use is the Herfindahl-Hirschman Index ("HHI").[462] Although cable operators are generally dominant providers in their respective local markets, we estimate the HHI in a hypothetical local market to measure the influence of a growing competitive fringe of non-cable MVPDs and to provide a point of reference for assessing competition among MVPDs over time.

128. Both measures of concentration suggest that downstream local markets for the delivery of video programming remain highly concentrated. This approach uses the nationwide total number of subscribers to cable and non-cable MVPDs found in Table E-1, a surrogate for measuring the availability and attractiveness of various options in the hypothetical local market.[463] In this hypothetical local market, as of June 1997, the shares of the market participants, grouped by competing technologies, would be roughly: cable, 87.1%; DBS/HSD, 9.8%; SMATV, 1.6%; and wireless cable, 1.5%.[464] Although some non-cable MVPDs have increased their customer base, it has not had a significant effect on cable subscribership. DBS continues its expansionary trend of gaining new subscribers, but the market share of cable only decreased slightly from 87.7% in December 1996 to 87.1% in June 1997. Using the market shares for each technology, the estimate of the HHI is 7567, a decrease from the HHI of 7898 for 1996.[465] Nevertheless, an HHI of 7567 remains several times greater than the 1800 threshold at which a market may be considered "highly concentrated."

3. *Competitors Serving Multiple Dwelling Unit Buildings*

129. Technical, regulatory and programming supply developments appear to be contributing to the emergence of a distinct MDU market, which is more competitive than other MVPD markets. Several of the video distribution technologies described above are used, singly or in combination (e.g., SMATV/DBS service), to provide video programming to consumers residing in MDUs.[466] The MDU

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[462]The HHI is a measure of horizontal concentration that is calculated by summing the squared market shares of the sellers in a market. It is a measure of concentration that takes account of the entire firm size distribution. Its value falls with increasing numbers of firms but rises as the degree of inequality among firms increases. The United States Department of Justice ("DOJ") and Federal Trade Commission ("FTC") regularly use the HHI to evaluate the effects of proposed mergers on competition. DOJ and FTC consider markets with an HHI below 1000 as "unconcentrated;" markets with an HHI between 1000 and 1800 as "moderately concentrated;" and markets with an HHI above 1800 as "highly concentrated."

[463]In this hypothetical local market, we assume that all MVPD services are in the product market and all MVPDs are in the geographic market. This may or may not be the case in specific local markets.

[464]*See* Table E-1. DBS and HDS are combined since they both represent direct-to-home ("DTH") satellite services.

[465]These figures were calculated using the "percentage of MVPD total" figures found in Table E-1 of this report. To begin tracking the impact of overbuilders, the total number of cable subscribers reported in Table E-1 was reduced by the number of subscribers served by overbuilders and a separate competing group of overbuilders was added. The number of subscribers served by overbuilders increased from approximately 200,000 in 1996 to almost 520,000 by June 1997.

[466]MDUs comprise a wide variety of high density residential complexes, including high- and low-rise rental buildings, condominiums, and cooperatives. Townhouse and mobile home communities, nursing homes, hospitals and hotels may share in some aspects of this market.

market is substantial. As of 1990, there were almost 31.5 million MDUs in the U.S., comprising approximately 28% of the total housing units nationwide.[467] The emergence of a distinct MDU market is reflected in Section 301(b)(2) of the 1996 Act,[468] which excepts cable bulk discounts to MDUs from the uniform rate provision of Section 623(d) of the Communications Act, thereby allowing cable operators more flexibility in competing with other MVPDs for MDU subscribers.[469] The Commission's recent *Order* concerning MDU inside wiring is designed to facilitate competition in this market.[470]

130. Traditionally, cable and SMATV operators provided MVPD services to MDU subscribers.[471] Recently, however, competitive strategies of a number of firms that are focusing on the MDU market illustrate what appears to be a developing competitive trend for this market. RCN, OpTel, Cable Plus and Cox, for example, offer or plan to offer MDUs a "suite" of services, including local, network and premium video programming delivered by satellite and through local reception; local and long distance telephone services; Internet access; and 24-hour apartment alarm monitoring service. Increasingly, competing suppliers offer combined services to MDU subscribers over partially or wholly unified distribution facilities, both outside and, except for telephone services, within the MDU. DBS services, moreover, are beginning to supply programming to MVPDs serving MDUs and to offer programming to MDUs directly.[472] In addition, entities with large numbers of subscribers in multiple properties across different states, such as national property management firms, are beginning to negotiate for multichannel programming services on a nationwide basis, bringing additional bargaining power to their negotiations with MVPDs.[473]

131. *Firms Serving Primarily MDUs.* RCN, OpTel and Cable Plus each serves high density areas and MDUs, generally using distribution systems that are not subject to cable franchise regulations.[474]

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[467]Liberty Comments in CS Docket No. 95-184 (inside wiring) at Tables 1-4 (citing 1990 data from the Bureau of the Census). There are more than 13.2 million units in MDUs with more than ten units. OpTel, Inc., Form 10-K (filed Nov. 26, 1997, for year ending August 31, 1997), SEC file 333-24881 ("OpTel 10-K, Nov. 26, 1997") (citing 1990 Bureau of Census data).

[468]47 U.S.C. § 543(d) (allowing cable operators' non-uniform, non-predatory pricing to in-franchise-area MDUs).

[469]*See, e.g.*, US West Comments at 14.

[470]*Cable Home Wiring*, CS Docket No. 95-184 and MM Docket No. 92-260, Report and Order and Second Further Notice of Proposed Rulemaking ("*Inside Wiring Order*"), FCC 97-376 (released Oct. 17, 1997). *See* paras. 219-221 *infra.*

[471]*See, e.g.*, US West Comments at 13 (US West's cable subsidiary, MediaOne, serving areas in and outside US West's telephone service area, faces competition from more than a dozen SMATV providers in Florida, more than 30 in Georgia, a dozen in California, approximately six in Illinois, and more than five in New England).

[472]DIRECTV Comments at 9.

[473]*Id.* at 13-14.

[474]Unless indicated otherwise, RCN, OpTel and Cable Plus information in this MDU discussion is from the following sources, respectively: RCN Corp., Filing 10-12G, SEC File No. 000-22825 (filed Sept. 5, 1997) ("RCN (continued...)

RCN is deploying fiber optic networks to deliver these services, and, as of June 1997, had connected 310 buildings in New York City and 52 buildings in Boston to its facilities.[475] RCN currently has two video headends within its advanced fiber optic networks in New York City and Boston, and uses 750 MHz of each system's available bandwidth for a video distribution capability of up to 110 video channels.[476] For voice services, RCN's fiber optic networks in New York City and Boston support both switched services and features, such as ISDN, Custom Calling and CLASS, and non-switched (private line) services, including DS-1 and digital data.[477]

132. RCN typically enters into five to ten year access agreements with the owners/managers of MDUs. These agreements generally provide for non-exclusive access, but for exclusive marketing assistance from the building management.[478] RCN may negotiate a payment to the building owner in the form of a percentage of revenue or a reduced rate for services. RCN also uses bulk service agreements to provide services (generally video services) at a flat subscription rate for all units in the residential

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[474](...continued)
Filing 10-12G, Sept. 5, 1997"); OpTel, Inc., Form 10-K (year ending August 31, 1997), SEC File No. 333-24881 (filed Nov. 26, 1997) ("OpTel 10-K, Nov. 26, 1997"); Telephone interview with Darla Norris, Vice President-Finance, Cable Plus (Oct. 24, 1997) ("Cable Plus Interview"). These firms generally distribute video programming over SMATV systems, *id.;* OpTel 8-K, Aug. 4, 1997; *see* paras. 82-83 *supra (*discussing inapplicability of franchise requirements to SMATV; use of 18 GHz point-to-point microwave transmission and wire connections of multiple owners' adjacent properties to connect MDU systems without crossing public rights of way). RCN also operates OVS systems and cable systems, RCN SEC Filing 10-12G, Sept. 5, 1997, and OpTel also operates a cable system, OpTel Form 10-K, Nov. 26, 1997. *See* paras. 116-117 *supra* (discussing OVS operators, including RCN); § 653(c)(1)(C), 47 U.S.C. § 573 (franchising requirements not applicable to OVS); *see also 1996 Report*, 12 FCC Rcd at 4364-5,4395-6, 4400-1 ¶¶ 6, 68-9, 76 (discussing OVS).

