FCC’s Video Report Reveals Disconnect Between Market’s Effective Competition and Outdated Regulation

by

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In July, the Federal Communications Commission released its Video Competition Report. This means the FCC may finally be moving past its repeated failures to comply with Congress's mandate to annually issue its reports. By including data about the video market up through the end of 2011, the FCC now has a Report that more accurately reflects the current video market’s competitiveness.

But despite a mountain of evidence in the FCC’s Video Report showing that the video market is "effectively competitive,” the FCC refuses to declare it so. With its now familiar practice of refusing to recognize the competitiveness of other market segments, the FCC's posture in this regard appears calculated to bolster legacy video regulation and to provide a basis for future regulation.

Online video, for the first time a major focus of the Video Report, constitutes just one of the latest innovative breakthroughs that is reshaping the video market's landscape and offering consumers an abundance of new choices. Other developments in the video market include the rapid expansion of high-definition video, digital video recorder (DVR) options, video-on-demand functions, as well as TV-everywhere and other mobility capabilities.
Report data regarding MVPD services utterly demolishes any pretensions that the video market is now subject to a last-mile cable "bottleneck." In 2010, 98.5% of all households – that is, 128.8 million – had access to at least three multichannel video programming distributors (MVPDs). The combined market shares of the five major cable operators has dropped to 60% of the video subscriber market, with direct broadcast satellite (DBS) providers possessing 34% and recent "telephone" MVPD entrants serving 7% of the market. To put these numbers into perspective, the FCC typically deems local cable markets effectively competitive if half of its consumers are served by at least two MVPDs and if the number of households subscribing to service from a provider other than the largest MVPD exceeds 15%. MVPD penetration rates and subscribership numbers dwarf those FCC standards for assessing effective competition.

Video Report data makes evident the disconnect between the competitive state of today's market and outdated legacy video regulations that continue to restrict video services. Unfortunately, in its Report the FCC avoided making any determination as to whether the video market is, in fact, effectively competitive. It thereby avoided any admission of the non-existence of cable bottlenecks that originally formed the basis for the legacy video regulations that it continues to enforce. The Report also fit with the FCC's pattern of ignoring or downplaying the competitive effect of cross-platform competition and close substitutes – in this case, online video services. This means that video services will continue to be regulated under 1990s analog-era assumptions about cable monopolies that have no continuing basis in reality.

The Report's non-conclusions regarding video competition likewise lend a misleading surface plausibility to future attempts to regulate video services for the ostensible reason of making it more competitive. But outdated regulations impose compliance costs and also result in economic dislocations that competitive markets would avoid. In a competitive setting, market forces offer the best option for unleashing innovation and encouraging investment that result in new products and services.

Regulatory policy toward video services should be brought into alignment with the competitive conditions that actually prevail in today's market. For policymakers, this starts with squarely recognizing that the video market is effectively competitive and that cable bottlenecks do not exist. Congress and the FCC should proceed with deregulatory action that will rely more heavily on the vibrant competitive forces that have produced the abundance of innovative new video services that consumers enjoy today and which promise to deliver future breakthroughs.

Video Competition Report Data Demonstrates Video Market's Dynamism

According to studies, surveys, analyst estimates, and other research compiled in the FCC's new Video Competition Report, since 2006 the video market has undergone dramatic transformation, showing unmistakable signs of growing competition and rapid innovation.
**MVPD Competition, Innovation, and Investment**

As the *Report* explains, the introduction of DBS changed the landscape for video services. DBS entry increased competition and thereby enhanced consumer choice. Competition was increased yet again when traditional telephone companies such as Verizon and AT&T entered the market to become MVPDs.

Subscribership numbers contained in the *Report* bear this out. Overall MVPD subscriptions rose up from 95.8 million in 2006 to 100.8 million in 2010. But during that same time cable operators lost market share to DBS and telephone MVPDs. At the end of 2006, combined shares of cable MVPDs accounted for approximately 68% of MVPD subscribers, falling to some 60% at the end of 2010. “The two nationwide DBS providers – DirecTV and Dish Networks – now account for approximately 34 percent of MVPD subscribers.” The FCC also estimated that what it calls “telephone MVPDs” accounted for approximately seven percent of all MVPD subscribers. But that 7% figure for telephone MVPD subscribership hardly captures the competitive significance of telephone MVPD entry. Whereas the number of homes passed by cable MVPDs climbed from 121.6 million in 2006 to 128.8 million in 2010, the number of homes passed by telephone MVPDs "increased from approximately 6 million homes in 2006 to 42.9 million homes in 2010." By the end of 2010, Verizon and AT&T were the 7th and 9th largest MVPDs, respectively. And other telephone MVPDs are looking to expand, including CenturyLink with its Prism TV service.

