting to other platforms is a technology switch well underway. Permitting TV licenses to be used for more

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[126] George Gilder, LIFE AFTER TELEVISION (W.W. Norton, 1994); Nicholas Negroponte, BEING DIGITAL (Vintage, 1996); Thomas W. Hazlett, *The U.S. Digital TV Transition: Time to Toss the Negroponte Switch*, AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 01-15 (Nov. 2001).

[127] MediaFlo proved an interesting experiment, but was discontinued in 2010. Qualcomm then sold its 700 MHz licenses to AT&T, a market reallocation of radio spectrum made possible by the liberal rights embedded in the licenses. *Qualcomm Sells MediaFlo Spectrum for $1.93 Billion,* DAILY WIRELESS (Dec. 20, 2010); http://www.dailywireless.org/2010/12/20/qualcomm-sells-mediaflo-spectrum-for-1-93b/.

valuable employments would complete this transition. The multichannel video provider model has emerged with abundant content, indeed it has invigorated Hollywood by dramatically increasing opportunities for video production companies.

Some see the future as a cornucopia of free online stuff. Consumers swap out their old TV subscriptions for video surfing; they watch all the content they desire, and save lots of money in the process. Were spectrum and video content free to go where the market takes them, we could run this experiment.

Stripping the regulatory rigidities away, however, is unlikely to eliminate subscription television services in the foreseeable future. Indeed, the subscription model is already re-asserting itself in OTT start-ups like Netflix and Hulu Plus. Consider the three basic components that video customers demand:

- a reliable delivery system
- a friendly user-interface
- lots of high quality video content

Broadband is the emerging video platform. There is much growth left to go – in expanding coverage and in upgrading speeds – but that process is well underway. Competition between digital subscriber line (DSL) or fiber-to-the-home (FTTH), supplied by phone carriers, and cable modem services, supplied by cable operators, has – and will continue to – wire the country for faster and better Internet access.

Indeed, it is this emergence of a broadband-connected mass market that has motivated venture capitalists to fund a whole new sector of OTT apps: Apple TV, Google TV, Roku, Boxee, Microsoft Xbox 360 or some combination thereof, or something now unknown, may soon solve the web user-interface problem. Netflix, already offering an easy-to-use online movie rental model, is sliding over to a broadband streaming model, abandoning the expense (and lags) of mailed disks. It has struck deals with consumer electronics manufacturers, for example, to feature a Netflix button on blue-ray remote controls, bringing video ordering options to subscribers' fingertips. Meanwhile, sites like YouTube (Google) and Hulu (NBC, Disney, and Fox) are offering programs as edge content suppliers, leaving navigation devices (mostly) to others.

While video is popping up all over, finding what you want, downloading it, and paying for it is still a transactional challenge. The established multi-channel platforms amass a fantastically large package of network programming. Once the monthly bill is paid, and the initial connection in place (with help from a platform-supplied service technician), transactions costs to operate the menu essentially disappear (at least when one finds the remote control).

The large video packages supplied via "basic cable" are highly valued by consumers. Did viewers prefer to pick and choose particular shows, paying a la carte, cable and telco TV operators would abandon their video subscription models. Instead, they would sell customers the broadband link, priced to reflect the value that it delivers

(just as now). What would be different is that the operator would be spared the expense (particularly in program network license fees) of organizing content packages which – under the assumption that consumers prefer a la carte purchasing – would not generate net value.

Customers would then be turned lose to find and pay for high-quality programming on their own. There is no a priori reason that this would be a less profitable business model for cable or telco TV providers, but there is a clear reason to suspect that costs would rise for consumers. This is because bundled content packages demonstrably lower transaction costs while enabling the delivering of greater value and choice, as observed in how consumers tend to reject per-channel or pay-per-view content in favor of larger packages, other things being equal.[128]

Media analyst Michael Wolf puts it bluntly: "consumers subscribe mainly because they value the bundle of content they get from their pay TV provider." This holds great importance in seeing the path of over-the-top television; his essay on the topic is entitled, *Cord Cutting Will Go Mainstream When It's More Like Pay TV*.[129] He sees OTT companies like Apple, Google and Microsoft themselves buying large blocks of programming at wholesale, enabling their new "Internet TV" subscribers to log on at retail.

> In order for OTT content bundles to become mass market replacement services, consumers need lots of choice, be it horizontal choice — meaning a wide variety of content — or vertical choice — meaning deep content targeted at niches — like sports fans.