[475]RCN SEC Filing 10-12G, Sept. 5, 1997. RCN has announced that it will provide MVPD services in Boston through franchised cable systems. RCN's activities in Boston are in partnership with Boston Edison Company. RCN intends to serve commercial accounts on or near its networks. RCN recently announced that it plans to develop an advanced fiber network in the Washington, D.C., area through a joint venture with PEPCO. *Id. See also* Testimony of Richard S. Hahn ,Vice President,Boston Edison Company, before the United States House of Representatives, Commerce Committee Subcommittee on Telecommunications, Trade, and Consumer Protection, July 29, 1997, 1997 WL 442601 (F.D.C.H.).

[476]RCN SEC Filing 10-12G, Sept. 5, 1997. RCN has announced that, through an arrangement with DIRECTV, RCN customers in MDUs will have access to a combined 250 channels of programming service including exclusive sports programming. *See* RCN/DIRECTV News Release, October 2, 1996; DIRECTV Reply Comments in IB Docket No. 95-59.

[477]RCN SEC Filing 10-12G, Sept. 5, 1997. For voice services, where fiber extensions are not yet available, interim facility connections are provided by leasing special access facilities from MFS/WorldCom or the incumbent LEC. Within a building (or small grouping of buildings), a voice service hub is established by installing an Integrated Digital Loop Carrier ("IDLC") device that acts as the point of interface between the backbone facility and the intra-building wiring. Internal wiring (twisted pair copper cable) connects the IDLC to the customer premises and the customer-owned telephone equipment. *Id.*

[478]*Id.*

building or institution as an entry tactic, although future agreements are likely to provide for the purchase of services on an individual basis.[479]

133. OpTel supplies SMATV multichannel video programming and, increasingly, telephone services to residents of MDUs under building-entry agreements with MDU owners.[480] As of August 1997, the company had 132,556 cable television subscribers, making OpTel the largest provider of private cable television services in the United States, and 6,825 telecommunications subscribers with 8,190 telephone lines.[481] OpTel seeks to offer a complete package of MVPD and telecommunications services and intends to continue its investment in bi-directional fiber optic and microwave networks, believing this to be the optimal means for delivering both MVPD and telecommunications services.[482]

134. OpTel provides video programming to MDUs through 18 GHz building-to-building microwave and fiber optic networks, and through non-networked SMATV systems, generally providing up to 72 channels of video programming.[483] The company provides shared tenant services ("STS") telephone services through private branch exchange ("PBX") switches. OpTel intends to convert substantially all of its SMATV systems to 18 GHz or fiber optic networks by the end of fiscal 1999, to provide Competitive Local Exchange Carrier ("CLEC") telephone services in all of its markets by the end of fiscal 1999, and to convert all of its PBX switches to central office switches by the end of fiscal 2002.[484] The company intends to modify its existing networks, currently used to provide video programming, to accommodate two-way digital telecommunications traffic so as to connect its MDUs to its planned central office switches in each of its markets. The company intends to use its existing network configuration if feasible and to supplement its microwave plant if necessary, including through the use of

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[479] *Id.*

[480] OpTel 10-K, Nov. 26, 1997, at 4. For regulatory purposes, OpTel "is considered to be a private cable television operator in most of the markets it serves. Private cable television operators deliver services to consumers without hard-wire crossings of public rights of way." *Id.*

[481] *Id.*

[482] *Id.* at 4, 9.

[483] *Id* at 4. As of August 1997, OpTel had 35 18 GHz networks and one fiber optic network in service in 11 metropolitan areas. On average, 54% of the units passed by OpTel were served by OpTel networks. *Id.*

[484] *Id.* at 5, 7-8, 11. Optel provides local and long distance services as a CLEC in Houston through a central office switch, its first, installed in October 1997. OpTel plans soon to expand its CLEC services to replace its remaining STS/PBX services in Houston, and to route the additional traffic through its central office switch. *Id.* OpTel currently operates in and plans to remain in Houston, Dallas-Ft. Worth, Chicago, Phoenix, San Diego-Los Angeles, San Francisco, Denver, Miami-Ft. Lauderdale. The company plans to divest its Tampa and Austin operations. *Id.* at 7-9.

other available radio spectrum for telecommunications services.[485] The company also plans to offer Internet access, intrusion alarm, utility monitoring, PCS, cellular and paging services.[486]

135. OpTel provides services principally under long-term right-of-entry contracts with owners of national, regional and local MDU holdings, as well as with institutions (e.g., hospitals and hotels). The company's agreements with MDU owners typically have original terms of ten to fifteen years, prohibit tenants from installing receiving equipment on the exterior of the building, and, in the cases of telephone service agreements, provide that OpTel will be the exclusive provider of local telephone service to MDU residents, subject to the legal rights of the incumbent local exchange carrier and others to offer service, effectively making OpTel the exclusive multichannel video provider and the only wire-line alternative to the LEC for telecommunications services.[487]

136. Cable Plus offers SMATV multichannel video programming services, telephone and security services to 180,000 customers in MDUs in 18 states, and also plans to offer Internet access services.[488] Cable Plus typically provides 40 to 60 channels of video programming that are delivered by satellite or, sometimes, by microwave links to MDU headends, generally using broadcast antennas to receive the local broadcast signals.[489] Cable Plus generally signs exclusive, long-term (approximately 15 year) agreements with apartment owners (many of whom have extensive real estate holdings), who then offer Cable Plus' services to residents.[490] Cable Plus plans to serve primarily concentrated clusters of multifamily housing units in growing areas.[491]

137. *Cable Operator Services to MDUs.* Traditional franchised cable firms continue to compete for MDU business, but appear increasingly to be combining other services with their multichannel video offerings to MDUs. One of the largest cable MSOs, for example, Cox Communications, planned to begin offering cable programming, local and long distance telephone, and cable-modem Internet access services

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[485]*Id.* at 11. OpTel has commenced frequency coordination for such radio spectrum in Dallas. OpTel plans to supplement its own switching facilities, fiber optic network and microwave networks with switching and network capacity leased from other companies. *Id.* (noting also that the implementation of the company's telecommunications plans "will depend in some measure on the speed and manner in which states implement (i) the liberalized competition provisions of the Telecommunications Act, and (ii) the establishment of the interconnection and tariff requirements that the Telecommunications Act imposes on the incumbent LEC.")

[486]*Id.* at 9.

[487]*Id* at 4, 14-16. The weighted average unexpired term of OpTel's cable television rights of entry was approximately eight years as of August 31, 1997, *Id* at 4. Agreements affecting viewers' ability to install receiving equipment may be subject in certain circumstances to the Commisson's rules limiting restrictions on over-the-air reception devices. *See* paras. 212-218 *infra.*

[488]Cable Plus Interview.