The FCC also estimated that in 2006 only 4.7% of households (or 6 million) had access to at least four MVPDs, while 91.2% (or 115.6 million) had access to only three MVPDs. By 2010, 32.8% of households (or 42.9 million) had access to at least four MVPDs and 65.7% of households (or 85.9 million) had access to only three MVPDs. In other words, in 2010, 98.5% of all households (or 128.8 million) had at access to at least three MVPDs.

The *Report* likewise sheds light on the innovation that continues to drive video competition. MVPDs are no longer defined by analog coaxial cable systems, but now include fiber and satellite-delivery of all-digital, high-definition, and switched digital video (SDV) offerings. Both cable and telephone MVPDs have also recently launched TV everywhere features, allowing subscribers to access subscriber video content on mobile devices, even when away from home. MVPDs now typically offer video-on-demand functionalities and DVR options for restarting and recording programs, including whole-home DVR capabilities for viewing content on multiple screens in the home.

As the *Report* observes, MVPDs offer consumers a variety of packages containing different mixes and amounts of service functionalities: “Today, the largest and most mid-sized MVPDs offer one or more high-end pricing plans that include hundreds of channels and a complement of HD, DVR, VOD services, and some mix of premium channels. In addition, these MVPDs offer one or more mid-priced video service plan that includes fewer channels and a smaller complement of video services.”
MVPDs typically offer consumers discounts for bundled subscriptions that include voice and broadband Internet services.\textsuperscript{14}

Competitive entry into the video services market and technological upgrades have been the result of significant capital expenditures. "For the five-year period from 2006 to 2010, cable MVPDs invested $67.3 billion in infrastructure."\textsuperscript{15} Meanwhile, "Verizon expected to invest $23 billion from 2004 to 2010 deploying its FiOS network."\textsuperscript{16}

\textbf{Broadcast TV in Transition}

This is the FCC's first Video Competition Report covering the time since the DTV transition was completed on June 12, 2009. As a result, "[i]nstead of sending one analog program signal, broadcast stations can use digital technology to offer high-definition ("HD") programming, provide multiple streams of programming, and/or distribute programming to mobile devices."\textsuperscript{17} Because of the DTV transition, "[b]roadcast television stations have begun offering more programming than ever before, including both HD signals and standard-definition (SD) multicast signals."\textsuperscript{18} At the end of 2010, some 71% of commercial TV stations (out of nearly 1,200 surveyed) were multicasting, "representing an increase of 1,240 multicast signals since 2009, for a total of 2,518 multicast signals as of 2010."\textsuperscript{19} Also, by year's end 2010, almost 87% of commercial TV stations (that is, more than 1,000 stations) broadcast in HD, up from 79% a little more than a year before.\textsuperscript{20}

With more than 70% of TV households owning a set capable of receiving HD signals, and the doubling of digital video recorders (DVRs) in TV households between 2007 and 2011, now at some 46.3 million or 40.4%, technological upgrades are part of TV broadcasters' efforts to meet competitive challenges and changing consumer demand. As the Report points out, "[t]he availability of DVRs coupled with other technological developments has spurred consumers' desire to watch video on a time-shifted basis on television sets, personal computers, and mobile devices."\textsuperscript{21} TV broadcasters are also turning to other media complements to promote their brand and meet changing demand. States the Report, "broadcast station owners have developed online and mobile media platforms, using their websites as extensions of their local brands, and offered advertisers online promotions coordinated with the on-air advertisements."\textsuperscript{22} About 40% of TV station websites had mobile apps available for download, and perhaps as many as two-thirds of TV stations take a "three screen approach": distributing news online, via mobile devices, and over-the-air.\textsuperscript{23}

Of course, the number of TV households relying exclusively on over-the-air broadcast service has steadily declined over the years. About 14% of all TV households or more than 15.6 million were broadcast-only at the end of 2006.\textsuperscript{24} Those numbers dropped further in the years to follow, apparently holding steady between the end of 2010 and 2011, respectively at 9.6% or about 11 million households.\textsuperscript{25} According to the Report, "about 90 percent of all television households receive broadcast stations from an MVPD."\textsuperscript{26} Broadcasters, too, have increasingly turned to MVPDs, as retransmission consent compensation has become the second largest source of revenue for TV
stations, up from $214.6 million in 2006 to $931.8 million in 2010.\textsuperscript{27} The Report also pointed to declines in merger and acquisition transactions involving broadcast TV stations, both in terms of frequency and transactional value, as well as a number of broadcaster groups recently filing for bankruptcy.\textsuperscript{28}