Some presume that this will lead to lower costs for most consumers. It may, although the far more likely outcome is that – to the degree OTT displaces the integrated cable model -- it will increase program quality and diversity, instead. This is the historical pattern, wherein cable TV beat "free TV" by offering subscribers better programming. Satellite entered the market, offering even larger cable menus and higher average subscription fees, and carved out its own profitable industry segment. Now telephone carriers are building out video facilities with larger capacities, still.

The broadband services market, while often characterized as a duopoly, evinces only competitive returns.[130] And, were there monopoly profits to be competed away, it is not clear that disintegration (splitting content from conduit) would have any impact. Video dial tone (and their regulatory successors, Open Video Systems) were models approved by FCC regulators specifically to induce competition to cable TV operators in the 1990s; they failed miserably in the marketplace. And while DirecTV initially gave

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[128] Thomas W. Hazlett, *Shedding Tiers for a la Carte? An Economic Analysis of Cable TV Pricing,* 5 JOURNAL OF TELECOMMUNICATIONS AND HIGH TECHNOLOGY LAW 253 (2006).

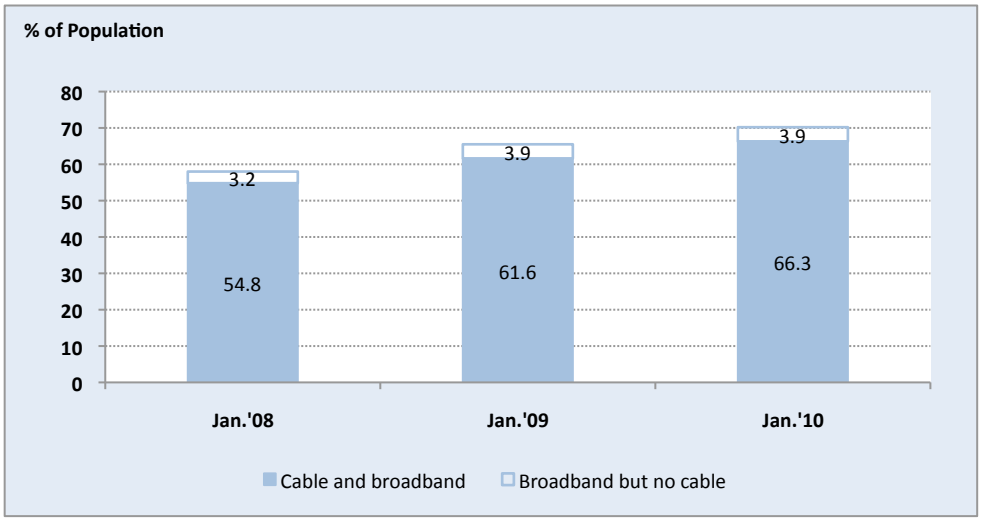
[129] Michael Wolf, *Cord Cutting Will Go Mainstream When It's More Like Pay TV*, GIGA OM (March 11, 2011); http://gigaom.com/video/cord-cutting-will-go-mainstream-when-its-more-like-pay-tv/.

[130] Thomas W. Hazlett & Dennis Weisman, *Market Power in U.S. Broadband Services*, 23 REVIEW OF INDUSTRIAL ORGANIZATION (2011).

satellite customers a chance to buy from different content vendors (Hughes or Hubbard), a merger that integrated content and conduit soon achieved greater efficiencies.

There is already a balkanization of content sources, as web video is producing many new options. But the basic model of "pay TV" has not yet been toppled, or even tipped. The great majority of consumers continue to subscribe to both broadband and cable/satellite services. See Figure 14.

FIG. 14. BROADBAND-ONLY HOUSEHOLDS IN THE U.S.[131]



Consumers will continue to pay for high-speed data connections; indeed, to the degree that households shift to OTT programming, they will increase their demand for broadband. This will naturally lead to the increasing use of bandwidth caps, and tiered services, by providers.[132] Meanwhile, viewers will still be faced with costly programming choices, as creators of high-quality video own their output and command payments for their value. Shifting the method of content acquisition does not erase the interests of these asset owners.

In the emerging marketplace, rival strategies are already visible. But these experiments are yet hampered by regulatory barriers one or two generations gone by. Were the remnants of over-the-air broadcast protectionism to be stripped away, the bargaining over video content prices would settle on the interests of the principals – producers and consumers. The vestigial organ of broadcast TV licenses would cease to divert the flow of funds to the winners of an unrelated rent-seeking contest.

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131 Nielsen, *Factsheet: The U.S. Media Universe* (Jan. 5, 2011); http://blog.nielsen.com/nielsenwire/online_mobile/factsheet-the-u-s-media-universe/ .