[489]*Id.*

[490]*Id.*

[491]M. Sharon Baker, *Cable Plus gets $55 M, plus allies*, Puget Sound Business Journal, Sept. 5, 1997, Vol. 18, No. 17.

to the first of 25,000 MDU residents in Irvine, California, in the Fall, 1997.[492] Some cable firms offer price discounts for MDU service and enter into MDU service agreements providing various forms of exclusivity.

138. *LEC Service to MDUs.* Several LEC affiliates report that they are providing MVPD services to MDUs. For example, by the end of June 1997, Ameritech had reached agreements to provide cable television services to 673 MDUs (with 38,433 units) in communities in which it is a franchised cable operator.[493] Of the 258 MDUs (with 40,698 units) in these communities that have declined Ameritech New Media's cable television service, 127 MDUs (with 22,215 units), or approximately one-half, have cited their exclusive agreements with other cable operators as the reason for failing to contract with Ameritech.[494] Ameritech reports that incumbent cable operators have also impeded its ability to serve MDUs by refusing to make their existing wiring available to Ameritech in cases in whch an MDU owner objects to the installation of redundant wiring.[495]

139. *DBS Service to the MDU Market.* DIRECTV, USSB, EchoStar and Primestar have recently begun to focus on the MDU market.[496] For example, DIRECTV has entered into agreements to provide programming service directly to 150 private cable operators and has a non-exclusive agreement with WSNet, a distributor of satellite programming packages, to make DIRECTV programming available nationwide to WSNet's customer base.[497] For private cable operators, such arrangements are expected to result in construction savings, the ability to offer more channels, and the ability to serve properties with fewer than 100 units.[498] Primestar also plans to provide programming to SMATV operators and other interests, either as the sole program provider or as a supplementary program provider.[499]

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[492] P.J. Huffstutter, *Cox Bundling Phone, Internet Services for Irvine Renters*, Los Angeles Times, Sept. 26, 1997, at B5.

[493] Ameritech Comments at 29.

[494] *Id.*

[495] *Id.* at 31.

[496] Monica Hogan, *DIRECTV Signs Miss. MDU Deal with Wireless One*, Multichannel News, Sep. 8, 1997, at 66; Monica Hogan, *TSAT Outlines PrimeStar's High-Power Plans*, Multichannel News, Aug. 18, 1997 at 61; DIRECTV Comments at 9; *See* para. 88 *supra.* MMDS and SMATV firms supplying DBS programming generally also provide local programming to their subscribers.

[497] Private Cable Investor, July 31, 1997, at 1.

[498] *Id.*

[499] Monica Hogan, *TSAT Outlines PrimeStar's High-Power Plans*, Multichannel News, Aug. 18, 1997 at 61.

4. *Regional Concentration of Cable Systems*

140. Clustering, a process by which MSOs consolidate system ownership within separate geographical regions,[500] can have both procompetitive and anticompetitive effects. In response to the *Notice*, commenters reiterated arguments in favor of clustering's procompetitive effects. Clustering systems provides mechanisms to reduce costs and to improve operating and management efficiencies, to eliminate system redundancies and to attract more advertising.[501] The growing importance of advertising revenues for cable systems has emerged as a major factor promoting regional consolidation. By consolidating systems in major markets, MSOs can serve entire regions comprised of numerous local franchise areas. This assures advertisers that they will get extensive regional market coverage.[502] Finally, regional clustering may also enhance MSOs' ability to compete successfully in the future with LECs and major electric utilities as providers of data transmission and local telephone services.[503] Commenters suggest that clustered systems increase cable operators' ability to be more competitive across a range of markets and technologies (e.g., video programming delivery, telecommunications, Internet access services) as "full service providers" in these markets.[504]

141. On the other hand, clustering raises certain anticompetitive concerns. Clustering eliminates operators of adjacent cable systems as potential overbuilders.[505] These operators would be relatively low-cost potential wireline overbuilders -- because they could likely use their existing headend and parts of their existing trunk lines to serve the new markets -- compared to overbuilding a distant wireline system. The potential cost saving is significant because the headend and trunk lines comprise about 25% of the capital investment of a cable system.[506] Overbuilding from adjoining franchise areas, however, has rarely been a significant means of entry into MVPD markets.[507] In recent instances where overbuilding has occurred or is planned, the overbuilders (e.g., LECs) have not been the operators of existing adjacent cable systems.

142. *System Mergers and Acquisitions.* Since the last report, cable MSOs have undertaken or announced numerous system mergers, acquisitions and divestitures with the objective of creating regional

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[500]David Waterman and Andrew A. Weiss, *Vertical Integration in Cable Television*, The MIT Press (1997) at 42.

[501]*Upbeat WCS Panel Draws 100 Independent Operators*, Independent Cable News, Jan. 1997, at 1, 3.

[502]Joseph B. Cahill, *TCI Sets Its Sights on Chicago, Eyes MediaOne Deal*, Electronic Media, Aug. 18, 1997, at 4, 36.

[503]NCTA Reply Comments at 29-30; NCTA Comments at 37-38; *See 1996 Report* 12 FCC Rcd at 4428 ¶ 138.

[504]NCTA Comments at 37-38; Price Colman, *Charter on the Rise, Broadcasting & Cable*, Jun. 16, 1997, at 44; *Upbeat WCS Panel Draws 100 Independent Operators*, Independent Cable News, Jan. 1997, at 1, 3; *See 1996 Report*, 12 FCC Rcd at 4427-28 ¶ 137-38.

[505]*1994 Report*, 9 FCC Rcd at 7519 ¶ 154.

[506]*Id.* n. 421.

[507]*1995 Report*, 11 FCC Rcd at 2078 ¶ 44.

"clusters" of contiguous cable systems.[508] In 1996, there were more than 100 cable transactions. Most of these transactions resulted in the expansion of existing clusters of cable systems.[509] These transactions totalled approximately $16.3 billion, and covered 7.8 million subscribers.[510] A similar pattern seems to be emerging in 1997. In the first nine months of 1997, cable transactions have been proposed which, if consummated, will total more than $13.2 billion and cover approximately 6.9 million subscribers.[511] TCI is involved in proposed transactions totalling $9.4 billion or 71.2% of the $13.2 billion total.

143. The number of clusters serving at least 100,000 subscribers increased from 137 at the end of 1995 to 139 at the end of 1996.[512] In 1995, these clusters accounted for about 31.2 million or 50.2% of the 62.1 million cable subscribers. In 1996, these clusters included 33.6 million subscribers, and represented 52.9% of the 63.5 million cable subscribers. Among the five largest MSOs, Time Warner had 31 clusters, TCI had 30 clusters, MediaOne had 14 clusters, Comcast had nine clusters and Cox had nine clusters.[513] Smaller MSOs continued to expand their clusters too.[514] Jones Intercable (with 1.5 million subscribers) had four clusters of 100,000 or more subscribers, and Suburban Cable (with 1 million subscribers), Charter Communications (with 0.9 million subscribers), Marcus Cable (with 1.3 million subscribers) and FrontierVision (with 0.4 million subscribers) each had two clusters.[515]

144. Although the total number of clusters did not increase significantly since the last report, there appears to be a trend for clusters to be increasing in size. This tendency toward larger clusters may reflect greater economies of scale.[516] Between 1994 and 1995, the total number of clusters increased from 97 to 137, an increase of about 41%. The number of clusters in each of the five size categories increased by at least 30%. In contrast, the corresponding increase in the total number of clusters between 1995 and 1996 is only two, or an increase of 1.5%. The number of clusters with 100,00 to 199,000 subscribers remained unchanged. During this same time period, however, the number of clusters with 300,000 to 399,000 subscribers increased by 38% and the number of clusters with at least 500,000 subscribers increased by 20%.