**Thriving Online Video Services**

For the first time, the FCC's Video Competition Report devoted a major section to online video. The Report defines online video distributors (OVDs) as "entities that distribute video content to consumers over the Internet."\textsuperscript{29} It describes Internet-based distribution of video as "evolving from a niche service into a thriving industry"\textsuperscript{30} that has "undergone dramatic transformation." But "the market is still evolving," as delivery of online video is "in its infancy," with business and consumer conduct "in flux."\textsuperscript{31}

The Report cites Nielsen survey findings that "approximately 48 percent of Americans now watch video online, and 10 percent watch mobile video."\textsuperscript{32} Online video "reaches consumers via multiple devices, including computers, smartphones, tablets, gaming consoles, television sets, and other equipment connected to the Internet."\textsuperscript{33}

In describing this thriving new platform's market trends, the Report explains that OVDs are: (1) not necessarily facilities-based; (2) not geographically focused; and (3) typically affiliated with programming content owners.\textsuperscript{34} Increasingly, OVDs are integrating vertically by entering the content creation business.\textsuperscript{35} OVDs compete with one another through different programming offerings and through price rivalry.\textsuperscript{36} Competing price options include free or ad-supported, subscriptions, per program purchase, or "electronic sell-through."\textsuperscript{37}

**Diversity of Video Devices**

The Report also highlights breakthrough innovations in video device access to video services. It states that "[t]he proliferation of portable media devices with broadband IP capability has opened up new video distribution opportunities for MVPDs and OVDs alike. Devices such as laptops, netbooks, smartphones and media tablets all have IP connections and high resolution screens for consumers to watch video."\textsuperscript{38} MVPDs have begun making video available through these devices. In addition, "MVPDs and programmers are looking to cloud-delivery mechanisms for IP connected devices including, tablets, smartphones, laptops, and other mobile devices."\textsuperscript{39} Also, "MVPDs have begun deploying multi-room DVR and home networking solutions."\textsuperscript{40}

While vibrant marketplace innovation in video devices continues, the FCC's regulatory regime for cable video devices drags along. In the Report, the FCC again admits that "[c]onsumer adoption of retail CableCARD-compatible devices has not matched the Commission’s expectations."\textsuperscript{41} According to the Report, in 2011 there were 582,000 CableCARD deployments for use in retail devices out of 29.3 million cable operator-supplied set-top boxes with CableCARDs.\textsuperscript{42} That amounts to less than 2% of the cable operator-supplied set-top boxes with CableCARDs. That is, consumers overwhelmingly
choose to lease DVRs and other set-top boxes from MVPDs rather than make separate trips to the store to purchase their own CableCARD-compatible devices. Nonetheless, the Report goes on to summarize the FCC’s continuing attempts to bolster its CableCARD regime and points to its so-called "AllVid" proposal for replacing CableCARD with an even more expansive, comprehensive regime for regulating MVPD video navigation device design and operation.

The Widening Disconnect Between Video Market Competition and Legacy Video Regulations

In our June FSF Perspectives essay: "Accelerate New Video Breakthroughs by Rolling Back Old Regulations," FSF President Randolph May and I concluded that "[i]t's becoming increasingly obvious that the current regulations that now saddle the video market do not square with the reality of the competition that exists." There we identified a mismatch between publicly available information about the video market's competitiveness and the extensive apparatus of FCC legacy video regulations that govern those services. Those legacy video regulations continue in force despite the evident erosion of the monopolistic or so-called bottleneck assumptions upon which those regulations were based.

The FCC's Video Competition Report confirms our earlier conclusion. Data contained in the Report convincingly demonstrates the competitive and innovative state of today's video market. There is also now a glaring disconnect between the competitive conditions in the current video market and much of the regulations that still govern video services.

Had the bottleneck conditions once said to govern video services continued to the present day, one would have expected the Report to show strong evidence of static conditions in the video market. That is, one would expect market share numbers and service offerings to be more-or-less continuous with those found in the early 1990s.

