

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Annual Assessment of the Status of Competition in) MB Docket No. 16-247
the Market for the Delivery of Video Programming)

EIGHTEENTH REPORT

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I. EXECUTIVE SUMMARY

1. This is the eighteenth report (*18th Report* or *Report*) of the Federal Communications Commission to the United States Congress on the status of competition in the market for the delivery of video programming as required by Section 628(g) of the Communications Act of 1934, as amended (the Act or Communications Act).¹ In this Report, we focus on developments in the video marketplace in 2015. We categorize entities into one of three groups – multichannel video programming distributors (MVPDs),² broadcast television stations,³ and online video distributors (OVDs).⁴ We describe the

¹ 47 U.S.C. § 548(g). On August 5, 2016, the Commission issued a Public Notice seeking data, information, and comment for the *18th Report*. *Media Bureau Seeks Comment on the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 16-247, Public Notice, 31 FCC Rcd 8796 (MB 2016) (*Notice*). Comments and replies were due on September 21, 2016 and October 24, 2016, respectively.

² For purposes of this Report, MVPDs are entities that offer multiple channels of video programming to consumers for a subscription fee. More detail concerning this definition is provided below. See *infra* Section III.A.1 and note 23.

providers of delivered video programming in each group, summarize their business models and competitive strategies, and present selected operating and financial statistics.

2. *MVPDs*. At the end of 2015, cable MVPDs accounted for 53.1 percent of all MVPD subscribers, down from 53.4 percent at the end of 2014.⁵ Direct broadcast satellite (DBS) MVPDs accounted for 33.2 percent of MVPD subscribers at the end of 2015, down slightly from 33.3 percent at the end of 2014.⁶ Telephone company MVPDs accounted for 13.4 percent of MVPD subscribers at the end of 2015, up from 12.9 percent at the end of 2014.⁷

3. Although most consumers have access to three competing MVPDs (two DBS MVPDs and a cable MVPD), some consumers also have access to a competing telephone company MVPD, for a total of four MVPDs. At the end of 2015, we estimate that 17.9 percent of homes had access to four competing MVPDs, down from 38.1 percent in 2014.⁸ The change is due to the acquisition of DIRECTV by AT&T in July 2015.

4. MVPDs have begun offering “skinny” video packages that include a limited selection of channels with the option to add more. MVPDs have also extended the availability of some of their programming to online video platforms, similar to those offered by OVDs, referred to as “TV Everywhere,” services, which allow MVPD subscribers to access programming on Internet-connected devices. In addition, some MVPDs have begun offering online video services that do not require a subscription to a traditional MVPD service (e.g., DISH Network’s Sling TV, Verizon’s Go90, and AT&T’s DIRECTV NOW).

5. Total MVPD subscribers declined in 2013, 2014, and 2015. MVPDs lost about 1.1 million video subscribers in 2015.⁹ Specifically, cable MVPDs lost 599,000 subscribers and DBS MVPDs lost 477,000 subscribers, while telephone company MVPDs gained 14,000 subscribers.¹⁰ MVPD video subscriber losses have not resulted in video revenue losses. Total MVPD video revenue increased from \$112.7 billion in 2014 to \$115.6 billion in 2015.¹¹ However, MVPD video revenue increases have

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³ We consider broadcast television stations separately for this Report, as we have done in previous Reports. Although full-power television stations have transitioned to digital transmission and have the capability to offer additional multicast linear digital channels, they still offer far fewer programs and channels than are available from MVPDs, and do not provide a subscription service.

⁴ For purposes of this Report, we define OVD as “an entity that distributes video programming (1) by means of the Internet or other Internet Protocol (IP)-based transmission path; (2) not as a component of an MVPD subscription or other managed video service; and (3) not solely to customers of a broadband Internet access service owned or operated by the entity or its affiliates.” See *Notice*, 31 FCC Rcd at 8796, n.9. The Commission used this definition in the context of the recent transaction involving Charter Communications (Charter), Time Warner Cable (TWC), and Bright House Networks (BHN). *Id.* at 8807, n.43 (quoting *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership For Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 15-149, Memorandum Opinion and Order, 31 FCC Rcd 6327, 6340, n.83 (MB 2016) (*Charter-TWC-Bright House Order*)). This definition differs slightly from the definition used in the *17th Report*, but we do not anticipate that this will have a significant impact on the analysis presented herein.

⁵ SNL Kagan, U.S. Multichannel Industry Benchmarks (last visited Apr. 27, 2016).

⁶ *Id.* DBS includes DISH Network and DIRECTV.

⁷ *Id.* Telephone company MVPDs include AT&T U-verse.

⁸ For telephone company MVPDs we add estimates of housing units passed for AT&T, CenturyLink, Cincinnati Bell, Consolidated Communications, and Verizon. See *infra* Table III.A.1.

⁹ SNL Kagan, Cable TV Investors at 10 (Mar. 29, 2016). See also Leichtman Research Group, *LRG Research Notes* at 4 (1Q 2016), <http://www.leichtmanresearch.com/research.html#notes>.

¹⁰ *Id.*

¹¹ SNL Kagan, Cable TV Investor at 13 (Apr. 25, 2016).

failed to keep up with increased costs. The result has been falling margins on MVPD video services, which were just over 10 percent at the end of 2015, down from 15 percent in 2014, and 20 percent in 2013.¹² Rapidly rising programming costs, which increased 6.8 percent in 2014 and 8.1 percent in 2015, and have continued increasing at a similar pace in 2016, are cited as the primary cause of declining MVPD video margins.¹³

6. *Broadcast Television Stations.* Full-power television stations have continued to take advantage of digital broadcasting technology to offer improved service to the public. At the end of 2015, 1,496 full-power stations (87.9 percent) were broadcasting in HD, down slightly from 1,517 at the end of 2014. In addition to HD content, broadcasters are bringing more programming to consumers, particularly in smaller, rural markets, by expanding the availability of the four major networks and newer networks through digital multicast signals.

7. The number of households relying on over-the-air broadcast service exclusive of any MVPD service increased since the last report. Nielsen reports that this figure increased from 11.4 million television households in 2014 to 12.4 million television households in 2015, representing an increase from approximately 10 percent to 11 percent of all television households. Figures from NAB indicate that 26.7 million television households, or approximately 23 percent of all television households, rely exclusively on over-the-air television service on at least one television in the home.

8. *OVDs.* The most significant change in the status of competition in the market for the delivery of video services has been the introduction of Sling TV by DISH Network and DIRECTV NOW by AT&T. Both of these OVDs are owned by traditional MVPDs, and both offer linear-streaming programming, in addition to video-on-demand (VOD) programming often associated with OVDs. Competition has also been affected by the increasing number of content owners, broadcast networks, and cable networks launching OVD services. Examples include Hulu, CBS All Access, HBO NOW, Showtime, and Starz.

9. OVDs often differentiate themselves through their content libraries. Large OVDs like Netflix and Amazon Prime negotiate with content owners for exclusive streaming rights. As such, some popular programming offered by Netflix is not available on Amazon Prime, and vice versa. Much of the programming offered by Hulu is not available on Amazon Prime or Netflix. In addition to their negotiations with content owners, some OVDs offer original programming to attract and retain viewers, and the number of original programs has been increasing.

10. Streaming video accounts for a large and growing percentage of total Internet traffic. In December 2015, Sandvine reported that streaming video and audio traffic accounted for over 70 percent of North American Internet traffic in the peak evening hours on wireline networks.

11. Households seeking to view multiple streaming programs on multiple devices at the same time require higher Internet speeds, relative to those seeking to stream a single program on a single device. In their marketing, wireline Internet service providers (ISPs) assist consumers by recommending specific Internet speed packages for specific uses, such as video streaming, online gaming, and number of Internet-connected devices.

12. On June 14, 2016, the United States Court of Appeals for the District of Columbia Circuit affirmed the *2015 Open Internet Order*.¹⁴ That order “prohibits broadband Internet access service

¹² SNL Kagan, Cable TV Investor at 13-14 (May 27, 2016).

¹³ *Id.* See also Tony Lenoir and Chris Young, *Surge at Comcast sends programming costs to record high*, SNL Kagan (Dec. 12, 2016), <https://www.snk.com/interactivex/article.aspx?KPLT=7&id=38625382>.

¹⁴ *United States Telecom Association et al. v. FCC*, 825 F.3d 674, 689 (D.C. Cir. 2016) (*USTA v. FCC*). Several parties filed petitions for review of the order, and the United States Court of Appeals for the District of Columbia Circuit consolidated these petitions into a single docket as *United States Telecom Association et al. v. FCC*. The

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providers from blocking or throttling lawful content, services, applications, or non-harmful devices, subject to reasonable network management.”¹⁵ The order further “prohibits broadband Internet access service providers from favoring some traffic over other traffic in exchange for consideration or to benefit an affiliated entity.”¹⁶ The *2015 Open Internet Order* created a standard under which the Commission can prohibit, on a case-by-case basis, practices by a broadband Internet access service provider that “unreasonably interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of edge providers to access consumers using the Internet.”¹⁷

13. *Customer Premises Equipment.* The equipment used to access video programming continues to evolve. Ultra-High-Definition (Ultra HD) and High Dynamic Range (HDR) technology are the most prominent features of new displays that consumers use to view television. To receive MVPD programming, nearly all MVPD subscribers continue to lease equipment from their providers. Many consumers use applications to access subscription video on equipment that they own.

II. INTRODUCTION

A. Scope of the Report

14. Section 19 of the Cable Television Consumer Protection and Competition Act of 1992 (1992 Cable Act)¹⁸ amended the Communications Act and established regulations with the goal of increasing competition and diversity in multichannel video programming distribution, increasing the availability of satellite delivered programming, and spurring the development of communications technologies.¹⁹ To measure progress toward these goals, Congress directed the Commission to report annually on “the status of competition in the market for the delivery of video programming.”²⁰

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rules adopted in the *2015 Open Internet Order* became effective on June 12, 2015. *Protecting and Promoting the Open Internet*, 80 Fed. Reg. 19738, 19838, para. 584 (Apr. 13, 2015) (specifying the effective date).

¹⁵ *Implementation of Section 19 of the 1992 Cable Act and Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 15-158, 31 FCC Rcd 4472, 4534, para. 149 (MB 2016) (*17th Report*); see *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling and Order, 30 FCC Rcd 5601, 5607, paras. 15-16 (2015) (*2015 Open Internet Order*).

¹⁶ *17th Report*, 31 FCC Rcd at 4534, para. 149; see *2015 Open Internet Order*, 30 FCC Rcd at 5607, para. 18.

¹⁷ *2015 Open Internet Order*, 30 FCC Rcd 5659, para. 135. The *Open Internet Order* defined “edge provider” as “[a]ny individual or entity that provides any content, application, or service over the Internet, and any individual or entity that provides a device used for accessing any content, application, or service over the Internet.” *Id.* at 5884, Appx. A (adopting 47 CFR § 8.2(b)).

¹⁸ 1992 Cable Act, Pub. L. No. 102-385, § 19, 106 Stat 1460, 1494 (1992) (“The purpose of this section is to promote the public interest, convenience, and necessity by increasing competition and diversity in the multichannel video programming market, to increase the availability of satellite cable programming and satellite broadcast programming to persons in rural and other areas not currently able to receive such programming, and to spur the development of communications technologies.”).

¹⁹ Video programming is defined as: “Programming provided by, or generally considered comparable to programming provided by, a television broadcast station.” 47 U.S.C. § 522(20). See also 47 CFR § 76.5(ff); 47 CFR § 79.1(a)(10).

²⁰ See 47 U.S.C. § 548(g). The Commission’s previous Reports appear at: *Implementation of Section 19 of the 1992 Cable Act and Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 9 FCC Rcd 7442 (1994); 11 FCC Rcd 2060 (1995); 12 FCC Rcd 4358 (1997); 13 FCC Rcd 1034 (1998); 13 FCC Rcd 24284 (1998); 15 FCC Rcd 978 (2000); 16 FCC Rcd 6005 (2001); 17 FCC Rcd 1244 (2002); 17 FCC Rcd 26901 (2002); 19 FCC Rcd 1606 (2004); 20 FCC Rcd 2755 (2005); 21 FCC Rcd 2503 (2006); 24 FCC Rcd 542 (2009); 27 FCC Rcd 8610 (2012); 28 FCC Rcd 10496 (2013); 30 FCC Rcd 3253 (2015); *17th Report*.

B. Analytic Framework

15. We first categorize entities that deliver video programming into one of three groups: MVPDs, broadcast television stations, and OVDs.²¹ Second, we describe the providers of delivered video programming in each group, summarize their business models and competitive strategies, and present selected operating and financial statistics. We consider such factors as:

- *Providers*: The number, size, and footprint of the entities in the group, horizontal and/or vertical concentration, regulatory and market conditions affecting competition, and recent entry or exit from the group.
- *Business Models and Competitive Strategies*: The technologies entities employ to deliver video programming, pricing plans, and video product and service differences.
- *Selected Operating and Financial Statistics*: Statistics related to the number of subscribers or viewers, revenue, and other financial indicators.

Third, we discuss consumer premises equipment and mobile devices that consumers use for viewing video programming.

C. Data Sources

16. This Report focuses on data for year-end 2015, which we compare with data for year-end 2014. The information and data presented in this Report are based, in part, on comments we received from interested parties.²² In addition, we rely on a variety of publicly available sources of industry information and data including: Securities and Exchange Commission filings; data from trade association and government entities; data from securities analysts and other research companies and consultants; company news releases and websites; newspaper and periodical articles; scholarly publications; vendor product releases; white papers; and various public Commission filings, decisions, reports, and data. We make use of both individual company data and industry-wide data. In addition, to the extent we find more recent Commission decisions and industry developments relevant, we include this information.

III. PROVIDERS OF DELIVERED VIDEO PROGRAMMING

A. Multichannel Video Programming Distributors

1. MVPD Providers

17. An MVPD is an entity that makes available for purchase by subscribers or customers multiple channels of video programming.²³ We include an entity in the MVPD group based on the

²¹ Our placement of entities into groups is an organizational tool to facilitate the presentation of information. This approach is useful for several reasons. First, the three categories reflect the historical evolution of video programming as initially delivered by over-the-air broadcast television stations, then also through MVPDs, and, more recently, via the Internet by OVDs. Second, to some degree the groupings reflect market participants' self-identification. Entities within each group tend to identify other entities in the same group as their foremost competitors in marketing materials and when describing their businesses to shareholders. Third, the business models of entities within a group share more similarities than the business models of entities across groups. Finally, this organization parallels available data sources; some focus on one group (e.g., BIA Kelsey, which focuses on broadcast), and others separately organize data in the same manner we do (e.g., SNL Kagan).

²² See *supra* note 1. In this Report, we discuss certain regulatory or policy changes advanced by various commenters in this proceeding. Such discussions are informational only and do not indicate or reflect Commission findings or positions concerning the matters in question.

²³ Section 602(13) of the Act defines MVPD as “a person such as, but not limited to, a cable operator, a multichannel multipoint distribution service, a direct broadcast satellite service, or a television receive-only satellite program distributor, who makes available for purchase, by subscribers or customers, multiple channels of video programming.” 47 U.S.C. § 522(13). As discussed in more detail below, in December 2014, the Commission adopted a Notice of Proposed Rulemaking that proposes to include within the scope of the definition of MVPD

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similarity of the video services offered.²⁴ Today, the major MVPDs offer hundreds of linear television channels, thousands of non-linear VOD programs, as well as pay-per-view (PPV) programs.²⁵ In addition to delivering video programming to television sets, today's MVPDs use the Internet to deliver video programming to personal computers, tablets, and mobile devices. Although the focus of this Report is delivered video services, most of today's MVPDs also offer Internet and phone services as core elements of their business models.

18. At the end of 2015, ten MVPDs each had over one million video subscribers. These include seven cable companies (Comcast, Time Warner Cable, Charter, Cox, Cablevision, Bright House, and Suddenlink), DISH Network (a DBS MVPD), Verizon (a telephone company MVPD), and AT&T (a combined telephone company MVPD and DBS MVPD).²⁶ Fourteen cable MVPDs and three telephone company MVPDs (CenturyLink, Consolidated Communications, Cincinnati Bell) each had over 100,000 video subscribers.²⁷ In addition, there are hundreds of smaller cable and telephone company MVPDs that serve significantly smaller numbers of subscribers.

19. At the end of 2015, cable accounted for 53.1 percent of all MVPD subscribers, down

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“services that make available for purchase, by subscribers or customers, multiple linear streams of video programming, regardless of the technology used to distribute the programming.” *Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, MB Docket No. 14-261, Notice of Proposed Rulemaking, 29 FCC Rcd 15995, 15996, para. 1 (2014) (*MVPD NPRM*). The proceeding remains pending.

²⁴ This Report does not account for large home satellite dish (or C-Band) service providers, open video systems, electric and gas utilities providing video services, wireless cable systems, private cable operators, commercial mobile radio services, or other wireless providers, because there are little or no publicly or commercially available data and less than 0.3 percent of MVPD subscribers rely on these types of MVPDs. SNL Kagan, *Cable TV Investor at 3* (Sept. 28, 2015).

²⁵ Linear channels offer video programs on a specific channel at a specific time of day. VOD programs allow consumers to select and watch video programs whenever they request them. Some PPV programs are offered as VOD and others are special events (e.g., championship boxing matches) that are pre-scheduled.

²⁶ SNL Kagan, *Top 70 Multichannel Operators* (last visited May 26, 2016).

In July 2015, the Commission approved the merger of AT&T and DIRECTV. *Applications of AT&T and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, Memorandum Opinion and Order, 30 FCC Rcd 9131, 9134, para. 1 (2015) (*AT&T and DIRECTV MO&O*).

In December 2015, the Commission approved the acquisition of Cequel (Suddenlink) by Altice. *Applications Filed by Altice N.V. and Cequel Corporation d/b/a Suddenlink Communications to Transfer Control of Authorizations from Suddenlink Communications to Altice N.V.*, WC Docket No. 15-135, Memorandum Opinion and Order, 30 FCC Rcd 14352, para. 3 (WC 2015) (*Altice and Suddenlink MO&O*).

Additionally, in May 2016, the Commission approved the merger of Charter, Time Warner Cable, and Advanced/Newhouse (Bright House). *Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advanced/Newhouse Partnership for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 15-149, Memorandum Opinion and Order, 31 FCC Rcd 6327, 6329, para. 1 (MB 2016) (*New Charter MO&O*) and the acquisition of Cablevision by Altice. *Applications Filed by Altice N.V. and Cablevision Systems Corporation to Transfer Control of Authorizations from Cablevision Systems Corporation to Altice N.C.*, WC Docket No. 15-257, Memorandum Opinion and Order, 31 FCC Rcd 4365, para. 1 (WC 2016) (*Altice and Cablevision MO&O*).

²⁷ The 14 cable MVPDs include: Atlantic Broadband, Armstrong Utilities, Blue Ridge Cable Technologies, Buckeye CableSystem, Cable One, General Communications, Mediacom, Midcontinent Communications, NewWave Communications, RCN, Service Electric Cable TV, TDS, Wave Division Holdings, and WideOpenWest. SNL Kagan, *Top 70 Multichannel Operators* (last visited April 27, 2016). RCN was acquired by Radiate Holdings in November 2016.

from 53.4 percent at the end of 2014.²⁸ DBS accounted for 33.2 percent of MVPD subscribers at the end of 2015, slightly down from 33.3 at the end of 2014.²⁹ Telephone company MVPDs accounted for 13.4 percent of MVPD subscribers at the end of 2015, up from 12.9 percent at the end of 2014.³⁰

20. Based on available data, we estimate the number of housing units passed by cable, DBS, and telephone company MVPDs for year-end 2014 and year-end 2015 in Table III.A.1.³¹ According to SNL Kagan, there were 134.2 million housing units in 2014 and 135 million housing units in 2015.³² We assume that cable MVPDs are available to over 99 percent of housing units.³³ We assume that DBS is available to all housing units although we recognize that in reality physical features (e.g., tall buildings, terrain, and trees) prevent some housing units from receiving DBS signals, so our estimates slightly overstate the availability of DBS. Our estimates for housing units passed by telephone company MVPDs include the largest telephone company MVPDs but do not include many smaller telephone company MVPDs. For that reason, our estimates slightly understate the availability of telephone company MVPDs.

²⁸ SNL Kagan, U.S. Multichannel Industry Benchmarks (last visited April 27, 2016).

²⁹ *Id.* DBS includes DISH Network and DIRECTV.

³⁰ *Id.*

³¹ A housing unit is a house, an apartment, a mobile home or trailer, a group of rooms, or a single room that is occupied, or, if vacant, is intended for occupancy as separate living quarters.

³² Data for the number of homes come from SNL Kagan, U.S. Multichannel Industry Benchmarks (last visited April 27, 2016).

³³ Previous SNL data show that cable MVPDs provided video service to 99.7 percent of housing units. *See 16th Report*, 30 FCC Rcd at 3265, Table 1. SNL no longer provides estimates for the number of housing units passed.

**Table III.A.1
Housing Units Passed by MVPDs (in millions)**

	Year-End 2014	Year-End 2015
Cable ³⁴	132.9	133.7
Cablevision	5.0	5.1
Charter	12.9	12.8
Comcast	54.7	55.7
Cox	10.5	10.6
Time Warner	30.5	30.9
DBS	134.2	135.0
DIRECTV	134.2	135.0
DISH Network	134.2	135.0
Telephone Company ³⁵	51.1	52.2
AT&T U-verse ³⁶	28.0	28.0
CenturyLink	2.4	3.2
Cincinnati Bell	0.3	0.4
Consolidated Comm.	0.6	0.6
Verizon FiOS	19.8	20.0

21. *Horizontal Concentration.* Consumers compare video packages and prices from the MVPDs offering services to their home and subscribe to the MVPD that best matches their preferences. Thus, we consider the number of MVPDs available to a household as a good measure of competition for MVPD video services. We assume that cable MVPDs are available to over 99 percent of homes. As a general rule, cable MVPDs exist in non-overlapping franchise areas and as a result generally do not compete directly with one another for the same subscriber, so most consumers have access to only one cable MVPD. Where cable overbuilders exist (for example, RCN or WOW!), consumers have access to more than one cable MVPD. Ordinarily, there is not more than one such overbuilder in a particular

³⁴ Our estimates assume that cable MVPDs pass 99 percent of housing units. Data for the five largest cable MVPDs come from SNL Kagan, Top Cable MSOs (last visited April 27, 2016).

³⁵ For telephone company MVPDs, we add estimates for AT&T, Verizon, CenturyLink, Consolidated Communications, and Cincinnati Bell. Individual company data come from the following sources:

SNL Kagan estimated that AT&T U-verse video passed 28 million housing units at the end of 2014 and at the end of 2015. SNL Kagan, Cable TV Investor at 16 (Feb. 23, 2015); SNL Kagan, Cable TV Investor at 22 (July 31, 2015).

Verizon, *Investor Quarterly 4Q 2014* (Jan. 22, 2015) at 7. SNL Kagan estimates that Verizon FiOS passed close to 20 million premises at the end of 2015. SNL Kagan, Cable TV Investor at 19 (Feb 25, 2016).

CenturyLink, 2014 Letter to Shareholders at 3; CenturyLink, 2015 Letter to Shareholders at 2.

Consolidated, SEC Form 10-K for the Year Ended December 2014 at 39. In its annual report for 2015, Consolidated makes no mention of expanding their video footprint, so we assume the number is unchanged from 2014.

Cincinnati Bell, SEC Form 10-K for the Year Ended December 2014 at 37; Cincinnati Bell, SEC Form 10-K for the Year Ended December 2015, at 36.

³⁶ SNL Kagan does not expect AT&T to operate two video platforms in the long term, but rather expects that AT&T will encourage U-verse video subscribers to move to DIRECTV. SNL Kagan, Cable TV Investor at 19 (Feb. 25, 2016). As of December 2016, AT&T still offers U-verse video service. AT&T, *AT&T U-verse TV Packages – Check U-verse Availability*, <https://www.att.com/tv/u-verse.html> (last visited Dec. 9, 2016).

geographic area.³⁷ Telephone company MVPDs rarely compete with one another for the same subscribers; however, they almost always overbuild areas already served by at least one cable company. DIRECTV and DISH Network have national footprints and almost all consumers nationwide have access to both DBS MVPDs. Until recently, DBS MVPDs competed with one another and with every cable and telephone company MVPD. This changed with the merger of AT&T and DIRECTV in July 2015, which eliminated competition between AT&T U-verse and DIRECTV. Table III.A.2 provides estimates of the number and percentage of homes with access to two, three, or four competing MVPDs. Although most consumers have access to three competing MVPDs (two DBS MVPDs and a cable MVPD), some consumers also have access to a competing telephone company MVPD, for a total of four MVPDs. At the end of 2015, we estimate that 17.9 percent of homes had access to four competing MVPDs, down from 38.1 percent in 2014 as a result of the acquisition of DIRECTV by AT&T.

Table III.A.2
Access to Multiple Competing MVPDs

	Housing Units 2014	Percent of Housing Units 2014	Housing Units 2015	Percent of Housing Units 2015
Two MVPDs (DBS)	134.2 million	100%	135.0 million	100%
Three MVPDs (DBS and Cable)	132.9 million	99%	133.7 million	99%
Four MVPDs (DBS, Cable, and competing Telephone)	51.1 million	38.1%	24.2 million	17.9%

22. *Vertical Integration.* Common ownership of entities that *deliver* and entities that *supply* video programming may have implications for competition and programming diversity in the MVPD market. Thus, Congress enacted various provisions related to vertical integration between cable operators and programming networks (e.g., program access, program carriage, and channel occupancy limit).³⁸ Although a vertically integrated MVPD may have incentives to withhold its co-owned channels from rivals,³⁹ the obligations regarding program access apply only to cable operators and telephone company MVPDs,⁴⁰ while the benefits apply to all MVPDs.

³⁷ The available data do not permit us to calculate how many homes have access to two cable MVPDs. However, SNL Kagan estimates that cable overbuilders have a total of roughly one million video subscribers nationwide. SNL Kagan, *Cable TV Investor* at 12 (Sept. 28, 2015).

³⁸ See 47 U.S.C. §§ 533, 536, 548. In 1992, a large number of the most popular cable programming networks were owned by cable operators. Congress was concerned that cable operators had the ability and incentive to thwart the competitive development of additional programming networks by refusing to carry unaffiliated networks or by insisting on an ownership stake in return for carriage. See 47 U.S.C. § 536. Congress was also concerned that cable operators had the ability and incentive to thwart competition in the video distribution market by withholding their most popular programming networks from rival MVPDs. See 47 U.S.C. § 548.

³⁹ See, e.g., *Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses and Transfer Control of Licensees*, Memorandum Opinion and Order, 26 FCC Rcd 4238, 4268, para. 78 (2011) (*Comcast-NBCU Order*).

⁴⁰ See 47 U.S.C. § 548(j) (“any provision that shall apply to a common carrier or its affiliates that provides video programming by any means directly to its subscribers”); see also 47 CFR § 76.1004.

23. NCTA explains that in 1992, when Congress enacted provisions regarding vertical integration, “the majority of the most popular cable networks (provided on systems with a much smaller number of channels than the hundreds offered on today’s digital platforms) were owned by cable operators, which seemed to potentially foreclose access to cable systems by unaffiliated networks.”⁴¹ NCTA asserts that today “only a small handful” of programming networks are affiliated with cable operators.⁴² According to the NCTA, this historically low level of vertical integration reduces the threat to fair marketplace competition.⁴³

24. In the last report, we found that there were 94 national programming networks (44 were HD networks) affiliated with the top six cable MVPDs.⁴⁴ In addition, we identified six national networks that were affiliated with DIRECTV (three in HD).⁴⁵ More recent data show that vertical integration increased for MVPDs. Data for November 2016 show 159 national networks affiliated with the top six cable MVPDs (59 in HD) and specifically that Comcast has ownership interests in 52 national networks (26 in HD), Charter Communications has ownership interests in 30 national networks (17 in HD)⁴⁶, and Cox has ownership interests in six national networks (three in HD).⁴⁷ In addition, the six national networks formally affiliated with DIRECTV are now affiliated with AT&T, Inc. (three in HD).⁴⁸ A summary of MVPD ownership of programming networks is included in Appendix B, Table B-1; Appendix C, Table C-1; and Appendix D of this Report.⁴⁹

a. Regulatory Conditions Affecting Competition

25. MVPDs must obtain the appropriate regulatory authority before providing video services and are subject to several Commission rules implicating the operation of their services, which vary depending on whether the entity is a cable MVPD or a non-cable MVPD.⁵⁰ These rules⁵¹ include regulations that govern an MVPD’s franchising and licensing,⁵² effective competition,⁵³ program access,⁵⁴

⁴¹ NCTA Comments at 12.

⁴² *Id.*

⁴³ *Id.* at 13.

⁴⁴ *17th Report*, 31 FCC Rcd at 4481, para. 22.

⁴⁵ *Id.*

⁴⁶ On May 18, 2016, Charter Communications completed its acquisition of Time Warner Cable and Bright House Networks. Press Release, Charter Communications, Charter Communications, Time Warner Cable and Bright House Networks Complete Transactions (May 18, 2016), <http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2169294>.

⁴⁷ For a list of the national networks affiliated with one or more MVPDs, *see infra* Appx. B, Tbl. B-1, Appx. C, Tbl. C-1, and Appx. D.

⁴⁸ On July 24, 2015, AT&T completed its acquisition of DIRECTV. Press Release, AT&T, AT&T Completes its Acquisition of DIRECTV (July 24, 2015), http://about.att.com/story/att_completes_acquisition_of_directv.html.

⁴⁹ We also identify national cable networks affiliated with a broadcast television network, broadcast television licensee, or other media company (*infra* Appx. B, Tbl. B-2) and regional networks affiliated with a broadcast television network, broadcast television licensee, or other media company (*infra* Appx. C, Tbl. C-2).

⁵⁰ *See 17th Report*, 31 FCC Rcd at 4481, para. 23.

⁵¹ The *17th Report* discusses these rules in more detail. *See id.*

⁵² *17th Report*, 31 FCC Rcd at 4481, para. 23 (citing *16th Report*, 30 FCC Rcd at 3270, paras. 36-37)

⁵³ “Effective competition” is a term of art that the statute defines by application of specific tests. *See* 47 U.S.C. §§ 543(l)(1)(A)-(D); 47 CFR §§ 76.905(b)(1)-(4). In August 2015, the National Association of Broadcasters, the National Association of Telecommunications Officers and Advisors, and the Northern Dakota County Cable Communications Commission filed a petition in the United States Court of Appeals for the DC Circuit for review of a Report and Order that amended the effective competition rules. *See* John Eggerton, *NAB, NATOA Sue FCC Over*

(continued....)

must-carry and retransmission consent,⁵⁵ protection of exclusive broadcast distribution rights, public interest programming, access to multiple dwelling units (MDUs), and over-the-air reception device (OTARD). Many of these rules have remained unchanged since the last Report,⁵⁶ and we do not discuss them here. Below, we discuss several new and modified rules, as well as proposed new and modified rules, affecting MVPDs adopted since the *17th Report*.

26. *Program Carriage/Independent Programming Notice of Proposed Rulemaking*. In February 2016, the Commission issued a notice of inquiry seeking comment on the principal issues that independent video programmers face in gaining carriage in the current marketplace and on possible actions the Commission or others might take to address those issues.⁵⁷ The Commission observed in the Notice of Inquiry that although competition among video distributors has grown, traditional MVPD carriage is still important for the growth of many emerging programmers.⁵⁸ In addition, the Commission noted that some independent video programmers have expressed concern that certain carriage practices of cable operators and other MVPDs may limit their ability to reach viewers.⁵⁹

27. Following the notice of inquiry, the Commission released a notice of proposed rulemaking that proposed to adopt rules prohibiting certain practices used by some MVPDs in negotiations for carriage of video programming that may impede competition, diversity, and innovation in the video marketplace.⁶⁰ Specifically, the Commission proposed to prohibit the inclusion of “unconditional” most favored nation (MFN) provisions⁶¹ and unreasonable alternative distribution

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Effective Competition Decision, Multichannel (Aug. 28, 2015), <http://www.multichannel.com/news/fcc/nab-natoa-sue-fcc-over-effective-competition-decision/393307>; see also *17th Report*, 31 FCC Rcd at 4482-83, paras. 24-25 (discussing the changes to the Effective Competition rules). Oral arguments were held on November 10, 2016.

⁵⁴ NTCA states that Commission action is needed to correct various anticompetitive behaviors by content providers—such as forced tying and tiering, unfair bargaining tactics, exclusive arrangements, and most favored nation clauses—that restrict access to programming. NTCA Comments at 5, 10-14.

⁵⁵ Several commenters ask the Commission to revise its retransmission consent rules to curb rising programming costs and to enable more entrants to compete in the video distribution market. See INCOMPAS Comments at 3, 6; NTCA Comments at 5; Verizon Reply at 2, 7. NAB argues that no changes to the current retransmission consent framework are necessary. NAB Reply at 2-3, 7.

⁵⁶ The *17th Report* also noted that litigation was pending in two separate program carriage cases involving the Tennis Channel and Game Show Network. The D.C. Circuit has upheld the Commission’s decision in the Tennis Channel case. *Tennis Channel, Inc. v. FCC*, 827 F.3d 137 (D.C. Cir. 2016). On November 23, 2016, the Administrative Law Judge for the Commission decided *Game Show Network v. Cablevision* in favor of Game Show Network and found Cablevision in violation of Section 616(a) of the Act and Section 76.1301(c) of the Commission’s rules. *Game Show Network, LLC v. Cablevision Systems Corp.*, MB Docket No. 12-122, Initial Decision, FCC 16D-1 (Nov. 23, 2016). On December 23, 2016, Cablevision filed an application for review of the order designating Game Show Network’s complaint for hearing, arguing that GSN’s complaint should have been dismissed as untimely. See *Cablevision Systems Corporation’s Application for Review of the Hearing Designation Order, Game Show Network, LLC v. Cablevision Systems Corp.*, MB Docket No. 12-122 (filed Dec. 23, 2016).

⁵⁷ *Promoting the Availability of Diverse and Independent Sources of Video Programming*, MB Docket No. 16-41, Notice of Inquiry, 31 FCC Rcd 1610, 1610-11, para. 2 (2016) (*Independent Programming Notice of Inquiry*).

⁵⁸ *Id.* at 1610, para. 1.

⁵⁹ *Id.*

⁶⁰ *Promoting the Availability of Diverse and Independent Sources of Video Programming*, MB Docket No. 16-41, Notice of Proposed Rulemaking, 31 FCC Rcd 11352, para. 1 (2016) (*Independent Programming NPRM*). Comments are due on December 27, 2016, and reply comments are due on January 23, 2017. *Comment Deadlines Set for Notice of Proposed Rulemaking Relating to Diverse and Independent Programming*, MB Docket 16-41, Public Notice, DA 16-1219 (MB Oct. 25, 2016).

⁶¹ In contrast to a conditional MFN provision, which entitles an MVPD to certain contractual rights that the video

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method (ADM) provisions⁶² in program carriage agreements between MVPDs and independent video programming vendors.⁶³ The proceeding remains pending.

28. *Retransmission Consent.* Pursuant to Section 103(c) of the STELAR, the Commission adopted a notice of proposed rulemaking on September 2, 2015 to review the totality of the circumstances test for evaluating whether broadcast television stations and MVPDs are negotiating in good faith for the retransmission of broadcast stations.⁶⁴ The Commission sought comment on how the retransmission consent marketplace is working and whether there is a need to update the test and on whether certain practices should be deemed evidence of bad faith under the totality of the circumstances test or a *per se* breach of the duty to negotiate in good faith.⁶⁵ The pleading cycle closed in January 2016,⁶⁶ and the proceeding remains open.

29. *Equipment.* The Commission has several rules intended to encourage competition in the market for equipment that can access MVPD service.⁶⁷ The Commission's rules establish "(1) manufacturers' right to build, and consumers' right to attach, any non-harmful device to an MVPD network, (2) a requirement that MVPDs provide technical interface information so manufacturers, retailers, and subscribers [can] determine device compatibility, (3) a requirement that MVPDs make available a separate security element that [] allow[s] a set-top box built by an unaffiliated manufacturer to access encrypted multichannel video programming without jeopardizing security of programming or

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programming vendor has offered or granted to another video programming distributor, subject to the MVPD's acceptance of related terms and conditions contained in that other distributor's agreement, an unconditional MFN provision does not require that the MVPD accept any related terms and conditions in order to be entitled to receive the contractual rights and benefits granted to the other video programming distributor. *Independent Programming NPRM*, 31 FCC Rcd at 11352, para. 1, n.1 (citing *AT&T-DIRECTV MO&O*, 30 FCC Rcd at 9218-19, para. 228 & n.655).

⁶² An ADM provision generally prohibits or restricts a video programming vendor from exhibiting its programming on alternative, non-traditional video distribution platforms, often for a specified period of time following the programming's original linear airing, or until certain conditions are met. *Independent Programming NPRM*, 31 FCC Rcd at 11352, para. 1, n.2 (citing *Independent Programming Notice of Inquiry*, 31 FCC Rcd at 1615, para. 10). In the *Independent Programming NPRM*, the Commission tentatively concluded that, in determining whether a particular ADM provision is unreasonable, we will consider, among other factors, the extent to which an ADM provision prohibits an independent programmer from licensing content to other distributors, including OVDs. *Id.* at 11366, para. 24.

⁶³ *Independent Programming NPRM*, 31 FCC Rcd at 11352, para. 1. The Commission stated in the *Independent Programming NPRM* that contractual restrictions such as MFN and ADM provisions potentially create barriers to entry and hinder the growth of OVDs by restraining their access to content and precluding them from entering into mutually beneficial agreements with independent programmers. *Independent Programming NPRM*, 31 FCC Rcd at 11355, para. 7.

⁶⁴ *Implementation of Section 103 of the STELA Reauthorization Act of 2014, Totality of the Circumstances Test*, MB Docket No. 15-216, Notice of Proposed Rulemaking, 30 FCC Rcd 10327 (2015).

⁶⁵ *Id.* at 10333-36, paras. 7-11.

⁶⁶ *Implementation of Section 103 of the STELA Reauthorization Act of 2014, Totality of the Circumstances Test*, MB Docket No. 15-216, Order, 30 FCC Rcd 11685 (MB 2015). In July 2016, Chairman Wheeler published a blog stating that the record to date did not support adoption of new rules but confirmed the importance of compliance by both sides with the existing good faith bargaining rules. Tom Wheeler, *An Update on Our Review of the Good Faith Retransmission Consent Negotiation Rules* (July 14, 2016), <https://www.fcc.gov/news-events/blog/2016/07/14/update-our-review-good-faith-retransmission-consent-negotiation-rules>.