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[508] *Id.* at 2128 ¶ 142; *1996 Report*, 12 FCC Rcd at 4427 ¶ 137.

[509] *See* Table E-2.

[510] Paul Kagan Associates, Inc., *Cable TV System Sales 1996*, Cable TV Financial Databook, 1996, at 162.

[511] *See* Table E-7. Table E-7 also shows that there have been an estimated 80 mergers, acquisitions and trades that have been announced or consummated that would affect nearly 7.2 million subscribers since the *1996 Report*.

[512] *See* Table E-2.

[513] Paul Kagan Associates, Inc., *Major Cable TV Systems Cluster*, Cable TV Financial Databook, 1997, at 39-41; *Top Cable System Operators*, Cable TV Financial Databook, 1997, at 17-18; and Suburban Cable Web site http://www.suburban.com/website.

[514] *1995 Report*, 11 FCC Rcd at 2129 ¶ 143; Paul Kagan Associates, Inc, *Rural/Small MSOs Charge Spurred by Private Equity Partners*, Cable TV Investor, Dec. 18, 1995, at 7.

[515] Paul Kagan Associates, Inc., Cable TV Financial Databook, 1997, at 39-41.

[516] *See* Table E-2 for the total number of clusters and subscribers..

145. The plans of TCI, Time Warner, and the other large MSOs to consolidate and cluster their systems, if realized, are likely to have a significant impact on the cable industry.[517] TCI, in particular, has proposed a number of consolidations with several of the largest MSOs this year in furtherance of a clustering strategy.[518] For example, TCI plans to sell its systems in the New York City area with 820,000 subscribers to Cablevision in exchange for a one-third equity interest in Cablevision. If consummated, the proposed transactions between TCI and Cablevision's New York area cluster will result in the nation's largest cluster, with 2.5 million subscribers.[519] In another proposed transaction TCI would acquire a 40% interest in a joint venture with Falcon. The transaction would combine TCI's systems in six states with an aggregate 300,000 subscribers, with Falcon's 700,000 subscribers in 26 states. TCI and Adelphia are planning to create a major cluster in Pennsylvania, New York, and Ohio by consolidating their systems serving 466,000 subscribers in those three states.[520] Mediacom, for example,[521] is planning to purchase Cablevision's equity interest in US Cable. The proposed transaction would add 265,000 subscribers in ten states to Mediacom's system clusters in Florida, Missouri and North Carolina. This acquisition would raise Mediacom's present subscriber base from 95,000 subscribers to 360,000 subscribers, making it one of the top 20 cable MSOs.[522]

146. Aside from the transactions of TCI and the other major MSOs, many industry analysts believe that a significant number of future mergers and acquisitions will involve systems located in communities outside of the major urban regions, including rural areas.[523] Like the larger MSOs, the mid-size MSOs are focusing on specific markets.[524] For example, CableVision Communications, formerly Rifkin & Associates, plans to acquire more systems with approximately 12,000 subscribers.[525] Insight Communications ("Insight") is also acquiring cable systems in communities outside the major metropolitan markets.

147. *System Trades.* System-for-system "swaps" or trades between MSOs, both large and small, continue. Swaps enable MSOs to increase their regional clusters while minimizing the financial outlays

[517]Price Colman, *Station & Cable Trading, Cable's $23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20.

[518]Table E-6 summarizes the major acquisitions and joint ventures that have been announced by TCI this year.

[519]WCAI Comments at 4; Bell Atlantic Comments at 4-5; BellSouth Comments at 4-5.

[520]WCAI Comments at 4; BellSouth Comments at 4-5; Bell Atlantic Comments at 4-5.

[521]Table E-7 reports consummated and announced cable transactions.

[522]*Mass Media*, Comm. Daily, Sept. 3, 1997.

[523]Paul Kagan Associates, Inc., *Giant-Sized Deals Generate Wall Street Business*, Cable TV Finance, June 30, 1997 at 8; Price Colman, *Station & Cable Trading, Cable's $23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20; and *Kent Gibbons, MSO's Clustering Efforts Extend Beyond Top 10*, Multichannel News, Sept. 1, 1997, at 31.

[524]*Id.*

[525]Charles Paikert, *Riftin Rolls Out New Look, Plans and Services*, Multichannel News, July 7, 1997, at 26.

and avoiding capital gains taxes.[526] Since the *1996 Report*, the largest proposed system-for-system swaps are between TCI and Time Warner, Time Warner and Cox, Time Warner and Marcus Cable, and Cox and Insight.[527] These include TCI's proposal to trade systems in Florida for several Time Warner systems in Chicago, New Jersey and Pennsylvania, and to trade systems in Maine and Wisconsin for Time Warner systems in Illinois.[528] Insight recently swapped its Phoenix area system with 36,000 subscribers for a Cox system with 40,000 subscribers in Lafayette, Indiana. Insight has agreed to purchase Cablevision's 65,000 subscriber system in Rockford, Illinois, as part of its strategy to expand holdings in second and third tier markets. If these acquisitions are consummated, Insight will have approximately 250,000 subscribers in eight states.[529]

148. *System Partnerships.* TCI also proposes to form partnerships with other MSOs. TCI's announced objectives are to restructure its systems into regional clusters managed by proven cable operators to improve the management of local sales and customer services. TCI's strategy is to create partnerships with the regions' dominant cable MSO and rely on that MSO to manage the system. TCI hopes to benefit by improving the management of its systems, lowering its own operating costs and removing debt from its balance sheets. For example, TCI and Time Warner propose to form two partnerships, one in south Texas and the other in Kansas City, Kansas. The south Texas partnership, which Time Warner would manage, would comprise systems with about one million subscribers in Houston and parts of southern Texas. The Kansas City partnership would enlarge on an existing joint venture by adding 95,000 TCI subscribers.[530] TCI has also agreed to form a partnership with TCA Cable TV. TCA would manage the partnership. In exchange for a 20% equity share, TCI would contribute 150,000 subscribers from systems in Texas and western Louisiana plus approximately $250 million in debt. TCA's contribution would include about 155,000 subscribers in New Mexico and $45 million in debt.[531]

5. *Concentration in the National Market*

149. The 1992 Cable Act directs the Commission to place limits on the concentration of ownership of cable systems at the national level.[532] This direction reflects concerns that such concentration

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[526]Price Colman, *Station & Cable Trading, Cable's $23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20. *See 1996 Report*, 12 FCC Rcd at 4427-28 ¶¶ 137-38.

[527]*See* Table E-7. *See also* Paul Kagan Associates, Inc., Cable TV Investor, Apr. 30, 1997, at 11; Aug. 22, 1997, at 8; Sept. 10, 1997, at 4; Cable TV Finance, July 31, 1997, at 8.

[528]*TCI and Time Warner To Set Partnerships*, Swap Some Systems, Wall Street Journal, Sept. 3, 1997, at B8.

[529]Kent Gibbons, *Cablevision Sells Ill. System to Unload Debt*, Multichannel News, Aug. 18, 1997, at 12.

[530]Time Warner (press release), Sept. 3, 1997; and *TCI and Time Warner To Set Partnerships, Swap Some Systems*, Wall Street Journal, Sept. 3, 1997, at B8.