132 "Usage Based Pricing is one of two critical feedback loops that must be considered in any serious analysis of over-the-top-video (the other is content availability). To wit; if consumption patterns change such that web video begins to *substitute* for linear video, then the terrestrial broadband operators will simply adopt pricing plans that preserve the economics of their physical infrastructure." Craig Moffett, *Broadband Usage Caps*, BERNSTEIN RESEARCH (March 14, 2011).

Consider the concern expressed by broadcasters over the fate of non-duplication ("non-dupe") and syndicated exclusivity ("syndex") rules. These relics of the 1970s protect TV stations from "out of market" competition. Broadcasting interests reveal how important these legal barriers continue to be. As the editor of a broadcasting trade publication writes:

> Without non-dupe and syndex, the negotiating position of stations would be dramatically eroded. Unable to come to terms with a local ABC affiliate, a cable system could simply import an affiliate from the next market over with impunity, assuming the system had, one way or another, obtained retrans consent from the out-of-market station. Sure, viewers would lose the local news of the local stations, but even in the smallest markets there are still one or two local news alternatives.[133]

In the lexicon of traditional TV regulation, government-enforced exclusivity is a public good, and competition from a multiplicity of sources a social bad. The role of law is to enforce rules limiting market transactions, shoring up the profitability of businesses enabled by the issuance of a federal license in the post-World War II era.

A Television Future without 1952-style TV stations is not a difficult world to imagine. It offers a promising vision: over $1 trillion in consumer welfare released for wireless services, elimination of large inefficiencies in the competition to create content bundles,new "broadcast" programming coming to households via the pathway hundreds of other channels already do, through contracts with program networks and/or multi-channel video bundle providers, and via the newly emerging over-the-top applications flowing to millions of TV sets, mobile handsets, notebook/netbook computers, e-readers and tablets. News, weather and sports, along with other in-demand local information services, are already thick with competition in these distribution conduits. Stripping away the barriers, protections, and subsidies of Christmas Past would make them thicker still.

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[133] Harry A. Jessell, *Retrans Review Threatens Local Exclusivity*, TVNEWSCHECK (March 4, 2011); http://www.tvnewscheck.com/article/2011/03/04/49574/retrans-review-threatens-local-exclusivity. Jessell goes on to argue that the non-duplication and syndicated exclusivity rules are needed because broadcasters cannot protect the program rights that they bargain for due to another government policy – the compulsory license inserted into the 1976 Copyright Act. This allows cable operators to retransmit local stations, paying modest fees into a royalty tribunal (some of which goes to local broadcasters). It also allows the cable operators to import distant TV signals, but strongly discourages the importation of more than one or two such signals by sharply increasing royalty payments. This arrangement was instituted as yet another broadcaster protection, however, because it replaced a regime – upheld in two Supreme Court decisions – where full retransmission of TV channels was determined a non-infringing use of the signal. It would be a good idea to eliminate the compulsory license, the non-duplication and the syndicated exclusivity rules. That would leave TV stations unprotected, able (or forced) to freely compete.

IV. SILENCE IN THE FOREST

> It appears that old-style broadcasters will carry the regulatory baggage of the 1934 Act for another decade or so. Early in the next century, however, this dismal regulatory era will finally come to an end. Broadcast spectrum will be de-zoned. *Roseanne* will have to compete for airtime with the more civil, uplifting, and profitable expressions of ordinary people talking on wireless phones. For the first time since 1927 broadcasters will truly own their airtime.[134]

A. The TV Band

It is a great irony that, to *protect* radio and TV licensees, the Government has traditionally *limited* the rights extended in licenses.[135] These authorizations permit broadcasting stations to do one particular thing – fixing the service, the technology, and the business model (ad-supported, not subscription, e.g.). Licensees are not permitted to introduce new technologies or switch service markets – abandoning over-the-air TV broadcasts, e.g., to then use the allocated bandwidth for mobile broadband services (3G, 4G). The system is designed to afford regulators wide discretion in how markets are structured, and to prevent licensees from competing on the margins regulated.

It surprises many that reducing ownership rights can increase asset value. But the principle is well established in economics.[136] When firms collude, agreeing to reduce industry output so as to raise prices, the agreement reduces the options of each company. Of course, such "conspiracies in restraint of trade" are difficult to privately enforce, and have been illegal since the Sherman Antitrust Act of 1890. Government regulation, however, can be used to effectively create and police such agreements. Some outstanding examples include the Civil Aeronautics Board, which set airline fares and restricted entry, route by route, and the Interstate Commerce Commission, which similarly regulated railroad and truck shipping. After some decades of operation, the anti-consumer effects were duly noted, coalitions supporting free trade gained ascendancy, and the agencies were abolished (the CAB in 1985, pursuant to a 1978 statute; the ICC in 1995[137]).