⁶⁷ See, e.g., 47 C.F.R. §§ 76.1200-76.1210; *Expanding Consumers' Video Navigation Choices; Commercial Availability of Navigation Devices*, MB Docket No. 16-42, CS Docket No. 97-80, Notice of Proposed Rulemaking and Memorandum Opinion & Order, 31 FCC Rcd 1544, 1546-50, paras. 4-10 (2016) (*STB NPRM*) (summarizing the history of Commission regulation of equipment used to access MVPD services).

impeding the legal rights of MVPDs to prevent theft of service.”⁶⁸ In February 2016, the Commission proposed new rules to ensure that consumer-owned devices can access MVPD service.⁶⁹ The proceeding remains pending.

30. *Communication and Video Accessibility Act (CVAA)*. The Commission has proposed revisions to its rules that would expand the availability of, and support consumer access to, video described programming.⁷⁰ Specifically, the Commission proposes to increase the amount of described programming on each included network carried by a covered broadcast station or MVPD; increase the number of included networks carried by covered distributors; adopt a no-backsliding rule, which would ensure that once a network is designated an “included network” required to provide video description, it would remain an “included network”; remove the threshold requirement that non-broadcast networks reach 50 percent of pay-TV or MVPD households to be subject to inclusion; require that covered distributors provide dedicated customer service contacts who can answer questions about video description; and require that petitions for exemptions from the video description requirements be filed with the Commission electronically along with comments on or objections to such petitions.⁷¹ The notice of proposed rulemaking tentatively concludes that the substantial benefits for individuals who are blind or visually impaired outweigh the likely minimal costs of the proposed rules and seeks comment on its proposals.⁷² The proceeding remains pending. In addition, the Commission has sought comment on a proposal to adopt rules that would require manufacturers and MVPDs to ensure that consumers are able to readily access user display settings for closed captioning,⁷³ and existing regulations regarding the accessibility of user interfaces went into effect on December 20, 2016.⁷⁴

b. Non-Regulatory Conditions Affecting Competition

31. Market conditions affect MVPD decisions regarding business models and competitive strategies. Below, we discuss scale economies that may facilitate volume discounts for programming, issues regarding tying and tier placement, and the potential impact on competition from the entry, merger, and exit of MVPDs.

32. *Scale Economies and Negotiating Strength May Enable Volume Discounts*. Scale economies of large MVPDs may provide advantages by enabling them to obtain volume discounts for programming. In addition, larger MVPDs may have negotiating strength that can be used to acquire programming at lower prices, relative to the prices paid by smaller MVPDs.⁷⁵ For example, SNL indicates that Comcast has benefited from sizable volume discounts.⁷⁶ With respect to the recent acquisition of DIRECTV by AT&T, SNL suggests that going forward the programming expenses for the

⁶⁸ *STB NPRM*, 31 FCC Rcd at 1547-48, para. 6 (footnotes omitted).

⁶⁹ *Id.* at 1550-88, paras. 11-91.

⁷⁰ *Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, MB Docket No. 11-43, Notice of Proposed Rulemaking, 31 FCC Rcd 2463, para. 1 (2016).

⁷¹ *Id.* at 2464, para. 2.

⁷² *Id.* at 2464, para. 1.

⁷³ *Accessibility of User Interfaces, and Video Programming Guides and Menus*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 13914 (2015).

⁷⁴ *See Media Bureau Reminds Covered Manufacturers and MVPDs of December 20, 2016 Accessible User Interfaces Deadline*, MB Docket No. 12-108, Public Notice, 31 FCC Rcd 8734 (MB 2016).

⁷⁵ *See, e.g., AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9202, para. 188 (noting several commenters “assert[ed] that the combined entity’s increased size and market power would give it the ability to negotiate substantial volume discounts for programming”).

⁷⁶ Tony Lenoir, *Cable shares soar as Cable One, Charter reach new heights*, SNL Kagan (Aug. 24, 2016).

combined company will decline as AT&T takes advantage of its scale as the largest MVPD.⁷⁷ The American Cable Association, which represents nearly 850 small and midsize MVPDs, argues that, unlike large MVPDs, smaller MSOs do not benefit from volume discounts.⁷⁸ SNL appears to agree with this assessment, stating that “[s]maller operators are having more difficulty maintaining margins because their programming costs tend to be higher without the bulk discounts of their larger peers.”⁷⁹ Although some smaller MVPDs have formed cooperatives to purchase programming, these cooperatives are small, relative to the larger MVPDs, and may lack significant negotiating leverage.⁸⁰

33. *Forced Tying and Tier Placement Requirements.* In comments in this proceeding, smaller and mid-sized MVPDs maintain that they are disadvantaged in the marketplace by tying and tier placement requirements. ITTA, which represents mid-size incumbent local exchange carriers, reports that its members “commonly encounter and are forced to accept program tying, where retransmission of broadcast stations is conditioned upon carriage of less popular multicast channels or affiliated non-broadcast content.”⁸¹ ITTA maintains that its members are also forced to accept program tying in their negotiations with non-broadcast programming.⁸² According to ITTA, “[l]arge and vertically-integrated programmers routinely tie access to must-have programming, including non-replicable sports programming, to other less attractive programming.”⁸³ ITTA argues that “in many cases those programmers attach penetration requirements to such programming, which forces small MVPDs to place the programmer’s entire content bundle on the MVPD’s basic tier, thereby causing capacity constraints.”⁸⁴ NTCA, which represents nearly 900 rural local exchange carriers, maintains that forced tying and tiering make it particularly difficult for small rural carriers to offer video packages that reflect what rural subscribers want and can afford.⁸⁵ NTCA contends that forced tying “is one of the most prevalent and pernicious problems faced by rural MVPDs and only serves to drive up the retail price of their service offerings.”⁸⁶ In addition, NTCA asserts that content providers require that certain channels be placed in specific service tiers, which it claims limits the ability of rural MVPDs to match basic tiers to consumer demands.⁸⁷ Verizon argues that large media conglomerates “encumber distribution rights for specific programming with demands to carry channel bundles, increasing the rates paid for distribution rights of the desired content and resulting in carriage of programming that is often of little interest to most consumers.”⁸⁸ With respect to tying, NAB argues that ITTA and NTCA ignore both economists and antitrust practitioners, who agree that “bundling is extremely common in competitive markets, and

⁷⁷ Chris Young and Tony Lenoir, *Programming expenses exceed 50% of video revenue in 2015*, SNL Kagan (Mar. 18, 2016).

⁷⁸ Tony Lenoir, *Legacy multichannel cash flows top Netflix’s despite margin deficit*, SNL Kagan (Oct. 11, 2016).

⁷⁹ SNL Kagan, *Media & Communications Report* at 4 (May 25, 2016).

⁸⁰ *17th Report*, 31 FCC Rcd at 4487-88, para. 38; *16th Report*, 30 FCC Rcd at 3281-82, para. 61.

⁸¹ ITTA Comments at 5.

⁸² *Id.* at 6.

⁸³ *Id.*

⁸⁴ *Id.* at 6-7.

⁸⁵ NTCA Comments at 5 and 8-9. *See also* SNL Kagan, *Cable TV Investor* at 6-8 (July 29, 2016).

⁸⁶ NTCA Comments at 11.

⁸⁷ *Id.* at 13.

⁸⁸ Verizon Reply Comments at 6-7.

generally has procompetitive effects.”⁸⁹ The Commission’s *Independent Programming Notice of Proposed Rulemaking* discusses tying, program tiers, and other related issues.⁹⁰

34. *Entry, Mergers, and Exit.* Entry by facilities-based providers increases competition in the marketplace for the delivery of video programming by increasing the number of MVPDs available to households.⁹¹ Competition, however, can also be enhanced when existing MVPDs upgrade their video delivery systems.⁹² In contrast, competition may be reduced when rival MVPDs merge or when MVPDs shut down video delivery systems.

35. At the end of 2015, telephone company MVPDs offered video services to over 52.2 million households, up from 51.1 million in 2014.⁹³ According to SNL Kagan, AT&T, CenturyLink, and Windstream are committed to further expansion.⁹⁴ AT&T has been upgrading its U-verse network to provide higher speeds; however, the company is also marketing and encouraging use of newly acquired DIRECTV, rather than U-verse, for video services.⁹⁵ In addition to expanding video service to additional housing units, some telephone company MVPDs are upgrading their networks by building out fiber to the home. For example, in 2016, Cincinnati Bell plans to pass over 70,000 housing units with fiber to the home.⁹⁶ In addition, Altice announced plans to build a fiber to the home network beginning in 2017.⁹⁷

36. Google Fiber continued to expand its video footprint in 2015. According to Bernstein Research, as of late 2015, Google Fiber passes about 427,000 homes, and 96,000 business locations.⁹⁸ At the end of 2015, Google Fiber offered 1 gigabit Internet service and 220 plus channel video service to neighborhoods in Austin, Texas, Kansas City, Kansas, Kansas City, Missouri, and Provo, Utah.⁹⁹ In building its network, Google has pursued alternative strategies in some communities, including leasing fiber from municipal utilities and existing industry providers.¹⁰⁰ The price for Google Fiber’s bundled Internet and video service is \$130 per month.¹⁰¹ In May 2016, Google Fiber stopped marketing its free Internet service (5 Mbps downstream and 1 Mbps upstream) for customers willing to pay a \$300

⁸⁹ See, e.g., NAB Reply Comments at 3-4, ITTA Comments at 5-7, NTCA Comments at 8-13, and Verizon Reply Comments at 6-7.

⁹⁰ See *Independent Programming NPRM*, 31 FCC Rcd at 1616. See also *supra* paras. 26-27, 33; *infra* paras. 154-155.

⁹¹ See e.g., NCTA Comments at 7-9.

⁹² *Id.* at 9.

⁹³ See *supra* Table III.A.1.

⁹⁴ SNL Kagan, Cable TV Investor at 4-7 (June 19, 2015).

⁹⁵ AT&T, *AT&T U-verse TV Service Availability*, <http://www.att-services.net/att-u-verse/availability/> (last visited Dec. 22, 2016). See also *AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9131, Appx. B.III.2.d. (imposing condition regarding broadband buildout); Kyle Daly and Michael Kane, *Analysts discuss AT&T pushing U-verse subs onto its satellite platform*, SNL Kagan (Feb. 23, 2016).

⁹⁶ Sean Buckley, *Cincinnati Bell Plans to pass 70K homes with fiber this year*, FierceTelecom (Mar. 2, 2016), <http://www.fiercetelecom.com/story/cincinnati-bell-plans-pass-70k-homes-fiber-year/2016-03-02>.

⁹⁷ Sarah Barry James, *Altice USA’s plan to control costs while deploying fiber*, SNL Kagan (Dec. 5, 2016).

⁹⁸ Jeff Baumgartner, *Study: Market “Too Dismissive” of Google Fiber*, Multichannel (Oct. 7, 2015), <http://www.multichannel.com/news/distribution/study-market-too-dismissive-google-fiber-s-potential/394356>.

⁹⁹ Google Fiber, *Google Fiber*, <https://fiber.google.com/about/> (last visited May 23, 2016).

¹⁰⁰ Kia Kokalitcheva, *Google Fiber Will Arrive in Huntsville, Alabama in 2017*, Fortune (Feb. 22, 2016), <http://fortune.com/2016/02/22/google-fiber-alabama/>.

¹⁰¹ Google Fiber, *Google Fiber*, <https://fiber.google.com/about/> (last visited May 23, 2016).

construction fee to receive the service.¹⁰² The company now markets two Internet plans: \$70 a month for 1,000 Mbps and \$50 a month for 100 Mbps.¹⁰³ In November 2016, Google signaled that it was curbing the buildout of Google Fiber.¹⁰⁴

37. The acquisition of an existing video delivery system by an MVPD with a non-overlapping footprint, while not changing the number of MVPDs available to households, may nonetheless result in some public interest benefits or, in certain cases, may potentially cause some public interest harms. For example, in the merger of Charter, Time Warner Cable, and Bright House, the applicants claimed that their merger would lead to several efficiencies, allowing them to provide less expensive or higher quality service to their combined subscribers.¹⁰⁵

38. The acquisition of an existing video delivery system by an MVPD with an overlapping footprint, on the other hand, reduces the number of competitive MVPDs available to households. For example, in approving the merger of AT&T and DIRECTV, the Commission recognized that the merger would result in the loss of an independent video provider within the AT&T U-verse video footprint.¹⁰⁶ However, the Commission found that the merger would increase competition for bundles of video and broadband.¹⁰⁷ The Commission also expected that the transaction would spur AT&T's investment in high-speed broadband networks.¹⁰⁸

39. The total number of cable systems has been declining.¹⁰⁹ As of June 8, 2016, there were 4,413 cable systems in the country.¹¹⁰ This is a drop from the 4,562 cable systems reported in the 17th Report and the 4,833 cable systems reported in the 16th Report.¹¹¹ A reduction in the number of cable systems often has no impact on the number of households receiving cable service where, for example, one cable system is consolidated with another system. Sometimes, however, cable systems are shut down, which may result in some households losing service from the MVPD. We do not collect information on why cable systems shut down or the characteristics of such systems. It is possible that some such systems have integrated with other systems while others actually terminated service.

¹⁰² Scott Canon, *Google Fiber's 'free' Internet service will disappear soon in KC market*, Kansas City Star (Apr. 10, 2016), <http://www.kansascity.com/news/business/technology/article71054062.html>.

¹⁰³ *Id.*

¹⁰⁴ Daisuke Wakabayashi, *Google Curbs Expansion of Fiber Optic Network, Cutting Jobs*, N.Y. Times (Oct. 25, 2016), http://www.nytimes.com/2016/10/26/technology/google-curbs-expansion-of-fiber-optic-network-cutting-jobs.html?_r=0.

¹⁰⁵ *New Charter MO&O*, 31 FCC Rcd at 6479-530, paras. 316-453.

¹⁰⁶ *AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9179, para 127.

¹⁰⁷ *Id.* at 9134, para. 4.

¹⁰⁸ *Id.* To ensure that this investment occurred, the Commission imposed as a condition that AT&T in 4 years deploy FTTP to 12.5 million customer locations. *Id.* at 9134, para. 6.

¹⁰⁹ Depending upon the number of homes and the size of the geographic area served, cable operators use one or more cable systems to provide video service. Large cable MVPDs that serve millions of homes in multiple geographic areas operate many cable systems. These large cable MVPDs often cluster cable systems together using some of the same infrastructure to provide cable service to a larger geographic area (e.g., metropolitan area). Small cable MVPDs that serve very few homes in one geographic area often operate only one cable system in that particular area, and may similarly operate other small cable systems in other geographic areas.

¹¹⁰ The number of active, registered cable systems comes from the Commission's Cable Operations and Licensing System (COALS) database on June 8, 2016.

¹¹¹ From COALS on Sept. 2, 2015 and Mar. 25, 2014.

2. MVPD Business Models and Competitive Strategies

40. MVPDs may seek to differentiate themselves from one another as a means to gain a competitive advantage over competitors. Such tactics for differentiation include equipment technology, pricing, discounts for new subscribers, responses to increased programming costs, bundles, skinny video packages, TV Everywhere rights, integration of OVD services with MVPD packages, alternative OVD services for consumers who do not subscribe to an MVPD's traditional video services, Wi-Fi hotspots, and digital technology. Each of these is discussed further below. We also discuss the growing competition between MVPDs, OVDs, and broadcasters.

41. *Equipment.* MVPDs differentiate themselves through the set-top receivers and associated features made available to subscribers. For example, the Comcast XFINITY's X1 receiver offers an interactive platform that combines search results from live TV, Comcast's On Demand programming, and digital video recorder (DVR) recordings, in addition to personalized recommendations, apps, and Netflix.¹¹² The DVR feature of the X1 receiver can record six shows at once, contains 500 GB of storage, and provides remote access to DVR recordings using Internet connected devices.¹¹³ DIRECTV's Genie receiver can record five shows at once contains 200 GB of storage, and provides full DVR functionality on up to eight additional TVs connected with a Wireless Genie Mini.¹¹⁴ The Genie Picture-in-Picture feature enables tuning in to two channels on one screen, which can be watched side by side.¹¹⁵

42. *Pricing.* Pricing represents an important component of every MVPD's competitive strategy. To attract customers, MVPDs offer a variety of video packages at different prices. They offer packages of programming services that start with a basic tier of service and also offer higher tiers of service that include movie channels, sports tiers, and exclusive programming (e.g., NFL Sunday Ticket), as well as HD programming, niche programming, and foreign-language programming. Today, most large and mid-sized MVPDs offer one or more high-end pricing plans that include hundreds of channels, a complement of high definition (HD) channels, DVR capabilities, 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.

43. In previous years, MVPDs offered, but were less likely to actively market, lower-priced video packages, but this approach has changed. MVPDs now market lower-priced video packages. For example, Verizon prominently displays its lower-priced video packages on its website, as does DIRECTV.¹¹⁶ And Charter advertises bundles of Internet, phone, and video with 125 channels starting at \$29.99 per month.¹¹⁷

44. Table III.A.3 provides examples of stand-alone video packages offered by some of the largest MVPDs.¹¹⁸ The table includes the name of the video package, the advertised price, and the number of channels included in the package. Advertised prices shown are for new subscribers, not

¹¹² Trevor Wheelwright, *Comcast XFINITY X1 Review | Next-Gen X1 Platform – 2016*, Reviews.org (July 14, 2016) <http://www.reviews.org/tv-service/comcast-xfinity-x1-review/>.

¹¹³ *Id.*

¹¹⁴ DIRECTV, *DIRECTV Genie + Wireless Genie Mini*, <http://www.directv.com/technology/genie> (last visited Oct. 14, 2016).

¹¹⁵ *Id.*

¹¹⁶ Verizon, *Verizon FiOS TV | Verizon Official Site*, <http://www.verizon.com/home/FiOSTv/> (last visited May 23, 2016); DIRECTV, *DIRECTV TV Packages*, <http://www.directv.com/DTVAPP/content/packages/overview> (last visited May 23, 2016).

¹¹⁷ Charter, *Charter Spectrum Official – Internet, Cable TV, and Phone Service*, <https://www.charter.com/browse/content/charter-home> (last visited June 9, 2016).

¹¹⁸ MVPDs typically offer better deals to consumers who purchase video services as part of a bundle.

existing subscribers. As discussed below, these prices often apply only for an initial period, with prices increasing thereafter. Because many important features affecting the value of a video package are not identified, the examples provide only a starting point for comparing video packages.¹¹⁹

¹¹⁹ The following features potentially affect the value of a video package: The specific networks and movie channels included in the package, the advanced video services included in the package (*e.g.*, HD, DVR, VOD, and TV Everywhere), the prices for set-top box rentals, and fees for retransmission and regional sports.

**Table III.A.3
Examples of MVPD Video Packages and Prices**

Provider	Packages					
AT&T U-verse ¹²⁰	U-family All Included \$50 200 Channels	U200 All Included \$70 360 Channels	U300 All Included \$75 470 Channels	U450 All Included \$125 550 Channels		
CenturyLink ¹²¹	Prism Essential \$39.99 140+ Channels	Prism Complete \$44.99 200+ Channels	Prism Preferred \$54.99 300+ Channels	Prism Premium \$84.99 330+ Channels		
Comcast ¹²²	Limited Basic \$15.99 10+ Channels	Digital Economy \$29.95 45+ Channels	Digital Starter \$49.99 140+ Channels	Digital Preferred \$59.99 220+ Channels	Digital Premier \$69.99 260+ Channels	
Cox ¹²³	Advanced TV Economy \$30.49 155+ Channels	Contour TV \$53.99 220+ Channels	Contour TV Preferred \$63.99 280+ Channels	Contour TV Premier \$77.99 340+ Channels	Contour TV Ultimate \$137.99 380+ Channels	
DIRECTV ¹²⁴	Select \$50 145+ Channels	Entertainme nt \$55 150+ Channels	Choice \$60 175+ Channels	Xtra \$70 220+ Channels	Ultimate \$75 240+ Channels	Premier \$125 315+ Channel s

¹²⁰ AT&T, *U-verse Offers*, https://www.att.com/shop/u-verse/offers.html?product_suite=IPTV (last visited May 16, 2016).

¹²¹ CenturyLink, *Prism TV. See Why It's Better Than Cable.* | CenturyLink, <http://www.centurylink.com/prismtv/#index.html> (last visited May 16, 2016).

¹²² Comcast, *XFINITY TV – Comcast Digital Cable Television Service*, <http://www.xfinity.com/Corporate/Learn/DigitalCable/digitalcable.html> (last visited May 16, 2016).

¹²³ Cox Communications, *Cox Contour TV* | Cox Communications, <https://www.cox.com/residential/tv.html> (last visited May 16, 2016).

¹²⁴ DIRECTV, *DIRECTV TV Packages – Build Your Own*, <https://www.directv.com/DTVAPP/pepod/configure.jsp#package-section> (last visited May 16, 2016).

DISH Network ¹²⁵	America's Top 120 Plus \$49.99 190+ Channels	America's Top 200 \$64.99 240+ Channels	America's Top 250 \$74.99 290+ Channels			
Time Warner Cable ¹²⁶	Starter TV \$19.99 20+ Channels	Standard TV \$39.99 70+ Channels	Preferred TV \$49.99- \$79.99 ¹²⁷ 200+ Channels			
Verizon ¹²⁸	FiOS TV Local \$10 20+ Channels	Custom TV Essentials \$64.99 78 Channels	Custom TV Sports & More \$64.99 59 Channels	Preferred HD \$74.99 235+ Channels	Extreme HD \$79.99 320+ Channels	Ultimate HD \$89.99 420+ Channels

45. *Discounts for New Subscribers.* Offering discounts to new subscribers is a common pricing strategy among MVPDs. All of the prices prominently displayed to consumers on MVPD websites and in mailings and television advertisements are for new subscribers. The discounts are typically for a limited time (e.g., six months, one year, or two years) and at the end of the introductory period prices rise to the “regular” price. In addition to pricing discounts, MVPDs often offer other enticements to win new subscribers. For example, DISH Network offers 50 premium channels free for three months, Charter offers free DVR service when customers buy a triple bundle, and Verizon FiOS offers a \$200 prepaid VISA card and a free set-top box for one year with some triple bundles.¹²⁹

46. MVPDs may be willing to offer substantial savings to new subscribers for a short period of time because the potential revenue stream over the long term is substantial if the subscriber is retained. According to SNL Kagan, adding and terminating subscriber accounts is expensive, so the goal of every MVPD is to maximize the length of time an account is active at the same location through subscriber retention.¹³⁰ DISH Network explains that the company incurs significant upfront costs to acquire subscribers and strives to “provide outstanding customer service to increase the likelihood of customers

¹²⁵ DISH Network, *Satellite TV Packages | 2 Year Price Guarantee | DISH*, <http://www.dish.com/packages/> (last visited May 16, 2016).

¹²⁶ Time Warner Cable, *Digital Cable TV Service Plans & Packages | Time Warner Cable*, <https://www.timewarnercable.com/en/plans-packages/tv/digital-cable-tv-plans.html?iid=hpplans:1:2:tv> (last visited May 16, 2016).

¹²⁷ Pricing for the Preferred TV package varies depending on additional features.

¹²⁸ Verizon, *Verizon FiOS TV | Verizon Official Site*, <http://www.verizon.com/home/Fiostv/> (last visited May 16, 2016). See also Verizon Reply Comments at 3.

¹²⁹ DISH Network, *DISH Official Site*, <http://www.dish.com/> (last visited May 20, 2016); Charter, *Charter Spectrum Official*, <https://www.charter.com/browse/content/charter-home> (last visited May 20, 2016); Verizon, *Verizon FiOS Internet, TV, Digital Voice Phone | Official Site*, (last visited May 20, 2016).

¹³⁰ Keith Nissen, *Most US households remain loyal to multichannel TV service provider*, SNL Kagan (Apr. 25, 2016).

keeping their pay-TV service over longer periods of time.”¹³¹ In addition to attracting potential new subscribers with price discounts, some MVPDs have acquired subscribers by merging with other MVPDs. SNL Kagan data for 2015 show that entities seeking to buy MVPDs were willing to spend an average of \$6,800 per existing basic video subscriber, an all-time high.¹³²

47. *Prices for Existing Subscribers.* For existing subscribers, MVPDs display prices for service upgrades and special offers on their websites and in emails and mailings. However, pricing beyond the discount period and for downgraded or cancelled services are often harder to find or not available on MVPD websites or in email or mailings. For these changes, MVPDs encourage existing subscribers to call the MVPD’s customer service representatives. Requiring existing subscribers to contact the MVPD by phone is designed to give an MVPD the opportunity to retain subscribers through one-on-one negotiation.¹³³ Having invested significant resources in obtaining the customer, the MVPD recognizes that the profitability of the investment is directly related to the number of years the customer remains with the MVPD. In an effort to retain customers, MVPDs often make better offers to existing subscribers over the phone than are available on their websites or in emails or mailings.¹³⁴

48. *Response to Increased Programming Costs.* SNL Kagan estimates that MVPDs paid \$46.28 a month to acquire programming for each subscriber in 2015, up from \$42.53 in 2014.¹³⁵ MVPDs have used different strategies to deal with increased programming costs. A common strategy involves raising prices for video packages. SNL Kagan notes that MVPDs have raised the prices of video packages 3 to 4 percent annually since 2004, but explains that recent price increases have fallen behind programming costs, which rose 7.1 percent in 2013, 6.8 percent in 2014, and 8.1 percent in 2015.¹³⁶ Another MVPD strategy involves purchasing an ownership stake in video programming, which turns a programming expense into a potential source of revenue. Comcast’s acquisition of NBC Universal is one example of this approach. Another strategy involves merging with another MVPD in the hopes of gaining additional negotiating leverage. SNL Kagan explains that “the steep upward trajectory of programming expenses of the last few years have culminated in a massive consolidation push” as MVPDs seek greater scale to augment their leverage with content providers.¹³⁷

49. A relatively new strategy for addressing increased programming costs involves listing “broadcast fees” and “regional sports fees” separately on customers’ monthly billing statements. The strategy raises monthly bills while typically leaving the advertised prices for video packages unchanged. SNL Kagan explains that MVPDs hope to deal with declining margins by adding on additional “fees” to the monthly bill in the form of sports and broadcast “surcharges.”¹³⁸ According to SNL Kagan, this practice began with DIRECTV in September 2012, but by 2015 most large MVPDs were using this

¹³¹ DISH Network, SEC Form 10-K for the Year Ended December 2015 at 6 (DISH Network 2015 Form 10-K).

¹³² SNL Kagan, Cable TV Investor at 8-11 (Jan. 28, 2016). SNL Kagan’s estimate is a total/weighted average of 10 announced transactions from 2015, which all involved MVPDs offering bundles, and did not include the AT&T and DIRECTV transaction. According to SNL Kagan, AT&T paid \$2,597 per DIRECTV U.S. subscriber. SNL Kagan, Cable TV Investor at 3 (May 27, 2015).

¹³³ See, e.g., Charles Passy, *The FoolProof Way to Lower Your Cable Bill*, Marketwatch (Jan. 31, 2016) <http://www.marketwatch.com/story/the-foolproof-way-to-lower-your-cable-bill-2014-02-21>.

¹³⁴ See, e.g., Sonali Kohli, *The Complete Guide to Negotiating a Lower Cable Bill*, Quartz (July 18, 2014), <http://qz.com/235265/the-complete-guide-to-negotiating-a-lower-cable-bill/>; Simon Hill, *How to Get a Better Deal with Your Cable or Internet Provider*, Digital Trends (Oct. 14, 2014), http://www.digitaltrends.com/home-theater/negotiate-better-deal-broadband-tv-service/#:aR_LYr1d4EP-2A.

¹³⁵ SNL Kagan, Cable TV Investor at 12 (Mar. 29, 2016).

¹³⁶ *Id.*; SNL Kagan, Cable TV Investor at 1 (July 31, 2015).

¹³⁷ SNL Kagan, Broadband Cable Financial Databook at 7 (2014).

¹³⁸ SNL Kagan, Cable Program Investor at 4 (Jan. 29, 2015).

strategy.¹³⁹ DIRECTV identifies on its website whether a consumer will have a regional sports fee and the amount of that fee so prospective subscribers are aware of those fees.¹⁴⁰ According to AT&T, this fee only partially recovers its regional sports carriage fees.¹⁴¹ AT&T assesses a broadcast fee to U-verse video subscribers and discloses the charge and the amount to prospective subscribers via a first bill preview tool on U-verse's website.¹⁴² AT&T says that the fee is designed to recover a portion of the amount local broadcasters charge AT&T to carry their channels.¹⁴³ Similarly, Verizon states that the FiOS TV broadcast fee "helps cover a portion of the costs currently charged by local programming providers to Verizon for basic tier programming channels" and the regional sports fee "helps to cover the rising cost of delivering regional collegiate and professional sports programming to subscribers."¹⁴⁴ In regard to the broadcast fee, Charter explains to its subscribers that "[a]s a direct result of local broadcast, or 'network-affiliated,' TV stations increasing the rates to Charter to distribute their signals to our customers, we will be passing those charges on as a Broadcast TV Surcharge, in the Taxes and Fees section of the billing statement. These local TV signals were historically made available to us at no cost, or low cost. However, in recent years, the prices demanded by local broadcast TV stations have necessitated that we pass these costs on to customers."¹⁴⁵ SNL explains that MVPDs "will likely keep trying to divide their billing statements into small pieces like this, to allow them to raise fees in the double digits for surcharges and equipment rentals, but not hike prices dramatically on the overall video bill."¹⁴⁶

50. Another strategy for addressing increased programming costs involves deemphasizing video services and focusing on Internet services. According to ACA, this approach is being discussed by small and medium-sized MVPDs.¹⁴⁷ Cable One has taken the lead in this approach.¹⁴⁸ Cable One explains that "[r]esidential linear video and phone produce very modest operating cash flow today and no free cash flow to speak of. Adding cord-cutting trends to that and we think we can do better elsewhere."¹⁴⁹

51. *Bundles.* As mentioned above, MVPDs have a strong incentive to retain customers for as long as possible. In an effort to do so, SNL Kagan maintains that MVPDs strategically promote bundles of video, Internet, and voice services.¹⁵⁰ In addition to providing a better value than stand-alone services from multiple providers, SNL Kagan claims the bundle strategy has been highly successful in reducing customer losses.¹⁵¹ Bundling may alter the cost-savings analysis a consumer faces when considering an

¹³⁹ *Id.* at 5-7.

¹⁴⁰ AT&T Comments at 6.

¹⁴¹ *Id.*

¹⁴² *Id.* at 6-7.

¹⁴³ *Id.* at 6.

¹⁴⁴ Verizon, *Billing Glossary – Consumer Support*, <https://www.verizon.com/support/consumer/account-and-billing/billing-glossary> (last visited May 23, 2016).

¹⁴⁵ Charter, *Charter.net Understanding Your Bill – Taxes and Fees*, <http://www.charter.net/support/tv/understanding-your-bill-taxes-and-fees/> (last visited May 23, 2016).

¹⁴⁶ SNL Kagan, *Cable Program Investor* at 4 (Jan. 29, 2015).

¹⁴⁷ S&P Global, *Media & Communications Report* at 1 (May 25, 2016).

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 2.

¹⁵⁰ SNL Kagan, *Cable TV Investor* at 4-5 (Sept. 23, 2014).

¹⁵¹ *Id.*

alternative provider or dropping a service and, therefore, have a positive effect on service renewal rates.¹⁵²

52. SNL Kagan explains that MVPDs have been engaged in a “decidedly aggressive triple-play bundle strategy.”¹⁵³ SNL Kagan estimates that at the end of 2015, over 36 percent of cable customers were triple-play subscribers.¹⁵⁴ According to SNL Kagan, “three-product bundling has helped move existing customers into higher, more valuable tiers.”¹⁵⁵ Time Warner Cable indicates that its subscribers have purchased more services as the company has “been much more deliberate about selling triple-plays that have baked into them our preferred TV offerings.”¹⁵⁶ In response to statements by Charter and Comcast regarding the offering of wireless services – a move from triple play bundles to quadruple play bundles – SNL Kagan maintains that the “move should help reduce churn, with a larger number of products on a single bill typically associated with greater customer retention.”¹⁵⁷

53. *Skinny Video Packages.* In response to competition from OVDs, slow growth in household incomes, and higher programming costs, MVPDs have begun offering “skinny” video packages, which include a limited selection of channels with add-on options revolving around specific subscriber interests such as sports, children’s entertainment, or movies.¹⁵⁸ Examples of skinny video packages include Verizon’s Custom TV-Essentials with 78 channels and Custom TV-Sports & More with 59 channels.¹⁵⁹ Both sell for \$64.50 per month and offer the ability to add additional channel packs for \$6 per month.¹⁶⁰ In March 2016, Cincinnati Bell began offering its video subscribers a new “MyTV” skinny video package that provides approximately 50 channels for \$28.99 per month, with the ability to add a variety of different genre-focused channel packages ranging from \$6 to \$16 per month.¹⁶¹

¹⁵² Jeffrey Prince and Shane Greenstein, *Does Service Bundling Reduce Churn?*, 23 J. of Economics & Management Strategy 839-75 (Winter 2014) (finding that bundling reduces subscriber churn); and Jeffrey Prince, *The Dynamic Effects of Triple Play Bundling in Telecommunications*, Time Warner Cable, Research Program on Digital Communications (Winter 2012) (arguing that firms bundle video, Internet, and voice services to reduce subscriber churn).

¹⁵³ SNL Kagan, Cable TV Investor at 14 (Mar. 29, 2016).

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ SNL Kagan, Cable TV Investor at 14-15 (Sept. 28, 2016).

¹⁵⁸ SNL Kagan, Cable TV Investor at 1 (July 31, 2015); SNL Kagan, Cable TV Investor at 3 (July 29, 2015). See also Joe Flint, *Why Does the Cable-TV Bundle Exist Anyway?*, Wall St. J. (June 8, 2015), <http://www.wsj.com/articles/why-does-the-cable-tv-bundle-exist-anyway-1433807825>.

¹⁵⁹ Verizon, *Verizon FiOS TV Guide and Channel Listings | Verizon Official Site*, <http://www.verizon.com/home/Fiostv/> (last visited June 9, 2016).

¹⁶⁰ *Id.* In April 2015, ESPN filed a lawsuit against Verizon alleging that the Custom TV package breached the contract covering how ESPN was to be distributed. Joe Flint, *ESPN Sues Verizon Over New FiOS TV Packages*, Wall St. J. (Apr. 27, 2015), <http://www.wsj.com/articles/espn-sues-verizon-over-new-fios-tv-packages-1430151973>. In May 2016, ESPN and Verizon settled the lawsuit. Richard Sandomir, *ESPN and Verizon Settle Lawsuit Over Cable Package*, N.Y. Times (May 10, 2016), http://www.nytimes.com/2016/05/11/sports/espn-and-verizon-settle-lawsuit-over-cable-package.html?_r=0.

¹⁶¹ Cincinnati Bell, *Fioptics TV Packages – Cincinnati Bell*, https://www.cincinnati-bell.com/tv/packages###MyTvBasePack_580 (last visited June 13, 2016); Karl Bode, *Cincinnati Bell Launches a new Skinny TV Bundle*, DSLReports (Mar. 9, 2016), <http://www.dslreports.com/shownews/Cincinnati-Bell-Launches-a-New-Skinny-TV-Bundle-136448>.

54. Leichtman Research Group (“LRG”) maintains that “consumers are looking for value from a pay-TV service, not just a lower price.”¹⁶² According to LRG, the skinny video package “might not actually provide the value that consumers are looking for from a pay-TV service.” LRG also argues that “historically, lower priced pay-TV offerings have paradoxically tended to result in higher churn.”

55. *TV Everywhere*. Although MVPDs have traditionally considered other MVPDs their foremost rivals, MVPDs appear to see themselves increasingly as competing with OVDs for viewers, subscription revenue, and advertising revenue.¹⁶³ Some consumers, referred to colloquially as “cord cutters,” have cancelled their MVPD video subscriptions and turned to OVDs and/or over-the-air broadcast stations for video services. Other consumers, referred to as “cord nevers,” have never subscribed to an MVPD video service. Another group of consumers, known as “cord shavers,” retain their MVPD subscriptions but have cut back on their MVPD video services (e.g., by eliminating premium movie channels or downgrading to a less expensive video package). SNL Kagan estimates that there were 14.4 million broadband-only homes at the end of June 2016, representing 11.8 percent of occupied households.¹⁶⁴ According to SNL Kagan, a combination of factors have fueled the rise of broadband only homes, which includes “the increasingly elusive affordability of the legacy multichannel package and the fast-expanding availability of professional content outside the traditional channel bundle.”¹⁶⁵

56. MVPDs have responded to the perceived competition from OVDs by negotiating for online distribution rights for their traditional programming services.¹⁶⁶ These online video services, referred to as “TV Everywhere,” allow MVPD subscribers to access both linear and VOD programming on a variety of Internet-connected devices. Access to TV Everywhere services is restricted to MVPD subscribers through the use of an authentication process that requires subscribers to select their MVPD service provider and then provide their user ID and password. Although initiated as a response to OVDs, TV Everywhere services have also become a strategy for reducing MVPD churn.¹⁶⁷ Rival MVPDs use their TV Everywhere offerings to differentiate their products, in order to attract and retain MVPD subscribers.¹⁶⁸ For example, DISH Network claims it is the only MVPD that gives subscribers access to 100 percent of their live and recorded content anywhere.¹⁶⁹

57. In 2015, there was an increase in the amount of programming that was exclusive to TV Everywhere services relative to programming available on online-only providers like Netflix or Hulu Plus.¹⁷⁰ In a study that looked at 21,720 movies available from six of the largest MVPDs, SNL Kagan found that 81 percent were not available from Amazon Prime, 76 percent were not available from Hulu,

¹⁶² Leichtman Research Group, Research Notes at 1-2 (3Q 2015), <http://www.leichtmanresearch.com/research.html#notes>.

¹⁶³ AT&T Comments at 1-2, 4-5; NCTA Comments at 4, 10-11; ITTA Comments at 2. *See also infra* paras. 63-66.

¹⁶⁴ SNL Kagan, Cable TV Investor at 7-8 (Aug. 31, 2016). Broadband only homes are defined as households without a traditional multichannel video package that subscribe to wireline high-speed data.

¹⁶⁵ *Id.*

¹⁶⁶ SNL Kagan says that “[s]ince its inception, TV Everywhere has been touted as a solution to fend off the rise of OTT services.” SNL Kagan, Cable TV Investor at 15 (Dec. 27, 2013). SNL Kagan says that “cable operators have strengthened their TV Everywhere catalogues to stem the diversion of eyeballs to video services such as Netflix and Hulu.” SNL Kagan, Broadband Cable Financial Databook at 4 (2013).

¹⁶⁷ SNL Kagan, Broadband Cable Financial Databook at 5 (2014).

¹⁶⁸ Comcast, *Verizon FiOS v. Comcast: Compare XFINITY Internet & TV*, <http://www.xfinity.com/compare/comcast-xfinity-vs-verizon-fios.html> (last visited May 18, 2016).

¹⁶⁹ DISH Network, *Watch TV Online | DISH*, <http://www.dish.com/dish-anywhere/> (last visited May 20, 2016).