But the Report's overview of today's video market shows significant discontinuity with market assumptions made two decades ago. In the Report we see positive data regarding new video platforms, programming content sources and abundances, pricing options, enhanced delivery and viewing features, as well as other technological advances and investments. Cable operators lost a third of their market share to DBS while also facing competition from telephone MVPD entrants. Online video has emerged as an explosive platform offering yet another source of competition and abundance of new video content choices to consumers. Expanded consumer choice among devices for viewing video content has coincided with the emergence and growth of DBS and online video platforms. MVPD channel lineups have expanded, OVDs offer wide content selection, and new outlets are producing their own programming. Meanwhile, videos spanning different platforms have transitioned from analog to high-definition digital transmission. And MVPDs have responded to competitive pressures by offering consumers more channels in digital and HD standards, along with such enhanced
features as video-on-demand, DVR, and TV-everywhere. Taken together, the data shows a market that is dynamic, not static.

**Report's Ineffective Consideration of Effective Competition**

FCC Commissioner Robert McDowell expressed disappointment that the FCC didn't declare the video market to be "effectively competitive" in its *Report*. Section 628(g) doesn't expressly require the FCC to make such a determination in its Video Competition Reports the way Section 332(c)(1)(C) appears to so require for the FCC's Wireless Competition Reports. However, an FCC determination as to whether the video market is effectively competitive would be the sensible thing. And finding that the video market is, in fact, effectively competitive would find solid support in the data collected in the *Report*.

To make such a determination, the FCC need only take its existing "competing provider test" for determining whether a local franchise area is effectively competitive and apply it at the national level. Under Section 623(1)(1)(B), when the FCC deems a franchise area effectively competitive, incumbent cable operators obtain relief from basic tier rate regulation. According to the competing provider test, effective competition is deemed to exist if a given area is served by at least two unaffiliated MVPDs offering comparable video services to half of the area's households and the number of households subscribing to service other than the largest MVPD exceeds 15%.

Consider again the *Report*'s numbers: In 2010, 98.5% of all households – that's 128.8 million out of 130.8 million households nationwide – had access to at least three MVPDs. This includes 32.8% of households that had access to at least four MVPDs. The FCC concluded that the approximately 2 million households remaining still had access to two DBS providers.

And even when combining the market share of the top five cable MVPDs, the number of households subscribing to other MVPD service providers easily surpasses 15%. According to estimates cited in the *Report*, DBS providers account for 34% of MVPD subscribers. Telephone MVPDs serve an estimated seven percent. So when adapting the FCC's own standards for measuring competition in local video markets to the nation writ large, the numbers conclusively establish that the video market is effectively competitive. It goes without saying that this method of assessment also leads to the conclusion that a cable bottleneck does not exist in today's video market.

Unfortunately, FCC policy stands in the way of any clear recognition of the video market's competitiveness. The FCC's track record reveals a commitment to retaining legacy video regulations and to supplementing them with new layers of regulations. Sadly, those prior policy commitments render any FCC determination about the video market's competitiveness derived from the *Report*'s positive data points unlikely.

Overall, the FCC has taken a decidedly pro-regulatory approach to the video market. On its own volition the FCC has expanded or proposed to expand legacy video
regulations through rulemaking. For instance, through rulemaking the agency imposed its terrestrial-delivered programming extension of FCC program access mandates. The FCC has construed its regulatory powers in expansive new ways. Its recent order regarding Tennis Channel’s program carriage complaint against Comcast, for example, relied on a content-based analysis in imposing content-based carriage mandates on Comcast. Also, the FCC has defended expansive interpretations of its legacy video regulations and the bottleneck underpinnings of such regulations repeatedly in court. The agency's legal defense of must-carry regulation before the Second Circuit and U.S. Supreme Court in Cablevision v. FCC did both. And it has imposed or proposed regulations outside of Title VI that would saddle online video services with new regulatory burdens. The Comcast/NBCU Order imposed a set of restrictions involving online video. Moreover, the FCC recently sought public comments on whether to redefine "MVPD" so as to include a number of OVDs and thereby extend its retransmission consent and program access rules.

But any FCC official recognition of the full extent of the video market's competitiveness might likely derail its own pro-regulatory policy track. Any overall effective competition or "bottleneck-free" determination by the FCC would put much of the legacy video regulatory apparatus at risk of extinction. Several video regulatory mandates have been challenged in court over the years, surviving only by the slimmest of margins and only then out of judicial deference to the analog cable bottleneck assumption as a special justification – if only temporarily – for those regulations. An effective competition or bottleneck-free determination would similarly jeopardize any number of more recent FCC proposals to regulate video services.