[531]*Tele-Communications Inc. Venture with TCA Cable Is Part of Restructuring Effort*, Wall Street Journal, Aug. 18, 1997, at B7; *At Press Time, TCI, TCA Link Up*, Electronic Media, Aug. 18, 1997, at 40; *Swaps and Partnerships: TCI Communications, Inc. and TCA Cable*, Cable World, Aug. 25, 1997, at 45.

[532]1992 Cable Act, § 11 (c) amending, Communications Act, § 613, 47 U.S.C. § 533.

could have anticompetitive effects on the supply of programming to MVPDs and reduce the diversity of content available. For example, if a cable MSO controlled a large fraction of multichannel video programming distribution capacity or subscribers on a national level,[533] it might be able to control the development of new programming networks, influence the content and limit the diversity on existing networks, and might be able to exercise buying power that would restrict the upstream national market for the provision of programming networks to all MVPDs.

150. In assessing the impact that national concentration may have in the MVPD programming market, we believe that it is appropriate to consider the presence of all MVPDs and MVPD subscribers in national concentration figures, and not just cable MSOs and cable subscribers.[534] As non-cable MVPD subscribership increases, the significance of DBS, MMDS, and SMATV operators in the MVPD program purchasing market also increases. Nevertheless, cable operators continue to be the main distributors of multichannel video programming, serving 87% of total MVPD subscribers.[535] Significantly, the rapid growth of DBS systems, such as DIRECTV/USSB and Primestar, has resulted in both being among the top ten MVPDs nationwide.[536] However, despite the inroads non-cable MVPDs have made in subscriber penetration, the largest cable MSOs remain the largest MVPDs.

151. The share of subscribers of the top four MVPDs (the four largest cable MSOs) of the upstream nationwide MVPD programming market has increased slightly over the past year. In 1996, the four largest cable MSOs (TCI, Time Warner, MediaOne, and Comcast) served 53.3% of all MVPD subscribers.[537] These four firms now serve 54.3% of all MVPD subscribers nationwide.[538]

152. To assess the potential for market power resulting from concentration in the upstream MVPD programming market, the reported MVPD shares can be appropriately translated into HHI figures because MVPD programming networks are often purchased on a "per-subscriber" basis. The nationwide

[533]Many industry sources believe that 15 to 20 million subscribers are needed for long-term success. See paras. 155 and 165 *infra*.

[534]Since the Commission's inception of efforts to track cable industry MSO concentration, we have recognized that the specific characteristics of this market render a conventional analysis inappropriate. We provide the information again this year (summarized in Tables E-3 and E-4) simply for purposes of comparison to similar concentration figures provided in years past. Using this approach, the percentage of cable subscribers served by the four largest MSOs remained approximately the same at 62.3%, with TCI's subscriber share at 29.3%, Time Warner's subscriber share at 18.3%, MediaOne's subscriber share at 8.0%, and Comcast's subscriber share at 6.7%. Examination of changes in the national HHI for cable MSOs reveals a slight increase in concentration because the increase in market share by TCI and MediaOne was greater than the loss in market share by Time Warner and Comcast. The combined shares of all MSOs indicate a HHI of 1379 in 1997, a figure that increased from 1326 in 1996.

[535]*See* Table E-1

[536]*See* Table E-5.

[537]*1996 Report*, 12 FCC Rcd at 4499, App. F, Table 3.

[538]*See* Table E-5.

purchaser MVPD or HHI is 1166 -- "moderately concentrated" under the Merger Guidelines.[539] The HHI is 153 points higher than the HHI of 1013 reported in last year's report.[540]

153. The above discussion and supporting tables[541] to the report set forth data on concentration in the cable market and in the MVPD market without the inclusion of a number of transactions that have been announced but have not yet been consummated. The transactions involved are principally those discussed in the preceding section[542] involving systems owned or controlled by TCI that will be transferred to or managed by another system operator with a large cluster of other systems in the region.[543] These transaction have been articulated by TCI as being essentially a divestiture of systems, reducing TCI's level of system ownership by one-third.[544] The transactions, however, generally involve TCI obtaining a financial interest in the MSO to whom the systems are transferred. For example, in the New York market TCI is transferring systems with 820,000 subscribers to Cablevision and is receiving in return a one-third equity interest in Cablevision.[545] In a similar fashion, TCI is proposing to transfer management of a number of systems serving 300,000 subscribers to Falcon and will receive in return a 40% interest in the resulting joint venture.

154. Whether these transactions should be viewed as increasing or decreasing the size of TCI depends in part on the specific details of the transactions involved, which are not now before us and may not have been finalized. However, if the arrangements are such as to create attributable interests, the result would be a significant increase in TCI's share of the national market -- increasing its size by several million subscribers and giving it a market share that could exceed the "30 percent of homes passed"

[539]Table E-5. The Merger Guidelines are summarized at fn. 462 *supra.*

[540]*1996 Report*, 12 FCC Rcd at 4499, App. F, Table 3.

[541]*See*Tables E-3, E-4, and E-5

[542]*See* para. 140 *supra.*

[543]*See* Tables E-6 and E-7.

[544] October 10, 1997 testimony of Leo Hindery, President of Telecommunications, Inc., before the Antitrust, Business Rights and Competition Subcommittee of the Senate Judiciary Committee ("When we have finished, TCI will have reduced its size by about 1/3 and it will no longer be the nation's largest cable operator.").

[545]According to the press release announcing this transaction, TCI would acquire shares representing 33% of Cablevision's total outstanding shares and would receive two seats on the Cablevision board of directors. The Dolan family interests, however, would continue in control of Cablevision. In the past, in several situations of significant size involving TCI, the Commission has been able to conclude that major ownerships held by TCI did not create attributable interests, at least for some purposes, because they were passive or non-controlling in nature. *See Applications of Roy M. Speer and Silver Management Company,* 11 FCC Rcd. 14147 (1996) (TCI nonvoting equity interest in broadcast station licensee not attributable for purposes of cable-television broadcast station cross-ownership rule); *Turner Broadcasting System and Time Warner*, 11 FCC Rcd 19595 (1996) (Approximately 9% non-voting interest of TCI in Time Warner not attributable for purposes of the horizontal ownership rule).

horizontal ownership rule adopted by the Commission pursuant to the 1992 Cable Act.[546] This rule has been voluntarily stayed by the Commission[547] in light of the decision in the *Daniels* case. Subsequently, the D.C. Circuit held in abeyance its review of the horizontal ownership provision of the Communications Act, and the Commission's rules promulgated thereunder, pending the Commission's reconsideration of its rules.[548]

155. Conventional understanding in the cable industry appears to be that a successful launch of a new mass market, advertisers supported, national programming network -- that is, the initial subscriber requirement for long-term success -- requires that the new channel be available to at least fifteen to twenty million households. Non-cable MVPDs, i.e., DBS/HSD, SMATV, MMDS, and OVS, currently serve about 9.5 million subscribers nationwide,[549] a figure that appears to be too small an audience in most circumstances to provide programmers a distribution mechanism that can substitute for cable. One limitation on non-cable MVPDs is that they may serve a substantial number of rural areas that may represent lower valued markets from the point of view of national advertisers. Notwithstanding this conventional understanding of what is required to support a new national service, clearly many local and regional services exist with a smaller subscriber base. Moreover, some programming, including in particular sports programming, that is offered by DBS operators is unique to the DBS market. As these non-cable distribution channels continue to grow, it is likely that they will mitigate to some extent the dependence of programming networks on cable MSOs.

156. Our reexamination of the upstream national MVPD concentration reveals a moderate but stable level of concentration for purchases of video programming channels. Continued non-cable MVPD growth, especially from DBS and wireless providers, however, may decrease national HHI concentration levels in the future. In downstream local markets for delivered video programming, however, our concentration estimates continue to suggest that local markets remain highly concentrated.