¹⁷⁰ SNL Kagan, Cable TV Investor at 1-3 (Feb. 25, 2016).

and 92 percent were not available from Netflix.¹⁷¹ The study also looked at 13,836 TV shows and found that only 0.5 percent could be found on Amazon Prime, 34 percent could be found on Hulu, and 8.6 percent could be found on Netflix.¹⁷²

58. Adoption of TV Everywhere services continued to see gains in 2015, with 17.5 percent of MVPD subscribers using those services – up from 12.8 percent in 2014.¹⁷³ TV Everywhere authentications showed no clear preference for any particular device, with consumers using an array of smartphones, tablets, personal computers, and TV-connected devices to view authenticated programming.¹⁷⁴ Prime time programming and live sports are expected to drive further growth in TV Everywhere adoption.¹⁷⁵ SNL Kagan estimates that TV Everywhere services reached nearly 3.7 billion streams in 2015, up 73 percent from 2014 and will continue to grow in 2016 as the authentication process is improved and MVPDs acquire expanded TV Everywhere rights.¹⁷⁶

59. *OVD Integration with MVPD Packages.* In addition to offering TV Everywhere services, some MVPDs have entered into cooperative arrangements with OVDs (e.g., Netflix, Hulu, YouTube, and Vudu) and included access to third-party OVD services through the set-top receiver.¹⁷⁷ According to SNL Kagan, it is not yet clear whether these arrangements will serve to retain MVPD subscribers or encourage further cord cutting.¹⁷⁸ DISH Network offers a new universal search on its Hopper DVR that puts Netflix titles alongside linear and DVR recordings when their subscribers look for content.¹⁷⁹ SNL Kagan explains that although most large MVPDs had not embraced integrated access to OVD services at the end of 2015, there were a few mid-sized MVPDs offering integrated OVD services using TiVo-integrated DVRs.¹⁸⁰ In April 2016, Comcast announced a partnership with Sony to offer Crackle original programming to Comcast video subscribers.¹⁸¹ In September 2016, Comcast beta-launched Netflix on its X1 platform.¹⁸² Consumers can access Netflix via the traditional Netflix app on the Comcast X1 set-top receiver without changing inputs.¹⁸³ In addition, Netflix titles appear alongside Comcast’s live linear and VOD content in the program guide and search results.¹⁸⁴

60. *Additional Video Services for consumers who do not subscribe to an MVPD.* In addition to TV Everywhere services, which require a subscription to an MVPD’s traditional video service, some MVPDs have begun offering online video services that do not require subscription to a traditional MVPD service. SNL Kagan refers to these as “virtual service providers” (“VSPs”), which they define as skinny

¹⁷¹ *Id.*

¹⁷² *Id.* Each TV show was counted once, regardless of the number (or seasons) of episodes offered.

¹⁷³ Seth Shafer, *Connected Device Growth, OTT Boost TVE Usage Gains in 2015*, SNL Kagan (May 3, 2016).

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ SNL Kagan, *Cable TV Investor* at 1-3 (Aug. 31, 2016).

¹⁷⁷ SNL Kagan, *Cable TV Investor* at 5-6 (Jan. 28, 2016).

¹⁷⁸ *Id.* at 5.

¹⁷⁹ *Id.*

¹⁸⁰ *Id.* Mid-sized MVPDs included Atlantic Broadband, CableOne, GCI, Mediacom, Midcontinent, RCN, Suddenlink, and Wide Open West.

¹⁸¹ Ian Olgeirson and Seth Shafer, *Comcast, Crackle test the waters for integrated access*, SNL Kagan (Apr. 21, 2016).

¹⁸² SNL Kagan, *Cable TV Investor* at 4-5 (Sept. 28, 2016); *see also* Comcast Reply Comments at 8.

¹⁸³ *Id.*

¹⁸⁴ *Id.*

television packages combining linear and VOD programming that rely on online delivery.¹⁸⁵ These services are discussed in the OVD Section of this Report.¹⁸⁶

61. *Wi-Fi Hotspots.* MVPDs continue to build out Wi-Fi Networks that enable subscribers to use Internet services on secure networks outside their homes. According to SNL Kagan, the hotspots represent an effort to increase the value of both the MVPDs' Internet and video service.¹⁸⁷ These hotspots enable subscribers to access TV Everywhere content and OVD content on mobile devices outside their home without additional charge.¹⁸⁸ Non-subscribers can access the hotspots for a fee.¹⁸⁹ When marketing the Wi-Fi hotspots, some MVPDs note the potential savings on mobile wireless bills from reduced roaming and usage minutes.¹⁹⁰ A consortium, called Cable Wi-Fi, comprised of Bright House, Cox, Cablevision, Time Warner Cable, and Comcast, allows a subscriber of any of these cable MVPDs to access the hotspots of the other consortium members.¹⁹¹ The consortium provided more than 400,000 hotspots at the end of 2015.¹⁹²

62. *Digital Technology.* Wireline MVPDs continue to upgrade their systems by transitioning their analog channels to digital, which frees up bandwidth for additional services (e.g., more digital channels, more HD channels, more VOD programming, and faster Internet speeds). The transition from analog to digital generally requires deployment of additional set-top boxes and digital terminal adapters to access the MVPDs' video programming.¹⁹³ According to SNL Kagan, most major cable MVPDs had completed, or nearly completed, their all-digital transition at the end of 2015.¹⁹⁴ Charter completed the all-digital transition of its systems in the beginning of 2015, but at the end of 2015, the transition process was still ongoing for some Time Warner Cable and Bright House systems.¹⁹⁵ Charter says it plans to complete the all-digital transition for the Time Warner Cable and Bright House systems by the end of 2018.¹⁹⁶

63. *Competition with OVDs and Broadcasters: Substitutes and Supplements.* Although similar video packages of rival MVPDs always contains differences in programming, equipment, features, and pricing, the marketing activities of cable, DBS, and telephone company MVPDs suggest that they view each other's video services as near complete substitutes (*i.e.*, good alternatives for all or most of the video programming and video services offered by rival MVPDs).¹⁹⁷ The view of near complete

¹⁸⁵ SNL Kagan, Cable TV Investor at 2 (June 29, 2016).

¹⁸⁶ See *infra* Section III.C.2.f, para. 154.

¹⁸⁷ SNL Kagan, Cable TV Investor at 12-16 (Jan. 29, 2014).

¹⁸⁸ *Id.* at 14.

¹⁸⁹ *Id.*

¹⁹⁰ *Id.* at 13.

¹⁹¹ "Cable WiFi" is the wireless network name created as an extension of the Wi-Fi services offered by Internet service providers. Cable WiFi, Cable Wifi® | *Internet access brought to consumers through a collaboration among U.S. Internet service providers*, <http://www.cablewifi.com> (last visited May 18, 2016).

¹⁹² *Id.*; SNL Kagan, Cable TV Investor at 11 (Feb. 23, 2015).

¹⁹³ Subscribers with analog televisions use a digital terminal adapter to convert digital signals to analog signals.

¹⁹⁴ SNL Kagan, MSO Financial Statistics at 9 (2016).

¹⁹⁵ SNL Kagan, Cable TV Investor at 15 (June 29, 2016).

¹⁹⁶ *Id.* at 16.

¹⁹⁷ See, e.g., Comcast, Verizon FiOS vs. Comcast: Compare XFINITY Internet and TV, <http://www.xfinity.com/compare/comcast-xfinity-vs-verizon-fios.html> (last visited June 8, 2016); DIRECTV, Comcast XFINITY vs DIRECTV | Compare TV Packages, <http://www.directv.com/DTVAPP/content/directv/directv-vs-comcast-xfinity> (last visited June 8, 2016).

substitution is supported by the observation that households that subscribe to MVPD services typically subscribe to only one MVPD. Further, competition between rival MVPDs may be characterized as “all-or-nothing” – an MVPD either wins the household or loses out to a rival MVPD.

64. As noted above, MVPDs may face increasing competition from OVDs.¹⁹⁸ The interplay between MVPDs and OVDs is wide-ranging and may provide numerous benefits to consumers. For example, MVPD subscribers may be able to (1) cancel MVPD service entirely and substitute content from OVDs, possibly together with over-the-air broadcasters, (2) cancel their subscriptions to premium movie channels and substitute movies from OVDs; or (3) supplement their MVPD programming by adding OVD programming that may not be available from the MVPD.¹⁹⁹ The consideration of substitutes and supplements is important to the analysis of competition in the market for the delivery of video programming because distributors seek to reach viewers, advertising dollars, and subscription revenue.²⁰⁰

65. Sometimes specific sporting events, movies, or episodes of television programs are available from both an MVPD and an OVD; however, as noted above, there is a significant amount of exclusivity in programming rights held by MVPDs and OVDs.²⁰¹ And because consumers often differ in their video preferences for programming, they often have differing views as to whether an OVD service might be a suitable substitute service for their MVPD service, or simply a different service. Consumers subscribing to both an MVPD and OVDs likely view them as supplements, rather than substitutes.²⁰²

66. Non-MVPD households may variously rely exclusively on OVD or over-the-air broadcast services or some combination of the two.²⁰³ Some of these households may assign less value to some of the programming and services offered by MVPDs. For example, some households may have a low demand for sports programming.²⁰⁴ Other households, however, may seek to use a combination of OVDs and broadcast services in an effort to replicate the programming packages and products of an MVPD.²⁰⁵

¹⁹⁸ See *supra* Section III.A.2, paras. 55, 60 (discussing TV Everywhere, as well as video services MVPDs provide to consumers who do not subscribe to MVPD video service); see also *infra* Section III.C.2.f, para. 154. In the transaction involving AT&T and DIRECTV, the Commission explained that “[t]he number and types of OVDs have grown significantly over the last few years and include programmers, content producers and owners, affiliates of online services, retailers, manufacturers, and MVPDs. The types of services that OVDs offer vary widely and include, but are not limited to, linear programming, on-demand programming, and combinations of original programming and full length movies and television programs.” *AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9156, para. 58.

¹⁹⁹ See *e.g.*, NCTA Comments at 11-12.

²⁰⁰ Our Report, which looks at existing rivalry, differs significantly from antitrust analysis, which defines product and geographic markets to evaluate anti-competitive effects that may result from a merger. See *U.S. Dep’t of Justice & Fed. Trade Comm’n, Horizontal Merger Guidelines*, § 1 (2010), <http://www.ftc.gov/os/2010/08/100819hmg.pdf>.

²⁰¹ See *supra* Section III.A.2, para. 55 (discussing TV Everywhere).

²⁰² See *e.g.*, Kellsy Panno, Brian Bacon, and Adam Gajo, *The 2015 cord-cutter’s guide to sports apps*, SNL Kagan (July 15, 2015) (explaining that mobile sports apps “were not created as a substitute for a traditional TV package, as the games are subject to blackout restrictions”).

²⁰³ SNL Kagan, *Cable TV Investor* at 11 (May 27, 2016).

²⁰⁴ Oriana Schwindt, *What Cord-Cutters Really Want: ABC, CBS, and HBO. ESPN? Not So Much*, *International Business Times* (Dec. 2, 2015), <http://www.ibtimes.com/what-cord-cutters-really-want-abc-cbs-hbo-espn-not-so-much-2208076>.

²⁰⁵ Ryan Waniata, *How to Quit Cable for Online Streaming Video, Free Internet TV*, *Digital Trends* (Apr. 25, 2016), http://www.digitaltrends.com/home-theater/how-to-quit-cable-for-online-streaming-video/2/#:hbYqwm_4yRVE3A; Evan Horowitz, *The myth of TV cord-cutting*, *Boston Globe* (May 9, 2016), <https://www.bostonglobe.com/news/politics/2016/05/09/the-myth-cord-cutting/BMgsx8CkNw1lxGz4aCb0yO/story.html>; Suzanne Cole, *Best Ways To Cut The Cord And Slash Your Cable*

(continued...)

3. MVPD Operating and Financial Statistics

a. Video Programming Pricing

67. Section 623(k) of the Cable Act²⁰⁶ requires the Commission to publish annually a statistical report on the average rates that cable operators charge for “basic cable service, other cable programming,” and cable equipment.²⁰⁷ Data from the Commission’s most recent report on cable industry prices show an increase in average prices for basic service and expanded basic service, and a decrease in the average price per channel for expanded basic service over the 12 months ending January 1, 2015 (see Table III.A.4).²⁰⁸

Table III.A.4
Average Monthly Prices

	Basic Service Price	Expanded Basic Service Price	Price Per Channel – Expanded Basic Service
2015	\$23.79	\$69.03	\$0.456
Percent change over 12 months	2.3%	2.7%	-1.8%

b. Video Subscribers

68. *Video Subscribers.* Throughout the growth phase of the MVPD industry – which was accompanied by the competitive entry of DBS and then telephone company MVPDs – some MVPDs gained market share while some rivals lost market share, but the total number of MVPD subscribers continued to increase.²⁰⁹ The growth phase appears to have ended in 2013, when the total number of MVPD subscribers began to fall.²¹⁰ That decline continued in 2014 and 2015.²¹¹ Table III.A.5, reflects data for video subscribers for 2014 and 2015. Collectively, MVPDs lost about 1.1 million video subscribers over that period.²¹² Cable MVPDs lost 599,000 subscribers, but Charter and Time Warner Cable experienced subscriber gains.²¹³ Overall, DBS MVPDs lost 477,000 subscribers, with DISH Network losing 619,000 and DIRECTV gaining 142,000.²¹⁴ Telephone company MVPDs gained 14,000,

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Bill, Forbes (Jan. 17, 2016), <http://www.forbes.com/sites/nextavenue/2016/01/17/best-ways-to-cut-the-cord-and-slash-your-cable-bill/#6a45d9cb6ded>.

²⁰⁶ Section 623(k) was adopted as Section 3(k) of the 1992 Cable Act, Pub. L. No. 102-385, 106 Stat. 1460, codified at 47 U.S.C. § 543(k).

²⁰⁷ See *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Service, and Equipment*, MM Docket No. 92-266, Report on Cable Industry Prices, DA 16-1166 (MM Oct. 12, 2016).

²⁰⁸ *Id.* at 3.

²⁰⁹ SNL Kagan, U.S. Multichannel Industry Benchmarks (last visited April 27, 2016). See also Leichtman Research Group, LRG Research Notes at 1-3 (2Q 2016), <http://www.leichtmanresearch.com/research.html#notes>.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² SNL Kagan, Cable TV Investor at 10 (Mar. 29, 2016). See also Leichtman Research Group, LRG Research Notes at 4 (1Q 2016), <http://www.leichtmanresearch.com/research.html#notes>.

²¹³ *Id.*

²¹⁴ *Id.*

with the most notable gain by Verizon FiOS at 178,000 adds, but AT&T U-verse lost 303,000 subscribers.²¹⁵ SNL Kagan maintains that MVPD subscriber losses of the last few years have been driven by the “increasingly elusive affordability of the legacy multichannel package and the fast-expanding availability of professional content outside the traditional channel bundle on legacy multichannel video delivery platforms.”²¹⁶

Table III.A.5
MVPD Video Subscribers (in thousands)²¹⁷

	Year-End 2014	Year-End 2015	Net Change
Cable	53,822	53,223	-599
Cablevision	2,681	2,594	-87
Charter	4,419	4,430	11
Comcast	22,383	22,347	-36
Cox	4,111	4,006	-105
Time Warner Cable	10,992	11,035	43
Other Cable	9,235	8,811	-424
DBS	33,620	33,143	-477
DIRECTV	19,642	19,784	142
DISH Network ²¹⁸	13,978	13,359	-619
Telephone Company	13,027	13,041	14
AT&T U-verse	5,943	5,640	-303
Verizon FiOS ²¹⁹	5,649	5,827	178
Other Telephone	1,435	1,574	139
MVPD Total	100,470	99,407	-1063

c. Revenue

69. Losses in the number of video subscribers, however, have not necessarily resulted in video revenue losses. SNL Kagan explains that revenue generated from video subscription may increase despite a declining subscriber base “because of persistent annual rate hikes.”²²⁰ SNL Kagan estimates that video revenue for cable, DBS, and telephone company MVPDs increased from \$112.7 billion in 2014 to \$115.6 billion in 2015.²²¹ Video revenues for select cable MVPDs and DBS MVPDs are shown in Table III.A.6. AT&T and Verizon do not report video revenue separate from other services.

70. Although the bulk of MVPD video revenue comes from subscriptions, MVPDs also earn revenue by selling advertising. SNL Kagan reports that cable MVPDs earned net ad revenue of \$3.6

²¹⁵ *Id.*

²¹⁶ SNL Kagan, *Broadband Cable Financial Databook* at 5 (2016). For a discussion of video affordability in the last 25 years, see SNL Kagan, *Cable TV Investor* at 7-9 (Sept. 28, 2016).

²¹⁷ Data come from SNL Kagan, *Cable TV Investor* at 10 (Mar. 29, 2016).

²¹⁸ Estimates DBS only. Excludes Sling TV, which had 538,000 subscribers at the end of 2015. SNL Kagan, *Cable TV Investor* at 20 (Mar. 29, 2016).

²¹⁹ On April 1, 2016, Verizon completed the transfer of FiOS subscribers in California, Texas, and Florida to Frontier Communications. See Verizon, *2016 Investor Quarterly 1Q* at 16 (Apr. 2016), <http://www.verizon.com/about/investors/quarterly-reports/1q-2016-quarter-earnings-conference-call-webcast>.

²²⁰ SNL Kagan, *Cable TV Investor* at 3 (July 31, 2014).

²²¹ SNL Kagan, *Cable TV Investor* at 13 (Apr. 25, 2016).

billion in 2015.²²² According to SNL Kagan, net cable advertising revenue has been growing at a 1.2 percent compound annual rate from 2011 to 2015.²²³ Table III.A.6, below, shows total MVPD video revenue, including revenue from equipment rentals, advertising, and other sources.

Table III.A.6
MVPD Video Revenue (in billions)²²⁴

	2014	2015	Percentage Change
Cablevision	\$3.2	\$3.2	0%
Charter	\$4.4	\$4.6	3.2%
Comcast	\$20.8	\$21.5	3.6%
DIRECTV	\$26.0	\$27.8	7.1%
DISH Network ²²⁵	\$14.6	\$15.1	2.9%
Time Warner Cable	\$10.0	\$9.9	-0.9%

71. *Average Revenue Per Unit (ARPU) for Video Services.* ARPU will grow in response to rate increases, subscribers moving to higher priced video packages, and subscribers of lower priced video simply cancelling MVPD video service entirely. Conversely, it will decrease when subscribers move to lower priced video packages and when MVPDs engage in aggressive discounts to win or retain subscribers. SNL Kagan data show that, for many MVPDs, ARPU increased from 2014 to 2015 due to a combination of rate increases, subscribers moving to higher priced video packages, and the loss of consumers who subscribed to lower priced video packages.²²⁶ An average weighting of 12 cable MVPDs showed ARPU for video services growing from \$78.67 per month at the end of 2014 to \$83.47 per month at the end of 2015.²²⁷ In Table III.A.7, we show the ARPU for video services for a sample of MVPDs. AT&T and Verizon do not report video revenue separately.

²²² SNL Kagan, *Benchmarking Cable TV Advertising Statistics* at 3 (2016).

²²³ *Id.* at 5.

²²⁴ Video revenue and percentage change for individual cable MVPDs come from annual reports. Video revenue for DIRECTV and DISH Network come from SNL Kagan, *Cable TV Investor* at 21 (Mar. 29, 2016).

²²⁵ DISH Network revenues includes DBS and Sling TV.

²²⁶ SNL Kagan, *Cable TV Investor* at 18 (Mar. 29, 2016); SNL Kagan, *MSO Financial Statistics* at 18 (2016).

²²⁷ *Id.*

Table III.A.7
Monthly Video Average Revenue Per Unit²²⁸

	2014	2015	Percentage Change
Cablevision	\$96.69	\$100.47	3.9%
Charter	\$85.76	\$87.64	2.2%
Comcast	\$78.59	\$80.21	2.1%
DIRECTV	\$110.00	\$118.00	6.5%
DISH Network ²²⁹	\$83.77	\$86.79	3.6%
Time Warner Cable	\$77.19	\$77.87	0.9%

d. Video Margins

72. SNL Kagan maintains that video revenue increases have failed to keep up with increased costs and the result has been falling video margins (*i.e.*, revenue minus cost divided by revenue).²³⁰ At the end of 2015, video margins were just over 10 percent, down from 15 percent in 2014, and 20 percent in 2013.²³¹ Rapidly rising programming costs, which increased 8.1 percent in 2015, 6.8 percent in 2014, and 7.4 percent in 2013, are cited as the primary cause of declining video margins.²³² According to SNL Kagan, MVPDs spent over half of their video revenues on programming in 2015.²³³ Although video margins are declining, most MVPDs also offer Internet services with margins near 60 percent and voice services with margins near 20 percent.²³⁴ When video, Internet, and voice services are combined, SNL Kagan states that “cable remains a highly profitable business, with margins that would be the envy of many sectors.”²³⁵

B. Broadcast Television Stations

1. Introduction

73. Advances in technology continue to provide both benefits and challenges for broadcast television stations. Industry participants note that video delivery options and programming alternatives such as MVPDs, OVDs, mobile devices, DVRs, and home video entertainment systems continue to fractionalize television viewing and audiences, expand the number of outlets for advertisers, and impact competition for the acquisition of programming.²³⁶ Industry participants also note that video compression

²²⁸ ARPU for individual cable MVPDs come from SNL Kagan, MSO Financial Statistics (2016). ARPU for DIRECTV and DISH Network come from SNL Kagan, Cable TV Investor at 21 (Mar. 29, 2016).

²²⁹ DISH Network ARPU includes DBS and Sling TV.

²³⁰ SNL Kagan, Cable TV Investor at 13-14 (May 27, 2016).

²³¹ *Id.* The calculation of video margins requires knowledge of both revenue and cost. Although companies provide revenue data, they rarely show how they allocate the cost of plant and equipment that is jointly used for video and broadband.

²³² SNL Kagan, Cable TV Investor at 12-13 (Mar. 29, 2016).

²³³ *Id.*

²³⁴ SNL Kagan, Cable TV Investor at 13-14 (May 27, 2016).

²³⁵ SNL Kagan, MSO Financial Statistics at 15 (2016).

²³⁶ Nexstar Broadcasting Group, Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 17 (Nexstar 2015 Form 10-K); Gray Television, Inc., Consolidated SEC Form 10-K for the Year Ended December 31,

(continued....)

techniques enable MVPDs and competing television stations to carry more programming (e.g., via multicasting),²³⁷ potentially fractionalizing audiences and advertisers even further.²³⁸

74. Commercial television broadcast stations cater to two distinct sets of customers: audiences and advertisers.²³⁹ Broadcasters derive revenues primarily by selling time to advertisers during their broadcasts. The amount of revenue generated depends largely on the size and demographic characteristics of the audiences that broadcasters reach. Accordingly, broadcasters seek to provide content that will attract viewers and maximize their audiences.²⁴⁰

75. Individual commercial stations compete primarily with other commercial broadcast stations within their local markets (DMAs) for audiences and advertising revenue.²⁴¹ Other media, including daily newspapers, local, regional, and national cable networks, and Internet sites, earn advertising revenues by attracting audiences within the geographic areas they serve.²⁴² A broadcast station's advertising revenues depends on viewership of its television programs, regardless of whether consumers receive the station's signal over the air or via an MVPD. Today, broadcast stations are turning increasingly to additional revenue sources, including retransmission consent fees from MVPDs and advertising sold on their websites.²⁴³

2. Broadcast Television Industry Providers

76. In this section of the Report, we describe critical elements of the broadcast television industry, focusing on commercial, full-power stations.²⁴⁴ We then discuss horizontal concentration and vertical integration in the market. Next, we describe conditions affecting market entry during the relevant period, including an overview of existing regulations and market conditions that might influence entry decisions. Finally, we address recent entry into and exit from the market.

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2015 at 27 (Gray 2015 Form 10-K); Sinclair Broadcast Group, Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 28 (Sinclair 2015 Form 10-K).

²³⁷ Multicasting allows broadcast stations to offer digital streams or channels (*i.e.*, digital multicast signals) of programming simultaneously, using the same amount of spectrum previously required for analog programming. *See, e.g., Review of the FCC's Rules and Policies Affecting the Conversion to Digital Television*, 17 FCC Rcd 15978, 15995-96, paras. 39-40 (2002) (*DTV Transition Order*).

²³⁸ Nexstar 2015 Form 10-K at 12; Sinclair 2015 Form 10-K at 5.

²³⁹ Television stations are dependent on advertisers and audiences. Television stations need to attract audiences in order to earn money from advertising. They need advertising revenues in order to make investments in programming that will attract audiences. *See* David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, Competition Pol'y Int'l 151, 155-56 (2007) (discussing the economics of two-sided platforms and its application to competition policy issues, especially as it relates to advertising-supported media).

²⁴⁰ “[B]roadcasting in any and all of its forms is an audience aggregation business.” Harold L. Vogel, *Entertainment Industry Economics* (8th ed. 2011) at 288 (Vogel).

²⁴¹ In light of their noncommercial nature, non-commercial educational stations are statutorily prohibited from airing commercial advertisements in exchange for consideration. *See* 47 U.S.C. § 399(B)(a)(1), 47 CFR § 73.621(e). However, NCE broadcast stations rely on underwriters, viewer donations, and government funding for their operations, and hope to attract audiences and increase their revenues from these sources.

²⁴² *See, e.g.,* Sinclair 2015 Form 10-K at 3.

²⁴³ Gray 2015 Form 10-K at 22; Sinclair 2015 Form 10-K at 5.

²⁴⁴ The broadcast television station group consists of commercial and noncommercial, full-power, Class A, and low-power broadcast television stations. We focus on commercial, full-power broadcast television stations because of their impact on competition in the market for the delivery of video programming and the limitations on available data for other types of stations.

77. Nationally, the number of broadcast television stations has remained stable in recent years, as shown in Table III.B.1. At the end of 2015, there were 1,031 commercial UHF stations and 356 commercial VHF stations,²⁴⁵ compared to 1,032 commercial UHF stations and 358 commercial VHF stations at the end of 2014.²⁴⁶ Broadcast television stations offer both HD signals and standard-definition (SD) multicast channels. Between the end of 2014 and the beginning of 2016, the number of multicast channels decreased from 6,431 to 5,905 (as of February, 2016).²⁴⁷

Table III.B.1
Total Full Power Broadcast Television Stations by Year²⁴⁸

Station Type	12/31/13	12/31/14	12/31/15
UHF Commercial	1,030	1,032	1,031
VHF Commercial	358	358	356
Total	1,388	1,390	1,387

78. The Commission licenses commercial television stations to both individual and group owners to serve local communities within DMAs. The number of television stations assigned to individual television markets varies, depending principally on the size of the market. Television markets containing rural populations tend to have fewer local full-power stations than those comprised of urban areas. Consumers in smaller markets may also rely more on multicasting than those in large markets for the delivery of major network programming such as that of ABC, CBS, FOX, NBC, and other programming such as that from CW and myNetworkTV.²⁴⁹

79. Programming is a critical input for broadcast television stations to compete effectively in the industry. Most full-power commercial stations (approximately 90 percent) get at least some of the programming aired over their primary programming streams from broadcast networks.²⁵⁰ Broadcast stations also acquire programming from television syndicators that distribute original (first-run syndication) programming or reruns of network television series (off-net syndication). In addition, local broadcast stations produce programming in-house, such as local newscasts, public affairs shows, and coverage of regional and local sporting events.²⁵¹

a. Horizontal Concentration

80. *National Group Ownership.* According to SNL Kagan, as of 2015, the largest commercial group owners by coverage percentage of U.S. television households, include ION Media

²⁴⁵ See Federal Communications Commission, *Licensed Broadcast Station Totals*, <https://www.fcc.gov/media/broadcast-station-totals> (*FCC Broadcast Station Totals*).

²⁴⁶ *17th Report*, 31 FCC Rcd at 4506, para. 81.

²⁴⁷ SNL Kagan, *Broadcast Industry Overview: U.S. TV and Radio Stations (2016)* at 42.

²⁴⁸ See *FCC Broadcast Station Totals*.

²⁴⁹ In 2015, 27 of the 210 television markets had fewer than three full-power commercial broadcast stations assigned to them. All of these markets are ranked below 100. See BIA, *Television Station by Market Data*, October 2015. DMA ranks and number of stations within each DMA are not directly correlated. See *id.* Combined, all 27 markets with fewer than three stations represent about 1.7 million television households, or approximately 1.5 percent of the estimated 116.4 television households nationwide as of the 2014-2015 television season. See Nielsen Company, *Local Television Market Universe Estimates*, used throughout the 2014-2015 television season.

²⁵⁰ BIA/Kelsey, *BIA Media Access Pro Television Database* as of Dec 2015 (evaluation of network affiliation data for all Nielsen DMAs).

²⁵¹ See, e.g., Nexstar 2015 Form 10-K at 5; Gray 2015 Form 10-K at 12.

Networks (65.2%), Univision Communications, Inc. (44.8%), Tribune Media Company (42.9%), CBS (38.1%), FOX (37.4%), Sinclair Broadcast Group, Inc., (37.0%), Comcast Corporation (36.8%), TEGNA Inc. (31.5%), Media General (23.4%), and The Walt Disney Company, 22.8%).²⁵² Analyzing the largest group owners in terms of total TV station revenue (net ad revenue and retransmission consent revenue) results in a slightly different list. The top station groups in 2015 in terms of revenue include, FOX, Sinclair Broadcast Group, Inc., TEGNA Inc., CBS, Comcast Corporation, Tribune Media Company, Media General, Univision, Walt Disney, and Hearst.²⁵³

81. *Local Duopolies.* Commission rules limit the number of broadcast television stations that a single entity can own within a DMA based on the number of independently owned stations in the market.²⁵⁴ The local television ownership rule permits a single entity to own two television stations in the same local market if (1) the digital noise limited service contour (NLSC) do not overlap; or (2) at least one of the stations in the combination is not ranked among the top four stations in terms of audience share, and at least eight independently owned and operating commercial or noncommercial full-power broadcast television stations would remain in the market after the combination.²⁵⁵ As of October 2015, 141 markets contained at least one duopoly.²⁵⁶ Seven top-ranked DMAs had four duopoly combinations: New York, Los Angeles, Orlando, San Francisco-Oakland-San Jose, Seattle-Tacoma, Philadelphia, and Phoenix.²⁵⁷ While larger DMAs tend to have a greater number of duopolies, smaller DMAs have duopolies as well.

b. Vertical Integration

82. Some stations are vertically integrated upstream, with suppliers of programming, as well as downstream, with distributors of programming. For instance, the parent company of a station may have ownership interests in entities that supply or create programming, such as television production studios, movie studios, sports teams, broadcast television networks, cable networks, or syndicators. On

²⁵² See SNL Kagan, *Broadcast Industry Overview 2016* at 37; SNL Kagan, *Top Commercial TV Station Groups w/out UHF Discount* (October 2015). These numbers represent percentage of total U.S. households reached by the station group without regard to the “UHF discount,” which is discussed below. See *infra* Section III.B.2.c.i, para 93.

²⁵³ See SNL Kagan, *Broadcast Industry Overview 2016*; SNL Kagan, *Investor: Deals & Finance* (Oct. 30, 2015), at 17-20, 37. TEGNA, Inc. was formerly Gannett Co. Media General announced plans to purchase Meredith Corp. for approximately \$3.04 billion on September 8, 2015. This purchase never closed. On September 28, 2015, Nexstar Broadcasting Group Inc. issued an unsolicited offer to buy Media General, without the additional stations that would have been acquired via the proposed purchase of Meredith Corp., for \$4.1 billion. The Commission approved this transaction on January 11, 2017. See *Consent to Transfer Control and Assign Licenses to Nexstar Media Group, Inc. and Associated Divestiture License Assignments*, Memorandum Opinion and Order, DA-17-23 (MB, WTB Jan. 11, 2017). In connection with this transaction, the Commission granted a waiver of Section 1.2204(d)(3) of the Commission’s rules, which bars the assignment of a license subject to a reverse auction application or transfer of control of a reverse auction applicant during the pendency of the auction. See *id.* at paras. 59-64; 47 CFR § 1.2204(d)(3). See also *infra* Section III.B.1.c, para. 96.

See *supra* Section III.A.1.b, para. 24 for information about significant recent transactions that are relevant to group ownership of television stations.

²⁵⁴ See 47 CFR § 73.3555(b).

²⁵⁵ In the context of the Media Ownership proceeding, the Commission revised this rule by updating the analog Grade B contour with a digital NLSC contour. See *2014 Quadrennial Regulatory Review – Review of the Commission’s Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Further Notice of Proposed Rulemaking and Report and Order, 29 FCC Rcd 4371, 4383, 4384-85, paras. 26, 30 (2014) (*2014 Quadrennial Review FNPRM and JSA Report and Order*).

²⁵⁶ See BIA Database October 2015 (evaluation of station ownership information for all Nielsen DMAs) (2015 BIA). In addition, San Juan, Puerto Rico, which is not part of any DMA, has six television station combinations.

²⁵⁷ *Id.*

the other hand, Comcast's acquisition of NBC Universal, Inc. resulted in the downstream vertical integration of NBC's owned and operated (O&O) television stations with a cable MVPD.

83. The parent companies of the top ten station groups (by coverage percentage of U.S. television households) — representing 478 (full power) O&Os — with the exception of Sinclair, each own all or part of at least one broadcast television network.²⁵⁸ Broadcast networks often own and operate their own stations in the largest television markets. Spanish-language broadcast networks, e.g., Univision and Telemundo, own and operate television stations in the largest Spanish-speaking markets.

84. In addition to ownership of broadcast networks, a number of owners of local broadcast stations also have interests in cable networks. For example, through its ownership of NBC Universal, Inc., Comcast has ownership interests in 27 standard definition (SD), and 23 HD national cable networks.²⁵⁹ Other broadcast station owners with affiliated cable networks are: The Walt Disney Company, with interests in 42 cable networks (23 SD and 19 HD); Univision, with interests in 14 affiliated cable networks (11 SD and 3 HD); and CBS Corporation, with interests in 32 cable networks (16 SD and 16 HD). 21st Century Fox has ownership interests in 32 national cable networks (17 SD and 15 HD), and Hearst Television Inc. has interest in 30 national cable networks (17 SD and 13 HD).²⁶⁰ Several broadcast television group owners that are not vertically integrated with broadcast networks also have ownership interests in cable networks.²⁶¹ These owners include: InterMedia Partners, with interest in eight cable networks (five SD and three HD); Cox Communications Inc., with six cable networks (three SD and three HD); and Hubbard Broadcasting Corp., with four cable networks (two SD and two HD).²⁶² Combined, InterMedia, Cox, and Hubbard own 130 broadcast television stations.²⁶³ In addition, other broadcast station groups operate local and regional cable news channels, including Sinclair Broadcast Group with interests in eight regional cable networks (seven SD and one HD).²⁶⁴ Comcast is the only distributor of video programming with ownership interests in each mode of video distribution covered by this Report; it is an MVPD that owns and operates 26 full-power television stations (NBC and Telemundo O&Os)²⁶⁵ and maintains an ownership interest in Hulu, an OVD, in addition to owning a broadcast network.²⁶⁶ 21st Century Fox (which owns 29 broadcast television stations) and The Walt Disney Company (which owns eight broadcast television stations) also have ownership interests in Hulu,²⁶⁷ and CBS provides OVD service via CBS All Access.²⁶⁸ Other than Comcast, Cox Media Holdings is the only MVPD that owns broadcast stations serving a DMA where it also owns a cable system.²⁶⁹

²⁵⁸ *Id.*

²⁵⁹ *See* Appx. B, Table B-1.

²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ *Id.*

²⁶⁴ *Id.*

²⁶⁵ *Id.*

²⁶⁶ *See infra* para. 132.

²⁶⁷ *See id.*; Appx. B.

²⁶⁸ SNL Kagan, OTT Services and Devices (last visited Dec 6, 2016).

²⁶⁹ In the Orlando-Daytona Beach-Melbourne DMA, Cox owns two television stations — WFTV, an ABC affiliate, and WRDQ, an independent station — as well as a cable system serving Ocala, Florida. *See* Cox Media Group, Orlando, FL, United States, <http://www.coxmediagroup.com/who-we-are/media-brands-and-markets/orlando> (last visited Jan 6, 2016); Cox Media Group, *Cox Communications: TV, Internet, Phone, Home Security and Tech Solutions*, <https://www.cox.com/residential/home.html> (last visited Jan 6, 2016). *See also infra* Appx. B-1.

c. Conditions Affecting Entry and Competition

85. The Commission's broadcast television licensing and allocation regime affects participation and competition in the broadcast television industry. The amount of spectrum the Commission has authorized exclusively for broadcast television use and the allocation of that spectrum across the United States limits the number of entities that can participate in the industry. In addition, non-regulatory conditions are relevant to competition in the broadcast television industry. For example, stations require access to programming and capital to remain competitive and operational.

(i) Regulatory Conditions Affecting Competition

86. Broadcast television stations must receive Commission authorization before they may construct and operate in the United States.²⁷⁰ The Commission licenses broadcast spectrum to respective applicants and approves any assignment or transfer of control of broadcast licenses.²⁷¹ In addition, certain obligations and rules are imposed on licensees to ensure that the licensed spectrum is used to serve the public interest during each license term, which is generally eight years.²⁷² These obligations and rules remain largely unchanged since issuance of the last video competition report.²⁷³ We discuss any significant changes in broadcast television regulation since the last report below.

87. *Ownership Limits.* On August 10, 2016, the Commission adopted a Second Report and Order which completed the 2010 and 2014 Quadrennial Reviews of its media ownership rules (*Quadrennial Review Order*).²⁷⁴ The *Quadrennial Review Order* found that the public interest is best served by retaining the Commission's existing rules with some minor modifications. The *Order* found that retention of the media ownership rules will promote competition, localism, and a diversity of viewpoints in local media markets, thereby enriching local communities through the promotion of distinct and antagonistic voices.²⁷⁵

88. Specifically, pertaining to video, the *Quadrennial Review Order* retained the Local Television Ownership Rule, which allows an entity to own two television stations in the same DMA only if there is no Grade B contour overlap between the commonly owned stations, or at least one of the commonly owned stations is not ranked among the top-four stations in the market and at least eight independently owned television stations remain in the DMA post-merger.²⁷⁶ The *Order* also clarified that the top-four prohibition applies to transactions involving the sale or swapping of network affiliations between in-market stations that result in an entity holding an attributable interest in two top-four stations in the same DMA.²⁷⁷ The *Order* also retained the Dual Network Rule, which prohibits common ownership of two of the top-four rated broadcast networks in a local television market, without modification.²⁷⁸

89. The *Quadrennial Review Order* adopted a revised Newspaper/Broadcast Cross-

²⁷⁰ 47 U.S.C. § 301.

²⁷¹ 47 U.S.C. §§ 303(c), 308(a), 309(a), 310(d).

²⁷² 47 U.S.C. § 307(c); 47 CFR §§ 73.1020, 73.3555.

²⁷³ See *17th Report*, 31 FCC Rcd at 4510, para. 92 (noting likewise that the rules had not changed since the *16th Report*).