But traditional FCC licensing remains in place. To be sure, mobile licenses issued in the last three decades have tended to be much more liberal, allowing operators far more flexible use of frequencies. But a TV (or radio) station license does not allow the station owner to reallocate radio spectrum. While each TV license is allotted 6 MHz

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[134] Peter Huber, LAW & DISORDER IN CYBERSPACE (Oxford University Press, 1997), p. 70.

[135] For an explanation of the origins of broadcast licensing focusing on the politics of the 1927 Radio Act, see Thomas W. Hazlett, *The Rationality of U.S. Regulation of the Broadcast Spectrum,* 33 JOURNAL OF LAW & ECONOMICS 133 (April 1990).

[136] The question is empirically examined in Thomas W. Hazlett, *Property Rights and Wireless License Values*, 51 JOURNAL OF LAW & ECONOMICS 563 (Aug. 2008).

[137] Records of the Civil Aeronautics Board, National Archives (Record Group 197) 1931-85; http://www.archives.gov/research/guide-fed-records/groups/197.html; Reference for Business: Encyclopedia of Business, *Interstate Commerce Commission*; http://www.referenceforbusiness.com/encyclopedia/Int-Jun/Interstate-Commerce-Commission-ICC.html.

of airspace, and then protected with "taboos" (no adjacent channels will be assigned to other stations in the market in which the station broadcasts), the licensee cannot turn off the TV broadcast in order to use the band for any other network or service. Locked into the operations mandated in the license, and blocked from diverting the spectrum to alternative employments, the licensee treats the 6 MHz as free.[138]

But TV band spectrum is, in fact, the most expensive bandwidth on Earth. That is because the social value generated by using VHF and UHF airwaves for emerging wireless networks is extremely high. The value of using these frequencies for TV broadcasting, however, is extremely *low*. While the video content created by broadcasters is substantial, it can be efficiently delivered to consumers by alternative systems. Indeed, it already is distributed that way to over 90% of households.

Were TV licensees permitted – as Peter Huber suggested over a decade ago – to actually own the bandwidth allocated to their licenses, they would treat it as the precious resource it is. They would economize on the channels consumed to broadcast, making full use of cable TV, telco TV, and satellite broadcasting, platforms able to zip broadcasters' programs to viewers at close to zero marginal cost.

Connecting homes to cable or satellite platforms requires incremental investment of under $300 per household.[139] This means that the total cost of bringing the last ~10 million non-subscribing residential units MVPD carriage of off-air signals would be just $3 billion or so. Such an investment would obviate the need for any terrestrial broadcasting, in essence freeing up the entire digital TV band (49 channels, or 294 MHz) for alternative services. Using the prices paid in the March 2008 FCC sale of mobile licenses allocated 52 MHz of UHF spectrum, the band is worth about $108 billion to private bidders. Yet, this reflects only what wireless service providers expect to make from the new capacity; consumer surplus – gains to mobile customers, e.g. – are estimated to be at least ten times this amount. Hence, the net social gain of switching out off-air terrestrial broadcasting in favor of existing MVPD networks is at least $1 trillion, or more *than 300 times* the cost of the transition.[140]

The Federal Communications Commission strongly agrees with the fundamentals of this analysis, and is attempting to move TV band spectrum into the marketplace via license auctions – the new licenses having decidedly liberal rules, giving operators wide flexibility over services, technologies, and business models deployed.[141] Time will tell how successful the agency's strategy for achieving reallocation prove.[142] What is evident at this point is that over-the-air video broadcasting – as structured in the TV

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138 "[A] good with only one use [is costless].". Richard A. Posner, ECONOMIC ANALYSIS OF THE LAW(Aspen, 2010), p. 8.

139 Analysts estimate that a new satellite subscriber costs just $295 to equip (excluding marketing). This includes a satellite dish, a digital set-top box, and professional installation. Jason Armstrong et al., *Combining Telco/Cable*, GOLDMAN SACHS (2009), p. 40.

140 Thaler (2010).

141 Federal Communications Commission, National Broadband Plan (March 2010), Chapter 5; http://www.broadband.gov/plan/5-spectrum/.

142 For a different approach to implementing spectrum reallocation, see Hazlett (2009).

Allocation Table of 1952 – is long past its prime. This is not to say that video is not in demand, or that broadcast TV content is valueless. Quite the reverse: much of the value of the emerging wireless networks, and what is fueling their voracious demand for new bandwidth, is the surging popularity of video, delivered wirelessly, to mobile handsets. But to efficiently accommodate that social craving, the inputs set aside for local TV station broadcasting must give way to whole new forms of organization. The only argument today is about how to escape the old structures.