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[546] 47 C.F.R. §76.503. The rule, it should be emphasized, limits an operator to 30% of all homes passed nationwide through cable systems. The data discussed above are generally in terms of subscriber rather than homes passed. While some correlation exists between subscribers and homes, they are not exactly parallel.

[547] *See Implementation of Sections 11 and 13 of the Cable Television Consumer Protection and Competition Act of 1992, Horizontal and Vertical Ownership Limits*, MM Dkt. No. 92-264, Second Report and Order, 8 FCC rcd 8565, 8567 ¶ 3 (1993).

[548] *Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1, 10 (D.D.C. 1993), *aff'd in part, Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996). The Daniels case involved a direct challenge to the statute. Time Warner challenged the stayed rules in *Time Warner Entertainment Co., L.P. v. FCC*, No. 94-1035. The D.C. Circuit Court consolidated the Daniels appeal regarding the facial validity of the statute and the Time Warner challenge to the Commission's rules and determined to hold court proceedings in abeyance while the Commission considered petitions for reconsideration of the rules. *See* Time Warner Entertainment Co., L.P. v. FCC, 93 F. 3d 957, 979-80 (D.C. Cir. 1996). A petition is pending before the Commission, filed by The Center for Media Education and the Consumer Federal of America, requesting that the stay be lifted.

[549] *See* Table E-1.

B. VERTICAL INTEGRATION AND OTHER PROGRAMMING ISSUES

1. *Status of Vertical Integration*

157. This section addresses the extent to which video programming services are affiliated with cable operators.[550] As we have noted in previous reports, although vertical relationships can have beneficial effects,[551] under certain market conditions, strategic vertical restraints (achieved by exclusive distribution contracts or monopsonistic pressure) can also deter entry and competition in the video marketplace, and can limit the diversity of cable programming, reducing the number of voices available to the public.[552]

158. During 1997, the number of both vertically and non-vertically integrated national satellite-delivered cable programming services increased. Of the 172 national satellite-delivered cable programming services, 68 (40%) are vertically integrated with at least one MSO, and 104 (60%) are not.[553] In 1996, of the 147 national satellite-delivered cable programming services reported, 67 (46%) were vertically integrated and 80 (54%) were not.[554] Thus, while the number of vertically integrated programming services has increased, the percentage of vertically integrated programming, relative to the total number of national, satellite-delivered programming services, declined from 1996 to 1997. This percentage has also declined in recent years; in the *1995 Report* we reported that 51% (66 of 129) of national satellite-delivered cable programming services were vertically integrated,[555] and the *1994 Report* reported that 53% (56 of 106) of national satellite-delivered cable programming services were vertically integrated.[556]

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[550] Vertical integration occurs where a cable system (a video programming service distributor) has an ownership interest in a video programming service supplier or vice versa. *1996 Report*, 12 FCC Rcd at 4429 n.398.

[551] Such pro-competitive effects can include efficiencies in the production, distribution and marketing of video programming, and incentives to expand channel capacity and create new programming by spreading the risk inherent in program production ventures. *See e.g.*, H.R. Rep. No. 862, 102nd Cong., 2d Sess. 56 at 41-43 (1992).

[552] *1995 Report*, 11 FCC Rcd at 2135 ¶ 158; *Vertical Ownership Limits*, MM Docket 92-264, Memorandum Opinion and Order on Reconsideration of the Second Report and Order, 10 FCC Rcd 7364, 7365 ¶ 4 (1995).

[553] The number of vertically and non-vertically integrated national satellite-delivered programming services reported accounts for the sale of Viacom cable systems to TCI on July 23, 1996.

[554] *1996 Report*, 12 FCC Rcd at 4509-16 App. G, Tbls. 1-2. The number of vertically and non-vertically integrated national satellite-delivered programming services reported in the *1996 Report* reflected the sale of Viacom cable systems to TCI on July 23, 1996.

[555] *1995 Report*, 11 FCC Rcd at 2132 ¶ 150.

[556] *1994 Report*, 9 FCC Rcd at 7522 ¶ 161.

159. Overall, vertically integrated ownership interests have increased from 1996. In 1996, cable MSOs, either individually or collectively, owned 50% or more of 47 national cable programming networks. In 1997, cable MSOs own 50% or more of 50 networks.[557]

160. In 1997, 26 of the 50 most subscribed to cable programming networks are vertically integrated. Two of the top 50 services (C-SPAN and C-SPAN 2), while not owned by cable operators, were developed with significant involvement by the cable industry.[558] In terms of prime time ratings, eight of the top 15 cable programming networks are vertically integrated,[559] as was the case last year.[560]

161. Vertical integration in national cable programming continues to involve principally the largest cable system operators. The eight largest cable MSOs have a stake in all of the 68 vertically-integrated services.[561] TCI, the largest MSO, holds ownership interests in 39 of the 172 national programming services, 23% of all national cable programming networks.[562] In 1996, TCI also held interests in 23% of all national programming services (34 of 147 national programming services). Time Warner, the nation's second largest MSO, holds interests in 20 of the 172 national programming services, or 12% of all national programming services,[563] a decrease from 1996 when Time Warner owned 22 of 147 (or 15%) of all national programming services.[564]

162. The data set forth above generally identifies vertical ownership relationship by reference to the ownership attribution standards associated with the Commission's horizontal and vertical (channel occupancy) rules.[565] For these purposes, equity interests that carry no present voting rights are not considered to be attributable. For other purposes, such as the program access rules, a more inclusive standard is employed so that any stock interest, voting or nonvoting, creates a cognizable ownership interest.[566] Using this more inclusive attribution standard, the recently announced transaction to bring the

[557] *Compare 1996 Report*, 12 FCC Rcd at 4509-12 App. G, Tbl.1 *with infra* App. F, Tbl. F-1.

[558] C-SPAN and C-SPAN 2 are non-profit cable networks, receiving funding through system operators and other MVPDs that provide support on a per-subscriber basis.

[559] App. F, Tbl. F-7.

[560] *1996 Report*, 12 FCC Rcd at 4528, App. F, Tbl. F-7.

[561] App. F, Tbl. F-5.

[562] App. F, Tbls. F-1, F-5.

[563] *Id.*

[564] *1995 Report*, 11 FCC Rcd at 2132-33 ¶ 152.

[565] *See* 47 C.F.R. § 76.503, 47 C.F.R. § 76.504.

[566] *See* 47 C.F.R. Section 76.1000(b).

Seagram (Universal Studios) cable networks under the control of HSN Inc. would apparently result in both the USA Network and the SCI-FI Network being considered vertically integrated.[567]

163. In 1997, 77 services reportedly intended to begin offering new programming service,[568] most of which do not have MSO affiliations. Many of these services were also included in the *1996 Report* as planning program launches. In the *1996 Report,* we reported that 63 prospective services intended to begin offering programming service.[569] Of these 63, the Commission is aware of 16 programming service launches that have occurred since the release of the *1996 Report.* Eight of the launched programming services are vertically integrated with an MSO, and eight are not.[570] Although not vertically integrated with cable system operators, four of the eight non-vertically integrated programming networks are associated with other significant media owners. M2 Music TV is affiliated with Viacom, while Fox News Channel, CBS Eye on People, and CBS TeleNoticias are affiliated with their respective broadcast parent companies.