²⁷⁴ *2014 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Second Report and Order, 31 FCC Rcd 9864 (2016) (*2014 Quadrennial Review Second Report and Order*).

²⁷⁵ *Id.* at 9865, para. 3.

²⁷⁶ *Id.* at 9870-71, paras. 17-18.

²⁷⁷ *Id.* at 9885, para. 52.

²⁷⁸ *Id.* at 9952, para. 216.

Ownership Rule, which prohibits certain newspaper/television combinations subject to a case-by-case waiver.²⁷⁹ The *Order* also eased application of the cross-ownership prohibition by adopting new market criteria for the rule's application and an explicit exception for failed/failing properties.²⁸⁰ The *Order* retained the Radio/Television Cross-Ownership Rule, which restricts common ownership of television and radio stations in a local market based on the number of independently owned media voices in the market.²⁸¹

90. In addition, the *Quadrennial Review Order* readopted the Television Joint Sales Agreement (JSA) Attribution Rule, which had been vacated on procedural grounds by the Court of Appeals for the Third Circuit in *Prometheus Radio Project v. FCC* on May 25, 2016.²⁸² The Commission found that certain JSAs between in-market television stations rise to the level of attribution as they afford the brokering station the potential to unduly influence or control the brokered station.²⁸³ The Television JSA Attribution Rule attributes same-market television JSAs in which the broker sells more than 15 percent of the brokered station's weekly advertising time. In such circumstances, the brokered station will be counted towards the brokering station's permissible broadcast ownership totals for purposes of the Local Television Ownership Rule.²⁸⁴ The *Quadrennial Review Order* grandfathered until Sept. 30, 2025 those television JSAs that were in effect as of March 31, 2014 and will allow for the transferability of such grandfathered television JSAs, consistent with congressional guidance.²⁸⁵

91. The *Quadrennial Review Order* reinstated the revenue-based eligible entity standard and associated measures to promote the Commission's goal of encouraging small business participation in the broadcast industry, which will cultivate innovation and enhance viewpoint diversity.²⁸⁶ In the *Order*, the Commission considered possible definitions that would expressly recognize the race and ethnicity of applicants but found that the legal standards the courts have said must be met before government implementation of preferences based on such race- or gender-conscious definitions have not been satisfied.²⁸⁷

92. Several parties have sought review of the *Quadrennial Review* order in federal court, including the News Media Alliance, Multicultural Media, Telecom and Internet Council, Inc., and the National Association of Black-Owned Broadcasters, which filed in the D.C. Circuit, and Prometheus Radio Project which filed in the Third Circuit.²⁸⁸ On December 14, 2016, the News Media Alliance filed a motion to transfer the case to the Third Circuit,²⁸⁹ which the D.C. circuit granted on January 11, 2017.²⁹⁰

²⁷⁹ *Id.* at 9913-14, paras. 130, 133. Certain newspaper/radio combinations are also prohibited by the rule. *Id.*

²⁸⁰ *Id.* at 9913, para. 132.

²⁸¹ *Id.* at 9945, para. 199.

²⁸² See *Prometheus Radio Project v. FCC*, 824 F.3d 33 (3d Cir. 2016).

²⁸³ 2014 *Quadrennial Review Second Report and Order*, 31 FCC Rcd at 9888-89, paras. 62, 64.

²⁸⁴ *Id.* at 9888, para. 60.

²⁸⁵ *Id.* at 9889, para. 63.

²⁸⁶ *Id.* at 9979-80, para. 279.

²⁸⁷ *Id.* at 9987-88, para. 297-99

²⁸⁸ See John Eggerton, *D.C. Court Gets Latest FCC Media Ownership Appeal*, *Broadcasting & Cable* (Nov. 17, 2016), <http://www.broadcastingcable.com/news/washington/dc-court-gets-latest-fcc-media-ownership-appeal/161247>; John Eggerton, *MMTC, NABOB Join Court Challenge to FCC Quadrennial Review*, *Broadcasting and Cable* (Nov. 17, 2016), <http://www.broadcastingcable.com/news/washington/mmtc-nabob-join-court-challenge-fcc-quadrennial-review/161237>.

²⁸⁹ Petitioner's Unopposed Motion to Transfer Cases to the United States Court of Appeals for the Third Circuit, *News Media Alliance v. FCC*, No. 16-1395 (filed Dec. 14, 2016).

These cases remain pending. In addition, several parties have sought reconsideration by the Commission itself, including NAB, Nexstar Broadcasting, Inc., and Connoisseur Media, LLC.²⁹¹

93. *National Group Ownership/UHF Discount.* The Commission's rules limit the percentage of U.S. television households that one television station group owner can serve to 39 percent.²⁹² For purposes of calculating this percentage, the Commission's rules previously provided that the licensee of a UHF station was attributed with only 50 percent of the television households in its market area.²⁹³ However, in September 2016, the Commission released an order eliminating the UHF discount.²⁹⁴ The Commission found that the DTV transition has removed the technical limitations of UHF stations, and thus the UHF discount could no longer be supported on technical grounds.²⁹⁵ While eliminating the discount may limit the ability of station group owners to acquire UHF stations to reach a greater percentage of U.S. households in the future, the order adopted several grandfathering provisions to avoid imposing undue harm on existing broadcast television station groups that would exceed the national audience reach cap without the benefit of the UHF discount.²⁹⁶ Specifically, the order grandfathers three ownership combinations: (1) combinations in existence on September 26, 2013 (Grandfather Date), the release date of the Notice of Proposed Rulemaking in the UHF discount elimination proceeding; (2) combinations created by a transaction that had received Commission approval on or before the Grandfather Date; and (3) combinations proposed in applications pending before the Commission on the Grandfather Date. Any ownership combination so grandfathered but subsequently assigned or transferred will have to comply with the national audience cap in existence at the time of the transaction.²⁹⁷ ION and Trinity Christian Center of Santa Ana, Inc. have sought reconsideration of the Commission's UHF Discount order, and the petition remains pending.²⁹⁸ In addition, Twenty-First Century Fox has sought review of the Commission's decision in the D.C. Circuit.²⁹⁹ The Commission's Office of General Counsel has requested that the court hold Twenty-First Century Fox's appeal in abeyance pending the Commission's resolution of the petition for reconsideration.³⁰⁰

94. *Spectrum Incentive Auctions.* The Commission's broadcast incentive auction is a voluntary, market-based approach to repurposing the 600 MHz spectrum band by encouraging full-power and Class A television broadcast licensees to voluntarily relinquish spectrum usage rights in exchange for a share of the proceeds from an auction of new licenses to use the repurposed spectrum to provide

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²⁹⁰ *News Media Alliance v. FCC*, No. 16-1395 (D.C. Cir. Jan. 11, 2017).

²⁹¹ Petition for Reconsideration of Connoisseur Media, LLC, MB Docket. No. 14-50 (filed Dec. 1, 2016); Petition for Reconsideration of NAB, MB Docket. No. 14-50 (filed Dec. 1, 2016); Petition for Reconsideration of Nexstar Broadcasting, Inc., MB Docket. No. 14-50 (filed Dec. 1, 2016).

²⁹² 47 CFR §73.3555(e); 1996 Act, § 202(c).

²⁹³ See *Amendment of Section 73.3555(e) of the Commission's Rules, National Television Multiple Ownership Rule*, Notice of Proposed Rulemaking, 28 FCC Rcd 14324 (2013).

²⁹⁴ See *Amendment of Section 73.3555(e) of the Commission's Rules, National Television Multiple Ownership Rule*, Report and Order, 31 FCC Rcd 10213 (2016).

²⁹⁵ *Id.* at 10214, para. 2.

²⁹⁶ *Id.* at 10214, para. 3.

²⁹⁷ *Id.*

²⁹⁸ Petition for Reconsideration of ION Media Networks and Trinity Christian Center of Santa Ana, Inc., MB Docket. No. 13-236 (filed Nov. 23, 2016).

²⁹⁹ *Twenty-First Century Fox, Inc. v. FCC*, No. 16-1324, D.C. Cir. (filed Sep. 16, 2016); *Twenty-First Century Fox, Inc. v. FCC*, No. 16-1375, D.C. Cir. (filed Oct. 28, 2016). The two petitions have since been consolidated.

³⁰⁰ Resp't's Unopposed Mot. to Hold in Abeyance, *Twenty-First Century Fox, Inc. v. FCC*, No. 16-1375, D.C. Cir. (filed Dec. 14, 2016).

wireless services.³⁰¹ Broadcasters that participate and are selected will receive auction proceeds and either go off the air, move to high- or low-VHF channels, or channel share with another station. Broadcasters that participate and are not selected, or that choose not to participate, will retain their spectrum usage rights, but they may be relocated (“repacked”) to a new channel in their pre-auction bands in order to create contiguous blocks of cleared spectrum suitable for wireless services. Broadcasters will be eligible to receive reimbursement for the reasonable expenses they incur if they are assigned new channels post-auction.

95. The Commission established the rules and policies for the auction in 2014 and finalized the auction procedures in 2015.³⁰² Working to find the market equilibrium between the supply of spectrum offered by broadcasters and the demand of forward auction bidders, the auction began on March 29, 2016, and is currently underway.³⁰³ In addition, the Media Bureau issued a proposed transition plan for broadcasters that are reassigned to a new channel in the repacking.³⁰⁴ The Media Bureau has sought comment on a phased transition of channel assignments by which it seeks to smooth the way for station coordination, promote efficient allocation of limited resources, limit the impact of the transition on consumers, and facilitate monitoring to determine whether schedule adjustments are necessary during the course of the transition process.³⁰⁵

(ii) Marketplace Conditions Affecting Competition

96. The Commission has frozen the allotment or auction of construction permits for new full power television stations.³⁰⁶ Accordingly, at this time the primary means of entering the television broadcast industry is to purchase broadcast properties from licensees who are already operating stations rather than constructing new broadcast station infrastructure and obtaining a new license. We note however that the Commission’s rules bar the assignment of a license subject to a reverse auction application or transfer of control of a reverse auction applicant during the pendency of the auction.³⁰⁷

³⁰¹ See *16th Report*, 30 FCC Rcd at 3327-28, para. 165.

³⁰² *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, 29 FCC Rcd 6567 (2014), *aff’d*, *Nat’l Assoc. of Broadcasters, et al. v. FCC*, 789 F.3d 165 (D.C. Cir. 2015); see, e.g., *Broadcast Auction Scheduled to Begin March 29, 2016; Procedures for Competitive Bidding in Auction 1000, Including Initial Clearing Target Determination, Qualifying to Bid, and Bidding in Auctions 1001 (Reverse) and 1002 (Forward)*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, 30 FCC Rcd 8975 (2015); *Application Procedures for Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Technical Formulas for Competitive Bidding*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, 30 FCC Rcd 11034 (2015).

³⁰³ The fourth stage of the reverse auction began on December 13, 2016. See *Clearing Target of 84 Megahertz Set for Stage 4 of the Broadcast Television Spectrum Incentive Auction; Stage 4 Bidding in the Reverse Auction Will Start on December 13, 2016*, Public Notice, DA 16-1354 (WTB Dec. 9, 2016). Stage 4 of the reverse auction concluded on January 13, 2017, and the next stage of the forward auction is expected to commence shortly. FCC Public Reporting System, *Incentive Auction: Reverse Auction – Announcements*, https://auctiondata.fcc.gov/public/projects/1000/reports/reverse_announcements (last visited Jan. 12, 2017).

³⁰⁴ *Incentive Auction Task Force and Media Bureau Seek Comment on Post-Incentive Auction Transition Scheduling Plan*, MB Docket No. 16-306, Public Notice, 31 FCC Rcd 10802 (Sept. 30, 2016) (*Post-Incentive Auction Transition PN*). Comments were due on October 31, 2016, and reply comments were due on November 15, 2016.

³⁰⁵ *Id.*

³⁰⁶ *Media Bureau Announces Limitations on the Filing and Processing of Full Power and Class A Television Station Modification Applications, Effective Immediately, and Reminds Stations of Spectrum Act Preservation Mandate*, Public Notice, 28 FCC Rcd 4364 (MB 2013).

³⁰⁷ 47 C.F.R. § 1.2204(d)(3). On October 6, 2015, the Wireless Telecommunications Bureau granted a limited waiver of this rule, provided the application for an assignment or transfer of control met the following two conditions: (1) the application was accepted for filing with the Commission as of the deadline to submit an application to participate in the reverse auction, and (2) the application included the express representation that the

(continued....)

Once the Commission has approved the transaction and the new owner takes over the operations of an existing station, the new owner may decide to change programming by affiliating with a different network, purchasing new syndicated programming, or changing on-air talent for local programming, such as newscasts, subject to the terms of their contracts.

97. *Access to Capital.* Entities seeking to enter the broadcasting industry, either by purchasing properties or launching a new station, require access to capital, which may come in the form of debt or equity financing. In determining whether to lend money or invest in a licensee, banks or other firms look at expected revenues and expenses, especially whether new owners could increase profits by changing programming or reducing expenses. Structural changes in the media industry, combined with the strong correlation of their revenues and profits to economic cycles, indicate that financing media transactions with debt entails some risk.³⁰⁸ In particular, high interest rates may lead station owners to file for bankruptcy and transfer control to lenders or sell their stations.³⁰⁹

98. *Programming.* Access to programming also affects the ability of licensees to enter and remain in the industry. Network affiliation agreements and syndication contracts often last several years. If a station loses its network affiliation, it may not be able to affiliate with an alternative network, because that alternative network is likely to already have a distribution agreement in place with another station in the market. The loss of this programming could require the station to obtain replacement programming at a higher cost. Further, that programming may be less attractive to the target audience, thereby causing the station to lose advertising revenues while potentially increasing expenses. Similarly, popular syndicated programming may not be available for a new station due to exclusive distribution arrangements with competing stations or cable networks.³¹⁰ As an alternative to contracting for expensive third-party programming, stations may produce their own programming in-house or lease time to other parties (e.g., producers of infomercials) willing to pay stations for the airing of programming.

d. Recent Entry and Exit

99. Overall, between December 31, 2014, and December 31, 2015, the number of full-power commercial television stations on the air decreased by three, from 1,390 to 1,387.³¹¹ During this period, the total number of full-power noncommercial television stations held steady at 395.³¹² In 2015, 59 stations were sold for a total of \$1.28 billion, or an average of \$21.6 million per station, with an average price equivalent to a multiple of 8.4 times cash flow.³¹³ The total sales volume figures represent a significant drop off from recent years.³¹⁴

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party that will hold the license(s) upon consummation agrees to be bound by the original applicant's actions in the auction with respect to the licenses. *Guidance Regarding the Prohibition of Certain Communications During the Incentive Auction*, Auction 1000, Public Notice, 30 FCC Rcd 10794, 10803, para. 23 (WT 2015).

³⁰⁸ Lenders impose restrictions (covenants) on the ratio of debt to equity and earnings before interest and taxes (EBIT) to interest. Sinclair 2015 Form 10-K at 21; Nexstar 2015 Form 10-K at 17; Gray 2015 Form 10-K at 19-21. Some station groups have faced concerns about breaching such loan covenants.

³⁰⁹ Nexstar 2015 Form 10-K at 18; Gray 2015 Form 10-K at 21.

³¹⁰ Stations compete against in-market broadcast stations for exclusive access to syndicated programming within their markets. In addition, cable networks occasionally acquire programs that might otherwise be offered to stations, and some programs are available via OVDs. Nexstar 2015 Form 10-K at 11. Stations usually purchase syndicated programming two to three years in advance, and sometimes must make multi-year commitments. Gray 2015 Form 10-K at 24; Sinclair 2015 Form 10-K at 11.

³¹¹ See *supra* Table III.B.1; FCC Broadcast Stations Totals.

³¹² See *id.*

³¹³ SNL Kagan, TV Station Deals Databook (April 2016); SNL Kagan, 2016 SNL Kagan TV Station Deals.

³¹⁴ *Id.*

100. Since the last report, several major transactions have occurred,³¹⁵ including the following:

- In August 2015, Raycom Media Inc. expanded its footprint in Texas, paying \$160.0 million (equivalent to 8.8 times cash flow) for Drewry Communications Group and its six full-power TV stations (plus one local marketing agreement) in four Texas markets.³¹⁶
- On September 1, 2015, Gray Television Inc. announced the largest single-station deal of 2015, the \$100 million, 8.9 times cash flow acquisition of ABC affiliate KCRG-TV, in Cedar Rapids, Iowa, from Gazette Company.³¹⁷ Subsequently, Gray acquired Schurz Communications Inc. for a total of \$442.5 million. The deal added three new TV markets and two new states (Missouri and Alaska) to Gray's portfolio. The transaction also included 13 radio stations which Gray later sold for a total of \$16.0 million, leaving \$426.5 million (equivalent to 8.5 times cash flow) attributable to the TV portion.³¹⁸
- The last significant broadcast television transaction of 2015 occurred in November 2015, when Nexstar added four new markets and a 25th state to its portfolio, buying four stations from West Virginia Media Holdings for \$130 million (equivalent to 8.4 times cash flow).³¹⁹

3. Broadcast Television Business Models and Competitive Strategies

101. A second key element of our analysis of broadcast television station competition is an examination of the business models and competitive strategies of industry participants. Broadcast stations derive most of their revenue from local and national advertising, selling on-air time to advertisers so they may reach viewers.³²⁰ To differentiate themselves, stations primarily invest in the purchase and production of programming. In this section of the Report, we discuss broadcast television station competition in terms of both price and non-price rivalry.

a. Price Rivalry

102. *Cost to Consumers.* Broadcast television stations do not compete on consumer price in the traditional sense, because they do not charge consumers directly for the delivery of their signals. Broadcast television is free to consumers who receive it over the air. Nevertheless, because about 86 percent of all television households receive broadcast stations from an MVPD, most consumers indirectly pay for broadcast stations as part of their MVPD service fees, which are calculated, in part, to cover retransmission consent fees that the MVPD, in turn, pays to local stations.³²¹ In the case of cable,

³¹⁵ *Id.*

³¹⁶ Press Release, Raycom Media, Raycom Media Acquires Drewry Communications Group (Dec 1, 2015), <http://www.raycommmedia.com/news/151201.htm>.

³¹⁷ Press Release, PR Newswire, Gray to Acquire KCRG-TV In Cedar Rapids, Iowa (Sept. 1, 2015), <http://www.prnewswire.com/news-releases/gray-to-acquire-kcrg-tv-in-cedar-rapids-iowa-300136110.html>.

³¹⁸ Press Release, PR Newswire, Gray to Acquire Schurz Communications, Inc.'s Television and Radio Stations for \$442.5 Million (Sept. 15, 2015), <http://www.prnewswire.com/news-releases/gray-to-acquire-schurz-communications-incs-television-and-radio-stations-for-4425-million-300142498.html>.

³¹⁹ Press Release, Nextstar Broadcasting, Nexstar Broadcasting Enters Into Definitive Agreement to Acquire Four West Virginia Network Affiliated Stations for \$130 Million in Accretive Transaction (Nov. 17, 2015), <http://www.nexstar.tv/story/d/story/nexstar-broadcasting-enters-into-definitive-agreem/78669/e183zdP-y0-gKh1tAPdhSw>.

³²⁰ See *infra* Section III.B.4, paras. 118-127 for detailed information about revenue sources for broadcast television stations.

³²¹ Nielsen, The Total Audience Report Q4 2015 at 27 (Mar. 2016). Some local broadcast stations are carried pursuant to must-carry, which does not involve payment of a fee by the MVPD.

broadcast television stations are part of the basic service package, which is generally the lowest price offering but is spread across the operator's entire subscriber base.³²²

103. *Advertising Revenue.* Television broadcast stations earn about 69 percent of their revenue through the sale of advertising time during their programs, a slight decline since the last report.³²³ Retransmission consent revenues make up 23 percent of station revenue, while online revenue accounts for 7 percent.³²⁴ Network compensation revenues are minimal accounting for less than 1 percent of station revenues.³²⁵ In the broadcasting industry, competition for advertising revenue occurs within individual markets and through network advertising purchased market-by-market via national spot sales.³²⁶ Generally, advertising rates are determined by a station's overall ability to attract viewers in its market area and its ability to attract viewers among particular demographic groups that an advertiser may be targeting.³²⁷ Specifically, advertising rates depend upon factors such as: (1) the size of a station's market; (2) a station's overall ratings; (3) a program's popularity among targeted viewers; (4) the number of advertisers competing for available time; (5) the demographic makeup of the station's market; (6) the availability of alternative advertising media in the market; (7) the presence of effective sales forces; (8) the development of projects, features, and programs that tie advertiser messages to programming; and (9) the level of spending commitment made by the advertiser.³²⁸ Within network shows, stations are generally permitted to sell a fixed amount of advertising time, about 2.5 to three minutes per hour. The network sells any remaining advertising time and includes such advertising in the network programming. The network retains the revenue associated with the ads it sells and includes in the programming. Stations may also choose to use their allotted advertising minutes during network shows to promote their own local or syndicated programming. During newscasts or other non-network programming, stations have approximately nine minutes of time per hour to sell to advertisers.³²⁹

104. Local advertisers purchase time directly from a station's local sales staff. Such advertisers typically include car dealerships, retail stores, and restaurants.³³⁰ National advertisers that wish to reach a particular regional or local audience buy advertising time through national advertising sales representative firms.³³¹ Such advertisers typically include automobile manufacturers and dealer groups, telecommunications companies, fast food franchisers, and national retailers.³³² Stations compete for advertising revenue with other stations in their respective markets; advertisers may also place

³²² 47 U.S.C. § 543(b)(7); 47 CFR § 76.901(a). *See also supra* para. 67; Tbl. III.A.3. Some MVPDs include broadcast retransmission fees as a separate item on customer bills. *See supra* para. 49.

³²³ SNL Kagan, Total TV Station Industry Revenue Projections (June 2016) (2016 SNL Kagan TV Revenues).

³²⁴ *See infra* Section III.B.4, para. 27.

³²⁵ *See infra* Section III.B.4.

³²⁶ Nexstar 2015 Form 10-K at 11; Gray 2015 Form 10-K at 13; Sinclair 2015 Form 10-K at 23; Nielsen Media Glossary defines spot television as all commercial advertising either available for sale or purchase from local TV stations. There are two major types of spot advertising. Local spot advertising is advertising bought on one station in one market. These sales are usually handled by the TV station. National spot advertising is advertising bought by national advertisers in several markets of their own selection. These sales are handled by the local TV station representatives. Nielsen Media Research, *Nielsen Media Research's Glossary of Media Terms*, <http://www.nielsenmedia.com/glossary/> (last visited Jan. 10, 2017).

³²⁷ Gray 2015 Form 10-K at 4; Sinclair 2015 Form 10-K at 23.

³²⁸ Gray 2015 Form 10-K at 4, 18; Sinclair 2015 Form 10-K at 19.

³²⁹ Vogel, *supra* note 240, at 317, n.29.

³³⁰ Nexstar 2015 Form 10-K at 9.

³³¹ *Id.*; Entravision, Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 11.

³³² Nexstar 2015 Form 10-K at 9.

advertisements with other media including newspapers, radio stations, magazines, outdoor advertising, transit advertising, direct mail, local cable systems, DBS systems, and online websites, as well as telephone and/or wireless companies.³³³

105. While individual stations do not make their advertising rates publicly available, prices for a composite group of television stations are available.³³⁴ Local advertisers typically use the cost per rating point (CPP) measure to value advertising time, which represents how much it costs to buy one rating point, or one percent of the population in an area being evaluated.³³⁵ CPPs vary by the time of day, with prime time (8 p.m.-11 p.m., Eastern and Pacific Time; 7 p.m.-10 p.m., Central and Mountain Time), being the most expensive.³³⁶ For the top 100 television markets, on average, a station's CPP for a 30-second advertisement during prime time was \$37,232 in 2015, up from \$33,292, in 2014. That is, on average, a station within the top 100 markets charged advertisers \$37,232 to reach one percent of the television households within its DMA with a 30-second commercial. During the late newscasts (11 p.m. Eastern and Pacific Time; 10 p.m., Central and Mountain Time), on average, stations charge lower prices. In 2015 and 2014, on average, the CPPs for a 30-second advertisement during this time slot were \$21,399 and \$18,087, respectively. These figures reflect a 10 percent increase between 2014 and 2015. Advertisers assess the relative expense and efficiency of delivering a message via different media, e.g., a broadcast network compared with a group of broadcast television stations, on the basis of cost per thousand households (CPM).³³⁷ Table III.B.2 includes CPM figures to provide another basis for comparing prices charged to advertisers.

Table III.B.2
Top 100 Television Markets: Average Price of a 30-Second Commercial³³⁸

Year	Prime Time		Late News	
	CPP	CPM	CPP	CPM
2014	\$33,292	\$33.85	\$18,087	\$18.39
2015	\$37,232	\$37.35	\$21,399	\$21.47

b. Non-Price Rivalry

106. Broadcast stations compete with each other for viewers and advertisers on two major non-price criteria: (1) programming³³⁹ and (2) the type of viewing experience.³⁴⁰ Each of these items is

³³³ Gray 2015 Form 10-K at 12.

³³⁴ See TVB, Trends: TV Cost & CPM Trends, <http://www.tvb.org/trends/4718> (last visited July 12, 2016) (TV Cost & CPM Trends).

³³⁵ See The Museum of Broadcast Communications, Cost-Per-Thousand (CPM) and Cost-Per-Point (CPP), <http://www.museum.tv/eotvsection.php?entrycode=cost-per-thou> (last visited Jun. 21, 2016); Vogel, *supra* note 240, at 290; TVB, *TVB > Public > Planning & Buying > General Glossary*, <https://www.tvb.org/Public/PlanningBuying/GeneralGlossary.aspx#c> (last visited Jan. 17, 2017). For example, if 100,000 households in a DMA own television sets, and 20,000 of those households are tuned to a particular broadcast television station, then a station's rating is 20. If it charges \$25,000 per point during a particular program, then it can earn \$500,000.

³³⁶ TV Cost & CPM Trends.

³³⁷ Vogel, *supra* note 240, at 292.

³³⁸ See TV Cost & CPM Trends (last visited July 12, 2016) (citing SQAD Media Market Guide 1st Quarter Projections (Fall Books)).

³³⁹ Nexstar 2015 Form 10-K at 5; Gray 2015 Form 10-K at 12; Sinclair 2015 Form 10-K at 18.

³⁴⁰ Gray 2015 Form 10-K at 12; Nexstar 2015 Form 10-K at 10.

described below in turn.

107. Programming. The largest point of differentiation among broadcast stations is the programming they offer and when such programming is offered. Consumers watch multiple broadcast stations and switch stations based on the programming carried. When choosing programming to air, stations weigh the cost of acquiring programming, the number of viewers they can expect to attract, the amount of advertising they can sell, the prices they can charge to advertisers, and the needs and interests of their local community.

108. Many commercial stations also use multicast streams to offer consumers additional programming choices. For instance, multicast streams often carry newer networks such as Me-TV (with 151 digital multicast affiliates), This-TV (with 81 digital multicast affiliates), and Grit (with 114 digital multicasting affiliates).³⁴¹

109. Network affiliates typically market themselves based on their broadcast network affiliation and channel position (e.g., FOX 5) and their on-air news talent. Programming from broadcast networks can attract large audiences, and broadcast networks provide their affiliates with entertainment programming and sporting events, such as the Olympics, National Football League (NFL) games, Major League Baseball (MLB) games, and the Academy Awards, that are extremely popular with both viewers and advertisers.³⁴² Networks also tend to schedule their most popular programming during the months of the year when Nielsen measures television audiences for all 210 DMAs (February, May, July, and November) to determine local advertising rates.³⁴³ In 2015, Section 105 of the STELAR removed the prior prohibition on deleting or repositioning a local commercial television station during a period in which major television ratings services measure the size of audiences of local television stations.³⁴⁴

110. Local and exclusive news programming and features are other sources of product differentiation for broadcast television stations in their competition for advertisers and viewers.³⁴⁵ Some stations seek to increase their local advertising revenues in part by producing programming with local advertising appeal and sponsoring or co-promoting local events and activities in the community.³⁴⁶ To attract audiences, stations also strive to provide exclusive news stories, unique features such as investigative reporting, and coverage of community events, and to secure broadcast rights to regional and local sporting events.³⁴⁷ In 2015, the average television station aired 5.5 hours of local news per

³⁴¹ SNL Kagan, TV Station Multi-Platform Report-Update (May 2016).

³⁴² Sinclair 2015 Form 10-K at 11. The network affiliation agreements, generally exclusive for each of the 210 DMAs, provide affiliates with the right to air network programming first. The contracts may run from two to 10 or more years. The Commission's right-to-reject rule grants an affiliate the right to (1) reject or refuse network programs which the station reasonably believes to be unsatisfactory, unsuitable, or contrary to the public interest and (2) substitute a program which, in the station's opinion, is of greater local or national importance. 47 CFR § 73.658(e).

³⁴³ While networks and stations consider May to be the most important measuring period of the year, they also compete intensely in July, February and November, when audiences are likely to stay at home. Vogel, *supra* note 240, at 291; *see also* Nielsen Media Research, *Nielsen Media Research's Glossary of Media Terms*, <http://www.nielsenmedia.com/glossary/> (last visited Jan. 10, 2017). Nielsen refers to these months as "sweeps months." Nielsen excludes the Honolulu, Fairbanks, and Juneau DMAs from its July measurement period.

³⁴⁴ STELAR, § 105, 128 Stat. 2063.

³⁴⁵ Sinclair 2015 Form 10-K at 11; Gray 2015 Form 10-K at 13.

³⁴⁶ *See, e.g.*, Nexstar 2015 Form 10-K at 5. Nexstar states that it strives to increase the audience share of its stations by creating a strong local broadcasting presence based on highly rated local news, local sports coverage, and active community sponsorship. In 2015, Nexstar earned approximately 70.6 percent of its net advertising revenues from local broadcast advertising. *Id.* at 49.

³⁴⁷ Gray 2015 Form 10-K at 13.

weekday, up slightly from 2014.³⁴⁸

111. Stations also air syndicated programming, including off-network programs (e.g., *The Andy Griffith Show* or *How I Met Your Mother*), first-run programs (e.g., *Jeopardy*, *Entertainment Tonight*, or *Wheel of Fortune*), and sporting events.³⁴⁹ Competition for programming involves negotiating with national program distributors or syndicators that sell first-run and rerun packages of programming.³⁵⁰ Stations compete against in-market broadcast stations for exclusive access to syndicated programming within their markets.³⁵¹ Syndicated programming can be expensive for stations and may represent a long-term financial commitment.³⁵² Stations usually purchase syndicated programming two to three years in advance and sometimes must make multi-year commitments.³⁵³ An average broadcast station spends an estimated 25.5 percent of its expenses on acquiring programming.³⁵⁴

112. *Viewing Experience.* Several factors affect consumers' viewing experiences, including the availability of HD programming, the availability of content via a television station's website, and consumers' ability to view video on a time-shifted basis on television sets, personal computers, and/or mobile devices. As of year-end 2015, 102.1 million U.S. television households, or 92 percent of such households, had sets capable of displaying and/or receiving digital signals, including HD television signals.³⁵⁵ This figure is up from 98.3 million U.S. television households, or 85 percent of such households, in 2014.³⁵⁶ Broadcasters have provided HD programming in response to the increasing number of HD televisions. As of the end of 2015, 1,496 (87.9 percent) of full-power stations were broadcasting in HD, down slightly from 1,517 stations at the end of 2014.³⁵⁷

113. Television stations use their online and mobile platforms to address consumers' increasing desire to view video programming in more places and times and on more devices. Broadcasters use their websites as extensions of their local brands, and offer advertisers online promotions coordinated with on-air advertisements. Television stations are also taking a "three-screen

³⁴⁸ Robert Papper, *RTNDA Research: Local news by the numbers*, RTNDA (May 31, 2016), http://www.rtdna.org/article/rtdna_research_local_news_by_the_numbers. While RTNDA/Hofstra released survey results in 2016, the survey was conducted during the fourth quarter of 2015. This survey presents the national average hours of news for all stations.

³⁴⁹ See, e.g., Nexstar 2015 Form 10-K at 10-11; Sinclair 2015 Form 10-K at 11; Gray 2015 Form 10-K at 13.

³⁵⁰ Nexstar 2015 Form 10-K at 11.

³⁵¹ *Id.*; Gray 2015 Form 10-K at 13. In addition, cable networks occasionally acquire programs that might otherwise be offered to stations. For example, Twentieth Century Fox TV and Twentieth TV negotiated the first cable syndication and VOD deal of *The Simpsons* to FXX for all past and future episodes, within the time period of the deal, for approximately \$750 million. Cynthia Littleton, *'The Simpsons' Lands \$750 Mil Cable Syndication, VOD Pact with FXX*, *Variety* (Nov. 15, 2013), <http://variety.com/2013/tv/news/the-simpsons-lands-750-mil-cable-vod-syndication-pact-with-fxx-1200837036/>.

³⁵² Syndicated programming can impose financial risks on stations. Broadcast stations cannot predict whether a particular show will be sufficiently popular to enable it to sell enough related advertising time to cover the costs of the program. A station may have to replace a poorly performing program before it has recovered the costs of obtaining it. Gray 2015 Form 10-K at 24; Sinclair 2015 Form 10-K at 23.

³⁵³ *Id.*

³⁵⁴ National Association of Broadcasters, *Television Financial Report* at iv (2016) (2016 NAB Television Financial Report).

³⁵⁵ Nielsen, February 2016 Universe Estimate Report (Nielsen 2016 Universe Estimates).

³⁵⁶ *Id.*

³⁵⁷ SNL Kagan, *TV Station Multiplatform Analysis Update* (Feb. 2016); SNL Kagan, *TV Station Database 2014*; SNL Kagan, *2014 TV Station Databook* at 11.

approach” – distributing news programming online and via mobile devices, as well as over-the-air. While most stations with a three-screen approach were top-four network affiliates, the size of their DMAs did not appear to affect stations’ decision in this regard. Major broadcasters, through the standards organization Advanced Television Systems Committee (ATSC), are working to develop a new standard for digital broadcasting, which is expected, among other things, to improve mobile DTV reception.³⁵⁸

4. Broadcast Television Station Operating and Financial Statistics

114. In this section of the Report, we examine broadcast stations’ operating and financial statistics, including audience, revenue, and profitability, as well as investment and innovation. We also review the interplay between the trends in broadcasters’ sources of revenues and expenses, their strategies for distributing video programming, and other factors influencing broadcasters’ performance. While the majority of broadcast television station licensees are part of larger companies that are involved in other industries, Gray Television, Inc., Media General, Nexstar Broadcasting Group, Inc., Sinclair Broadcast Group, Inc., TEGNA, Inc., and Tribune Media Co. focus on the broadcast television industry.³⁵⁹

a. Audiences

115. The industry relies on Nielsen data to measure broadcast television station audiences. Nielsen measures television ratings as a percentage of households with television sets that view a particular program.³⁶⁰ Since the 17th Report, the number of television households has held steady.³⁶¹ For the 2015-2016 season, Nielsen reports television penetration at approximately 96 percent for 2014 and 2015, while the total number of U.S. television households grew slightly from about 115.8 to about 116.4 million over this period.³⁶²

116. The percentage of television households relying exclusively on over-the-air broadcast service (as opposed to accessing broadcast stations via an MVPD) has increased since the last report. According to Nielsen, as of November 2015, approximately 11 percent of all U.S. television households, or about 12.4 million households, were broadcast-only.³⁶³ This is an increase since 2014, when there

³⁵⁸ Mary Collins, *Stations Should Plan ATSC 3.0 Strategy Now*, TV NewsCheck (Jun. 3, 2016), <http://www.tvnewscheck.com/article/95242/stations-should-plan-atsc-30-strategy-now>. On April 26, 2016, the Commission solicited comment on a Petition for Rulemaking filed by CEA, NAB, APTS, and NAB asking the Commission to “amend its rules to allow broadcasters to use the signaling portion of the physical layer of the new ATSC 3.0 (Next Generation TV) broadcast standard, while they continue to deliver current-generation DTV broadcast service to their communities.” See *Media Bureau Seeks Comment on Joint Petition for Rulemaking of America’s Public Television Stations, The AWARN Alliance, The Consumer Technology Association, and The National Association of Broadcasters Seeking to Authorize Permissive Use of the “Next Generation TV” Broadcast Television Standard*, GN Docket No. 16-142, Public Notice (Apr. 26, 2016). This proceeding remains open.

³⁵⁹ SNL Kagan, *TV Pure Plays* (2016). Most of the mentioned companies also provide digital media and technical services. In most cases the revenue is not significant in comparison to their core business. One clear exception is TEGNA, where 45% of its revenues are provided from careers.com, cars.com, and other elements that make up their “Digital Segment”. TEGNA Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 7 (TEGNA 2015 Form 10-K); Gray 2015 Form 10-K at 37; Media General Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 6 (Media General 2015 Form 10-K); Sinclair 2015 Form 10-K at 5; Tribune Media Company, Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 56-57 (Tribune 2015 Form 10-K).

³⁶⁰ Nielsen, *TV Ratings-How We Do It*, <http://www.nielsen.com/us/en/solutions/measurement/television.html> (last visited July 20, 2016).

³⁶¹ *17th Report*, 31 FCC Rcd at 4520, para. 115.

³⁶² Compare Nielsen, 2015 Universe Estimates, and Nielsen, 2014 Universe Estimates.

³⁶³ Nielsen, 2016 Universe Estimates.

were 11.4 million broadcast-only households, representing 10.0 percent of all television households.³⁶⁴ NAB provides a slightly different statistic, stating that 23 percent of U.S. television households, or 26.7 million households, have at least one television that is not connected to an MVPD service and that relies on broadcast reception.³⁶⁵ According to NAB, this figure is up from 21 percent of households with at least one such television in the previous year.³⁶⁶ NAB states further that over-the-air reliance is higher among lower income households and homes headed by younger adults.³⁶⁷

117. Viewing shares of broadcast network affiliates and non-commercial broadcast television stations were mixed between the 2013-2014 and 2014-2015 television seasons. As shown in Table III.B.3, the total day share of viewing for broadcast network affiliates increased from 29 percent in the 2013-2014 television season to 30 percent in the 2014-2015 television season.³⁶⁸ During prime time, their share rose from 32 percent in the 2013-2014 season to 33 percent in the 2014-2015 television seasons.³⁶⁹ Viewing shares of independent stations, which are relatively low, had a total day share of three percent in both the 2013-2014 season and 2014-2015 season. During prime time, the viewing share of independent stations held steady at three percent year over year. The combined viewing shares of advertising-supported cable networks decreased in total day shares and prime time during this period.³⁷⁰

Table III.B.3
Audience Shares (percent of television households)³⁷¹

Viewing Source:	Total Day		Prime Time	
	2013-2014	2014-2015	2013-2014	2014-2015
Network Affiliates	29%	30%	32%	33%
Independents	3%	3%	3%	3%
Non-Commercial Networks	1%	2%	2%	2%
Ad Supported Cable	51%	50%	51%	50%
Premium Pay Networks	4%	4%	4%	3%
All Other Cable Networks	6%	6%	5%	5%
All Other Tuning	6%	6%	5%	5%
Total:	100%	100%	100%	100%

³⁶⁴ *Id.*

³⁶⁵ NAB Comments at 3.