B. Hold Ups in the Twilight

TV stations have been shielded from economic reality by public policy. Major commercial broadcasters first obtained their licenses under a scheme where regulators assigned only enough to support three TV networks; the pesky DuMont Network was road kill. Broadcasters next confronted the emerging threat of wired television, and convinced the FCC to throttle cable TV's development for many years. The premise used was explicitly protectionist. The alleged public benefits only materialized when the anti-cable regulations ended, and vast new informational programming was delivered via the newly deregulated medium.

When consumers were permitted a choice, they embraced the multi-channel product offered via cable, then satellite, and now telephone carriers. Broadcast TV, as a video delivery platform, has been relegated to historical artifact. Yet, that legacy continues to occupy hugely important frequency space.

Two Supreme Court decisions (*Fortnightly*, 1968; *Teleprompter*, 1974) ruled that cable operators retransmitting broadcast signals did not violate broadcasters' rights, as the extension of coverage to more TV sets (including commercials sold by the TV station originating the signal) did not appropriate but enhanced broadcasters' interests. Not only did Congress amend copyright rules to award fees to broadcasters and deter the importation of "distant signals" (to slow competition to local stations), it then – in the 1992 Cable Act – institutionalized a property right the courts had failed to recognize, enacting retransmission consent.[143]

The 1992 Cable Act also awarded must carry rights. This grants a property right to broadcasters not over the broadcast signal (that's included in retransmission consent), but over *cable TV operators' channels*. That bandwidth is not composed of wireless spectrum but of the cable operator's private property – "spectrum in a tube." Hence, TV broadcasters are ceded control over the airwaves created by their competitors.

[143] In contrast, the IP rights of content producers have never been in doubt. "Congress [in the 1992 Cable Act] created a new communications right in the broadcaster's signal, completely separate from the programming contained in the signal." Federal Communications Commission, *Report & Order, Broadcast Signal Carriage Issues*, 1993 FCC Lexis 1835 (1003), par. 173.

When the Cable Act went into effect in 1993, about 80% of stations chose retransmission consent, 20% must carry.[144] The weakest stations went with must carry, as cable operators always wanted to include stations with significant audiences.[145] Most helped by the rules – home shopping and religious broadcasters, stations with very limited audiences deriving financial support not from advertising but from sales or donations. The programs most hurt by the rules: those on small audience cable TV channels. C-SPAN was forced off some 8 million households' basic cable, for at least some period of time, following must-carry rules. CEO Brian Lamb has often testified as to the discriminatory effect of the regulations, reducing diversity in general and high-quality public affairs programming in particular.[146]

Not only are TV broadcasters afforded special carriage rights, MVPDs are constrained as to how TV stations are packaged. That is, broadcast signals are required to be included on the lowest-priced tier of services, "basic cable." Moreover, the MVPD is required to air the entire, 24/7/365 broadcast TV signal, not just selected parts, and service menus are mandated to impose "buy-through" provisions.[147] This latter means that customers cannot, say, purchase HBO or a "sports tier" without also buying, and receiving, the basic tier. This is to protect broadcasters again; no MVPD customer can simply buy cable-only programming. This not only constrains customer choice, it eliminates one of the cable or satellite operator's primary bargaining chips in license fee negotiations. In contrast, operators can shift cable program networks around, permitting subscribers to access programs on higher tiers for greater expense, a tactic often used (or threatened) when networks make unexpectedly high license fee demands. By locking in basic cable carriage, this option is eliminated.

Under rules codified in the 1992 Cable Act, [148] the local broadcaster's content is protected from competitive video sources by a combination of "distant signal," "network non-duplication," and "syndicated exclusivity" provisions. An MVPD that attempts to save money by buying programming from an out-of-market TV station will generally find its path blocked. A local station affiliated with a network can assert exclusivity over

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[144] Charles Lubinski, *Reconsidering Retransmission Consent: An Examination of the Retransmission Consent Provision (47 U.S.C. § 325(b)) of the 1992 Cable Act*, 49 FEDERAL COMMUNICATIONS LAW JOURNAL 99 (1996-97).

[145] While the premise of the Congress, later accepted by the Supreme Court in *Turner* (1997), was that must carry was a pro-competitive measure counter-acting cable systems' incentives to exclude popular stations so as to reduce their audiences and so improve the cable operators' local advertising revenues, a Federal Trade Commisison study had shown that the popular stations were virtually never dropped (prior to must-carry rules going into effect). Moreover, the stations that were dropped were primarily excluded by cable TV systems that were relatively small (in channel capacity) and sold no local advertising. This evidence eliminates the government's justification. Curiously, it was not considered by the Court. Hazlett (2000).