164. There is a general trend by existing service providers, regardless of whether they are vertically integrated with MSOs, to create additional programming services. For example, five recent network launches by The Discovery Channel, which is affiliated with TCI and Cox Communications, include Animal Planet, Civilization, Kids, Science, and Travel and Living. CNN, affiliated with Time Warner, recently launched CNN/SI. Viacom and the Walt Disney Company ("Disney") are each major program providers that do not hold interests in MVPDs. Viacom's MTV recently launched M2 and Disney's ESPN recently launched ESPNEWS.

165. New networks must make significant investments in order to build a network that will be attractive to MVPDs and to subscribers. The comprehensive costs of launching a new national cable network are estimated at approximately $100 to $125 million, or more.[571] New programming networks generally operate at a loss for a number of years, and due to the direct link between revenue amounts and penetration levels, conventional wisdom is that new advertiser supported networks generally do not break-even until they are available to at least 15 to 20 million subscribers.[572]

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[567]Liberty Media, a wholly owned subsidiary of TCI, would own 15% of HSN Inc. and would have a right to increase this interest to 25%. Barry Diller, Chairman and Chief Executive Officer of HSN would be entitled to exercise voting rights over all HSN securities owed by Liberty. If this is correct, then these services would be covered by the program access rules that apply to vertically integrated cable satellite programming services. *See* HSN SEC Form 8-K, filed October 20, 1997.

[568]App. F, Tbl. F-4.

[569]*1996 Report,* 12 FCC Rcd at 4517-20 App. F, Tbls. F-3, F-4.

[570]App. F, Tbls. F-1, F-5. App. F, Tbl. F-2 lists existing national programming services without a cable operator holding an attributable interest.

[571]*See* Joint Comments of Outdoor Life Network, Speedvision Network, The Golf Channel, BET on Jazz and America's Health Network in the Matter of Closed Captioning and Video Description of Video Programming, MM Docket No. 95-176, at 10 (filed Feb. 28, 1997).

[572]*Id.* at 36.

2. *Other Programming Issues*

166. *Sports Programming*. Sports programming is identified by a number of parties filing comments in this proceeding as warranting special attention. ESPN, a programming service of Disney, is one of the most successful cable programming service in terms of circulation and revenues and has been the principal supplier of sports programming for cable television and MVPD distribution. During 1997, the consolidation of a number of regional sports outlets under common ownership by Cablevision, TCI's Liberty Media Corp., News Corp., and Comcast, has created a potential rival to ESPN as a national source of sports programming. Specifically, Cablevision acquired from its partner, ITT Corp., the remaining half interest in Madison Square Garden, the MSG Network, and the New York Knicks and New York Rangers teams.[573] Subsequently, the Fox Sports Net, a joint venture between TCI's Liberty Media Corp. and News Corp., purchased 40 percent of Cablevision's SportsChannel regional networks.[574] The eight Fox/Liberty regional sports networks and the seven SportsChannel regional services together will reach 55 million cable subscribers in 17 major markets.[575] In contrast to ESPN's national programming, Fox Sports Net intends to offer home games to viewers in local markets and supplement these with national material.[576] Comcast, which is a major supplier of cable television service in the Philadelphia market, created a regional network that will be a major supplier of cable television sports in the Philadelphia area, which will have access to programming produced by Fox Sports Net.[577]

167. Some commenters in this proceeding express concern that ownership of regional sports programming is becoming increasingly consolidated with cable MSOs and other significant media interests. Ameritech states that access to sports programming is so essential to the success of a cable system that many operators will pay exorbitant prices and agree to entertain other less attractive business arrangements just to obtain it.[578] Bell Atlantic states that access to regional sports programming is vital to new entrants in order to compete with incumbent cable operators, and that more and more key programming is controlled by a few of the largest cable MSOs.[579] WCAI states that Cablevision is vertically integrated from top to bottom, owning the facilities where programming is created (Madison Square Garden), the program content itself (the Knicks and the Rangers), the cable programming services that transmit that program content (the MSG and SportsChannel networks) and the cable systems that will retransmit that program content in the New York market.[580] Some commenters note that new entrants, such as DIRECTV, have benefitted from sports programming, such as DIRECTV's exclusive NFL football

[573]WCAI Comments at 5.

[574]Thomas Umstead, *Fox Builds Sports Empire*, Multichannel News, June 23, 1997, at 1.

[575]*Id.*

[576]Mark Landler, *Sports Networks Ready to Rumble*, New York Times, Sept. 28, 1997, Week in Review at 3.

[577]In 1996, Comcast became owner of the Philadelphia 76ers basketball team and Philadelphia Flyers hockey franchises. *The New Establishment*, Vanity Fair, Oct. 1997, at 166.

[578]Ameritech Comments at 38.

[579]Bell Atlantic Comments at 3.

[580]WCAI Comments at 5.

package, that are not available to cable operators.[581] NCTA believes that the high cost of sports programming contributes to higher cable television programming rates.[582]

168. *News Programming*. Another form of regional programming that is experiencing growth is news programming. There are more than 25 local news networks in the United States, approximately 12 of which are cable channels programmed by local TV stations that offer regional news.[583] Twenty-four hour local news services are competing for ratings with CNN and broadcast stations in their markets.[584] A regional news channel in a major market can cost between $15 and $20 million a year to operate, and cable operator license fees and advertising revenues have recently begun to cover more of the channels' operating costs.[585] New England News (a regional news channel), for example, receives 60% of its revenues from subscriber fees from cable operators, charging nearly as much as CNN.[586] While some analysts believe that regional news programming has not yet reached "critical mass," many predict that regional news programs could become a significant competitive force in the video programming marketplace.[587]

169. *Regulatory Issues Related to Program Access, Carriage Rules*.[588] The Commission established rules pursuant to the 1992 Cable Act concerning programming arrangements between MVPDs and satellite-delivered programming vendors (the "program access" rules).[589] These rules prohibit unfair competition and discriminatory practices by cable operators and certain vertically-integrated programmers that may deter competition from other MVPDs.[590] The program access rules also prohibit exclusive distribution contracts for satellite cable or broadcast programming between vertically integrated cable

[581]NCTA Reply Comments at 26-27.

[582]Testimony of Decker Anstrom, President, at the December 18, 1997 Commission meeting; Kagan Media Appraisals, Inc., *TV Programming Costs; An Analysis of the Market Forces Driving Entertainment and Sports Rights Fees*, December 1997.

[583]*See* NCTA , *Regional Video Services*, Cable Television Developments, Spring 1997 at 96-114; John Dempsy and Gary Levin, *News Derby Upset by Dark Horse*, Variety, September 22-28, 1997, at 1.

[584]Variety, *News Derby Upset by Dark Horse*, John Dempsy and Gary Levin, September 22-28, 1997, at 71.

[585]*Id.*

[586]*Id.*

[587]*Id.*

[588]*See* paras. 229-238 *infra*.

[589]The Commission's program access rules are set forth at 47 C.F.R. §§ 76.1000-76.1003, and the program carriage rules are set forth at 47 C.F.R. §§ 76.1300-76.1302. *See also* 47 U.S.C. § 536(a)(2); 47 U.S.C. § 548.