Given its pro-regulatory preferences, the FCC has nothing to gain from making determinations rife with de-regulatory implications. Instead, the FCC appears poised to further its pro-regulatory policy approach to video services despite the pro-competitive conditions prevailing in today's market. The unfortunate result will likely be an even wider disconnect between FCC video regulations and video market competition.

**Report Disregards Online Video as a Cross-Platform Competitor and Substitute**

In a free society committed to free markets, regulation of an effectively competitive market is generally improper, not to mention economically inefficient. So continuation of legacy video regulations needs at least some explanation possessing surface plausibility. For the FCC, extending the life and scope of legacy video regulations in the midst of this competitive environment depends upon its disregarding or downplaying of cross-platform competition between MVPD and OVD services.

Avoiding cross-platform competition or product substitutability has recent precedent at the FCC. The FCC has used narrow market definitions to downplay the competitiveness of wireless with wireline in the voice services market. Its Wireless Competition Reports have declined to treat wireless as a direct competitor with wireline. Also, the FCC’s 2010 Qwest Phoenix MSA Order rejected substantial evidence of wireless substitutability. This allowed the FCC to claim the area in question was subject to an "effective duopoly"
Despite the presence of a handful of competing wireless carriers. The result was the continuation of legacy telephone regulations premised on Ma Bell-era monopoly conditions that no longer exist.

When it comes to MVPD and online video services, the Report fits the FCC's pattern of reluctance to consider cross-platform competition. The structure of the Report – devoting major sections to MVPD, broadcast TV, and to online video, respectively – all but implies the prevalence of cross-platform competition. It points out the "tremendous expansion" of online video services. The Report even regards online video services as substitutable for some consumers, and insists that as a general matter "i[t] is potentially a substitutable product."

Despite those nods to cross-platform competition, the Report ultimately mirrors the Comcast-NBCU Order's ambivalence toward online video as a substitute for MVPD services for most consumers. The practical effect of the Report's ambivalence is that MVPD and online video services are regarded as separate, non-competing services. This serves the broader purposes of the FCC's pro-regulatory philosophy, rendering unlikely any relief from legacy video regulations based on the competitive effects of online video.

**Deregulation Best Aligns with the Market's Effectively Competitive Conditions**

The blatant disconnect between the effectively competitive state of today's video market and outdated legacy video regulations deserves repeating because existing congressional and FCC policy fails to face up to it. Recognizing the competitive and innovative nature of the video market is a necessary first step in bringing about regulatory reforms to reflect marketplace realities. Further steps must then be made in order to relieve video service providers of costly regulatory burdens and to better encourage further marketplace innovation and investment.

It is well passed time for Congress to overhaul the Communications Act, and the framework for the proposed Digital Age Communications Act (DACA) provides an excellent starting point. There are also non-comprehensive but still sweeping legislative proposals that would bring about a reduction in video regulation. The Next Generation Television Marketplace Act (S. 2008) would eliminate much of the regulations imposed by the 1992 Cable Act to "protect" broadcast TV. Under the Freedom for Consumer Choice Act (or "FCC Act"), introduced in the 111th Congress, any FCC regulatory actions must be based on an affirmative showing of communications providers' possession of market power that actually harms consumers. The approach taken by the FCC Act would discipline FCC rulemaking authority, and should therefore be considered in any serious communications regulatory reform effort.

Also, the Federal Communications Commission Consolidated Reporting Act of 2012 (H.R. 3310, S. 1780), would consolidate several annual FCC reports into a single report and require an assessment of the competitive effects of intermodal competition, including new and emerging Internet-based services. This legislation passed the House...
of Representatives on May 30. Ignoring cross-platform competition and product substitutability in video and other advanced communications services would be made more difficult by requiring a report spanning a broader array of markets and market segments, particularly if it contains intermodal competitive assessments.

Even in the absence of Congress finally overhauling the Communications Act and eliminating legacy video regulatory mandates, the FCC can play a constructive role in reducing unnecessary and costly regulatory restrictions.

For starters, the FCC can avoid imposing new regulations on video services, including online services. To the extent that the emergence of online video results in a lack of regulatory parity between cable, DBS, and Internet-based video delivery, regulatory parity should be obtained by eliminating old rules, not imposing new ones.