[146] Harry Jessell, C-SPAN: The Other Washington Monument, TV Newscheck (April 20, 2010); http://www.tvnewscheck.com/article/2010/04/20/41591/cspan-the-other-washington-monument.

[147] FCC (1993), par. 169. "We reject our tentative conclusion [expressed in the Notice of Proposed Rulemaking] that cable operators can negotiate with broadcasters and agree not to carry the entirety of the program schedule of transmission consent stations. We are persuaded [that Section 614(b)(3)(B) of the Cable Act]… applies to retransmission consent stations as well as must-carry stations."

[148] Cable Television Consumer Protection and Competition Act of 1992, 106 STAT. 1471 (Oct. 5, 1992); http://www.fcc.gov/Bureaus/OSEC/library/legislative_histories/1439.pdf.

network programming under federal law, meaning that the MVPD is stuck with retransmitting from only one source even when many others exist. And under rules dating to the Copyright Act of 1976, cable operators are limited to importing only two "distant signals" from non-network stations, lest the fees paid to the Royalty Tribunal (under the compulsory license for airing local stations, still applicable even with retransmission consent) dramatically jump.

In this protected environment, negotiations for retransmission consent are rigged. Stanford economist Bruce Owen, surveying the regime, surmises that

> The local broadcast station has it made: either it can withhold its signal from the local cable operator unless the cable operator pays for it, or the broadcaster can force the cable operator to carry the signal gratis. Special exceptions to the copyright law are made in either case. It… is no accident that this broadcaster-sponsored provision was included in the same 1992 Cable Act that reregulated cable rates in the heat of the 1992 election.[149]

The fact that retransmission agreement showdowns between MVPDs and broadcast stations have resulted in costly standoffs, including outraged customers who find TV programming pulled off basic cable line-ups,[150] is perhaps the least of the problems generated by such rules. More important is the bias they import to the development of the video marketplace. Just when new technologies and revolutionary business models are challenging old ways, markets should be free to innovate, creating structures that better serve consumers. Hampered by rules blocking alternative services – with channel slots eaten up by must-carry, and rents extracted by owners of FCC licenses – emerging markets are being tilted not only by the possibilities of tomorrow, but by the politics of yesterday.

C. Channeling the Future

Observed market dynamics suggest how video industry structure will evolve. The next two decades will see many changes, but broadband delivery systems for video will survive. Indeed, they will expand and grow. They are central to satisfying the appetites of customers for video, and the plans of innovators who are figuring new products, packages and business models to supply them. Cable systems, phone carriers, and satellite operators will continue to expand bandwidth and increase channel capacity. Mobile service providers will increasingly join the fray, limited only by their ability to bid for new spectrum resources.

The big, bundled, basic cable model will also (largely) survive. It is a subscription model that effectively charges a "two-part tariff." A monthly fee covers

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[149] Owen (1999), p. 114.

[150] FCC Chairman Julius Genachowski has noted the problem, and the FCC has recently opened in inquiry into the issue. See, Federal Communications Commission, *Amendment of the Commission's Rules Related to Retransmission Consen),*MB Docket No. 10-71 (Released March 3, 2011).

supplier costs, including copyright fees (passed through to program owners). The customer then gets low-priced (generally at $0.00 per view) access to programs within the bundle. Customers subscribe when the expected value of all their usage will deliver value matching or exceeding the monthly fee. Premium services will continue to be offered as a 'buy-through' to the basic package. These capture payments from specialized audiences willing to pay for high-quality, high-cost programs.[151]

But the market is already disaggregating in important respects, and this trend will likely accelerate. It trend is not uncommon. Industries are often launched by highly integrated firms, but then become more modular over time. The computer industry is the classic example. Dominated by mainframe manufacturers like IBM, Control Data, and Burroughs in the 1960s, customers made choices between large packages assembled by the rival sellers. IBM made the IBM hardware, the IBM operating software, the IBM applications, and then installed (and serviced) the IBM customer's computer. One stop shopping in a vertically integrated marketplace.

Over time, of course, the computer changed, and so did industry structure. Software was split off from hardware, and standard programs were used on many manufacturers' machines. The components within the computer, from memories to processors to screen displays to motherboards to keyboards, were produced by rival companies – often specialized, often located where cost conditions were optimal – that sprang-up across the globe. By the 1980s, entrepreneurs like Michael Dell were to find that they could mix and match the ingredients of a personal computer, achieving lower costs than vertically integrated firms. The computer industry because disaggregated as compared to earlier times, with many more firms contributing specialized component parts.[152]

Increasing modularity will deliver many new options for video delivered via modern, ever-expanding broadband networks. Customers will increasingly mix and match their own video viewing options. Alliances and partnerships will facilitate the supply side, as innovative content creators will team with platforms – with their extensive infrastructure investments and efficient customer billing systems – to roll-out a host of new services. As formidable as the 500+ cable network world may seem today, we have barely scratched the surface. UGC is producing waves of new products, most of low quality and limited interest, but in such massive quantities that the small fraction of mass appeal – going viral – offers a promising future. And professional videography is

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[151] Quality is in the eye of the beholder, and cost depends, in large measure, how many people are in a particular audience. A travel show with very specific recommendations about where to stay and what to do in Perth, Australia, may represent a highly valued commodity to a very limited market.