³⁶⁶ *Id.* at 4.

³⁶⁷ *Id.* at 4.

³⁶⁸ Nielsen, Nielsen Viewing Trends Report at 18 (May 2016). Total day viewing includes viewing Monday-Sunday, 6 a.m.-6 p.m. A share is the percentage of television households watching television who are watching a particular programming source. Due to simultaneous multiple-set viewing, Nielsen reports audience shares that exceed 100 percent when totaled. We have normalized the audience shares by recalculating them on a base (or denominator) equaling 100 percent and adjusting the numerators accordingly.

³⁶⁹ *Id.* at 18.

³⁷⁰ *Id.*

³⁷¹ *Id.* Figures apply to the television season at issue. Due to rounding, the Audience Share total do not always equal 100 percent.

b. Revenue

118. This section of the Report describes broadcast television stations' revenue during the relevant period, including revenue from advertising, retransmission consent fees, and online activities.³⁷² Because of its dependence on advertising revenue, which is highly correlated with overall economic conditions, broadcasting is a highly cyclical industry.³⁷³ This is in part because marketers often reduce their advertising budgets during economic recessions or downturns.³⁷⁴ In addition, some categories of advertisers, especially the automobile sector, are responsible for a large proportion of stations' advertising revenues. Automobile dealers can account for 25 percent of a typical television station's net revenues in good economic times.³⁷⁵ While the automobile sector's share of station groups' advertising fell in recent years, overall these revenues appear to be rebounding somewhat.³⁷⁶ Station revenues tend to be higher in even numbered years, due to political advertising, which tends to peak immediately before elections.³⁷⁷ In the short run, most of a station's operating costs are fixed.³⁷⁸ Regardless of the amount of advertising inventory it sells, a station must pay for the cost of operating its facilities as well as the costs of programming rights. Therefore, when economic conditions are favorable and a station is able to charge higher prices for its commercial inventory, profits can increase. Conversely, when advertising revenues decline, aside from laying off employees and reducing sales commissions, stations usually are unable to reduce expenses, and thus profits can decline sharply. Other sources of station revenue include retransmission consent fees, ancillary DTV services, and online advertising.

119. Industry gross revenues were approximately \$27.0 billion in 2014, but were reported to dip slightly to \$26.9 billion in 2015.³⁷⁹

Table III.B.4
Broadcast Television Station Industry Gross Revenue Trends (in millions)³⁸⁰

³⁷² In addition to these revenue sources, digital broadcasting technology enables broadcasters to use part of their licensed digital spectrum to provide non-broadcast "ancillary or supplementary" services (such as subscription video services, data transfer, or audio signals). If stations choose to provide such ancillary or supplementary services, they must remit a fee to the Commission of five percent of the gross revenues received from such services. *See DTV Transition Order*, 17 FCC Rcd at 15995-96, paras. 39-40; *Filing of FCC Annual DTV Ancillary/ Supplementary Services Report*, Public Notice, 18 FCC Rcd 23972, 23973 (MB 2003); 47 U.S.C. § 336(a)(2), (e). Compared with other revenue sources, ancillary services remain an insignificant portion of total station revenue. Total revenues from these services were approximately \$160,000 in 2015. The Commission collected approximately \$8,000 in fees from these revenues.

³⁷³ Vogel, *supra* note 240, at 301-03; Gray 2015 Form 10-K at 22; Sinclair 2015 Form 10-K at 20.

³⁷⁴ *See* Nexstar 2015 Form 10-K at 34.

³⁷⁵ Vogel, *supra* note 240, at 309.

³⁷⁶ *See* Gray 2015 Form 10-K at 23 ("For the years ended December 31, 2015 . . . , we derived approximately 24% . . . of our total broadcast advertising revenue from customers in the automotive industry").

³⁷⁷ Nexstar 2015 Form 10-K at 10; Gray 2015 Form 10-K at 23.

³⁷⁸ Vogel, *supra* note 240, at 304.

³⁷⁹ SNL Kagan, Broadcast Industry Overview U.S. TV and Radio Stations 2016; 2016 SNL Kagan TV Revenues at 23.

³⁸⁰ *Id.*

Revenue Source	2014		2015	
	Revenue	Percentage	Revenue	Percentage
Advertising	\$20,477	76%	\$18,879	69%
Network Compensation	<\$1	<1%	<\$1	<1%
Retransmission Consent	\$4,858	18%	\$6,296	23%
Online	\$1,692	6%	\$1,811	7%
Total	\$27,027	100%	\$26,986	100%
Gross Industry Revenue Percentage Change-Year over Year	13%		-----	

120. *Advertising Revenue.* On-air advertising is by far the most significant source of revenue for television stations, although its share of overall broadcast television station industry revenues is declining. Advertising revenue represented about 76 percent of broadcast television station gross industry revenues in 2014 and 69 percent of gross industry revenues in 2015.³⁸¹

121. Broadcast television stations sell two categories of advertising: local spot and national spot.³⁸² Local advertisers purchase local spot advertising to reach viewers within a station's market. They may work with local advertising agencies or directly with a station's sales staff.³⁸³ Local advertising is more sensitive to the economic climate of a station's geographic area. For example, even if a station is attracting large audiences, if the local economy is struggling, local businesses may choose not to advertise or to limit their advertising.³⁸⁴ NAB estimates that, in 2015, on average, about 65 percent of a station's gross advertising revenues were from local advertising, an increase from 58.4 percent of revenues in 2014.³⁸⁵ The percentages may vary depending on the station and the market it serves. Between 2014 and 2015, broadcast stations' share of local advertising revenue decreased from 16.5 percent from 16.1 percent.³⁸⁶ Total advertising spending across all local media rose from \$72.5 billion nationwide to \$74.9 billion, and broadcast television stations' collective local advertising revenues rose slightly from \$12.0 billion to \$12.1 billion.³⁸⁷

³⁸¹ *Id.* The bulk of this revenue is generated from advertising within the programming on stations' main streams (*i.e.*, not multicast). NAB estimates that in 2015 advertising revenues from multicast channels represented 1.1 percent of an average station's total net revenues, up slightly from 2014 figures (0.8 percent). 2016 NAB Television Financial Report at 2. Stations also generate a small amount of revenue from advertising on mobile services and applications. NAB estimates that mobile revenues increased from \$66,217 in 2014 to \$72,956, about 0.3 percent of an average station's total \$21.4 million in net revenues in 2015. *See id.*; National Association of Broadcasters, 2015 Television Financial Report at 2 (2015 NAB Television Financial Report). Stations also generate revenue via advertising sold on their websites. *See infra* para. 128.

³⁸² *See supra* paras. 104-06.

³⁸³ Nexstar 2015 Form 10-K at 10.

³⁸⁴ *17th Report*, 31 FCC Rcd at 4522, para. 121.

³⁸⁵ 2016 NAB Television Financial Report at iv; 2015 NAB Television Financial Report at iv. Some broadcast station groups cite lower percentages. Nexstar states that local advertising, excluding political, represented 42.3 percent of its stations' gross revenues (that is, revenues before subtracting agency commissions) in 2014 and 39.8 percent in 2015. Nexstar 2015 Form 10-K at 35. Gray's percentages were 65 percent for 2014 and 55 percent in 2015. Gray 2015 Form 10-K at 38.

³⁸⁶ SNL Kagan, U.S. Advertising Market Overview 2013-2025 (2015).

³⁸⁷ *Id.*

Table III.B.5
Local Advertising Gross Revenue by Sector (in millions)³⁸⁸

Revenue Source	2014		2015	
	Revenue	Percentage	Revenue	Percentage
Broadcast Television Stations	\$12,007	16.5%	\$12,130	16.1%
Cable Television	\$4,973	6.8%	\$4,817	6.4%
Radio	\$10,903	15.0%	\$10,576	14.1%
Digital (Internet/Mobile)	\$19,781	27.2%	\$23,629	31.0%
Daily Newspaper	\$13,386	18.4%	\$12,700	16.9%
Regional Sports Networks	\$1,138	1.5%	\$1,197	1.59%
Telco	\$610	0.8%	\$718	0.9%
Other	\$9,724	13.4%	\$9,563	12.7%
Total	\$72,522	100%	\$74,970	100%

122. In its television financial reports, NAB estimates that gross revenue from national and regional advertising represented about \$5.6 billion of industry revenue in 2015, down from \$6.1 billion, in 2014.³⁸⁹ National advertisers may choose to advertise on broadcast stations but are more likely to utilize arrangements with broadcast networks, cable networks, television syndicators, or DBS. National sales tend to represent a larger proportion of revenues for stations in larger markets.³⁹⁰ Broadcast television stations' share of the national advertising market was 5.5 percent in 2014 and dropped to 4.4 percent in 2015. In the last report, we reported that cable networks and VOD surpassed broadcast television networks in their share of overall national advertising revenue in 2008. This trend was flat in 2014 and 2015, with the gap between broadcast television networks and cable networks and VOD essentially holding steady. In 2014, broadcast television networks accounted for 12.4 percent of national advertising gross revenues and cable networks and VOD accounted for 18.1 percent of national advertising revenues.³⁹¹ In 2015, those figures were 11.9 percent and 18.3 percent, respectively.³⁹² It should be noted that some media may be closer substitutes for television advertising than others.

³⁸⁸ *Id.*

³⁸⁹ 2016 NAB Television Financial Report at 2; 2015 NAB Television Financial Report at 2.

³⁹⁰ Vogel, *supra* note 240, at 312-13, n.7.

³⁹¹ SNL Kagan, U.S. Local versus National Advertising Revenue 2013-2022.

³⁹² *Id.*

Table III.B.6
National Advertising Gross Revenue by Sector (in millions)³⁹³

Revenue Source	2014		2015	
	Revenue	Percentage	Revenue	Percentage
Broadcast Television Stations	\$8,471	5.5%	\$6,749	4.4%
Broadcast Networks	\$19,031	12.4%	\$18,334	11.9%
Cable Networks & VOD	\$27,789	18.1%	\$28,190	18.3%
DBS	\$947	0.6%	\$1,043	0.6%
Digital (Internet/Mobile)	\$29,750	19.4%	\$33,656	21.9%
Radio	\$2,730	1.7%	\$2,675	1.7%
Satellite Radio	\$101	0.1%	\$117	0.1%
Radio Network	\$1,072	0.6%	\$1,018	0.6%
Daily Newspaper	\$2,884	1.8%	\$2,737	1.7%
Barter Syndication	\$3,055	1.9%	3,089	2.0%
Other	\$57,487	37.4%	\$55,617	36.2%
Total	\$153,317	100%	\$153,224	100%

123. Political advertising can be both local and national.³⁹⁴ For example, a mayoral candidate may need to purchase advertising in only one DMA in order to reach potential voters, in which case the advertising is local.³⁹⁵ Candidates running for statewide offices, however, or presidential candidates seeking to reach audiences in swing states, will frequently purchase time in multiple DMAs covering the particular state, in which case a national rep firm may purchase time on behalf of the candidate. Political advertising revenue reached \$488 million in 2015.³⁹⁶ NAB reports that, for an average station, political advertising decreased from 11.6 percent in 2014 to 2.8 percent of gross revenues in 2015.³⁹⁷

124. *Retransmission Consent Fees.* Like cable networks, broadcast stations electing retransmission consent negotiate per-subscriber retransmission consent fees from MVPDs in exchange for carriage rights. Local broadcasters do not retain all of this revenue, however. Instead, television stations typically share a portion of such fees with the broadcast network with which they are affiliated; this is referred to as “reverse compensation.”³⁹⁸

125. Since the last report, retransmission consent fees have increased in dollar terms and as a share of industry revenues. SNL Kagan reports in 2015, retransmission consent fees represented about 23.0 percent of total television revenue, or \$6.4 billion in 2015 up from 18.0 percent, or \$4.8 billion in

³⁹³ *Id.*

³⁹⁴ *See, e.g.,* Sinclair 2015 Form 10-K at 5.

³⁹⁵ Kate Brady, *Political Ads: Final Tips From the Rep*, TVNewsCheck (Oct. 1, 2010), <http://www.tvnewscheck.com/article/2010/10/01/45773/political-ads-final-tips-from-the-rep>.

³⁹⁶ 2016 NAB Television Financial Report at 2

³⁹⁷ *Id.* As noted above, station revenues from political advertising tend to be higher in even-numbered years due to election cycles. *See supra* para. 118.

³⁹⁸ *17th Report*, 31 FCC Rcd at 4524, para. 124.

2014.³⁹⁹ While a number of commenters in this proceeding have noted that retransmission consent fees continue to rise and have become a significant part of television station's overall revenue picture,⁴⁰⁰ SNL Kagan projects that the rate of increase for retransmission consent fees will decline over the next several years.⁴⁰¹

126. Large station groups and station groups that are affiliated with cable networks may have more leverage than other station owners, because they can combine retransmission consent for multiple stations or integrate retransmission consent negotiations with negotiations for carriage of their cable networks.⁴⁰² Group owners may be able to earn more than individual station owners, because they have more experience and leverage with MVPDs.⁴⁰³ Stations in smaller markets may not earn as much in total dollars from retransmission consent fees as those in larger markets simply because smaller markets do not contain as many subscribers; however, they may earn the same per-subscriber fees as stations in larger markets.⁴⁰⁴

127. *Online Revenues.* In addition to selling advertising time during their programming, stations often sell advertising on their websites. SNL Kagan estimates that online revenues from advertising represented about \$1.7 billion or six percent of total broadcast station industry gross revenues in 2014, and \$1.8 billion or 7 percent of the total broadcast television station industry revenues in 2015.⁴⁰⁵ Other sources have somewhat higher or lower estimates. NAB estimates that online revenue increased from \$738,889 in 2014 to \$760,362, or about 3.5 percent of an average station's \$21.4 million in net revenues, in 2015.⁴⁰⁶

C. Online Video Distributors

1. Introduction

128. This section of the Report examines the providers, business models, competitive strategies, and operating and financial statistics of selected OVDs. In contrast to a traditional MVPD,

³⁹⁹ SNL Kagan states that Station retransmission consent revenues rose nearly 27 percent in Q4 and 30 percent for FY 2015. (Data includes 15 top station groups.) SNL Kagan, *Broadcast Investor* (April 20, 2016). For Nexstar, retransmission consent revenues (consisting of a per-subscriber-based compensatory fee and excluding advertising revenue) represented 23.5 percent of net revenues in 2014 and 32.1 percent in 2015. Nexstar Broadcasting Group, Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2014 at 44. Nexstar explains that the increases are due to the incremental revenue from new stations, net of station disposal, and contracts with higher rates per subscriber on their legacy stations. Similarly, Gray's retransmission consent revenues increased due to improved terms of their retransmission consent contracts, increased subscriber rates, and the impact from newly acquired stations. Gray reported that retransmission consent fees represented 14.7 percent of gross revenue in 2014 and 25.4 percent of gross revenue in 2015. Gray 2015 Form 10-K at 38.

⁴⁰⁰ See, e.g., Comments of INCOMPAS at 3, Reply Comments of Verizon Communications, Inc. at 2, 7.

⁴⁰¹ SNL Kagan, *Broadcast Retransmission Fees vs. Basic Cable and RSN Programming Fees* (June 2015).

⁴⁰² *17th Report*, 31 FCC Rcd at 4525 para. 126.

⁴⁰³ *Id.*

⁴⁰⁴ See *id.*

⁴⁰⁵ See *supra* Table III.B.6.

⁴⁰⁶ 2016 NAB Television Financial Report at 2; 2015 NAB Television Financial Report at 2. NAB calculates online revenue as a percentage of a broadcast station's net revenue (*i.e.*, the amount spent by advertisers on a station (gross advertising revenues) – advertising agency commission – national and regional sales rep firm commission = all other sources of station revenue).

whose service area typically is tied to the provider's own facilities-based infrastructure,⁴⁰⁷ or a broadcaster, whose service area typically is defined by the station's signal coverage area and DMA,⁴⁰⁸ an OVD's geographic service area potentially covers all regions capable of receiving high-speed Internet service. Consumers can access online video via multiple Internet-enabled devices, including computers, smartphones, tablets, gaming consoles, television sets, and other equipment.

129. We examine entities that offer video content akin to the professional programming traditionally offered by broadcast stations, or broadcast and cable networks, and which is usually created or produced by media and entertainment companies using professional-grade equipment, talent, and production crews that hold or maintain the rights for distribution. We distinguish professionally produced content from both (1) semi-professionally produced video, which refers to consumer or user-generated content that has professional or industrial qualities (e.g., shot with professional-grade equipment, using professional talent), and which may be produced exclusively for online audiences; and (2) user-generated content that is publicly available and created or produced by end users, often with little to no brand equity or brand recognition.⁴⁰⁹

2. Overview of OVD Marketplace

130. We begin our consideration of OVDs with an examination of the major business models employed by OVD providers. We then provide information concerning some of the major players in today's OVD marketplace.⁴¹⁰ Next, we consider horizontal concentration and vertical integration in the marketplace. We then discuss regulatory and marketplace conditions affecting competition, including the recent entry and exit of OVDs.

a. OVD Business Models

131. OVD business models range from unlimited video streaming (either subscription-based or ad-supported) to sales and rentals of online video programming.⁴¹¹ The four business models discussed below dominate today's OVD marketplace.

- **Subscription:** Subscription services that allow consumers to watch a range of programs and movies for a monthly fee or annual fee have become some of the most popular and widely used online video services available.⁴¹² This popularity is reflected in SNL Kagan's estimate that by the end of 2016, 65 million homes subscribed to an OVD service.⁴¹³ Analysts believe that the subscription business model is favored among consumers because of its emphasis on long-term relationships with subscribers. Because dissatisfied customers can terminate their service plan at

⁴⁰⁷ As discussed below, the Commission has issued a Notice of Proposed Rulemaking seeking comment on whether the statutory definition of MVPD includes certain Internet-based distributors of video programming. *See supra* para. 16 n. 23; *infra* Section III.C.2.e.i, para. 142.

⁴⁰⁸ *See infra* Section III.B.2, para. 75.

⁴⁰⁹ *See Comcast-NBCU Order*, 26 FCC Rcd at 4298-99, paras. 144-46 & n.365; Letter from William T. Lake, Chief, Media Bureau, to Michael H. Hammer, Counsel, Comcast Corporation, *et al.*, MB Docket No. 10-56, Attach. at 3-6, 8-9, 14 (May 21, 2010).

⁴¹⁰ Due to the large number of online video providers, a comprehensive review of all OVDs is beyond the scope of this Report; rather, we focus on the primary OVD business models and industry participants.

⁴¹¹ *See e.g.*, *17th Report*, 31 FCC Rcd at 4527, para. 134.

⁴¹² SNL Kagan, *State of Online Video Delivery* at 8 (2016).

⁴¹³ *Id.*

any time, subscription OVDs have incentives to invest in content and technology to ensure consumer loyalty.⁴¹⁴

- Electronic Sell Through (EST): Under this model, an OVD sells the consumer a digital copy of a television show, movie, or other content for a one-time fee. The digital copy is then downloaded and stored locally (e.g., on a hard drive) or remotely via a cloud storage service, and is available to the consumer for repeated viewing.⁴¹⁵
- Rental: Similar to the EST model, in the rental model OVDs charge consumers a fee to download a digital copy of a movie, episode of a television show, or other programming content, which is then viewable by the consumer. OVDs in this category charge consumers a one-time fee to view movies within a limited time period. Rental fees can be on a per-movie or per-episode basis, or at a discounted rate for a complete season (or seasons) of a television show or for a package of movies (for example, a trilogy). Major studios and distributors typically make their movies available to all rental OVD services at the same time.
- Advertising-Supported: Under this model, OVDs do not charge viewers directly, but instead include advertisements within the programming they offer to consumers. Many of the advertising-supported OVDs available today are owned by studios, broadcast networks, or cable networks.

As discussed below, an OVD may use more than one business model. For example, it is common for an OVD to provide content to consumers for both sale and rental under both the EST and rental models.

b. Selected OVD Providers

132. The marketplace for the distribution of video programming over the Internet continues to grow, as technology advances, programmers license more content digitally, and both wireless and Internet speeds and capacity increase. Rather than attempt to discuss all of the providers operating today, in this Report we concentrate on some of the more significant OVD providers, based on size, popularity, innovation, and ownership. The discussion in this section will focus primarily on the following OVD providers:

- Netflix: Netflix streams movies, television programs, and original series under a subscription model.⁴¹⁶ In 2016, Netflix introduced the ability for subscribers to save videos offline as well.⁴¹⁷ The company is perhaps the largest and most recognizable participant in the OVD marketplace.
- Amazon: Amazon uses the subscription, EST, and rental business models. Amazon Prime Video is a subscription service that provides commercial-free, instant streaming to thousands of movies and television shows.⁴¹⁸ Consumers can subscribe to Prime Video by purchasing the company's Amazon Prime service for \$99 per year. In 2016, Amazon gave consumers who do not subscribe to Amazon Prime the option to subscribe solely to its OVD service, Prime Video, on a standalone

⁴¹⁴ Micah Solomon, *Steal These 5 Secrets From Google, Netflix, and Amazon to Improve Your Customer Service*, Inc. (June 17, 2015), <http://www.inc.com/micah-solomon/stealing-from-google-netflix-amazon-to-improve-the-customer-service-experience.html>.

⁴¹⁵ See e.g., *17th Report*, 31 FCC Rcd at 4528, para. 135.

⁴¹⁶ Netflix Inc., Consolidated SEC Form 10-K for the Year Ended December 31, 2015 at 1 (Netflix 2015 Form 10-K).

⁴¹⁷ Monique Judge, April 16, 2016. *Netflix Introduces Video Downloads for Offline Viewing at No Extra Cost*, The Root (Nov. 30, 2016), <http://www.theroot.com/articles/news/2016/11/netflix-introduces-video-downloads-for-offline-viewing-at-no-extra-cost/>.

⁴¹⁸ Amazon Video, *Getting Started*, https://www.amazon.com/gp/video/getstarted/ref=sv_atv_4 (last visited Nov. 2, 2016).

basis for \$8.99 per month.⁴¹⁹ In addition to subscription service, Amazon offers rental and EST for a large catalog of movies and television shows.

- Apple: Apple's iTunes uses both the EST and rental business models. It allows consumers to purchase or rent movies and television programs. Consumers can rent movies from \$3.99 and purchase movies beginning at \$12.99.⁴²⁰ Prices for single episode rentals begin at \$1.99.⁴²¹
- Google/YouTube: While most of the videos available on Google's YouTube website are free to consumers, the website began offering a monthly subscription service under the brand YouTube Red in October 2015.⁴²² YouTube Red charges subscribers \$9.99 per month for access to ad-free videos, Google Play Music, a select group of original movies and series called YouTube Red Originals, and the ability to save videos offline.⁴²³ Subscribers can access these services on a variety of devices, including YouTube mobile apps for iOS and Android.⁴²⁴ YouTube plans to release up to 20 original productions by the end of 2016.⁴²⁵
- Sony: Sony's PlayStation Vue offers a subscription OVD service that streams approximately 40 channels. In select cities these channels include local programming from ABC, CBS, FOX, and NBC broadcast stations.⁴²⁶ Consumers can access this service on a PlayStation 3 or 4, or other devices, including Roku.⁴²⁷
- Broadcast and Cable Networks: Many broadcast and cable networks provide online content directly to consumers as well. These entities seek to generate greater advertising revenue from making their programming available online while seeking to protect subscription revenue earned from the traditional distribution model via MVPDs.⁴²⁸
 - Major broadcast and cable networks stream programming on their owned-and-operated websites. In some cases, the programming content is available to consumers for free. In other cases, online programming is available only to authenticated MVPD subscribers or to consumers who subscribe directly to the broadcast and/or cable network provided service.

⁴¹⁹ Adario Strange, *Amazon launches monthly video streaming service to rival Netflix*, Mashable (Apr. 16, 2016), <http://mashable.com/2016/04/17/amazon-prime-video/#irFXyif5EkqW>. Consumers can purchase Amazon's Prime Video service for \$8.99 per month.

⁴²⁰ Apple, *iTunes – Video – Apple*, <http://www.apple.com/itunes/video/> (last visited Dec. 20, 2016); SNL Kagan, *State of Online Video Delivery* at 5 (2016).

⁴²¹ *Id.*

⁴²² Sarah Mitroff, *Everything you need to know about YouTube Red*, CNET (Feb. 17, 2016), <http://www.cnet.com/how-to/youtube-red-details/>.

⁴²³ See YouTube, *YouTube Red*, <https://www.youtube.com/red> (last visited Jan. 17, 2017). YouTube provides its content creators with two paid channel options; content creators have the option of offering ad-free paid channels or paid channels with some advertising.

⁴²⁴ SNL Kagan, *State of Online Video Delivery* at 16 (2016).

⁴²⁵ Kia Kokalitcheva, *YouTube's First Lineup of Original Content Is Here*, Fortune (Feb. 10, 2016), <http://fortune.com/2016/02/10/youtube-originals-release/>.

⁴²⁶ David Katzmaier, *DirectTV Now vs. PlayStation Vue vs. Sling TV: Which one is best for you?*, CNET (Dec. 1, 2016), <https://www.cnet.com/news/playstation-vue-vs-sling-tv-streaming-live-tv-compared/>.

⁴²⁷ *Id.*

⁴²⁸ SNL Kagan, *The Future of 4K and Internet TV* at 21 (2015).

- Hulu, a joint venture co-owned by NBCUniversal, 21st Century Fox, Inc., the Walt Disney Company, and Time Warner, is a subscription service that focuses mainly on streaming network programming to consumers. Hulu recently announced plans to launch a live-TV service in 2017,⁴²⁹ geared at carrying network programming from its co-owners.⁴³⁰
- In April 2015, HBO launched HBO Now, a stand-alone streaming service.⁴³¹ In 2016, Starz launched online viewing of Starz programming through an app that works with iOS and Android devices and Roku.⁴³²
- **Sports Leagues:** In general, major U.S. professional sports leagues such as Major League Baseball (MLB), the National Basketball Association (NBA), the National Hockey League (NHL), and Major League Soccer (MLS) make some online content available to consumers for free. However, each league also provides access to additional content, such as live streams and out of market games, via a stand-alone subscription service.⁴³³
- **OVDs Owned by MVPDs:** Some MVPDs now offer OVD services that do not require a subscription to MVPD services. For example, Dish Network offers Sling TV, AT&T offers DIRECTV NOW, and Verizon offers go90. As discussed in more detail below,⁴³⁴ these OVD services provide access to a wide variety of content, including linear programming channels, VOD programming, and original programming.

c. Horizontal Concentration

133. It is difficult to measure market shares and to determine the extent of horizontal concentration in the OVD marketplace.⁴³⁵ Players continue to enter and exit, and business models, including those for advertising-based, subscription, and rental OVDs, are diverse and overlapping. In addition, ratings/viewing information is neither standardized nor widely available. Many OVDs are integrated with subsidiaries or divisions of companies with multiple non-OVD business lines, and such companies typically aggregate data for video services with data for other services, making it difficult or impossible to garner data, such as revenue and subscriber figures, for the OVD service. Other OVDs, such as Hulu, are privately owned and do not make their data publically available. Moreover, due to the lack of standardized metrics for measuring viewership,⁴³⁶ it is difficult to measure market shares and to determine the extent of horizontal concentration in the OVD marketplace.⁴³⁷

134. Moreover, due to the lack of standardized metrics for measuring viewership,⁴³⁸ measuring

⁴²⁹ Matt Pressberg, *Time Warner Just Made Hulu the Skinny Bundle to Beat*, The Wrap (Aug. 3, 2016), <http://www.thewrap.com/time-warner-just-made-hulu-the-skinny-bundle-to-beat/>.

⁴³⁰ Todd Spangler, *Hulu Wants Local Broadcast Channels for Skinny TV Bundle*, Variety (May 4, 2016), <http://variety.com/2016/digital/news/hulu-live-tv-service-local-channels-1201766313/>.

⁴³¹ HBO, *HBO NOW* | Order, <https://order.hbonow.com/> (last visited Dec. 23, 2016).

⁴³² Starz, *STARZ – Exclusive Originals, Hit Movies*, <https://www.starz.com/> (last visited Dec. 23, 2016); see also Daniel Frankel, *Starz finally announces direct-to-consumer service*, FierceCable (April 5, 2016), <http://www.fiercecable.com/cable/starz-finally-announces-direct-to-consumer-service>.

⁴³³ SNL Kagan, *State of Online Video Delivery at 19* (2016).

⁴³⁴ See *supra* Section C.2.f, para. 155.

⁴³⁵ *17th Report*, 31 FCC Red at 4532, para 143.

⁴³⁶ *Id.*

⁴³⁷ *Id.*

⁴³⁸ *Id.*

online video viewership raises unique challenges that the industry is continuing to address. For example, at the end of 2015, Nielsen introduced a metric to compare television and online audiences in its Total Audience measurement.⁴³⁹ Nielsen finalized this metric based on the needs of advertisers.⁴⁴⁰ In addition, services that measure online video viewership generally do not report professional and non-professional video viewership separately on a systematic basis.

d. Vertical Integration

135. OVDs procure and also may create content, store it, transmit it over the Internet, and enable consumers to watch it on their televisions or devices.⁴⁴¹ As described above, most major studios offer OVD EST and rental services. These include Crackle and PlayStation Store (both owned and operated by Sony), Warner Brothers' Flixster, Dreamworks SKG's M-go, Disney Movies Anywhere, and the Paramount Movies site. In addition, networks and sports leagues make their programming available directly to consumers online on their websites, sometimes referred to as verticals or portals.⁴⁴² The websites may be brand extensions of existing media properties where their original programming is repurposed for secondary use on their OVD service, and/or the services may contain content created specifically for the OVD service.

136. Some OVDs are vertically integrated with technology companies that also store and deliver computer services over the Internet – that is, they store the OVDs' content.⁴⁴³ Such companies include Amazon (which provides Amazon Web Services), Microsoft (which offers Azure), Google, and Verizon (which provides Verizon Terremark).⁴⁴⁴ Additionally, OVDs may provide video storage, which may be either hardware or software-based.

137. Increasingly, OVDs are using content delivery networks (CDNs) to enhance the speed and quality of video content delivered to consumers. Specifically, CDNs reduce latency in the transmission of data by storing cached versions of the data in geographic locations closer to the consumer.⁴⁴⁵ Major OVDs that provide CDN services to third parties include Amazon (through its Amazon CloudFront service), Microsoft (through its Azure service), and Verizon (since it acquired EdgeCast).⁴⁴⁶ Google and Netflix each operate their own proprietary CDNs – Google Cloud CDN and Netflix Open Connect – which they use for their own content.⁴⁴⁷ Similarly, Apple operates its own CDN in the United

⁴³⁹ Steve Hasker, *It's Time to Put TV and Digital on an Even Playing Field*, Nielsen News Center (Oct. 1, 2015), <http://sites.nielsen.com/newscenter/its-time-to-put-tv-and-digital-on-an-even-playing-field/>.

⁴⁴⁰ *Id.*

⁴⁴¹ *Id.*

⁴⁴² PC Magazine defines a portal as a web “supersite” that provides a variety of services.” See PC Magazine, *Encyclopedia, Definition of: Portal*, <http://www.pcmag.com/encyclopedia/term/49528/portal> (last visited Feb. 2, 2016). It notes that television networks provide general purpose portals, but not e-mail. See *id.*

⁴⁴³ *Id.*

⁴⁴⁴ Amazon, *Amazon Web Services*, <https://aws.amazon.com/> (last visited Jan. 20, 2016); Microsoft, *Microsoft Azure*, <https://azure.microsoft.com/en-us/> (last visited Jan. 20, 2016).

⁴⁴⁵ See Akamai, *Content Delivery Network (CDN) & Cloud Computing Services | Akamai*, <https://www.akamai.com/> (last visited Dec. 19, 2016); CDNetworks, *CDN | Global Content Delivery Network | CDNetworks*, <https://www.cdnetworks.com/> (last visited Dec. 19, 2016); Limelight, *Content Delivery Network (CDN) Services | Limelight Networks*, <https://www.limelight.com/?medium=tsa&gclid=CMDQ3vKcgdECFZiCswodbq0GfQ> (last visited Dec. 19, 2016).

⁴⁴⁶ Amazon, *Amazon CloudFront*, <https://aws.amazon.com/cloudfront/> (last visited Jan. 20, 2016); Microsoft, *Microsoft Azure*, <https://azure.microsoft.com/en-us/> (last visited Jan. 20, 2016); Verizon, *Verizon Digital Media Services*, <https://www.verzondigitalmedia.com/> (last visited Jan. 20, 2016).

⁴⁴⁷ Mark Hoelzel, *Here's Why Netflix And Google Are Pouring Resources Into Their Own Content Distribution Networks*, Business Insider (June 3, 2014), <http://www.businessinsider.com/netflix-and-google-are-building-out->

States and Europe.⁴⁴⁸

138. Some OVDs market their own devices, either for use with their OVD service or for access to competitive services. For example, several technology companies, notably Amazon, Apple, Google, and Microsoft, also serve as OVDs, offering online video services that coordinate with the hardware and software created by the company. Each company takes a slightly different approach to integrating its online video services with storage services, apps, and devices to attract and retain customers.⁴⁴⁹ Apple, Google, and Amazon sell devices that enable users to watch online video on their television sets – AppleTV, Google Chromecast, and Amazon Fire TV, respectively. Apple manufactures smartphones, tablets, and computers, and Amazon manufactures tablets,⁴⁵⁰ and in 2016, Google made its first smartphone, The Pixel, available for purchase.⁴⁵¹ Sony’s Play station game consoles can be used to view OVD content, as can Microsoft’s Xbox game console.

e. Conditions Affecting Competition

139. In this section, we discuss the regulatory and marketplace (non-regulatory) conditions that potentially affect competition and entry into the OVD marketplace.

(i) Regulatory Conditions Affecting Competition

140. *Open Internet*. On June 14, 2016, the United States Court of Appeals for the District of Columbia Circuit affirmed the *2015 Open Internet Order*.⁴⁵² The Commission’s *2015 Open Internet Order* prohibits broadband Internet access service providers from blocking or throttling lawful content, services, applications, or non-harmful devices, subject to reasonable network management.⁴⁵³ The order further prohibits broadband Internet access service providers from favoring some traffic over other traffic in exchange for consideration or to benefit an affiliated entity.⁴⁵⁴ The *2015 Open Internet Order* created a standard under which the Commission can prohibit, on a case-by-case basis, practices by a broadband Internet access service provider that “unreasonably interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of edge providers to access consumers using the Internet.”⁴⁵⁵

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[their-own-content-distribution-networks-2014-6](#); Google Cloud CDN – Low Latency Content Delivery, <https://openconnect.netflix.com/en/> (last visited Dec. 23, 2016); Netflix Open Connect, <https://openconnect.netflix.com/en/> (last visited Dec. 23, 2016).

⁴⁴⁸ Shirley Siluk, *Apple Reportedly Building High-Speed Content Delivery Network*, Newsfactor (June 8, 2015), http://www.newsfactor.com/story.xhtml?story_id=101005UMLY89.

⁴⁴⁹ *Id.*

⁴⁵⁰ See Kia Kokalitcheva, *Amazon is killing off the Fire Phone*, Fortune (Sept. 9, 2015), <http://fortune.com/2015/09/09/amazon-killing-fire-phone/>.

⁴⁵¹ Lynn La, *Google Pixel Review*, CNET (Oct. 18, 2016), <https://www.cnet.com/products/google-pixel-phone-review/>.

⁴⁵² *USTA v. FCC*, 825 F.3d at 689. Several parties filed petitions for review of the order, and the United States Court of Appeals for the District of Columbia Circuit consolidated these petitions into a single docket as *United States Telecom Association et al. v. FCC*. The rules adopted in the *2015 Open Internet Order* became effective on June 12, 2015. *Protecting and Promoting the Open Internet*, 80 Fed. Reg. at 19838, para. 584 (specifying the effective date).

⁴⁵³ *17th Report*, 31 FCC Rcd at 4534, para. 149; *2015 Open Internet Order*, 30 FCC Rcd at 5607, paras. 15-16.

⁴⁵⁴ *17th Report*, 31 FCC Rcd at 4534, para. 149; *2015 Open Internet Order*, 30 FCC Rcd at 5607, para. 18.

⁴⁵⁵ *17th Report*, 31 FCC Rcd at 4534, para. 149; *2015 Open Internet Order*, 30 FCC Rcd at 5659, para. 135. The *Open Internet Order* defined “edge provider” as “[a]ny individual or entity that provides any content, application, or service over the Internet, and any individual or entity that provides a device used for accessing any content,

(continued...)

141. *Independent Programming Notice of Proposed Rulemaking.* As discussed in more detail above,⁴⁵⁶ in the *Independent Programming NPRM* released in September 2016, the Commission proposed to adopt rules prohibiting certain practices used by some MVPDs in negotiations for carriage of video programming that may impede competition from OVDs.⁴⁵⁷ Specifically, the Commission stated that contractual restrictions such as “unconditional” MFN and unreasonable ADM provisions potentially create barriers to entry and hinder the growth of OVDs by restraining their access to content and precluding them from entering into mutually beneficial agreements with independent programmers.⁴⁵⁸ Accordingly, the Commission proposed to prohibit the inclusion of such MFN and ADM provisions in program carriage agreements between MVPDs and independent video programming vendors.⁴⁵⁹ The proceeding remains open.⁴⁶⁰

142. *Definition of MVPD.* As noted above,⁴⁶¹ on December 19, 2014, the Commission released a Notice of Proposed Rulemaking seeking comment on whether the statutory definition of MVPD should be interpreted to include certain Internet-based distributors of video programming.⁴⁶² In the Notice, the Commission proposed to interpret “multichannel video programming distributor” to include OVDs if an OVD makes available for purchase, by subscribers or customers, multiple linear streams of video programming.⁴⁶³ The comment cycle closed on April 1, 2015, and the proceeding remains pending.⁴⁶⁴

(ii) Marketplace Conditions Affecting Competition

143. An OVD entrant can face several non-regulatory costs and challenges that affect its ability to enter the marketplace, including content acquisition and ability to access sufficient Internet capacity to provide customers with a high-quality OVD viewing experience.

144. *Access to Content.* The entry of new OVDs and the growth of the OVD marketplace depend on the ability of OVDs to acquire or create compelling programming that will attract viewers and

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application, or service over the Internet.” *2015 Open Internet Order*, 30 FCC Rcd at 5884, Appx. A (adopting 47 C.F.R. § 8.2(b)).

⁴⁵⁶ See *supra* para. 26.

⁴⁵⁷ *Independent Programming NPRM*, 31 FCC Rcd at 11355, para. 7.

⁴⁵⁸ See *id.*

⁴⁵⁹ *Id.* at 11352, para. 1.