The FCC should eliminate the network non-duplication, syndication exclusivity, and sports blackout rules.49 It should also reduce the burdens its rules place on cable basic tier services. The FCC should consider replacing its local rate regulation rules' presumption that cable operators are not subject to effective competition with a presumption that all cable operators face effective competition. This would put the burden on parties to support continued rate regulation. The FCC should also end its ban on cable operators encrypting cable basic tier services, thereby giving cable operators better opportunity to efficiently deliver such services to consumers and compete with new low-end disruptors in the market. In addition, the FCC should reject any plans for a broad new regulatory regime restricting video navigation device design and operation. To this end, it should close its AllVid docket. Moreover, the FCC should finally begin the groundwork for sunsetting its existing set-top box regulations in the near future and invoke Section 629's provision that allows it to eliminate such regulations once it deems the video device market "effectively competitive."50

And the FCC should stop sidestepping the effectively competitive status of the video market and the non-existence of last-mile cable bottlenecks. Aside from including in future reports specific determinations of whether the video market or segments thereof are effectively competitive, the FCC should consider some sort of declaratory order or at least an inquiry focused specifically on the non-existence of such bottlenecks and thereby accept the inevitability of any de-regulatory implications flowing from the forthright recognition of those marketplace realities.

Conclusion

There is a mountain of evidence in the Report to support the conclusion that the video market is effectively competitive. Data contained in the Report regarding MVPD services demolishes any pretensions that the video market is now subject to a last-mile cable "bottleneck." The Report makes evident the disconnect between the competitive state of today's market and outdated legacy video regulations that continue to restrict video services.
Unfortunately, in its Report the FCC avoided making any determination as to whether the video market is effectively competitive. It thereby avoided any admission of the non-existence of cable bottlenecks that formed the basis for the legacy video regulations that it continues to enforce. The Report also fit with the FCC’s pattern of reports that ignore the competitive effect of cross-platform competition and close substitutes – in this case, online video services.

Outdated regulations impose compliance costs and also result in economic dislocations that competitive markets would avoid. In a competitive setting, market forces offer the best option for unleashing innovation and encouraging investment that results in new products and services.

Regulatory policy toward video services should be brought into alignment with the competitive conditions that actually prevail in today’s market. For policymakers, this starts with squarely recognizing that the video market is effectively competitive and that cable bottlenecks do not exist. Congress and the FCC should proceed with deregulatory action that will rely more heavily on the vibrant competitive forces that have produced the abundances of innovative new video services that consumers enjoy today and which promise to deliver even more breakthroughs in the years ahead.

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Further Readings


1 See id. at ¶ 30.
2 Id. at ¶ 31.
3 Id. at ¶ 32.
4 Id. at ¶ 37.
5 Id. at ¶ 37.
6 Id. at ¶ 40 [“Table 2: Access to Multiple MVPDs”].
7 Id. at ¶ 40 [“Table 2: Access to Multiple MVPDs”].
8 Id. at ¶ 40 [“Table 2: Access to Multiple MVPDs”].
9 Id. at ¶ 90.
10 See id. at ¶¶ 91-3.
11 Id. at ¶ 96, ¶ 130.
12 Id. at ¶ 97.
13 Id. at ¶ 87.
14 Id. at ¶ 94.
15 Id. at ¶ 150.
16 Id. at ¶ 150.
17 Id. at ¶ 157.
18 Id. at ¶ 161.
19 Id. at ¶ 161.
20 Id. at ¶ 202.
21 Id. at ¶ 201.
22 Id. at ¶ 203.
23 Id. at ¶ 201.
24 Id. at ¶ 203.
25 Id. at ¶ 211.
26 Id. at ¶ 211.
27 Id. at ¶ 189.
28 Id. at ¶ 222.
29 Id. at ¶ 187.
30 Id. at ¶ 237.
31 Id. at ¶ 237.
32 Id. at ¶¶ 276, 286.
33 Id. at ¶ 237.
34 See id. at ¶ 243.
35 See id. at ¶ 262.
36 Id. at ¶ 289
37 Id. at ¶ 290. For electronic sell-through, consumers pay one-time fees to download programming to be stored locally on a hard drive. See id.
38 Id. at ¶ 401.
39 Id. at ¶ 401.
40 Id. at ¶ 390.
41 Id. at ¶ 395.
42 Id. at ¶ 395 [“Table 29: Deployment of CableCARDS (Cumulative)”].
44 See id. at § 543(1)(1)(B), 47 C.F.R. § 76.905(b)(2).
45 Report, at ¶ 31.
46 Id. at ¶ 32.
47 Id. at ¶ 242.
48 Id. at ¶ 240.
49 Id. at ¶ 61.
50 See 47 U.S.C. §549(a).