[152] Richard N. Langlois, *External Economies and Economic Progress: The Case of the Microcomputer Industry*, 66 BUSINESS HISTORY REVIEW 1 (1992). It is important to note, however, the complexity of the disaggregation process. U.S. chip and computer makers have found, e.g., that it often makes sense to contract with "turn-key" producers who offer a highly-integrated set of inputs, allowing companies like Apple or Intel to focus on product design and retailing, their areas of core competency. Timothy J. Sturgeon, *Modular Production Networks: A New American Model of Industrial Organization,* 11 INDUSTRIAL AND CORPORATE CHANGE (2002).

branching out in virtually every direction. Foreign language programming, nature films, medical and educational programming may fill the next 500 channels.

Add to this explosion of content an exponential advance in video devices. Television is moving from the living room flat screen to the mobile handset, the notebook, and the iPad. Digital video recorders and Sling Boxes are pushing product from one time slot to the next, from one screen to the next. In two decades – what new screens will we store in our homes or take on our travels?

Were protectionist policies designed to defend one small, specific, and increasingly obsolete slice of the video marketplace dropped into the dustbin of history, these changes would work even better, leveraging new efficiencies. Bruce Owen alertly forecasts this scenario as follows:

> It is often difficult to predict exactly what will happen if a regulatory intervention, much less a whole set of interventions, were to be repealed. In this case, however, the prediction is very easy to make. Absent regulatory intervention there would be no TV broadcast industry today and cable operators and other MVPDs would pay nothing to broadcasters. The MVPDs would acquire program rights from the program owners. Without broadcasters to tax MVPDs and viewers there would be more programming and lower prices. With less certainty, one can say that cable, satellite, and telephone broadband providers would be facing additional competition from wireless broadband suppliers using the spectrum currently devoted to wasteful TV broadcasts.[153]

Television is morphing into a new world of wonder. To fulfill its full social value, it ought to do precisely that. Which is why this process of creative destruction, so hostile to inefficiency and so anxious to innovate, will contribute its bounty only where permitted to do its best. Yes, there will be disruption. But that is just part of the fun.

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[153] Bruce M. Owen, *The FCC, Blackouts, and the Market for TV Program Rights*, SIEPR Policy Brief, Stanford Institute for Economic Policy Research (March 2011), p. 5; http://siepr.stanford.edu.

V. VIDEO RULES AS IF CONSUMERS MATTERED

> "Any way you look at it, there should be a sharing," CBS Chief Leslie Moonves said at an investor conference earlier this month. "[Distributors] are not paying retrans necessarily to watch *Judge Judy*," he said, citing a syndicated series purchased by local stations.[154]

For fifty years, broadcasting and cable TV have engaged on regulatory battlefields. At first, it was no contest; the dominant and influential broadcasting divisions obtained exceptionally favorable terms from the Federal Communications Commission. At the very instant that the FCC was delivering its most famous – and popular – jeremiad, lamenting the "vast wasteland" found on the viewer's television dial, the agency was moving to block the alternatives that would ultimately open that sparsely populated desert to lush programming choices.

The public's demand for more video choice was strong, and the premises for suppressing the supply were exceptionally weak. Courts and pro-consumer regulators eventually changed the Government's course. When anti-competitive rules were removed, market forces were unleashed. America found itself wired. Vast new bandwidth materialized via private investment. It was an end run around artificial scarcity.

These wires hosted innovation in content and a level of program diversity unfathomable under the FCC's "public interest" licensing construct, a network triopoly that catered to lowest-common-denominator line-ups. A channel capacity increase of an order of magnitude, and then two, gave niche audiences a franchise; promoted rivalry among producers; gave experimental formats a low-cost proving ground. One protean outcome: an explosion in news, documentary, and public affairs programming. The hypothetical protection of just such content had formed the crux of the FCC's straw man argument for protecting TV stations from rivals. The emperor was exposed as a streaker.