⁴⁶⁰ Comments were due on December 27, 2016, and reply comments are due on January 23, 2017. *Comment Deadlines Set for Notice of Proposed Rulemaking Relating to Diverse and Independent Programming*, MB Docket 16-41, Public Notice, DA 16-1219 (MB Oct. 25, 2016).

⁴⁶¹ See *supra* para. 16 n.23.

⁴⁶² See *MVPD NPRM*, 29 FCC Rcd 15997, para. 6. See also *Sky Angel U.S., LLC v. Discovery Communications, LLC and Animal Planet, L.L.C.*, MB Docket Nos. 12-80, 12-83, CSR Docket No. 8605-P, Order, DA 14-1874 (MB rel. Dec. 19, 2014) (holding the Sky Angel program access complaint in abeyance and terminating the Media Bureau’s March 2012 PN docket). The issue of whether a certain type of OVD also qualifies as an MVPD under the Act and our regulations has been raised previously in program access complaint proceedings. See, e.g., *VDC Corp. v. Turner Network Sales, Inc., et al.*, Program Access Complaint (Jan. 18, 2007); *Sky Angel U.S., LLC v. Discovery Communications LLC, et al.*, Program Access Complaint, MB Docket No. 12-80, CSR-8605-P (Mar. 24, 2010). Nothing in this Report should be read to state or imply a determination on the issues raised by the *MVPD NPRM*, or the complaint proceedings.

⁴⁶³ *MVPD NPRM*, 29 FCC Rcd at 15996, para. 1.

⁴⁶⁴ *Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, MB Docket No. 14-261, Order, 30 FCC 2214 (MB 2015).

subscribers.⁴⁶⁵ Content owners' traditional windowing strategies play a key role in determining which OVDs are able to access content and the timetable on which they are able to gain access.⁴⁶⁶ Recently, some major studios have changed the timing of when they release content electronically and are making digital copies of titles available through EST earlier than the DVD version.⁴⁶⁷ In addition, networks and studios factor in the possibility that MVPDs may be less willing to carry them at all, or pay them high rates, if the TV Everywhere rights aren't included in their carriage agreement.⁴⁶⁸ Some television studios continue to opt for traditional syndication rather than distribution via subscription online video services.⁴⁶⁹ In contrast, as noted above, more live sporting event are being made available online without the need for an MVPD subscription.⁴⁷⁰

145. Another potential barrier to content acquisition can be cost, particularly for subscription services. Although final numbers are not yet available, analysts expect that in 2016, Netflix will spend \$6 billion on content acquisition, an increase of \$830 million over the \$5.17 billion it spent in 2015.⁴⁷¹ Of the \$6 billion Netflix is expected to spend on content in 2016, approximately \$1.32 billion will be spent on developing original programming, with the remainder invested in content acquisition and licensing costs.⁴⁷² OVD entry also may be affected by pre-existing business relationships. Specifically, owners and producers of content may be vertically integrated with, or have exclusivity arrangements with, cable networks, broadcast networks, and/or MVPDs. These arrangements may affect unaffiliated OVDs' ability to establish carriage agreements with content owners. A second constraint on OVD content acquisition occurs when content owners are vertically integrated with, or negotiate exclusive relationships with other OVDs.⁴⁷³

146. *Access to Devices.* OVDs make content available to consumers on a variety of Internet-connected devices including television sets, DVD and Blu-ray players, game consoles, computers, smartphones, tablets, and streaming devices (e.g., Roku, Apple TV, Google Chromecast, and Amazon Fire TV).⁴⁷⁴ OVD content, however, does not automatically work on all Internet-connected devices. With different operating systems and different technical standards employed in the marketplace, OVDs must negotiate and reach agreement with each device manufacturer. This takes time, so new OVD services are often available on a few devices initially and over time reach agreement covering additional devices.⁴⁷⁵ For example, when first introduced, Sling TV was not available on Amazon Fire TV or Xbox One.⁴⁷⁶ Today, SlingTV is available on both devices.⁴⁷⁷ The universal availability of all OVDs on all

⁴⁶⁵ SNL Kagan, State of Online Video Delivery at 5 (2016).

⁴⁶⁶ *Id.*

⁴⁶⁷ SNL Kagan, State of Online Video Delivery at 5 (2015).

⁴⁶⁸ *Id.* at 3370, para. 253.

⁴⁶⁹ *Id.*

⁴⁷⁰ *Id.*

⁴⁷¹ SNL Kagan, State of Online Video Delivery at 5 (2016); SNL Kagan, *Netflix Content Spend Projected to Near \$6B by 2019* (May 27, 2015).

⁴⁷² SNL Kagan, Economics of Internet Media: Netflix Content (Nov. 18, 2016).

⁴⁷³ *Id.*

⁴⁷⁴ SNL Kagan, State of Online Video Delivery at 10 (2016).

⁴⁷⁵ See Mike Snider, *Sling TV streaming-video service open for Business*, USA Today (Feb. 9, 2015), <http://www.usatoday.com/story/tech/personal/2015/02/09/sling-tv-official-launch/23110535/>.

⁴⁷⁶ Press Release, Dish Network Corporation, Sling TV to Launch Live, Over-the-Top Service for \$20 Per Month; Watch on TVs, Tablets, Computers, Smartphones, Game Consoles (Jan. 5, 2015), <http://about.dish.com/press-release/products-and-services/sling-tv-launch-live-over-top-service-20-month-watch-tvs-tablets>.

devices may also be hampered by the incentives facing OVDs and device manufacturers. Although OVDs may benefit from availability on more devices, and device manufacturers may benefit from making their devices compatible with more OVDs, device manufacturers and OVDs may have conflicting incentives that hinder agreement. For example, in 2015, Amazon, which creates and sells both Amazon Fire TV and Amazon Prime Video, stopped selling Apple TV and Google Chromecast devices.⁴⁷⁸ In addition, Apple TV does not include Amazon Prime,⁴⁷⁹ and YouTube Red is not available on Amazon Fire TV.⁴⁸⁰

147. Netflix indicates that its agreements with consumer electronics manufacturers are typically between one and three years in duration, and that the degree of accessibility and prominence of its service on the manufacturer's device is an important negotiated provision in its agreements.⁴⁸¹ Netflix notes that, as it makes technological changes to its streaming capabilities, the consumer electronics manufacturers may need to update their devices in order to maintain quality of service for Netflix's subscribers.⁴⁸² Thus, the negotiations, and balancing of benefits, between device manufacturers and OVDs tend to be ongoing as technology, content availability, and consumer tastes change.

148. *Internet Speed.* Consumers viewing OVD streaming video typically require connection to high-speed Internet services.⁴⁸³ For example, Netflix recommends that subscribers have a speed of at least 3.0 Mbps to watch programs in standard definition quality; 5.0 Mbps to watch content in HD quality; and 25 Mbps to watch programs in Ultra HD quality.⁴⁸⁴ Households viewing multiple video streams on multiple devices at the same time require higher speeds.⁴⁸⁵

149. In terms of fixed speeds, the Commission's *2016 Broadband Progress Report* indicates that approximately 51 percent of Americans have access to at least one provider offering wireline Internet download speeds of 25 Mbps, while approximately 38 percent have access to two or more providers, and approximately 10 percent of Americans have no providers offering this fixed download speed.⁴⁸⁶ As of

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⁴⁷⁷ Sling TV, *Sling TV | Watch Live TV Anytime, Anywhere for \$20/mo.*, <https://www.sling.com/> (last visited Dec. 15, 2016).

⁴⁷⁸ Spencer Soper, *Amazon to Ban Sale of Apple, Google Video-Streaming Devices*, Bloomberg (Oct. 1, 2015), <https://www.bloomberg.com/news/articles/2015-10-01/amazon-will-ban-sale-of-apple-google-video-streaming-devices>.

⁴⁷⁹ Jeff Byrnes, *Where on Earth is Amazon Video for Apple TV?*, App Advice (May 2, 2016), <http://appadvice.com/post/where-on-earth-is-amazon-video-for-apple-tv/712271>.

⁴⁸⁰ Sarah Mitroff and Taylor Martin, *Everything you need to know about YouTube Red*, CNET (Dec. 8, 2016), <https://www.cnet.com/how-to/youtube-red-details/>.

⁴⁸¹ Netflix Inc., SEC Form 10-K for the Year Ended December 31, 2016 at 6 (Netflix 2016 Form 10-K).

⁴⁸² *Id.*

⁴⁸³ SNL Kagan, *State of Online Video Delivery* at 6 (2016).

⁴⁸⁴ Netflix, Inc., *Help Center: Internet Connection Speed Recommendations*, <https://help.netflix.com/en/node/306> (last visited August. Oct. 4, 2016).

⁴⁸⁵ See, e.g., Barb Gonzalez, *Internet Speed Requirements for Video Streaming*, Lifewire (Oct. 16, 2016), <https://www.lifewire.com/internet-speed-requirements-for-movie-viewing-1847401>; Eric Brantner, *What Internet Speed Do You Need for Streaming Video?*, Cut Cable Today (Nov. 5, 2016), <http://www.cutcabletoday.com/internet-speed-for-streaming/>; OTT Communications, *How Much Internet Speed do I REALLY need?* (Dec. 23, 2015), <http://www.ottcommunications.com/how-much-internet-speed-do-i-really-need/>.

⁴⁸⁶ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191, Report, 31 FCC Rcd 699, 736, para. 86 (2016) (*2016 Broadband Progress Report*).

December 31, 2015, the Commission's Wireline Competition Bureau estimates that 5.6 percent of fixed connections (or 5.8 million connections) were slower than 3 Mbps downstream, 16.2 percent (or 16.6 million connections) were at least 3 Mbps downstream but slower than 10 Mbps, 24.6 percent (or 25.1 million connections) were at least 10 Mbps downstream but slower than 25 Mbps, 38.4 percent (or 39.3 million connections) were at least 25 Mbps downstream but slower than 100 Mbps, and 15.1 percent (or 15.4 million connections) were at least 100 Mbps downstream.⁴⁸⁷

150. Wireline ISPs typically charge consumers higher prices for higher Internet speeds. For example, Verizon's website indicates that the company offers its top speed 15 Mbps DSL Internet service for \$39.99 a month, their 50 Mbps Fios Internet service for \$49.99 a month, their 150 Mbps Fios Internet service for \$69.99 a month, and their top speed 500 Mbps Fios Internet service for \$269.99 a month.⁴⁸⁸ In their marketing, wireline ISPs often recommend specific Internet speed packages for specific use cases, such as downloading photos, video streaming, or online gaming. For example, Comcast's website suggests that 6 Mbps is good for light streaming and surfing on 1-2 devices at the same time; and 25 Mbps is good for everyday streaming, surfing, and downloading on 2-4 devices at the same time; and 75 Mbps is good for heavy usage activities and multiplayer gaming without lag, and can be used by 6-8 devices at the same time.⁴⁸⁹ And AT&T's website suggests that 6 Mbps is best for web surfing and emailing; 24 Mbps is best for movie streaming; and 45 Mbps is best for streaming on multiple devices.⁴⁹⁰

151. Streaming video accounts for a large and growing percentage of total Internet traffic. In December 2015, Sandvine reported that streaming video and audio traffic accounted for over 70 percent of North American Internet traffic in the peak evening hours on wireline networks.⁴⁹¹ Some wireline ISPs have added data allowances to their Internet service plans, which set limits on the total amount of data a subscriber may download each month. For example, Comcast has a 1 TB data limit on its XFINITY Internet service and AT&T has a 150 GB data limit on its DSL Internet service and a 1 TB data limit on its U-verse Internet service.⁴⁹² Some plans may permit subscribers to exceed the data allowance for a fee or to pay an additional fee for unlimited data.⁴⁹³ The use of data limits is not universal, however, as neither Charter nor Verizon currently impose such limits.⁴⁹⁴ Some commenters have noted that entities

⁴⁸⁷ Fed. Comm'n's Comm'n, Industry Analysis and Technology Division Wireline Competition Bureau, *Internet Access Services: Status as of December 31, 2015* at 3 (Nov. 2016), <https://www.fcc.gov/reports-research/reports/internet-access-services-reports/internet-access-services-reports>.

⁴⁸⁸ Verizon, *High Speed DSL & Broadband Internet Service Providers Verizon Fios*, <http://www.verizon.com/home/highspeedinternet/#performance-value-reliability> (last visited Nov. 28, 2016); Verizon, *Verizon Fios High Speed Fiber-Optic Home Internet Service Provider*, <http://www.verizon.com/home/fios-fastest-internet/> (last visited Nov. 28, 2016).

⁴⁸⁹ Comcast, *High Speed Internet Service from XFINITY by Comcast*, <http://www.xfinity.com/internet-service.html> (last visited Jan. 3, 2017).

⁴⁹⁰ AT&T, *AT&T Internet Service – High Speed Internet Providers*, <https://www.att.com/internet/> (last visited Jan. 3, 2017).

⁴⁹¹ Sandvine Inc., *Sandvine: Over 70 percent Of North American Traffic Is Now Streaming Video And Audio* (Dec. 7, 2015), <https://www.sandvine.com/pr/2015/12/7/sandvine-over-70-of-north-american-traffic-is-now-streaming-video-and-audio.html>.

⁴⁹² Comcast, *XFINITY Data Usage Center – FAQ*, <https://dataplan.xfinity.com/faq/> (last visited Nov. 28, 2016). AT&T, *Home Internet Data Usage FAQs – Internet Support*, <https://www.att.com/esupport/article.html#!/u-verse-high-speed-internet/KM1010099> (last visited Nov. 28, 2016).

⁴⁹³ See, e.g., AT&T, *Home Internet data usage FAQs*, <https://www.att.com/esupport/article.html#!/u-verse-high-speed-internet/KM1010099> (last visited Jan. 4, 2017); see also *New Charter MO&O*, 31 FCC Rcd at 6362-64, paras. 74-77.

⁴⁹⁴ Charter, *Charter Spectrum Internet: High Speed Internet Service*, <https://www.charter.com/browse/content/internet> (last visited Nov. 28, 2016); Verizon, *High Speed DSL &*

(continued...)

offering both MVPD and ISP services may have incentives to use data allowances or exempt affiliated services from these data limits in order to benefit their co-owned MVPD service.⁴⁹⁵ In addition, in the 2015 *Open Internet Order*, the Commission noted that anticompetitive and discriminatory practices by ISPs “can have a deleterious effect on the open Internet”, and the Commission therefore retained targeted authority to protect against such practices.⁴⁹⁶

152. As for mobile broadband, wireless ISPs typically offer a standard Internet speed to their customers but offer a range of data plans at different price points, with additional fees for multiple smartphones and other connected devices. Many of these offerings reflect consumers’ increased data consumption of mobile video. For instance, tiered data plans have provided for larger data allowances than were previously available.⁴⁹⁷ Under such plans, however, subscribers may quickly reach their usage allowance by streaming video. According to Netflix, watching movies or TV shows uses about 1 GB of data per hour for each stream of standard definition (SD) video, and up to 3 GB per hour for each stream of HD video.⁴⁹⁸ As a result, some providers have begun offering various forms of unlimited data plans.⁴⁹⁹ Also, some mobile wireless providers have started offering certain content, including streaming video, without it counting toward data allowances.⁵⁰⁰ Apart from the issue of the quantity of data necessary to

(Continued from previous page)

Broadband Internet Service Providers Verizon Fios,

<http://www.verizon.com/home/highspeedinternet/#performance-value-reliability> (last visited Nov. 28, 2016); Verizon, *Verizon Fios High Speed Fiber-Optic Home Internet Service Provider*, <http://www.verizon.com/home/fios-fastest-internet/> (last visited Nov. 28, 2016). Pursuant to the conditions imposed by the Commission in connection with Charter’s acquisition of Time Warner Cable and Bright House Networks, Charter is currently prohibited from imposing data caps or other usage based pricing mechanisms on its customers’ broadband Internet Access Service plans. See *New Charter MO&O*, 31 FCC Rcd at 6543.

⁴⁹⁵ See, e.g., Public Knowledge et al. Comments, GN Docket No. 14-28, at 49, 51-52 (July 15, 2014) (asserting that many ISPs with pay-TV offerings have an incentive to impose data caps and exempt certain services to disadvantage online video competitors). See also *New Charter MO&O*, 31 FCC Rcd at 6364-65, para. 79; Gerry Smith, *Comcast Wants to Limit Your Netflix Binges*, Bloomberg (Jan. 28, 2016), <http://www.bloomberg.com/news/articles/2016-01-28/comcast-draws-customer-ire-by-putting-netflix-addicts-on-a-meter> (citing an October 2015 Moffett report which stated that usage-based pricing is “an insurance policy against cord-cutting” for pay-TV providers).

⁴⁹⁶ See, e.g., *2015 Open Internet Order*, 30 FCC Rcd at 5686-87, para 195; see also *New Charter MO&O*, 31 FCC Rcd at 6369, para. 85.

⁴⁹⁷ For example, AT&T offers a monthly data plan with 10 GB for \$80, 16 GB for \$90, 25 GB for \$110, 30 GB for \$135, and on up to 100 GB for \$450. AT&T, *Family Plans- Mobile Sharing Advantage – AT&T*, <https://www.att.com/shop/wireless/data-plans.html> (last visited Nov. 30, 2016).

⁴⁹⁸ Netflix, *How can I control how much data Netflix uses?*, <https://help.netflix.com/en/node/87> (last visited Nov. 30, 2016).

⁴⁹⁹ T-Mobile recently began offering an unlimited data plan for \$140 for four devices and advertises standard definition (SD) video streaming with this service. T-Mobile, *T-Mobile One | One Price Unlimited Phone and Data Plans for Everyone*, https://explore.t-mobile.com/t-mobile-one?icid=WMM_TM_HMPGRDSGNA_FLRTJFSULP95838 (last visited Jan. 11, 2017); Press Release, T-Mobile, *The Un-carrier Goes ‘All In.’ T-Mobile ONE Now Includes Taxes & Fees* (Jan. 5, 2017), <https://newsroom.t-mobile.com/news-and-blogs/un-carrier-next.htm>. Sprint offers similar plans. Sprint, *Cell Phone Plans*, <https://sprint.com/landings/unlimited-cell-phone-plans/index.html> (last visited Jan. 5, 2017). In addition, AT&T offers an unlimited data plan for AT&T subscribers who also subscribe to DIRECTV. AT&T, *Our Best Unlimited Plan Ever! Stream and surf all you want with Unlimited Data when you have AT&T Wireless and DIRECTV*, <https://www.att.com/shop/wireless/unlimited-plan.html> (last visited Jan. 9, 2017).

⁵⁰⁰ See, e.g., AT&T, *The Revolution is Here: AT&T Offers 3 Ways to Stream Premium Video Content* (Nov. 29, 2016), http://about.att.com/story/att_offers_three_ways_to_stream_premium_video_content.html; Verizon, go90 FAQs, <https://www.verizonwireless.com/support/go90-faqs/> (last visited Jan. 11, 2017); Press Release, T-Mobile, *T-Mobile Quadruples Binge On Services, Now Over 100 Video Providers Stream Data Free* (July 26, 2016), <https://newsroom.t-mobile.com/news-and-blogs/binge-on-100-providers.htm>.

stream video on mobile networks, available mobile wireless Internet speeds may not always be fast enough to support reliable video streaming.⁵⁰¹

f. Recent Entry and Exit

153. The OVD marketplace continues to expand and change. We provide recent examples of market entry and exit below.

154. *Entry.* Perhaps the most significant entry in the OVD space involved MVPDs offering online video streaming services that do not require a subscription to an MVPD service. In February 2015, DISH Network launched Sling TV, which offers a linear streaming service and access to a library of programming. At launch, the core package consisted of 14 linear channels (including ESPN) for \$20 a month, with additional packages of channels for additional monthly fees.⁵⁰² The service has since expanded, and as of December 2016 provides three video packages: Sling Orange with 30 channels for \$20 per month, Sling Blue with 40 channels for \$30 per month, and Sling Orange + Blue with all channels for \$40 per month, with eight extra packages (*e.g.*, sports, kids, comedy, news, broadcast) for \$5 each.⁵⁰³ Sling TV maintains that its core customers include cord cutters and cord nevers, and that the video service reaches subscribers who do not want traditional MVPD service.⁵⁰⁴ In September 2015, Verizon launched go90, a free ad-supported service targeted to teens and young adults for use on smartphones and tablets.⁵⁰⁵ The service offers television shows, original series, and live music and sports.⁵⁰⁶ In November 2016, AT&T began offering its own linear online streaming service called DIRECTV NOW. DIRECTV NOW offers four tiers of channel bundles, but the bundle marketed most prominently offers 100 channels for an introductory price of \$35.00.⁵⁰⁷ AT&T says the service targets customers who do not currently subscribe to an MVPD video service.⁵⁰⁸

155. According to SNL Kagan, 15 OVDs launched service in 2014, 25 launched in 2015, and 17 launched by mid-November 2016.⁵⁰⁹ Here we list some of the larger OVD launches in 2015 and 2016. In April 2015, HBO launched a stand-alone OVD service called HBO Now for \$14.99 a month.⁵¹⁰ In July

⁵⁰¹ Netflix suggests a minimum speed of 10 Mbps download speed for mobile wireless Internet to ensure customers can stream video on smartphones and tablets. Kevin Parrish, *Netflix Wants The FCC To Kill Internet Data Caps For Good*, Digital Trends (Sept. 15, 2016), <http://www.digitaltrends.com/web/netflix-pleased-fcc-banning-internet-data-caps/>.

⁵⁰² Mike Snider, *Sling TV streaming-video service open for business*, USA Today (Feb. 9, 2015), <http://www.usatoday.com/story/tech/personal/2015/02/09/sling-tv-official-launch/23110535/>.

⁵⁰³ Sling TV, *Sling TV | Watch Live TV Anytime, Anywhere for \$20/mo*, <https://www.sling.com/> (last visited Dec. 7, 2016).

⁵⁰⁴ Jeanine Poggi, *Sling TV CMO Glenn Eisen Carefully Courts Cord Cutters | Media*, Advertising Age (Sept. 15, 2015), <http://adage.com/article/print-edition/sling-tv-cmo-courts-cord-cutters-carefully/300332/>.

⁵⁰⁵ Mike Snider, *Verizon launches go90 mobile video service*, USA Today (Oct. 1, 2015), <http://www.usatoday.com/story/tech/2015/10/01/verizon-launches-go90-mobile-video-service/73138654/>. See also Verizon Reply comments at 4.

⁵⁰⁶ go90 App, *Home | go90*, <https://www.go90.com/> (last visited May 20, 2016).

⁵⁰⁷ Chris Welch, *DirecTV Now: everything you want to know*, The Verge (Nov. 30, 2016), <http://www.theverge.com/2016/11/30/13788934/directv-now-att-internet-tv-service-questions-pricing-channels>.

⁵⁰⁸ SNL Kagan, *Cable TV Investor at 22* (Aug. 31, 2016).

⁵⁰⁹ Ali Choukeir, *Another dynamic year for US OTT services, VSPs*, SNL Kagan (Dec. 7, 2016).

⁵¹⁰ Todd Spangler, *HBO Now Gets a Launch Date*, Variety (March 18, 2015), <http://variety.com/2015/digital/news/hbo-sets-date-to-cut-pay-tv-bundle-cord-with-over-the-top-internet-service-1201454621/>.

2015, Showtime launched its own stand-alone OVD service for a \$10.99 monthly fee.⁵¹¹ In October 2015, Verizon launched go90 targeted to young people using mobile devices.⁵¹² Also in October 2015, YouTube launched YouTube Red, which is a subscription service that removes advertisements from YouTube content.⁵¹³ In April 2016, STARZ launched a standalone subscription service for \$8.99 a month.⁵¹⁴ In October 2016, Vudu launched Movies on US, which is a free, ad-supported service.⁵¹⁵ In late 2016, Ellation, which offers Crunchyroll and Creativebug, began offering a new subscription service that bundles together numerous fantasy and animation OVDs.⁵¹⁶

156. *Exit.* In 2016, Hulu ended its free ad-supported service.⁵¹⁷ Citing limited access to content under the no-cost access plan, Hulu decided to focus on its subscription models in an effort to increase competition with Netflix and Amazon Prime.⁵¹⁸

3. Competitive Strategies

157. Although most consumers of MVPD services subscribe to one and only one MVPD for television, consumers of OVD services often access multiple OVDs. As such, an OVD seeking to win a new customer may not need to convince the customer to switch OVD providers. In many cases, the OVD may simply need to convince the consumer to add an additional OVD service or product.

158. In this section, we discuss the common strategies used by a sample of OVDs to compete in the market for the delivery of video programming. Specifically, we discuss the efforts of OVDs to differentiate themselves by offering extensive, exclusive, or original content. We also discuss the efforts of OVDs to attract and retain customers by helping customers find video content that matches their preferences, as well as how OVDs are changing where and when content is made available to consumers. Our discussion then moves to efforts by OVDs to differentiate themselves based on price, availability of content on multiple devices, and picture quality. Finally, we discuss competitive strategies related to advertising.

a. Content

159. *Content Libraries.* OVDs differentiate themselves based on the amount and types of programming they make available to consumers.⁵¹⁹ Table III.C.1 below shows that some OVDs, such as

⁵¹¹ Jeff Baumgartner, *Showtime Unleashes Stand-alone OTT Service*, Multichannel (July 7, 2015), <http://www.multichannel.com/news/next-tv/showtime-unleashes-standalone-ott-service/391985>.

⁵¹² Mike Snider, *Verizon launches go90 mobile video service*, USA Today (Oct. 1, 2015), <http://www.usatoday.com/story/tech/2015/10/01/verizon-launches-go90-mobile-video-service/73138654/>.

⁵¹³ Sarah Mitroff and Taylor Martin, *Everything you need to know about YouTube Red*, CNET (Dec. 8, 2016), <https://www.cnet.com/how-to/youtube-red-details/>.

⁵¹⁴ David Katzmaier, *Starz app lets you subscribe and watch for \$9 per month without a cable subscription*, CNET (April 5, 2016), <https://www.cnet.com/news/starz-app-lets-you-subscribe-and-watch-without-a-cable-subscription/>.

⁵¹⁵ Todd Spangler, *Walmart's Vudu Free Movie TV Service Has Thousands of Titles*, Variety (Oct. 18, 2016), <http://variety.com/2016/digital/news/vudu-walmart-free-movies-tv-shows-1201892407/>.

⁵¹⁶ Ellation, *VRV – Home of Your Favorite Channels*, <https://vrv.co/> (last visited Dec. 7, 2016); see also Jeff Baumgartner, *VRV's 'Combo Pack' Offers 8 SVOD Channels for \$9.99/Month*, Multichannel (Nov. 14, 2016), <http://www.multichannel.com/news/content/vrv-s-combo-pack-offers-8-svod-channels-999month/409072>; Janko Roettgers, *E3: Chernin's Ellation Launches VRV Subscription Service*, Variety (June 14, 2016), <http://variety.com/2016/digital/news/ellation-vrv-e3-announcement-1201795573/>.

⁵¹⁷ Todd Spangler, *Hulu Ends Free Streaming Service*, Variety (Aug. 8, 2016), <http://variety.com/2016/digital/news/hulu-free-streaming-end-yahoo-1201832578/>.

⁵¹⁸ *Id.*

⁵¹⁹ Chandra Steele and Chloe Albanesius, *Which Video Streaming Service Is Best for You?*, PCMag (June 15, 2016), <http://www.pcmag.com/article2/0.2817.2489103.00.asp>.

Netflix and Amazon Prime, offer extensive libraries containing thousands of movies and television shows.⁵²⁰ Other OVDs, such as Hulu, offer large libraries but focus on making available current seasons of television shows from broadcast networks.⁵²¹ Other OVDs offer smaller but more exclusive libraries. For example HBO Now, Showtime, and Starz offer content from their cable networks.⁵²²

Table III.C.1
Content Library of Select OVD Providers⁵²³

	Number of Television Seasons	Number of Movies
Amazon/Amazon Prime Instant Video	15,600	30,847
CinemaNow	>480	>9,800
Google Play	--	22,423
Hulu	3,273	2,039
iTunes	10,908	26,284
Netflix	3,431	27,937
VUDU	7,600	8,930
YouTube	-	Thousands

160. *Exclusive Content.* For a majority of their content libraries, OVDs such as Netflix and Amazon Prime negotiate with studios, cable networks, and broadcast networks to license the distribution rights for movies and television shows. For some content, OVDs negotiate exclusive streaming rights, which they use to attract consumers seeking specific video content.⁵²⁴ Thus, the video content available for streaming on Netflix often differs from the video content available for streaming on other services, such as Amazon Prime. For example, all seasons of the television shows *Friends*, *Frasier*, and *Breaking Bad* are available from Netflix, but not from Amazon Video.⁵²⁵ All seasons of the television shows *NYPD Blue*, *The Wire*, and *Star Trek* are available from Amazon Prime, but not from Netflix.⁵²⁶ And all seasons of the television show *Seinfeld* are available from Hulu, but not from Netflix or Amazon Prime.⁵²⁷

161. *Original Content.* Increasingly, a number of OVDs are investing in original programming to attract and retain customers.⁵²⁸ Netflix offers over 30 original series including the family sitcom *Fuller House*, a French-language series *Marseille*, the comedies *Lady Dynamite*, *The Ranch*, and

⁵²⁰ SNL Kagan, State of Online Video Delivery at 10 (2016).

⁵²¹ *Id.*

⁵²² *Id.*

⁵²³ SNL Kagan, OTT Aggregators; Just Watch, *Just Watch - Streaming Search Engine for movies and tv shows*, <https://www.justwatch.com/us> (last visited Dec. 15, 2016).

⁵²⁴ Sumit Passary, *Amazon Prime Video vs Netflix vs Hulu: Price Comparison Of The Best Streaming Services*, Tech Times (Apr. 20, 2016), <http://www.techtimes.com/articles/151513/20160420/amazon-prime-video-vs-netflix-vs-hulu-price-comparison-of-the-best-streaming-services.htm>.

⁵²⁵ Netflix, *Netflix – Watch TV Shows Online, Watch Movies Online*, <https://www.netflix.com/> (last visited Dec. 7, 2016).

⁵²⁶ Amazon, *Amazon.com: Prime Video: Amazon Video*, <https://www.amazon.com/Prime-Video/b?node=2676882011> (last visited Dec. 7, 2016).

⁵²⁷ Hulu, *Hulu – Watch TV, Originals, and Hit Movies*, <http://www.hulu.com/welcome> (last visited Dec. 7, 2016).

⁵²⁸ SNL Kagan, State of Online Video at 5 (2016).

Love, the music drama *The Get Down*, and the sci-fi series *Stranger Things*.⁵²⁹ According to the company's CFO David Wells, Netflix plans to increase its original programming over the next few years to 50 percent of its content offerings.⁵³⁰ Amazon also offers approximately 30 original series including the dramas *Goliath*, *Bosch*, and *The Man in the High Castle*, and the comedies *Transparent* and *Mozart in the Jungle*.⁵³¹ In 2016, Amazon doubled its spending on original programming.⁵³² YouTube plans to release up to 20 original productions by the end of 2016, which will be available exclusively to YouTube Red subscribers.⁵³³

162. In addition to the exclusive and original content offered by the largest OVDs, a number of websites owned and operated by broadcast and cable networks offer content from their networks at no additional charge. According to SNL Kagan, every major broadcast network except NBC increased the amount of these online offerings between 2014 and 2015.⁵³⁴ TV.com, which is owned by CBS, primarily distributes recent CBS television programs.⁵³⁵ The website also directs consumers to other OVDs where they may obtain their desired television programming.⁵³⁶ CBS and Comedy Central make full-length recent episodes available for viewing on their websites.⁵³⁷

163. In some cases, networks make some content available only to authenticated MVPD subscribers. For example, some CBS shows are available to all consumers for free on CBS.com, but other content requires authentication, and hence a current MVPD subscription. Similarly, HBO and Showtime offer content on their websites for authenticated MVPD subscribers.⁵³⁸ Increasingly, however, networks are offering stand-alone subscription services alongside their authentication-based offerings. For example, CBS All Access allows users to watch CBS programming live online, as well as to access a library of CBS premium content, for a monthly subscription of \$5.99 with commercials, or \$9.99 for ad-

⁵²⁹ Netflix Media Center, *Netflix New and Upcoming*, <https://media.netflix.com/en/only-on-netflix/#/new?page=1> (last visited July 25, 2016). In 2016, Netflix secured 54 Emmy nominations for its original programming, just behind the 56 nominations received by FX, and exceeding both CBS's 35 and NBC's 41 nominations. Nathan McAlone, *Netflix saw the biggest jump in Emmy nominations this year out of any of its major rivals*, Business Insider (July 14, 2016), <http://www.businessinsider.com/netflix-sees-big-jump-in-2016-emmy-nominations-2016-7>.

⁵³⁰ Todd Spangler, *Netflix Targeting 50% of Content to Be Original Programming*, *CFO Says*, Variety (Sept. 20, 2016), <http://variety.com/2016/digital/news/netflix-50-percent-content-original-programming-cfo-1201865902/>.

⁵³¹ In 2016, Amazon was nominated for 16 Emmy Awards, including 10 for the series *Transparent*. Amazon, *Amazon Receives 16 Emmy Nominations* (July 14, 2016), <https://www.amazon.com/p/feature/m22v9n9joh3g37z>.

⁵³² James Geddes, *Amazon Takes On Netflix With Huge Original Content Budget*, Tech Times (July 31, 2016), <http://www.techtimes.com/articles/171930/20160731/amazon-takes-on-netflix-with-huge-original-content-budget.htm>.

⁵³³ Kia Kokalitcheva, *YouTube's First Lineup of Original Content Is Here*, Fortune (Feb. 10, 2016), <http://fortune.com/2016/02/10/youtube-originals-release/>.

⁵³⁴ Seth Shafer, *FOX Surged Ahead As Broadcast Net OTT Libraries Expand*, SNL Kagan (Feb. 3, 2016). Online episode libraries increased between 10.6 percent and 119.3 percent from the end of 2014 to the end of 2015. NBC and The CW are the only networks that have not made authentication a requirement for the majority of content. *See id.*

⁵³⁵ TV.com, *Videos, Full Length Episodes*, <http://www.tv.com/video/> (last visited Sept. 20, 2016).

⁵³⁶ TV.com, *About* <http://www.tv.com/about/> (last visited Sept. 8, 2016)

⁵³⁷ CBS.com, *Watch Latest Full Episodes*, <http://www.cbs.com/watch/> (last visited July 22, 2016).

⁵³⁸ Brendan Hesse, *HBO GO vs HBO Now: which is right for you?*, Digital Trends (June 21, 2015), <http://www.digitaltrends.com/movies/hbo-go-vs-hbo-now/> (*HBO GO vs HBO Now*). *See also* Showtime Anytime, *FAQ: How Do I Access Showtime Anytime?*, <http://www.showtimeanytime.com/#/faq> (last visited Jan. 20, 2016).

free viewing.⁵³⁹ In addition, through its HBO Now product, HBO offers access to its programming on a stand-alone basis, without the need to be an authenticated MVPD subscriber, for \$14.99 per month.⁵⁴⁰ Similarly, in April 2016, Starz introduced a mobile app that allows users to view its premium channel for \$8.99 per month, regardless of whether they subscribe to an MVPD service.⁵⁴¹

164. *Content Discovery.* A 2016 report by Ericsson found that consumers in the United States spend 45 percent more time choosing what to watch on the VOD services offered by MVPDs and OVDs than they spent searching what to watch on the scheduled linear television services offered by MVPDs and some OVDs.⁵⁴² Consumers spent 23 minutes each day channel surfing or looking through the on-screen guide searching for something to watch on scheduled linear television.⁵⁴³ Although consumers spent on average 33 minutes searching for VOD programming from a sample of MVPDs and OVDs, 63 percent of consumers say they are more satisfied with their VOD content discovery, while 51 percent say they are satisfied with their scheduled linear content discovery.⁵⁴⁴ As examples of the time spent searching for programming, the report by Ericsson show that the average time spent per day searching for content was 23 minutes for broadcast television, 47 minutes for AT&T U-verse VOD programming, 28 minutes for Netflix VOD programming, 41 minutes for HBO Go TV Everywhere programming, 28 minutes for Hulu VOD programming, 33 minutes for Apple iTunes VOD programming, and 27 minutes for Amazon Prime VOD programming.⁵⁴⁵

165. The report by Ericsson notes that content discovery continues to be a source of frustration for consumers.⁵⁴⁶ In December 2016, Netflix began adding a feature that enables consumers to preview a show, without having to hit play.⁵⁴⁷ According to Netflix, the previews are not trailers but instead “quickly highlight the story, characters and tone of a title.”⁵⁴⁸ In addition to the efforts of OVDs to improve their user interface and algorithms for suggesting content to match consumer preferences, a number of independent entities provide apps to help consumers navigate the growing amount of OVD content.⁵⁴⁹ For example, Comcast recently added Netflix to its X1 set-top box, and plans to add Sling TV, so that Comcast MVPD subscribers will see those OVD options alongside the MVPD video offerings.⁵⁵⁰ Comcast’s strategy may represent a move toward a single device (provided in this instance by an MVPD) with a single user interface for all MVPD and OVD content, which could reduce some of the consumer

⁵³⁹ CBS All Access, Watch and Stream CBS Shows and the NFL on All Access - CBS.com, <https://www.cbs.com/all-access/> (last visited Dec. 19, 2016).

⁵⁴⁰ *HBO GO vs HBO Now*; see also HBO NOW, <https://order.hbonow.com/> (last visited Apr. 29, 2016).

⁵⁴¹ David Katzmaier, *Starz App Lets You Subscribe and Watch for \$9 per Month Without a Cable Subscription*, CNET (Apr. 5, 2016), <https://www.cnet.com/news/starz-app-lets-you-subscribe-and-watch-without-a-cable-subscription/>.

⁵⁴² Ericsson ConsumerLab, *TV and Media 2016: The evolving role of TV and media in consumers’ everyday lives at 11* (November 2016), <https://www.ericsson.com/thinkingahead/consumerlab/consumer-insights/tv-and-media-2016>.

⁵⁴³ *Id.*

⁵⁴⁴ *Id.*

⁵⁴⁵ *Id.*

⁵⁴⁶ *Id.*

⁵⁴⁷ Chaim Gartenberg, *Netflix adds video previews to make it easier to find something to watch*, The Verge (Dec. 6, 2016), <http://www.theverge.com/2016/12/6/13857388/netflix-video-previews-trailers-browsing-tv-app>.

⁵⁴⁸ *Id.*

⁵⁴⁹ Jess Bolluyt, *11 Better Ways to Find Movies on Netflix*, The Cheat Sheet (Aug. 12, 2016), <http://www.cheatsheet.com/gear-style/11-better-ways-to-find-movies-on-netflix.html/?a=wall>.

⁵⁵⁰ Jeff Baumgartner, *Sling TV to Stream to Comcast’s X1 Platform*, Multichannel (Nov. 22, 2016), <http://www.multichannel.com/news/content/sling-tv-stream-comcast-s-x1-platform/409264>.

frustration associated with multiple devices, multiple controls, and multiple visual layouts.⁵⁵¹

166. *Windowing*. To maximize profits, owners of video content decide where and when their programs will be made available to different video distributors.⁵⁵² As such, many movies initially shown in theaters are later made available to broadcast and cable networks, and later made available to OVDs. Similarly, many television programs initially shown on broadcast and cable networks, are later made available to OVDs. There has been a trend toward faster windowing.⁵⁵³ Perhaps more important, however, is the impact of OVD original programming on the traditional windowing model. For OVD original programming, the OVD is the first, not last, distributor to release the content.⁵⁵⁴

b. Supported Devices

167. OVDs enter into arrangements with device manufacturers to provide viewers with access to the OVD's content on a variety of devices. As the marketplace has matured, some content owners have shifted their strategies from making their movies and television programs available on as many platforms and devices as possible to focusing on manufacturers that command a larger market share.⁵⁵⁵ Netflix, Hulu, and Amazon make streaming content available on computers and a wide array of mobile and Internet-enabled devices. Consumers can access YouTube via computer, mobile apps for iOS and Android, and a variety of other internet-enabled devices.⁵⁵⁶ Movies and television programs purchased from an OVD may be tied exclusively to a particular affiliated device or platform.⁵⁵⁷ For example, programming downloaded from iTunes will not be viewable on non-Apple devices; such programming can be played only on other Apple devices owned by the user, including iPhones, iPads, and Apple TVs.⁵⁵⁸ However, movies purchased from Amazon or CinemaNow can be played on iOS devices.⁵⁵⁹

168. In addition, device manufacturers that are affiliated with OVDs may design the equipment to support only certain OVD services or may use the device's home screen to promote preferred OVD services. For example, although both devices support other OVD services, Sony's PlayStation system promotes Sony's PlayStation Vue OVD service⁵⁶⁰ and Amazon's Fire TV directs users to the Amazon's Instant EST/rental video service for access to television programs and movies for purchase or rental.⁵⁶¹ Table III.C.2 below lists the devices that can be used to access content from select OVDs.

⁵⁵¹ Laura Hamilton, *The Unlikely Pairing of Comcast X1 and Sling TV Content*, CED, <https://www.cedmagazine.com/news/2016/11/unlikely-pairing-comcast-x1-and-sling-tv-content> (last visited Dec. 16, 2016).

⁵⁵² Vogel at 126.

⁵⁵³ *Id.*

⁵⁵⁴ We have no information on how much, if any, OVD original programming has made its way to broadcast and cable networks.

⁵⁵⁵ SNL Kagan, *State of Online Video Delivery* at 7 (2016).

⁵⁵⁶ *Id.* at 16.

⁵⁵⁷ *Id.* at 13.

⁵⁵⁸ Apple, *Use Home Sharing to share iTunes content with other devices* (Dec. 6, 2016), <https://support.apple.com/en-us/HT202190>.

⁵⁵⁹ SNL Kagan, *State of Online Video Delivery* at 14 (2016); Apple, *Video*, <http://www.apple.com/itunes/video/> (last visited July 17, 2016); Amazon, *Video*, <https://www.amazon.com/Prime-Video/b?node=2676882011> (last visited July 17, 2016).

⁵⁶⁰ Sony, *PlayStation Official Site – PlayStation Console, Games, Accessories*, <https://www.playstation.com/en-us/> (last visited Dec. 16, 2016).

⁵⁶¹ Amazon, *Video*, <https://www.amazon.com/Prime-Video/b?node=2676882011> (last visited July 17, 2016).

Table III.C.2
Devices or Platforms on Which Select OVDs Can Be Accessed⁵⁶²

	Compatible Devices or Platforms
Amazon/Amazon Prime Instant Video	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players
CinemaNow	devices with iOS (Apple) and Android (Google) operating systems, Xbox 360, PS3, Roku, NetGear, smart TVs, Blu-ray players
Google Play	Android, Google TV
Hulu	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players
iTunes	iOS, Apple TV
Netflix	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players
VUDU	devices with iOS (Apple) and Android (Google) operating systems, Xbox One, PS4, Chromecast, Roku, smart TVs, Blu-ray players
YouTube	devices with iOS (Apple) and Android (Google) operating systems, Xbox One, PS3, Wii U, smart TVs, Chromecast, Roku, Apple TV

169. The limited capacity of hard drives can also limit consumers' EST purchases.⁵⁶³ Ultraviolet, a cloud-based content locker that uses purchase codes to give access and allow consumers to watch content, addresses some of these issues.⁵⁶⁴

c. Price

170. As shown in Table III.C.3 below, prices for subscription OVD services vary. Netflix offers three subscription plans, with monthly costs ranging from \$7.99 to \$11.99.⁵⁶⁵ The plans all offer the same content but vary with respect to the availability of HD or Ultra HD programming and the number of screens that can be used simultaneously, which varies from one screen for the \$7.99 plan and four screens for the \$11.99 plan.⁵⁶⁶ Hulu offers two subscription plans with the same content, the distinction between the services being whether or not it contains commercials: \$7.99 per month with commercials, and \$11.99 per month without any ads.⁵⁶⁷ Amazon Prime subscriptions cost \$10.99 per month or \$99 per year. A subscription to Amazon Prime provides access to the streaming Prime Video

⁵⁶² SNL Kagan, OTT Aggregators.

⁵⁶³ SNL Kagan, State of Online Video Delivery at 15 (2016).

⁵⁶⁴ UltraViolet, *Where to Watch*, <https://www.myuv.com/watch> (last visited Jan. 10, 2017).

⁵⁶⁵ Netflix, *Netflix – Watch TV Shows Online, Watch Movies Online*, <https://www.netflix.com/getstarted> (last visited Dec. 15, 2016).

⁵⁶⁶ *Id.*

⁵⁶⁷ Hulu, *Hulu – Watch TV, Originals, and Hit Movies*, <http://www.hulu.com/welcome> (last visited Dec. 15, 2016). Hulu discontinued its free, advertising-supported service in 2016.

service along with other benefits like free shipping on many products purchased on Amazon.com.⁵⁶⁸ In 2016, Amazon began offering a standalone subscription to Prime Video for \$8.99 per month.⁵⁶⁹

171. YouTube Red subscribers pay \$9.99 per month for ad-free YouTube videos and approximately 20 original shows.⁵⁷⁰ Sling TV offers three plans: \$20 per month for 30 channels, \$30 per month for 40 channels, and \$40 per month for over 50 channels.⁵⁷¹ DIRECTV's introductory offer for DIRECTV NOW provides 120+ live channels and 15,000 VOD titles for \$35 per month.⁵⁷² A comparison of some popular OVD subscription services are presented below in Table III.C.3.

Table III.C.3
Prices for Select Subscription OVD Services

	Price per Month	Price per Year
Amazon Prime (includes Prime Video)	\$10.99	\$99.00
Amazon Prime Video only	\$8.99	--
DIRECTV NOW	\$35	--
Hulu	\$7.99-\$11.99	--
Netflix	\$7.99-\$11.99	--
Sling TV	\$20.00 - \$40.00	--
YouTube Red	\$9.99 ⁵⁷³	--

172. Prices for subscription services provided by sports leagues vary. For the 2016 season, MLB's price for the full MLB.tv package was \$109.99 and single-team packages were priced at \$84.99.⁵⁷⁴ For the 2016-2017 season, an NBA subscription for all games costs \$169.99 and a subscription to follow a team costs \$99.99.⁵⁷⁵ For the 2016-2017 season, an NHL subscription for all games costs \$139.96 (or \$24.99 monthly) and a subscription to follow a team costs \$111.96.⁵⁷⁶

⁵⁶⁸ Amazon, *Amazon.com Help & Customer Service: About the Amazon Prime Membership Charge*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=200966690> (last visited Dec. 15, 2016). Other Amazon Prime benefits include free two-day shipping, Prime Music, Prime Photo, Prime Pantry, Kindle Owners Lending Library, and Kindle First. Amazon.com, & *Customer Service: Amazon Prime*, http://www.amazon.com/gp/help/customer/display.html/ref=hp_left_v4_sib?ie=UTF8&nodeId=200444160 (last visited March 10, 2015). Student memberships cost \$49 per year. Amazon, *Amazon.com Help & Customer Service: Amazon Prime and Amazon Student Prime Membership Fee Charges*, <http://www.amazon.com/gp/help/customer/display.html?nodeId=201482600> (last visited Dec. 1, 2016).

⁵⁶⁹ *Id.*

⁵⁷⁰ YouTube, *YouTube Red – YouTube*, <https://www.youtube.com/red> (last visited Dec. 15, 2016); see also Sarah Mitroff and Taylor Martin, *Everything you need to know about YouTube Red*, CNET (Dec. 8, 2016), <https://www.cnet.com/how-to/youtube-red-details/>.

⁵⁷¹ Sling TV, *Sling TV | Watch Live TV Anytime, Anywhere for \$20/mo*, <https://www.sling.com/> (last visited Dec. 15, 2016).

⁵⁷² DIRECTV, *DIRECTV NOW | Stream TV – Watch Live TV & On Demand*, <https://directvnow.com/#tv-your-way> (last visited Dec. 15, 2016).

⁵⁷³ YouTube, *YouTube Red – YouTube*, <https://www.youtube.com/red> (last visited Dec. 15, 2016); see also Sarah Mitroff and Taylor Martin, *Everything you need to know about YouTube Red*, CNET (Dec. 8, 2016), <https://www.cnet.com/how-to/youtube-red-details/>.

⁵⁷⁴ Mike Axisa, *Lawsuit settlement lowers MLB.tv price, adds some in-market streaming*, CBS Sports (Jan. 19, 2016), <http://www.cbssports.com/mlb/news/lawsuit-settlement-lowers-mlbtv-price-adds-some-in-market-streaming/>.

⁵⁷⁵ NBA, *NBA LEAGUE PASS | NBA.com*, <http://www.nba.com/leaguepass> (last visited Dec. 20, 2016).

⁵⁷⁶ NHL, *Buy Now – US | NHL.TV*, <https://subscribe.nhl.com/us> (last visited Dec. 20, 2016).

173. As shown in Table III.C.4 below, prices for rental and EST OVDs vary as well. Rental prices for TV episodes range from \$1.99 to \$6.99, while prices for movie rentals range from \$0.99 to \$11.99.⁵⁷⁷ EST prices for movies start at \$5.99 and go as high as \$24.00.⁵⁷⁸

Table III.C.4
Prices for Select EST/Rental OVD Services⁵⁷⁹

	Price per TV Episode Rental	Price per Movie Rental	Price per Movie Purchase
Amazon Instant Video	\$1.99 - \$5.99	\$1.99- \$6.99	\$5.99 - \$20.99
CinemaNow	\$1.99 - \$2.99	\$2.99- \$5.99	\$10.00 - \$24.00
Google Play	\$1.99 - \$2.99	\$2.99- \$5.99	\$7.99 - \$19.99
iTunes	\$1.99 - \$3.99	\$0.99- \$9.99	\$7.99 - \$19.99
VUDU	\$1.99 - \$3.99	\$2.99- \$11.99	\$9.99 - \$22.99
YouTube	\$1.99 - \$6.99	\$1.99- \$5.99	\$5.99 - \$19.99

d. Advertising

174. From a consumer viewpoint, OVDs also differentiate themselves in terms of the presence and quantity of advertisements the viewer sees. This, in turn, has an impact on the prices consumers pay for OVD content. Most advertising-supported OVDs are free to consumers, and Hulu's lower priced subscription offering contains advertisements, while its higher-priced offering does not. Advertisements also have an impact on the content that an OVD can provide to consumers. The number of movies and television series available on purely advertising-supported sites tends to be smaller than the number available on OVDs that directly charge consumers a subscription fee.⁵⁸⁰ Subscription services, on the other hand, generally can use subscription revenues to negotiate deals with content providers.⁵⁸¹

175. From an advertiser's perspective, key aspects of non-price rivalry include the quality of the programming (whether association with the programming could enhance or harm a brand), the ability to measure viewership, the size of the OVD's audience, and the ability to target audiences with relevant advertising. Online video ads enable advertisers to gather information and details about the extent to which customers interact with their brands that may not always be readily available from traditional media.⁵⁸² Because online advertising and traditional television advertising use different ratings metrics, calculating an advertising campaign's total reach and frequency across different platforms is difficult.⁵⁸³

⁵⁷⁷ SNL Kagan, OTT Aggregators.

⁵⁷⁸ *Id.*

⁵⁷⁹ *Id.*

⁵⁸⁰ SNL Kagan, OTT Aggregators; Just Watch, *Just Watch - Streaming Search Engine for movies and tv shows*, <https://www.justwatch.com/us>; see also *supra* Table III.C.1.

⁵⁸¹ It is possible for an OVD to provide video content that contains advertisements (e.g., streaming of linear programming channels from third parties) to consumers without itself being involved in the sale of those advertisements or generating revenue based on those advertisements. For purposes of this report, we do not consider such OVDs to be advertising supported.

⁵⁸² See, e.g., Nicole Rawski, *How to Really Measure Engagement*, iMedia Connection (June 15, 2012), <http://www.imediaconnection.com/content/32065.asp>.

⁵⁸³ Jeanine Poggi, *Nielsen Marries TV, Online Ratings*, Advertising Age (Oct. 1, 2012), <http://adage.com/article/media/nielsen-marries-tv-online-ratings/237516/>. The key television ratings metric for advertisers is the "C3 rating," a measurement of network television commercials watched live and on DVRs within three days of their original airing. See *16th Report*, 30 FCC Rcd at 3391, para. 292. For online viewing to be

(continued....)

Product placement facilitates advertising measurement, however, because mentions of brands are incorporated into scripts or referenced to in dialogue, and the products included in the program's video.⁵⁸⁴ Netflix's *House of Cards* series for example has included over 100 products on screen.⁵⁸⁵

176. As mentioned earlier, measuring OVD viewership poses unique challenges. For example, measuring audiences for cable networks is facilitated by installing a device on set-top boxes.⁵⁸⁶ Various firms are working to collect data on OVD viewership. Nielsen's Total Audience report has expanded to count consumers who watch on computers and smartphones.⁵⁸⁷ Additionally, comScore, another company that counts viewership, released its first viewership metrics across digital platforms in March 2016.⁵⁸⁸ While Nielsen focuses on demographic data of consumers, comScore collects information on consumption habits.⁵⁸⁹

4. Selected OVD Operating Statistics and Financial Performance

177. This section discusses OVD performance, including OVD usage and subscribership, as well as revenue, investment, and profitability in the OVD marketplace. This analysis is limited in several respects and reflects the limited amount of data that is publicly available. Accordingly, our discussion is not intended to be a comprehensive assessment of the entire OVD industry, but rather a reflection of a few of the most widely recognized industry players. Most OVDs are not publically traded companies and many are actually subsidiaries of, or operate within, larger publicly held companies that don't breakout OVD results from the parent, making availability of financial data extremely limited.

a. OVD Usage and Subscribership

178. *Consumer Usage.* SNL Kagan estimates that 59.4 million households used online video in 2015.⁵⁹⁰ The growth in OVD usage parallels the growth in the number of households subscribing to high-speed Internet. SNL Kagan estimates that 93.7 million households subscribed to high-speed Internet in 2015.⁵⁹¹ Observers differ with respect to the degree to which consumers are replacing or supplementing MVPD services with OVD services, *i.e.*, cord cutting and cord shaving. SNL Kagan states that, while the majority of U.S. households will continue to subscribe to MVPDs, the increased availability of content via OVDs – albeit sometimes with delayed distribution windows – combined with the increased availability of broadband service and Internet-enabled devices, will likely lead to fewer MVPD subscribers and more OVD usage over the long term.⁵⁹² Free State Foundation recognizes OVD

(Continued from previous page) _____

included in a program's C3 television viewing, a network must include the same set of commercials in the program online that it includes on air. *See id.*

⁵⁸⁴ B. Wade Smith, *How Brands Can Create Awareness in Streaming Video and DVR Programming*, Advertising Age (July 16, 2015), <http://adage.com/article/digitalnext/brands-create-awareness-streaming-video/299363/>.

⁵⁸⁵ *Id.*

⁵⁸⁶ Jim O'Neill, *Nielsen Urges Industry to 'Total it up,' Focus on Internet, Mobile Viewers*, Ooyala (Mar. 9, 2015), <http://www.ooyala.com/videomind/blog/nielsen-urges-industry-%E2%80%98total-it-up%E2%80%99-focus-internet-mobile-viewers>.

⁵⁸⁷ Tony Maglio, *Nielsen's Blind Spot and the Fight for the Future of TV Ratings*, The Wrap (Apr. 26, 2016), <http://www.thewrap.com/comscore-nielsen-tv-ratings-cross-platform-total-audience/>.

⁵⁸⁸ *Id.*

⁵⁸⁹ *Id.*

⁵⁹⁰ SNL Kagan, *State of Online Video Delivery at 6* (2016).

⁵⁹¹ *Id.*

⁵⁹² *Id.*

services as a potential substitute for MVPD services.⁵⁹³

179. In previous Reports, we have noted that the amount of time consumers spend watching online video varies by age, gender, race, life-stage, and lifestyle. For the second quarter of 2016, Nielsen data indicate similar variations in viewing patterns.⁵⁹⁴ Adults aged 65 years or older spend the most time watching traditional television—at 48 hours per week compared to an average of 29 hours for all Americans.⁵⁹⁵ In addition, young adults—those between the ages of 18 and 34 spent the most time watching video either on a smartphone or on a personal computer at nearly four hours per week, compared to an average of two hours for all Americans in the second quarter of 2016.⁵⁹⁶

180. *Subscribership.* SNL Kagan projects that by the end of 2016, 65 million households will subscribe to at least one OVD service and collectively they will purchase 109.0 million subscriptions to OVD services.⁵⁹⁷ Netflix had 46 million subscribers at the end of the second quarter of 2016, up from 41.1 million subscribers in second quarter of 2015.⁵⁹⁸ Hulu had 11.3 million subscribers at the end of second quarter 2016, up from 9.3 million in second quarter of 2015.⁵⁹⁹ Amazon Prime reported 63 million subscribers, all of whom receive free access to Amazon Video, in the second quarter of 2016.⁶⁰⁰ Four out of five Amazon Prime subscribers use Prime Video⁶⁰¹ and 40 percent of Amazon Prime subscribers used Prime Video at least weekly.⁶⁰² Many households subscribe to more than one OVD. For example, roughly 38 percent of Netflix subscribers also subscribe to Amazon Prime and 25 percent of Netflix subscribers also subscribe to Hulu.⁶⁰³

181. Subscribership to OVD service is also undergoing changes through increased cooperation among entities involved in the delivery of video programming. For example, Amazon offers Prime Video but also enables customers to access other OVDs such as HBO, Cinemax, Showtime, and Fandor via its website and via equipment such as the Amazon FireStick.⁶⁰⁴ Comcast integrates MVPD service and OVD service through a single device by enabling customers to access Comcast MVPD content and Netflix content with an X1 set-top box, with plans to add Sling TV.⁶⁰⁵ SNL Kagan suggests that such

⁵⁹³ Free State Foundation Comments at 5.

⁵⁹⁴ Nielsen, Total Audience Report for Q2 (2016).

⁵⁹⁵ *Id.*

⁵⁹⁶ *Id.*

⁵⁹⁷ SNL Kagan, State of Online Video Delivery at 8 (2016).

⁵⁹⁸ *Id.* at 9.

⁵⁹⁹ *Id.*

⁶⁰⁰ Alison Griswold, *More than half of all Amazon (AMZN) customers are now also Prime subscribers*, Quartz (July 11, 2016), <http://qz.com/728683/jeff-bezos-master-plan-to-make-everyone-an-amazon-prime-subscriber-is-working/>.

⁶⁰¹ Andrew Dodson, *20% of Amazon Prime Members Still Aren't Using Its Video Streaming*, Cut Cable Today (April, 27, 2016), <https://www.cutcabletoday.com/amazon-prime-members-video-streaming/>.

⁶⁰² Patrick Seitz, *Click: Amazon.com*, Investors (Jan. 25, 2016), <http://www.investors.com/news/amazon-com-has-more-u-s-streaming-subscribers-than-netflix/>.

⁶⁰³ SNL Kagan, State of Online Video Delivery at 9 (2016).

⁶⁰⁴ Amazon, *Amazon.com: Amazon Video*, https://www.amazon.com/b/ref=atv_hm_hom_1_c_t_3_smr?encoding=UTF8&benefitId=default&node=2858778011&pf_rd_i=home&pf_rd_m=ATVPDKIKX0DER&pf_rd_p=2766163662&pf_rd_r=WE0RENZBNHJY2QF0VQHN&pf_rd_s=center-8&pf_rd_t=12401 (last visited Dec. 16, 2016).

⁶⁰⁵ Jeff Baumgartner, *Sling TV to Stream to Comcast's X1 Platform*, Multichannel (Nov. 22, 2016), <http://www.multichannel.com/news/content/sling-tv-stream-comcast-s-x1-platform/409264>.

cooperative ventures appear to be breaking down former competitive distinctions between OVDs and between MVPDs and OVDs.⁶⁰⁶

b. Revenue

182. *Advertising, Subscription, EST, and Rental Revenue.* OVDs earn revenue from consumers through subscriptions, EST, rentals, and advertising. For the year 2016, SNL Kagan projects that OVD subscription fees will generate \$8 billion in revenue, the electronic sale of movies and television \$1.7 billion in revenue, and rentals 594 million in revenue.⁶⁰⁷ However, the largest category of OVD revenue comes from advertising. SNL Kagan projects that for the year 2016, OVD advertising will generate \$10 billion in revenue, but this projection includes social media services like Facebook and Twitter that display advertisements in user video feeds.⁶⁰⁸ YouTube alone accounts for nearly 50 percent of OVD advertising revenue.⁶⁰⁹

183. Broadcast and cable networks have generally expanded the number of ad-supported videos and clips available from their online services, with news-focused products like FOX News, CNN, and CNBC seeing some of the largest gains in advertising revenue in 2015.⁶¹⁰ It's also important to note that, although there are subscription OVDs and advertising OVDs, there are also subscription OVDs that include advertising such as Sling TV and PlayStation Vue that monetize video content through two revenue streams.⁶¹¹

184. Revenue data for OVDs are typically available only for publicly-traded OVDs. Even for publicly traded companies, however, OVDs do not break out revenue separately for subscriptions, EST, rental, and advertising. Netflix, the largest OVD, appears to account for approximately half of all OVD subscription revenue. In 2015, Netflix reported \$4.2 billion in revenue from domestic streaming, up from \$3.4 billion in 2014.⁶¹²

c. Investment

185. OVDs are investing in programming, proprietary Internet-enabled devices, infrastructure, and technology. For example, Netflix pays a flat fee for multi-year licensing agreements with studios for television programs, movies, and original programming with licensing windows that generally range from six months to five years.⁶¹³ Terms of payments may extend throughout the duration of the window, or may require additional up-front payments, as is typically the case for original content or content licensed for an early distribution window.⁶¹⁴ OVDs additionally invest in original content. Netflix invested \$539 million on original programming in 2015.⁶¹⁵ As mentioned earlier, Hulu and Amazon Video have also differentiated themselves by the content they offer.

186. As online video continues to be the dominant source of Internet traffic, OVDs must

⁶⁰⁶ SNL Kagan, *State of Online Video Delivery* at 8-9 (2016).

⁶⁰⁷ *Id.* at 8, 11, 13.

⁶⁰⁸ *Id.* at 16.

⁶⁰⁹ *Id.* at 17.

⁶¹⁰ *Id.*

⁶¹¹ *Id.*

⁶¹² Netflix 2015 Form 10-K at 22.

⁶¹³ Netflix 2016 Form 10-K at 8.

⁶¹⁴ *Id.*

⁶¹⁵ SNL Kagan, *Economics of Internet Media: Netflix Content* (Nov. 18, 2016).

develop the infrastructure to serve that demand and develop methods of using existing infrastructure more efficiently.⁶¹⁶ Some OVDs utilize end-to-end infrastructure support services to deliver content to subscribers.⁶¹⁷ New and smaller OVDs often rely on third party CDNs, such as Akamai, Limelight, and CDNetworks to bring their content closer to consumers' broadband ISPs.⁶¹⁸ Established OVDs that have reached sufficient scale, such as Netflix, are able to develop their own proprietary CDNs.⁶¹⁹ In addition, unaffiliated third parties are providing generic caching solutions to help ISPs increase the efficiency and speed of online video delivery.⁶²⁰

d. Profitability

187. Of the companies that are the focus of our OVD analysis, only Netflix, which is a standalone OVD, breaks out operating income from streaming services in publicly available reports. Netflix reports that it earned a profit of over \$1.37 billion from its domestic streaming segment during 2015, an increase of \$434 million from the \$936 million profits it earned in 2014.⁶²¹ Due to the diverse nature of OVD business models and strategies, however, Netflix's success may not be representative of the OVD industry as a whole. In the future, public reporting by OVDs that includes data on profitability and other metrics will allow us to better assess the financial viability of this segment of the delivered video market.

IV. CONSUMER PREMISES EQUIPMENT

A. Introduction

188. Customer premises equipment (CPE) is the equipment that is necessary for consumers to access the services that broadcasters, MVPDs, and OVDs provide. Because CPE is an integral part of viewing video programming, CPE features, such as recording, home networking, mobile access, and user interface, are factors consumers typically consider when choosing to purchase programming services. In this section, we examine technological, regulatory, and market developments related to CPE since the last report. First, we update advancements in higher resolution video content and televisions. Next we consider the development of devices used to access MVPDs service. Finally, we review developments in devices used to access online and mobile video services.

B. Ultra High-Definition and High Dynamic Range Televisions

189. The 17th Report discussed UltraHD televisions in the marketplace.⁶²² The report noted that Ultra HD screens encompass higher resolutions (more pixels) for a more realistic picture and color quality than HDTV: "Currently, Ultra HD comes in resolutions of 4K (2160p) with 8.3 megapixels or four times as many as full HD (1080p) and now 8K (4320p) with 33.2 megapixels or 16 times as many as

⁶¹⁶ Cisco, *White paper: Cisco VNI Forecast and Methodology, 2015-2020* (June 1, 2016), <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/complete-white-paper-c11-481360.html>. Globally, video represented 70% of all consumer internet traffic in 2015.

⁶¹⁷ See, e.g., Rovi Cloud Services, *TiVo Cloud Services - Rovi Cloud Services API Documentation*, <http://developer.rovicorp.com/docs> (last visited Dec. 19, 2016).

⁶¹⁸ See Akamai, *supra* n. 445; CDNetworks, *supra* n. 445; Limelight, *supra* n. 445.

⁶¹⁹ NGINX Software, *Why Netflix Chose NGINX as the Heart of Its CDN* (Mar. 25, 2015), <https://www.nginx.com/blog/why-netflix-chose-nginx-as-the-heart-of-its-cdn/>.

⁶²⁰ Caching refers to the process of storing a copy of content a user has requested so that a subsequent request by that user or another accesses only the copy and does not download new data over the ISP's internet connection. See, e.g., Qwilt, *Open Caching Solutions*, <http://qwilt.com/solutions/transparent-caching/> (last visited Dec. 19, 2016).

⁶²¹ Netflix 2015 Form 10-K at 19.

⁶²² 17th Report, 31 FCC Rcd at 4563-65, paras. 213-14.

full HD.”⁶²³ In addition to the higher resolutions associated with Ultra HD, television manufacturers have recently introduced televisions that can process HDR signals. HDR allows televisions to display brightness and darkness more precisely, which produces a more vivid picture.⁶²⁴ The industry has not settled on a single standard for HDR; HDR10 is an open source standard that many large consumer electronics manufacturers support, while Dolby has developed a proprietary format that is available on a limited number of high-end devices.⁶²⁵ This battle over format, along with the bandwidth required to deliver Ultra HD and HDR content to subscribers, are potential obstacles to adoption of Ultra HD and HDR displays and content.⁶²⁶

C. CPE Used to Access MVPD Video Services

190. Leased CPE, that is, the proprietary set-top boxes that are leased by MVPDs to their customers to access the MVPDs’ video programming, and for which consumers pay a monthly fee, is by far the most common way that consumers in the United States view MVPD programming.⁶²⁷ Even though consumers increasingly watch video programming on devices other than televisions, they spend on average more than two-thirds of their time viewing video programming on a television.⁶²⁸ Manufacturers no longer build television sets that connect directly to MVPD networks; thus, consumers must either lease their CPE from their MVPD or to purchase a device at retail. According to a July 2015 report by U.S. Senators Ed Markey and Richard Blumenthal, approximately 99 percent of MVPD subscribers rent their set-top box directly from their provider, generating nearly \$20 billion in revenue per year.⁶²⁹ Despite this lack of competition from consumer-owned devices that can connect directly to the

⁶²³ The *17th Report’s* section on content and devices that support these resolutions is still current, with two minor updates. *Id.* First, since the last Report, DIRECTV, DISH Network, and Comcast have begun to offer 4K content. AT&T Comments at 2-3; Ryan Waniata and Kris Wouk, *Got a new 4K UHD TV? Here’s Where to Go to Start Watching the Best 4k Content Right Now*, Digital Trends (Oct. 13, 2016), <http://www.digitaltrends.com/home-theater/where-and-how-to-watch-4k-uhd-content/>. Second, 8K displays are dropping in price, but still too expensive for broad consumer adoption. Raymond Wong, *This \$55,000 98-inch 8K TV is actually ‘cheap’*, Mashable (Sept. 3, 2016), <http://mashable.com/2016/09/03/cheap-8k-tvs-are-coming-chinese-brands/#vtOzA3VA8mqr>.

⁶²⁴ Will Greenwald, *What is HDR (High Dynamic Range) for TVs?*, PC Magazine (Nov. 22, 2016), <http://www.pcmag.com/article2/0,2817,2490643,00.asp>.

⁶²⁵ Lee Neikirk, *HDR10 vs. Dolby Vision: The New TV Format War*, USA Today (Aug. 17, 2016), <http://www.usatoday.com/story/tech/2016/08/17/hdr10-vs-dolby-vision-new-tv-format-war/88914196/>.

⁶²⁶ Mari Silbey, *Hurdles Ahead for 4K, HDR*, Light Reading (Aug. 29, 2016), <http://www.lightreading.com/video/4k-8k-video/hurdles-ahead-for-4k-hdr/a/d-id/725703>; see NCTA Comments at 10 (“Thanks to innovation and upgrades by providers of broadband Internet access service, online programming can now be offered with high-definition – and even 4K – quality.”); AT&T Comments at 2-3 (“DIRECTV is proud to be the first MVPD offering subscribers a dedicated 4K Ultra HD (UHD) channel, available 24/7, launched this past April.”).

⁶²⁷ *STB NPRM*, 31 FCC Rcd at 1551-55, paras. 13-20.

⁶²⁸ Deloitte Development LLC, *Digital Democracy Survey* (10th ed. 2016) at 7, <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-deloitte-digital-democracy-executive-summary.pdf> (*Digital Democracy Survey*).

⁶²⁹ Press Release, Senators Edward Markey and Richard Blumenthal, Markey, Blumenthal Decry Lack of Choice, Competition in Pay-TV Video Box Marketplace (July 30, 2015), <http://www.markey.senate.gov/news/press-releases/markey-blumenthal-decry-lack-of-choice-competition-in-pay-tv-video-box-marketplace> (Markey/Blumenthal Press Release). Set-top box prices vary widely, and it is difficult to identify a robust methodology to account for those variances. The most widely leased forms of set-top boxes are HD set-top boxes and HD DVRs which generally command higher fees. Press Release, Leichtman Research Group, 76% of US Households Have a DVR, Netflix, or use On-Demand (Jan. 2, 2015), <http://www.leichtmanresearch.com/press/010215release.html>; Press Release, Leichtman Research Group, 81% of US Households Have a DVR, Netflix, or use VOD (Feb. 5, 2016), <http://www.leichtmanresearch.com/press/020516release.html>; Daniel Frankel, *HDTV Penetration Reaches 81% of*

(continued....)

MVPD network and access MVPD video programming, MVPDs are introducing innovative services on the devices that they lease.⁶³⁰

191. Some commenters contend that the marketplace for devices that can access MVPD video services is competitive due to the increasing availability of Internet-enabled, application-based alternatives.⁶³¹ So far, however, there is not consensus about whether consumers use the applications as a complete replacement for leased CPE, or instead use these applications to supplement the CPE they lease from their MVPDs.⁶³² While some MVPD-created applications are available on a growing number of streaming devices,⁶³³ those applications often do not provide access to MVPD service that is comparable to that available via an MVPD's set-top box.⁶³⁴ Therefore, these commenters argue, the streaming device is typically able to complement, but not replace, the set-top box.⁶³⁵ For most MVPD customers, a leased set-top box is necessary to access the programming they have paid for, whether they own additional streaming devices or not.⁶³⁶

192. *Section 629 of the Communications Act and the STELA Reauthorization Act.* Section 629 of the Communications Act directs the Commission to “adopt regulations to assure the commercial availability . . . of converter boxes, interactive communications equipment, and other equipment” that consumers use to access MVPD services.⁶³⁷ In past Reports we have provided the history of the Commission's implementation of Section 629 via the separation of security requirements and

(Continued from previous page)

U.S. Homes, FierceCable (Mar. 13, 2015), <http://www.fiercecable.com/cable/hdtv-penetration-reaches-81-u-s-homes>. The information provided by MVPDs to Senators Markey and Blumenthal did not enable the report to fully examine the varied fees, and thus the Markey/Blumenthal Press Release likely underestimated how much an average household pays in lease fees. *See* Mt. Hood Cable Regulatory Commission, Montgomery and Anne Arundel Counties, Maryland Reply, MB Docket No. 16-42, CS Docket No. 97-80, at 9 (May 23, 2016) (“Montgomery County's research reveals . . . that most providers require the purchase of additional services or subscriptions for higher levels of service. These additional equipment charges include payment of additional HD, Broadcast, Sport Surcharges, DVR Service, and router rentals or purchase.”).

⁶³⁰ *See, e.g.*, Comcast Reply at 8 (“Comcast, for example, continues to develop new features for its next-generation cloud-based X1 entertainment operating system, and most recently began a Netflix Beta program that will integrate Netflix onto the X1 platform and will allow X1 and Netflix customers to watch their live, on-demand, and DVR'ed cable programming, as well as Netflix's online programming, all through their X1”); AT&T Comments at 2 (“DIRECTV's HD DVRs harness the power of the Internet to bring subscribers interactive features right on their TV, including Pandora radio and free HD TV Apps that enable subscribers to check the weather, up-to-the minute sports scores, and, among other things, the subscriber's NFL fantasy league.”). Comcast licenses the X1 platform to Cox. In 2016, Cox used the X1 platform to launch a cloud-based video platform in most of the company's markets. Jeff Baumgartner, *Cox Goes Wide With New 'Contour'*, Multichannel (Apr. 6, 2016), <http://www.multichannel.com/news/content/cox-goes-wide-new-contour/403883>.

⁶³¹ These alternatives include, among others, Smart TVs, Apple TV, Amazon Fire TV, Google's Chromecast, Roku, video game consoles, connected Blu-Ray players, and portable consumer electronics, such as tablets and smartphones. *See* NCTA Comments at 4-5; Verizon Reply at 4; AT&T Comments at 4.

⁶³² *Compare* AT&T Comments at 4 with CFA Comments, MB Docket No. 16-42, at 20.

⁶³³ *See, e.g.*, AT&T Comments at 4 (“Forty percent of American pay TV subscribers used apps to view their subscription content in 2015, and year-over-year viewing via MVPD app increased 102% in 2015.”).

⁶³⁴ *See, e.g.*, CFA Comments, MB Docket No. 16-42, at 20 (arguing that the current MVPD market is a distinct product defined by multiple, new, first-run marquee content that cannot be obtained with the same quality, quantity, and price from anyone other than the cable or satellite operator).

⁶³⁵ *Id.*

⁶³⁶ *STB NPRM*, 31 FCC Rcd at 1552, nn. 47, 48.

⁶³⁷ 47 U.S.C. § 549(a).

CableCARD.⁶³⁸ Based on information provided by NCTA, it appears that consumer use of third-party CableCARD-enabled devices, i.e., those not provided by the MVPD itself, is roughly one percent of the devices used to receive cable service.⁶³⁹

**Table IV.C.2
Deployment of CableCARDS (Cumulative)⁶⁴⁰**

Year (as of June)	CableCARD Deployment for Use in Retail Devices – Top 10 Cable Operators	Operator-supplied Set- top Boxes With CableCARDS
2006	170,000	-
2007	271,000	-
2008	372,000	6,232,800
2009	437,800	14,085,000
2010	520,000	21,000,000
2011	582,000	29,300,000
2012	618,000	36,000,000
2013	603,000	42,000,000
2014	620,000	48,000,000
2015	617,000	53,000,000
2016	560,000	-

193. In February 2016, the Commission adopted a Notice of Proposed Rulemaking to propose a successor to CableCARD for device compatibility.⁶⁴¹ In the NPRM, the Commission proposed to require MVPDs to provide data in a published, transparent format that would allow an unaffiliated device

⁶³⁸ *16th Report*, 30 FCC Rcd at 3409-11, paras. 329-31.

⁶³⁹ See *infra*, Table IV.C.2 “Deployment of CableCARDS (Cumulative)” shows the reported number of CableCARD deployments for use in retail CableCARD-enabled devices since 2006 and the deployment of operator-supplied set-top boxes with CableCARDS since the integration ban went into effect on July 1, 2007. See *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, 20 FCC Rcd 6794, 6814-15, para. 39 (2005). Effective July 1, 2007, cable operators were required to separate security in their leased devices and rely on the same conditional access mechanism that consumer electronics manufacturers use in their commercially available devices (this requirement is known as the “integration ban”). 47 CFR § 76.1204(a)(1). See *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 7924, 7926 para. 4 (2003); *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, 20 FCC Rcd at 6802-03, para. 13. The STELA Reauthorization Act of 2014 terminated the integration ban effective December 4, 2015, and cable operators subsequently stopped reporting the number of operator-supplied set-top boxes with CableCARDS that they deploy. STELA Reauthorization Act of 2014, § 106, 128 Stat. 2063-64.

⁶⁴⁰ See Letters from Neal M. Goldberg, Vice President and General Counsel, NCTA, to Marlene H. Dortch, Secretary, FCC, CS Docket No. 97-80 (filed June 29, 2006; June 25, 2007; June 23, 2008; June 26, 2009; June 23, 2011; June 30, 2011; July 30, 2012; July 31, 2013; July 31, 2014; July 31, 2015; July 29, 2016).

⁶⁴¹ *STB NPRM*, 31 FCC Rcd at 1544, para. 6.

or application to access multichannel video programming, and to support at least one content protection system that is licensable on reasonable and nondiscriminatory terms.⁶⁴² This proceeding remains pending.