Naked, but unembarrassed. Licensing TV stations to reflect "localism," the FCC was in fact creating broadcast television – a key element of the "free press" -- as a pet political project. Even as off-air television faded as the customer's delivery platform of choice, it was awarded new rights and protections. But the premises of this ward-like treatment – such as must-carry, which awards TV licensees a propertied interest in conduits built by rival businesses – were no more favorable to consumers than those of the "anti-siphoning" regime.

Now these market-tilting interventions seek to save a distribution platform that is two generations behind the curve. The TV band locks up radio spectrum that would produce *scores as much* social benefit were allowed to migrate to emergent wireless networks. That terrestrial broadcasting is no longer much wanted as a video delivery

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[154] Lacey Rose, *The Retransmission War,* FORBES (Dec. 30, 2009); http://www.forbes.com/2009/12/30/time-warner-cable-business-entertainment-fox-retransmission.html .

platform, at least in the format imposed via FCC rules a half-century old, is revealed by the broadcasters themselves. They produce more video programming than ever, but largely utilize cable, satellite, telco, and broadband networks to distribute it. And the old economics have simply vanished.

> The $25 billion in cable affiliate fees paid in 2009 was double national broadcast advertising revenues… Ratings-based cable networks collectively received an average annual $1,500 per viewer in affiliate fees...[155]

With cable TV network ad revenues, another $17 billion, national video programming distributed exclusively via MVPDs is *three and a half times as large* as that offered by broadcast TV. Of course, virtually all of the latter – and, for a small incremental investment in new receivers, *100% of the latter* -- reaches actual viewers via wires or satellite beams.

Broadcast network executives such as CBS CEO Les Moonves are put to wonder. They produce the overwhelming proportion of broadcast TV content, but continue to bounce it off the local TV transmitter on its way to the cable head-end or satellite uplink. They are curious about why the local TV station licensee so often stands in their way. This retransmission looks like a one-way street, an expensive pass-through no longer mandated by the economics of video distribution, but by a Washington deal hammered out long before most Americans were born.

Video markets are now in tumult. Multi-channel video program distributors are said to be fighting for their very lives in the enveloping "gale of creative destruction."[156] Innovative approaches to delivering video consumers demand, when they want it, on the devices they prefer, are being tested every day. Rewards will go to those firms that most efficiently balance the interests of content owners, the creation and utilization of high-bandwidth networks, and end users.

It is a game best played openly, under rules that subject all players to the discipline of consumer demand. Alternatively, government industrial policies pre-empt consumers, favoring some approaches, foreclosing others, according to a whole different set of criteria.

In the 1990s, regimes across Eastern Europe faced huge challenges in reforming their post-Communist societies. The aim was to abandon a failed system, adopting something more compatible with freedom and economic growth. The basic concept quickly grasped was that policy makers needed to "regularize" their regimes, moving from a situation in which economic questions were decided ad hoc, by political bodies, to

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[155] Diane Mermigas, *Retrans, Ad Fees Transforming TV Sector*, ONMEDIA (April 23, 2010); http://www.mediapost.com/publications/?fa=Articles.showArticle&art_aid=126803.

[156] Joseph A. Schumpeter's memorable phrase in CAPITALISM, SOCIALISM, AND DEMOCRACY (Harcourt, 1942).

one in which general rules would permit consumers to choose, firms to compete, innovations to be tested, and market efficiencies to be discovered.

So it is in U.S. video markets today. Thankfully, our experiment with top-down "command and control"[157] regimes has been limited, and our "regular" social infrastructure is elsewhere well developed. But in television it is well past time to move beyond state *diktat*. The results of those strategies have been laid bare. Blocking new technologies by rigging markets has reliably thwarted better options for the viewers, programmers, and the U.S. economy.

It is therefore not difficult to envision how liberal markets might work, accommodating productive change in video distribution markets. It is a welcoming future.

Indeed, broadcasters and MVPD operators have, ironically, proven that they can be excellent playmates. The largest broadcasters are the most successful cable programmers. They are able partners, when left to cooperate under "regular" rules and the constraints of the market. With competition among networks busting out all over -- cable, satellite, telcos, 3G/4G – those constraints are tighter than ever. The 1939 World's Fair was great, but it is now a public policy lay-up to ditch the TV Allocation Table of 1952. The business models of the 21st Century are here to present themselves to video customers. May the best model(s) win.

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[157] The term is widely employed as a description of the rigid licensing approach used in broadcast television – by the FCC itself, and by noted scholars familiar with TV station allocation rules. See, e.g,, the Federal Communications Commission, *Spectrum Policy Task Force Report* (Nov. 15, 2002); David Farber & Gerald Faulhaber, *Spectrum Management: Property Rights, Markets, and the Commons*, AEI-Brookings Joint Center for Regulatory Studies (2002).