D. CPE Used to Access Application-based Services

194. CPE used to access applications typically fall into one of two categories: (1) smart TVs that can access streaming services and streaming devices that turn any display into a “smart TV,”⁶⁴³ and (2) mobile devices. OVD services tend to be available on both categories of devices. MVPDs typically make applications available on mobile devices only,⁶⁴⁴ but some MVPDs have recently introduced apps and others claim to be on the verge of introducing apps that consumers can use to watch MVPD video programming on TV sets without leasing a set-top box.⁶⁴⁵ In addition, most of the most popular pay-TV networks have stand-alone apps that are available on smart TVs and TV streaming devices, and that MVPD subscribers can access via login credentials that they receive from their MVPD.⁶⁴⁶ Several commenters highlight that there are over 460 million IP-enabled consumer-owned devices that support apps,⁶⁴⁷ and the Free State Foundation reports that on average, “U.S. households with broadband connections used 7.3 Internet-connected devices for video in 2014.”⁶⁴⁸

195. *Non-TV Devices as a Replacement for TV Sets.* New England Sports Network (NESN) asserts that “in many settings, non-television platforms now constitute a substitute or replacement for regular TV sets,” even if those “platforms do not currently constitute a full and complete replacement for television viewing — in that the emergence of non-television platforms will not soon cause consumers to stop watching regular TV sets altogether.”⁶⁴⁹ A survey conducted by Adobe provided results consistent with NESN’s assessment that consumers are using mobile devices, PCs, and other non-TV devices to watch video programming, and that consumers use those devices to view programming in lieu of a television set.⁶⁵⁰

⁶⁴² *Id.* at 1545-56, para. 2.

⁶⁴³ See Free State Foundation Comments at 2 (“Those devices included game consoles such as the Xbox One and PlayStation 4, streaming media devices like Roku and TiVo, Internet-connected Smart TVs and Blu-ray players, as well as home computers.”).

⁶⁴⁴ See Verizon Comments at 4 (“FiOS video subscribers can use the FiOS Mobile app to watch live and on-demand programming on mobile tablets and smartphones inside and outside the home. FiOS Mobile subscribers can watch over 200 channels of live TV at home, including Disney, HBO, TBS, The History Channel and The NFL Network, and access over 80,000 movie and TV titles from the FiOS library – all on the mobile devices of their choice. FiOS video subscribers can access over 140 channels outside the home.”).

⁶⁴⁵ Comcast Reply Comments at 8-9 (citing Press Release, Comcast, Comcast Seeks TV and Other Consumer Electronics Partners to Bring Xfinity TV Cable Service to More Retail Devices (Apr. 20, 2016), <http://corporate.comcast.com/comcast-voices/comcast-seeks-partners-to-bring-xfinity-tv-cable-service-to-more-retail-devices>).

⁶⁴⁶ AT&T notes in its comments that TVEverywhere is rapidly increasing in popularity: “Forty percent of American pay TV subscribers used apps to view their subscription content in 2015, and year-over-year viewing via MVPD app increased 102% in 2015.” AT&T Comments at 4. See also Federal Communications Commission, *Report of the Downloadable Security Technology Advisory Committee* at 43-44, <https://ecfsapi.fcc.gov/file/60001515603.pdf>.

⁶⁴⁷ AT&T Comments at 4; Comcast Reply at 9, n.42.

⁶⁴⁸ Free State Foundation Comments at 2.

⁶⁴⁹ NESN Comments at 3-4 (citing *17th Report*, 31 FCC Rcd at 4566, para. 217).

⁶⁵⁰ Adobe, Digital Video Benchmark: Adobe Digital Index Q3 2015, at 7-12 (2015), <http://www.slideshare.net/adobe/adobe-digital-index-q3-digital-video-report>; *Digital Democracy Survey* at 7.

V. PROCEDURAL MATTERS

196. This *18th Report* is issued pursuant to authority contained in Sections 4(i), 4(j), 403, and 628(g) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 403, and 548(g), and Sections 0.61 and 0.283 of the Commission's rules, 47 CFR §§ 0.61, 0.283.

197. It is ORDERED that the Office of Legislative Affairs shall send copies of the *18th Report* to the appropriate committees and subcommittees of the United States House of Representatives and the United States Senate.

198. It is FURTHER ORDERED that the proceeding in MB Docket No. 16-247 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

William T. Lake
Chief, Media Bureau

APPENDIX A**List of Commenters****Comments**

AT&T
Consumers Electronic Association (CEA)
Elbert Davis
ITTA- The Voice of Mid-sized Communications Companies (ITTA)
National Association of Broadcasters (NAB)
National Cable and Telecommunications Association (NCTA)
NTCA- The Rural Broadband Association (NTCA)
The Free State Foundation (Free State)

Reply Comments

Comcast-NBCU
INCOMPAS
NAB
New England Sports Network (NESN)
Verizon

APPENDIX B

National Video Programming Services

Table B-1

National Video Programming Services Affiliated with One or More MVPDs

Network Owner	Networks Wholly Owned or Owned in Part
AMC Networks Inc.	AMC, AMC HD, BBC America, BBC America HD, IFC, IFC HD, Sundance Channel, Sundance Channel HD, WE TV, WE TV HD
AT&T ⁽¹⁾	Game Show Network, GSN HD, MLB Network, MLB Network HD, Audience Network, Audience Network HD
Charter Communications ⁽²⁾	American Heroes Channel, American Heroes Channel HD, Animal Planet, Animal Planet HD, Discovery Channel, Discovery Channel HD, Discovery Español, Discovery Familia, Discovery Fit & Health, Discovery Fit & Health HD, Destination America, Destination America HD, HD Theater, iN Demand, iN Demand HD, Investigation Discovery, Investigation Discovery HD, MLB Network, MLB Network HD, OWN, OWN HD, Science Channel, Science Channel HD, The HUB, The HUB HD, TLC, TLC HD, Turbo TV, Velocity HD
Comcast/NBCU	Bravo, Bravo HD, Chiller, Chiller HD, Cloo, CNBC, CNBC HD, CNBC World, CNBC World HD, E! Entertainment TV, E! Entertainment TV HD, Esquire, Esquire HD, Evine Live, Evine Live HD, FEARnet, FEARnet HD, G4, G4 HD, Golf Channel, Golf Channel HD, iN Demand, iN Demand HD, MLB Network, MLB Network HD, MSNBC, MSNBC HD, mun2, NBC Sports Network, NBC Sports Network HD, NBC Universo, NBC Universo HD, NHL Network, NHL Network HD, Oxygen Network, Oxygen Network HD, PBS Kids Sprout, PBS Kids Sprout HD, Retirement Living TV, SYFY, SYFY HD, Telemundo, Telemundo HD, TV One, TV One HD, The Weather Channel, The Weather Channel HD, Weatherscan, Universal HD, USA Network, USA Network HD
Cox Communications, Inc.	iN Demand, iN Demand HD, MLB Network, MLB Network HD, Travel Channel, Travel Channel HD
Liberty Media Corporation (Starz, LLC)	Animal Planet, Animal Planet HD, Destination America, Destination America HD, Discovery, Discovery HD, Discovery Español, Discovery Familia, Discovery Fit & Health, Discovery Fit & Health HD, Encore, Encore HD, Encore Action, Encore Action HD, Encore , Black, Encore Classic, Encore Español, Encore Family, Encore Suspense, Encore Westerns, GAC, GAC HD, HD Theater, HSN, HSN HD, HSN2, HSN2 HD, Indieplex, Investigation Discovery, Military Channel, Military Channel HD, MoviePlex, OWN, OWN HD, QVC, QVC HD, QVC Plus, QVC Plus HD, RetroPlex, RetroPlex HD, Starz, Starz HD, Starz Cinema, Starz Cinema HD, Starz Comedy, Starz Comedy HD, Starz Edge, Starz Edge HD, Starz in Black, Starz in Black HD, Starz Kids & Family, Starz Kids & Family HD, Science Channel, Science Channel HD, TLC, TLC HD, The HUB, The HUB HD

Notes:

⁽¹⁾ On July 24, 2015, AT&T completed its acquisition of DIRECTV. Press Release, AT&T, AT&T Completes its Acquisition of DIRECTV (July 24, 2015), http://about.att.com/story/att_completes_acquisition_of_directv.html.

⁽²⁾ On May 18, 2016, Charter Communications completed its acquisition of Time Warner Cable and Bright House Networks. Press Release, Charter Communications, Charter Communications, Time Warner Cable and Bright House Networks Complete Transactions (May 18, 2016), <http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2169294>.

Sources:

AMC Networks Inc., *About Us*, <http://www.amcnetworks.com/about-us/leadership> (last visited Sept. 27, 2016).

AT&T, Company Overview, <http://www.att.com/gen/investor-relations?pid=5711> (last visited Sept. 27, 2016).

Charter Communications, *About Us*, <https://www.charter.com/browse/content/about-charter> (last visited Sept. 27, 2016).

Comcast, *Company Overview*, <http://corporate.comcast.com/news-information/company-overview> (last visited Sept. 27, 2016).

Columbia Journalism Review, *Who Owns What*, <http://www.cjr.org/resources/> (last visited Sept. 27, 2016).

Cox Enterprises, *Corporate Overview*, <http://www.coxenterprises.com/about-cox/corporate-overview.aspx> (last visited Sept. 27, 2016).

Liberty Media Corporation, *Company Overview*, <http://www.libertymedia.com/overview/company-history.html> (last visited Sept. 27, 2016).

SNL Kagan, *Economics of Basic Cable Networks* (2016 Edition).

Table B-2

National Networks Affiliated with a Television Network, Broadcast Television Licensee, or Other Media Company

Network Owners:	Networks Wholly Owned or Owned in Part
21 st Century Fox	BabyTV, BabyTV HD, BTN, BTN HD, FOX Business Network, FOX Business Network HD, FOX College Sports, FOX College Sports HD, FOX Deportes, FOX Deportes HD, FOX Life, FOX Life HD, FXM, FXM HD, FOX News Channel, FOX News Channel HD, FOX Sports 1, FOX Sports 1 HD, FOX Sports 2, FOX Sports 2 HD, FUEL TV, FUEL TV HD, FX Network, FX Network HD, FXX, FXX HD, Nat Geo WILD, Nat Geo WILD HD, Nat Geo Mundo, National Geographic Channel, National Geographic Channel HD
CBS Corporation	AXS TV, AXS HD, CBS Sports Network, CBS Sports Network HD, FLIX, FLIX HD, POP, POP HD, Showtime, Showtime HD, Showtime Beyond, Showtime Beyond HD, Showtime Extreme, Showtime Extreme HD, Showtime Family Zone, Showtime Family Zone HD, Showtime Next, Showtime Next HD, Showtime Showcase, Showtime Showcase HD, Showtime 2, Showtime 2 HD, Showtime Women, Showtime Women HD, Smithsonian Channel, Smithsonian Channel HD, TMC, TMC HD, TMC Xtra, TMC Xtra HD, TVGN, TVGN HD
Crown Media Holdings	Hallmark Channel, Hallmark Channel HD, Hallmark Movies & Mysteries Channel, Hallmark Movie & Mysteries Channel HD
Daystar Television Network	Daystar TV
Discovery Communications, Inc.	American Heroes Channel, American Heroes Channel HD, Animal Planet, Animal Planet HD, Destination America, Destination America HD, Discovery, Discovery HD, Discovery en Español, Discovery Familia, Discovery Family Channel, Discovery Family Channel HD, Discovery Life, Discovery Life HD, Theater, Investigation Discovery, Investigation Discovery HD, OWN, OWN HD, Science Channel, Science Channel HD, TLC, TLC HD, The Hub, The Hub HD, Velocity HD
Hearst Corporation	A&E, A&E HD, Crime & Investigation, Crime & Investigation HD, ESPN Classic, ESPN Deportes, ESPN, ESPN HD, ESPN2, ESPN2 HD, ESPNEWS, ESPNEWS HD, ESPNU, ESPNU HD, FYI, FYI HD, History, History HD, History en Español, Lifetime, Lifetime HD, Lifetime Real Women, Lifetime Real Women HD, LMN, LMN HD, Military History Channel, SEC Network, SEC Network HD, Viceland, Viceland HD, ⁽¹⁾
Hubbard Broadcasting Corporation	Reelz Channel, Reelz Channel HD, Ovation TV, Ovation TV HD
InterMedia Partners	Aspire TV, Aspire TV HD, Up TV, Up TV HD, The Sportsman Channel, The Sportsman Channel HD, Universal Sports HD, WAPA-America
Scripps Networks Interactive	Cooking Channel, Cooking Channel HD, DIY Network, DIY Network HD, Food Network, Food Network HD, Great American Country, HGTV, HGTV HD, Travel Channel, Travel Channel HD, WGN America, WGN America HD

Network Owners:	Networks Wholly Owned or Owned in Part
The Walt Disney Company	A&E, A&E HD, Crime & Investigation Network, Crime & Investigation HD, Disney Channel, Disney Channel HD, Disney Junior, Disney Junior HD, Disney XD, Disney XD HD, ESPN Classic, ESPN Deportes, ESPN Deportes HD, ESPN, ESPN HD, ESPN2, ESPN2 HD, ESPNNews, ESPNNews HD, ESPNU, ESPNU HD, Freeform, Freeform HD ⁽¹⁾ , Fusion, Fusion HD FYI, FYI HD, Viceland, Viceland HD ⁽²⁾ , History, History HD, History en Español, LMN, LMN HD, Lifetime Real Women, Lifetime TV, Lifetime TV HD, Military History Channel, SEC Network, SEC Network HD
Time Warner Inc. ⁽³⁾	@Max, @Max HD, 5 Star Max, 5 Star Max HD, Action Max, Action Max HD, Boomerang, Cartoon Network/Adult Swim, Adult Swim HD, Cinemax, Cinemax HD, CNN, CNN HD, CNN Airport, CNN Headline News, CNN Español, CNN International, HBO, HBO HD, HBO2, HBO2 HD, HBO Comedy, HBO Comedy HD, HBO Family, HBO Family HD, HBO Signature, HBO Signature HD, HBO Zone, HBO Zone HD, HLN, HLN HD, Max Latino, Max Latino HD, More Max, More Max HD, NBA, NBA HD, NuvoTV, Outer Max, Outer Max HD, TBS, TBS HD, TMC, TMC HD, Thriller Max, Thriller Max HD, TNT, TNT HD, Tru TV, Tru TV HD, WMAX, WMAX HD
Trinity Broadcasting Network	JUCE TV, Smile of a Child, TBN, TBN HD, TBN Enclave, The Church Channel
Univision Communications	Bandamax, De Pelicula, De Pelicula Classico, ELREY, ELREY HD, FOROtv, Fusion, Fusion HD, Galavision, Ritmoson Latino, Telehit, Univision Deportes, Univision Deportes HD, Univision Deportes Dos, Univision Noticias, Univision TInovelas
Viacom Inc.	BET, BET HD, BET Gospel, BET Hip Hop, CENTIC, CMT, CMT HD, CMT Pure Country, CMT Pure Country HD, Comedy Central, Comedy Central HD, LOGO, MTV, MTV HD, MTV Classic ⁽⁴⁾ , MTV Hits, MTV Jams, MTV2, Nick 2, Nickelodeon/Nick at Nite, Nickelodeon/Nick at Nite HD, Nicktoons Network, Nick Jr, Palladia HD, Spike TV, Spike TV HD, TeenNick, EPIX HD, Tr3s, TV Land, TV Land HD, VH1, VH1 HD, VH1 Soul

Notes:

- (1) On January 12, 2016, Walt Disney Company renamed the ABC Family network to Freeform. Press Release, Disney, ABC Family Officially Becomes Freeform on January 12 (Dec. 10, 2015), <https://thewaltdisneycompany.com/abc-family-officially-becomes-freeform-on-january-12/>.
- (2) On February 29, 2016, Viceland replaced H2. Verne Gray, *Viceland Network Premieres New Shows, Web Favorites*, Newsday (Feb. 27, 2016), <http://www.newsday.com/entertainment/tv/viceland-network-premieres-new-shows-web-favorites-1.11516891>.
- (3) On October 22, 2016, AT&T plans to acquire Time Warner Inc. Press Release, AT&T, AT&T to Acquire Time Warner (Oct. 22, 2016), http://about.att.com/story/att_to_acquire_time_warner.html.
- (4) On July 28, 2016, VH1 Classic was rebranded as MTV Classic, Press Release, MTV, Introducing MTV Classic, Rebranded Network Features Throwback MTV Lineup (July 28, 2016), <http://www.mtvpress.com/press-releases/2016/07/28/introducing-mtv-classic>.

Sources:

21st Century Fox, Inc., *Businesses, Cable Network Programming*, http://www.21cf.com/Business_Segments/Business_Units/ (last visited Sept. 27, 2016).

CBS Corporation, *Our Portfolio*, <http://www.cbscorporation.com/portfolio/showtime/> (last visited Sept. 27, 2016).

Columbia Journalism Review, *Who Owns What*, <http://www.cjr.org/resources/> (last visited Sept. 27, 2016).

Crown Media Holdings, *About Crown Media*, <http://corporate.hallmark.com/News-From-Hallmark/Hallmark-Takes-Crown-Media-Private> (last visited Sept. 27, 2016).

Daystar Television Network, *About Daystar*, <http://www.daystar.com/about/> (last visited Sept. 27, 2016).

Discovery Communications, Inc., *Businesses and Brands, U.S. Networks*, <https://corporate.discovery.com/businesses-and-brands/> (last visited Sept. 27, 2016).

Hearst Corporation, *About Us*, <http://www.hearst.com/about> (last visited Sept. 27, 2016).

Hubbard Broadcasting Corporation, *Hubbard Broadcasting Stations*, <http://kstp.com/aboutus/hubbard-broadcasting-stations/133/> (last visited Sept. 27, 2016).

Scripps Networks Interactive, *Our Company*, <http://www.scrippsnetworksinteractive.com/our-company/> (last visited Nov. 8, 2016).

Trinity Broadcasting, *About Us*, <http://www.tbnnetworks.com/> (last visited Nov. 7, 2016).

Time Warner Inc., *About Us*, <http://www.timewarner.com/company/about-us> (last visited Nov. 7, 2016).

The Walt Disney Company, *About*, <https://thewaltdisneycompany.com/about/> (last visited Nov. 8, 2016).

Univision, Inc., *Timetable*, <http://www.univision.com/programas/horarios> (last visited Oct. 4, 2016).

Viacom, Inc., *About Us*, <http://www.aboutus.com/Viacom.com> (last visited Sept. 27, 2016).

APPENDIX C

Regional Video Programming Services

Table C-1

Regional Video Programming Services Affiliated with One or More MVPDs

Network Owners	Networks Wholly or Owned in Part
AT&T ⁽¹⁾	Regional Sports Networks: Roots Sports Northwest, Roots Sports Northwest HD, Roots Sports Pittsburgh, Roots Sports Pittsburgh HD, Roots Sports Rocky Mountain, Roots Sports Rocky Mountain HD
Altice ⁽²⁾	Regional News Networks: News 12 CT, News 12 Bronx, News 12 Brooklyn, News 12 Hudson Valley, News 12 Long Island, News 12 NJ, News 12 Traffic & Weather – CT, News 12 Traffic & Weather – Long Island, News 12 Traffic & Weather – Hudson Valley, News 12 Traffic & Weather – NJ, News 12 Traffic & Weather – NY, News 12 Westchester, News 12 Interactive
Charter Communications ⁽³⁾	<p>Regional News Networks: Bay News 9, Bay News 9 HD, Bay News 9 en Español, CFN 13 (Central FL News)</p> <p>Regional Sports Networks: Bright House Sports Network, Bright House Sports Network HD, Regional News Networks: Desert Cities TV (Desert City, CA), TWC News (Palmdale, CA), TWC SoCal 101, K-Life (HI), NGN (HI), OC 12 (HI), OC 16 (HI), TWC Local Weather (Kansas City), cn/2 (KY), TWC TV (New England/Portland/Augusta), TWC News NY1, TWC Noticias NY1, TWC News (Buffalo), TWC News(Hudson Valley), TWC News (Jamestown), TWC News (Rochester), TWC Capital Region (Albany), TWC New Central NY (Syracuse), TWC North Country (Watertown), TWC News Southern Tier (Binghamton), TWC News Your Traffic (Albany), TWC News Live Radar (Syracuse), TWC News Rail & Road (Hudson Valley), TWC News Rail & road (NYC), TWC News (Charlotte), TWC News (Greensboro), TWC News (Raleigh), TWC News(Wilmington), TWC Live Radar (Columbia), TWC Local Weather (Cleveland/Akron), TWC News (Austin), TWC (Waco), TWC Local Weather (Austin), TWC Your Traffic (Austin), TWC Noticias Tiempo (Austin), TWC News Live Radar (Austin/ North, Central, South, West, Waco/ Killeen/ Beaumont), TWC News Live Radar (Corpus Christi)</p> <p>Regional Sports Networks: TWC 858 (Spanish), TWC Deportes (Spanish), TWC SportsNet (CA/NV), Canal de Tejas (North: Waco/El Paso; South: Austin/San Antonio/Corpus Christi, Laredo), OC 12 (HI), TWC SportsChannel (Kansas City), TWC SportsChannel (NE), TWC Sports (Albany), TWC Sports (Buffalo), TWC Sports (Rochester), TWC Sports (Syracuse), TWC SportsChannel (Cincinnati/Dayton), TWC SportsChannel (Cleveland/Akron), TWC SportsChannel (Columbus/Toledo), Canal de Tajas (North: Dallas, Waco, El Paso; South: Austin, San Antonio, Corpus, RVG, Laredo) (Spanish), TWC SportsChannel (North: Dallas/El Paso; South: Austin/San Antonio/Corpus Christi), TWC Sports (Milwaukee/Green Bay),</p>

Network Owners	Networks Wholly or Owned in Part
Charter Communications (continued)	TWC SportsChannel (Raleigh, Charlotte, Greensboro, Wilmington, NC; Columbia, Florence, Myrtle Beach, SC), SportsNet New York, SportsNet LA, TWC SportsChannel (Milwaukee, Green Bay)
Comcast/NBCU	Regional News Networks: Comcast Charter Sports Southeast, New England Cable News, New England Cable News HD, Pittsburg Cable News Network Regional Sports Networks: Comcast SportsNet Bay Area, Comcast SportsNet Bay Area HD, Comcast SportsNet California, Comcast SportsNet California HD, Comcast SportsNet Chicago, Comcast SportsNet Chicago HD, Comcast SportsNet Mid-Atlantic, Comcast SportsNet Mid-Atlantic HD, Comcast SportsNet New England, Comcast SportsNet New England HD, Comcast SportsNet Northwest, Comcast SportsNet Northwest HD, Comcast SportsNet Philadelphia, Comcast SportsNet Philadelphia HD, Comcast SportsNet Southwest, SportsNet New York, SportsNet New York HD
Cox Communications, Inc.	Regional News Networks: 24/7 News Channel, Arizona News Channel, Kansas 22 Now, Las Vegas One News, Local News on Cable (Hampton), News Now 53 (Oklahoma City), News Now 53 (Tulsa), NewsWatch 15 (Louisiana), Pittsburgh Cable News Channel, Rhode Island News Channel, San Diego's News Channel 15 Regional Sports Networks: Channel 4 San Diego, Channel 4 San Diego HD, Cox Sports Television
MSG Media	Regional Sports Networks: MSG, MSG HD, MSG Plus, MSG Plus HD, MSG Varsity

Notes:

⁽¹⁾ On July 24, 2015, AT&T completed its acquisition of DIRECTV. Press Release, AT&T, AT&T Completes its Acquisition of DIRECTV (July 24, 2015), http://about.att.com/story/att_completes_acquisition_of_directv.html.

⁽²⁾ On June 21, 2016, Altice completed its acquisition of Cablevision. Altice, Altice Completes Acquisition of Cable Systems Corporation (June 21, 2016), <http://alticeusa.com/wp-content/uploads/2016/06/Altice-Completes-Acquisition-of-Cablevision-Systems-Corporation.pdf>.

⁽³⁾ On May 18, 2016, Charter Communications completed its acquisition of Time Warner Cable and Bright House Networks. Press Release, Charter Communications, Charter Communications, Time Warner Cable and Bright House Networks Complete Transactions (May 18, 2016), <http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2169294>.

⁽⁴⁾ On September 11, 2015, The Madison Square Garden Company's Board divided into 3 divisions, Sports, Entertainment and Media. Press Release, The Madison Square Garden Company, The Madison Square Garden Company Board Approves Spin-Off of Sports and Entertainment Businesses From Media Business (Sept. 11, 2015), <http://investor.msg.com/releasedetail.cfm?ReleaseID=931299>.

Sources:

Altice, *About Altice USA*, <http://altice.net/wp-content/uploads/2016/06/Altice-PR-Altice-USA-Cablevision-Closing-Release-21060621.pdf> (last visited Nov. 9, 2016).

AT&T, Inc., *About Us*, <http://www.att.com/gen/investor-relations?pid=5711> (last visited Nov. 9, 2016).

Charter Communications, *About Us*, <https://www.charter.com/browse/content/about-charter> (last visited Nov. 9, 2016).

Comcast, *Our Company*, <http://corporate.comcast.com/our-company/businesses/nbcuniversal#accordion-0> (last

visited Nov. 7, 2016).

Cox Enterprises, *Corporate Overview*, <http://www.coxenterprises.com/about-cox/corporate-overview.aspx> (last visited Nov. 7, 2016).

Table C-2

Regional Networks Affiliated with a National Broadcast Television Network, Broadcast Television Licensee, or Other Media Company

Network Owners	Networks Wholly or Owned in Part
Sinclair Broadcast Group	Regional News Networks: 24/7 News Channel (Boise, ID), Arizona New Channel (Arizona), Local News (Virginia), NewsChannel 8, NewsChannel 8 HD (Washington, DC), NewsWatch 15 (Louisiana), Northwest Cable News (Washington, Oregon, Idaho), TXCN (Texas)
21 st Century Fox, Inc.	Regional Sports Networks: FOX Sports Arizona, FOX Sports Arizona HD, FOX Sports Carolinas, FOX Sports Carolinas HD, FOX Sports Detroit, FOX Sports Detroit HD, FOX Sports Florida, FOX Sports Florida HD, FOX Sports Houston, FOX Sports Houston HD, FOX Sports Indiana, FOX Sports Indiana HD, FOX Sports Kansas City, FOX Sports Kansas City HD, FOX Sports Midwest, FOX Sports Midwest HD, FOX Sports New Orleans, FOX Sports New Orleans HD, FOX Sports North, FOX Sports North HD, FOX Sports Ohio, FOX Sports Ohio HD, FOX Sports Oklahoma, FOX Sports Oklahoma HD, FOX Sports San Diego, FOX Sports San Diego HD, FOX Sports South, FOX Sports South HD, FOX Sports Southwest, FOX Sports Southwest HD, FOX Sports Tennessee, FOX Sports Tennessee HD, FOX Sports Utah, FOX Sports Utah HD, FOX Sports West and Prime Ticket, FOX Sports West and Prime Ticket HD, FOX Sports Wisconsin, FOX Sports Wisconsin HD, SportSouth, SportSouth HD, SportsTime Ohio, SportsTime Ohio HD, Sun Sports, Sun Sports HD, Yankee Entertainment & Sports (YES) Network, Yankee Entertainment & Sports (YES) Network HD

Sources:

Sinclair Broadcast Group, *About*, <http://sbgi.net/> (last visited Sept. 27, 2016).

21st Century Fox, Inc., *Businesses, Cable Network Programming*, http://www.21cf.com/Business_Segments/Business_Units/ (last visited Sept. 27, 2016).

APPENDIX D

Regional Sports Networks ⁽¹⁾

Regional Network Name	MVPD Owner	Other Owners
Altitude Sports Network		Stan Kroenke (owner of the Denver Nuggets and the Colorado Avalanche)
Altitude Sports Network HD		Stan Kroenke (owner of the Denver Nuggets and the Colorado Avalanche)
Bright House Sports Network	Charter Communications	
Bright House Sports Network HD	Charter Communications	
Big Ten Network		Big Ten Conference, News Corporation
Big Ten Network HD		Big Ten Conference, News Corporation
Channel 4 San Diego	Cox Communications	
Channel 4 San Diego HD	Cox Communications	
Comcast SportsNet Bay Area	Comcast/NBCU	San Francisco Giants
Comcast SportsNet Bay Area HD	Comcast/NBCU	San Francisco Giants
Comcast Sports Net California	Comcast/NBCU	
Comcast SportsNet California HD	Comcast/NBCU	
Comcast SportsNet Chicago	Comcast/NBCU	J. Joseph Ricketts (owner of the Cubs), Jerry Reinsdorf (owner of the Bulls and the White Sox), Rocky Wirtz (owner of the Blackhawks)
Comcast SportsNet Chicago HD	Comcast/NBCU	J. Joseph Ricketts (owner of the Cubs), Jerry Reinsdorf (owner of the Bulls and the White Sox), Rocky Wirtz (owner of the Blackhawks)
Comcast SportsNet Houston	Comcast/NBCU	Houston Astros, Houston Rockets
Comcast SportsNet Houston HD	Comcast/NBCU	Houston Astros, Houston Rockets
Comcast SportsNet Mid-Atlantic	Comcast/NBCU	
Comcast SportsNet Mid-Atlantic HD	Comcast/NBCU	
Comcast SportsNet New England	Comcast/NBCU	
Comcast SportsNet New England HD	Comcast/NBCU	

Regional Network Name	MVPD Owner	Other Owners
Comcast SportsNet Northwest	Comcast/NBCU	
Comcast SportsNet Northwest HD	Comcast/NBCU	
Comcast SportsNet Philadelphia	Comcast/NBCU	Philadelphia Phillies
Comcast SportsNet Philadelphia HD	Comcast/NBCU	Philadelphia Phillies
Comcast SportsNet Washington	Comcast/NBCU	
Comcast SportsNet Washington HD	Comcast/NBCU	
Comcast Sports Southwest	Comcast/NBCU	
Comcast Sports Southwest HD	Comcast/NBCU	
Cox Sports Television (New Orleans)	Cox Communications	
Cox Sports Television HD (New Orleans)	Cox Communications	
Fox Sports Arizona		21 st Century Fox
Fox Sports Arizona HD		21 st Century Fox
Fox Sports Carolinas		21 st Century Fox
Fox Sports Carolinas HD		21 st Century Fox
Fox Sports Detroit		21 st Century Fox
Fox Sports Detroit HD		21 st Century Fox
Fox Sports Florida		21 st Century Fox
Fox Sports Florida HD		21 st Century Fox
Fox Sports Houston		21 st Century Fox
Fox Sports Houston HD		21 st Century Fox
Fox Sports Indiana		21 st Century Fox
Fox Sports Indiana HD		21 st Century Fox
Fox Sports Kansas City		21 st Century Fox
Fox Sports Kansas City		21 st Century Fox
Fox Sports Midwest		21 st Century Fox
Fox Sports Midwest HD		21 st Century Fox
Fox Sports New Orleans		21 st Century Fox
Fox Sports New Orleans HD		21 st Century Fox
Fox Sports North		21 st Century Fox
Fox Sports North HD		21 st Century Fox
Fox Sports Ohio		21 st Century Fox
Fox Sports Ohio HD		21 st Century Fox
Fox sports Oklahoma		21 st Century Fox

Regional Network Name	MVPD Owner	Other Owners
Fox Sports Oklahoma HD		21 st Century Fox
Fox Sports San Diego		21 st Century Fox
Fox Sports San Diego HD		21 st Century Fox
Fox Sports South		21 st Century Fox
Fox Sports South HD		21 st Century Fox
Fox Sports Southwest		21 st Century Fox
Fox Sports Southwest HD		21 st Century Fox
Fox Sports Tennessee		21 st Century Fox
Fox Sports Tennessee HD		21 st Century Fox
Fox Sports Utah		21 st Century Fox
Fox Sports Utah HD		21 st Century Fox
Fox Sports West		21 st Century Fox
Fox Sports West HD		21 st Century Fox
Fox Sports Wisconsin		21 st Century Fox
Fox Sports Wisconsin HD		21 st Century Fox
Lakers RSN		Charter Communications
Lakers RSN HD		Charter Communications
Lakers RSN (Spanish language)		Charter Communications
Lakers RSN HD (Spanish language)		Charter Communications
Longhorn Network		Walt Disney Company and Hearst
Longhorn Network HD		Walt Disney Company and Hearst
MASN HD		Baltimore Orioles and the Washington Nationals
MASN		Baltimore Orioles and the Washington Nationals
Metro Sports (Kansas City)	Charter Communications	
Metro Sports HD (Kansas City)	Charter Communications	
Metro Sports (Nebraska)	Charter Communications	
MSG		MSG Media

Regional Network Name	MVPD Owner	Other Owners
MSG HD		MSG Media
MSG Plus		MSG Media
MSG Plus HD		MSG Media
NESN		Boston Red Sox and Boston Bruins
NESN HD		Boston Red Sox and Boston Bruins
OC 12 (Hawaii)	Charter Communications	
OC HD (Hawaii)	Charter Communications	
PAC-12 Network		PAC-12 Conference
PAC-12 Network HD		PAC-12 Conference
ROOT Sports: Northwest	AT&T	
ROOT Sports: Northwest HD	AT&T	
ROOT Sports: Pittsburgh	AT&T	
ROOT Sports: Pittsburgh HD	AT&T	
ROOT Sports: Rocky Mountain	AT&T	
ROOT Sports: Rocky Mountain HD	AT&T	
ROOT Sports: Southwest	AT&T	
ROOT Sports: Southwest HD	AT&T	
SportsNet LA	Charter Communications	Los Angeles Dodgers
SportsNet LA HD	Charter Communications	Los Angeles Dodgers
SportsNet New York	Comcast, Charter	
SportsNet New York HD	Comcast, Charter	
SportsSouth		21 st Century Fox
SportsSouth HD		21 st Century Fox
SportsTime Ohio		21 st Century Fox
SportsTime Ohio HD		21 st Century Fox
Sun Sports		21 st Century Fox
Sun Sports HD		21 st Century Fox
TWC Sports (Albany)	Charter Communications	
TWC Sports HD (Albany)	Charter Communications	
TWC Sports (Buffalo)	Charter Communications	
TWC Sports HD (Buffalo)	Charter Communications	
TWC Sports (Rochester)	Charter Communications	
TWC Sports HD (Rochester)	Charter Communications	

Regional Network Name	MVPD Owner	Other Owners
TWC Sports (Syracuse)	Charter Communications	
TWC Sports HD (Syracuse)	Charter Communications	
TWC Sports 2 (Syracuse)	Charter Communications	
TWC Sports (Columbus/Toledo)	Charter Communications	
TWC Sports HD (Columbus/Toledo)	Charter Communications	
TWC Sports (Cincinnati/Dayton)	Charter Communications	
TWC Sports HD (Cincinnati/Dayton)	Charter Communications	
TWC Sports (Cleveland/Akron)	Charter Communications	
TWC Sports HD (Cleveland/Akron)	Charter Communications	
TWC Sports 858 (Spanish)	Charter Communications	
TWC Deportes (Spanish)	Charter Communications	
TWC SportsNet (California/Nevada)	Charter Communications	
TWC SportsNet HD (California/Nevada)	Charter Communications	
TWC Sports (Kansas City)	Charter Communications	
TWC Sports HD (Kansas City)	Charter Communications	
TWC Sports 2 (Kansas City)	Charter Communications	
TWC Sports 2 HD (Kansas City)	Charter Communications	
TWC Sports (NC: Raleigh/Charlotte/Greensboro/Wilmington; SC: Columbia/Florence/Myrtle Beach	Charter Communications	
TWC Sports (Nebraska)	Charter Communications	
TWC Sports HD (Nebraska)	Charter Communications	
TWC Sports 32 HD (Milwaukee/Green Bay)	Charter Communications	
TWC Sports 32 HD (Milwaukee/Green Bay)	Charter Communications	
Texas Channel (North: Dallas/El Paso; South: Austin/San Antonio/Corpus)	Charter Communications	
Canal de Tejas (North: Dallas/Waco/El Paso, South: Austin/San Antonio/Corpus/Laredo) (Spanish)	Charter Communications	
TWC Sports (NC: Raleigh/ Charlotte/ Greensboro/ Wilmington, SC: Columbia/ Florence/ Myrtle Beach)	Charter Communications	
Yankee Entertainment & Sports (YES) Network (New York)		Yankee Entertainment, 21 st Century Fox
Yankee Entertainment & Sports (YES) Network HD (New York)		Yankee Entertainment, 21 st Century Fox

Notes:

⁽¹⁾ This list is provided for illustrative purposes only. Inclusion or exclusion of a network should not be read to state or imply any position as to whether the network qualifies as an RSN for Commission purposes. See, e.g., *Comcast Corporation*, Petition for Declaratory Ruling that The America Channel Is Not a Regional Sports Network, 22 FCC Rcd 17938, 17941, para. 7 (2007) (defining a regional sports network as “any non-broadcast video programming service that (1) provides live or same-day distribution within a limited geographic region of sporting events of a sports team that is a member of Major League Baseball, the National Basketball Association, the National Football League, the National Hockey League, NASCAR, NCAA Division I Football, NCAA Division I Basketball and (2) in any year, carries a minimum of either 100 hours of programming that meets the criteria of subheading 1, or 10% of the regular season games of at least one sports team that meets [the program carriage conditions laid out in the Adelphia order]” (quoting *Applications for Consent to the Assignment and/or Transfer of Control of Licenses of Adelphia Communications Corporation et al.*, Memorandum Opinion and Order, MB Docket No. 05-192, 21 FCC Rcd 8203, Appendix B, (MB 2006))

⁽²⁾ On May 18, 2016, Charter Communications completed its acquisition of Time Warner Cable and Bright House Networks. Press Release, Charter Communications, Charter Communications, Time Warner Cable and Bright House Networks Complete Transactions (May 18, 2016), <http://ir.charter.com/phoenix.zhtml?c=112298&p=irol-newsArticle&ID=2169294>.

Sources:

21st Century Fox, Inc., *Company Overview*, <https://www.21cf.com/businesses> (last visited Sept. 27, 2016).

Altice, *Altice USA*, <http://altice.net/brands/altice-usa/> (last visited Sept. 27, 2016).

CBS Corporation, *About CBS*, <http://www.cbscorporation.com/about-cbs/> (last visited Sept. 27, 2016).

Comcast, *Company Overview*, <http://corporate.comcast.com/news-information/company-overview> (last visited Sept. 27, 2016).

Cox Enterprises, *Corporate Overview*, <http://www.coxenterprises.com/about-cox/corporate-overview.aspx> (last visited Sept. 27, 2016).

DIRECTV, *About Us*, http://www.directv.com/DTVAPP/content/about_us/our_company (last visited Sept 27, 2016).

Press Release, The Madison Square Garden Company, The Madison Square Garden Company Board Approves Spin-Off of Sports and Entertainment Businesses From Media Business (Sept. 11, 2015), <http://investor.msg.com/releasedetail.cfm?ReleaseID=931299>.

SNL Kagan, *Economics of Basic Cable Networks* (2016 Edition).

Time Warner Cable, *About Us*, <http://www.timewarner.com/company/about-us> (last visited Sept. 27, 2016).

The Walt Disney Company, *Company Overview*, <https://thewaltdisneycompany.com/about-disney/company-overview> (last visited Sept. 27, 2016).