[590]*1995 Report*, 11 FCC Rcd at 2155 ¶ 157; *1994 Report*, 9 FCC Rcd at 7520-22 ¶¶ 157-60, 7528-30 ¶¶ 173-78.

operators and programmers, unless the parties can demonstrate to the Commission that the contract is in the public interest.[591]

170. In addition, in response to the *Notice*, the Alliance states that local, noncommercial programming (often referred to as public, educational, and governmental ("PEG") programming) is often the only truly local programming received by subscribers. The Alliance states that such is the case in smaller and rural towns, and that in large urban areas, PEG access provides a variety and diversity of communication that is unavailable on commercial local stations.[592] Cable operators do not have ownership interests in PEG programming, though under some franchise agreements, they may provide services, facilities and equipment to make such programming available. All PEG programming is therefore considered to be non-vertically integrated with MSOs. Alliance states that PEG programming channels are carried by 16% of the nation's cable systems[593] and that PEG access centers throughout the nation produce more than 20,000 hours of original programming per week for cable system distribution.[594]

C. Technical Advances

171. In the *1996 Report*, we discussed the two general strategies MVPDs were using to increase capacity: upgrading wired network architecture and deploying digital compression.[595] While cable operators have not abandoned plant upgrades, many cable systems are now favoring digital compression as the means to provide additional channels and ancillary services. Since the last report, TCI, the largest MSO in the cable industry has elected to use digital compression as its predominant means of expanding channel capacity on most of its systems.[596] TCI intends to allocate some of its existing analog video channel bandwidth for digital video as well as for data and Internet services. In November 1997, Adelphia Communications launched digital cable to nearly 70% of its 1.8 million subscribers.[597] Comcast, Cox, and Buford Television also have launched digital cable service on a limited basis. In addition, MediaOne, Cablevision Systems, Jones Intercable, and Century Communications have initiated trials of digital cable and Time Warner and Marcus Cable are planning market tests.[598]

172. Not upgrading or rebuilding existing cable plant has immediate cost advantages as well as increased speed of deployment. Relying solely on digital compression to add video channels will

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[591] 47 C.F.R. § 76.1002(c)(2).

[592] Alliance Comments at 2.

[593] *Id.* at 4.

[594] *Id.* at 2.

[595] *1996 Report*, 12 FCC Rcd at 4442-4 ¶¶ 171-179.

[596] *TCI to Go Mostly Digital*, TV Technology, June 1997, at 18.

[597] Price Colman, *Adelphia Plans Digital Blitz*, Broadcasting & Cable, Nov. 10, 1997, at 59. Adelphia also plans to proceed with 750 MHz upgrades. *Id.* at 60.

[598] *Id.* at 59. *See also* Joel Brinkley, *Cable TV in Digital Push To Get in More Channels*, New York Times, Nov. 10, 1997, at D7.

generally only require changing processing equipment at the cable system's headend and providing digital or hybrid analog/digital set-tops at the subscriber premises. Generally, those subscribers who want the new services will be provided with the new set-tops. Digital compression also does not incur the lengthy timetables needed for upgrading or replacing miles and miles of cable plant. With the advent of advanced digital compression techniques, cable operators now believe that the increases in bandwidth provided by rewiring and system upgrades may not be necessary to add a large number of channels.[599] On the other hand, without the benefit of rewiring and rebuilding of existing systems which, in general, modify the architecture of many existing cable plants, telephony and two-way services may be difficult to implement.[600]

173. In 1996, we reported that advanced compression techniques that could fit as many as 24 video channels in a 6 MHz analog channel (24:1 ratio) were being tested and that, in general, compression ratios had dramatically increased from the earlier 6:1 ratios that were prevalent.[601] One of the more significant advancements that enabled such a high channel compression ratio has been the development and refinement of a compression and combining technique called statistical multiplexing.[602]

174. TCI has embraced this advanced digital compression technique for its prepackaged programming service called Headend In the Sky ("HITS"), which allows cable operators to receive prepackaged digital video channels from a satellite and pass the signals directly through the cable plant to their subscribers.[603] TCI is using NextLevel Systems Inc.'s statistical multiplexing technology which has a compression ratio of up to 14:1. This minimizes the need for expensive digital processing equipment in every cable system headend since the processing is done at TCI's satellite uplink facility, yielding economy of scale savings. However, new digital set-top boxes are required to receive HITS programming. Other cable operators, including MediaOne, Comcast, Cox, Adelphia, Jones Intercable, Century Communications and Buford Television are using or plan to use HITS.[604]

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[599] *TCI Redefines Itself (Again), Charts New Upgrade Path,* CED: Communications Engineering & Design, June 1997 at 74.

[600] *Dream Machine: HFC System Offers Telephony/Data/Cable,* Communications Technology, March 1997 at 40.

[601] *1996 Report*, 12 FCC Rcd at 4443-4 ¶ 176.

[602] Unlike channel compression techniques that assign constant bit rates as high as 6 MBits/sec to all scenes within a video program, statistical multiplexing assigns bit rates as low as 1 MBit/sec to video programs. To compensate for complicated or rapidly changing scenes that require more than the 1 MBit/sec bit rate within a program, the scenes within a group of video programs are continuously analyzed at a high rate. Scenes that require higher bit rates than 1 MBit/sec are shifted to programs within the group that contain quiet scenes which are using lower bit/rates. In short, the bit/rate requirements for each scene in a program are actively managed and allocated throughout a group of programs to maximize the bit/rate use of the particular scene at a given time. *Also see* IMEDIA brochure: IMEDIAStatMux, *24 Digital Channels in the Space of a Single Analog Channel.*

[603] *See HITS Unveils New Digital Programming Lineup,* Cable World, Sept. 29, 1997, at 24. *See also 1996 Report*, 12 FCC Rcd at 4383-4 ¶ 46.

[604] Price Colman, *Adelphia Plans Digital Blitz*, Broadcasting & Cable, Nov. 10, 1997, at 59.

175. The new digital programming and ancillary data services require new set-top boxes.[605] In an attempt to reduce cost and promote uniformity in set-top devices, Cable Television Laboratories, Inc. ("CableLabs") and its members have attempted to create standards for interoperable set-top boxes and the provision of a platform for the offering of new interactive services to cable customers.[606] Further, after evaluating nearly two dozen computer industry proposals for set-top box technology, CableLabs voted not to specify any single operating standard and recommended that interactive services over cable use open Internet specifications that would allow the use of any operating system.[607] Further, pursuant to the 1996 Act, the Commission is in the midst of a rulemaking on the commercial availability of navigational devices,[608] which may produce similar results.

176. In the *1995* and *1996 Reports*, we reported on limited LEC activity in the area of Asynchronous Digital Subscriber Line ("ADSL"), mainly for the purpose of Internet access.[609] This ADSL activity consisted of technical trials. Current reports indicate that LECs have moved forward with these trials, so that each regional Bell company and GTE each has at least one trial in progress. Only US West and Pacific Bell (now owned by SBC) have announced definitive roll-out plans, however, and it is unclear how long it will be before there is widespread commercial deployment.[610] SBC Communications launched its digital subscriber line service in San Francisco and Austin, Texas in November 1997.[611]

177. Switched digital video allows a company to provide multiple services over a single network. In 1996, Bell Atlantic announced plans to upgrade its infrastructure to a switched broadband network in Philadelphia and southeastern Pennsylvania, with eventual digital broadband service to over 12 million homes and small businesses across the mid-Atlantic region over the next three years. Bell Atlantic announced at this time that service would begin in 1997.[612] Service has not yet begun, but

[605] *See* para. 48 (discussion of Microsoft's investments in cable) and para. 102 (discussion of WebTV) *supra.*

[606] Specs - News From CableLabs, *Cable Industry Creates "OpenCable"; Goal Is Interoperable Set-Top Boxes,* August/September 1997, at 1. *See also* para. 50 *supra.*

[607] David Bank, *Microsoft, Time Warner and US West Discuss High-Speed Internet Service,* Wall Street Journal, Nov. 6, 1997, at B8.

[608] *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigational Devices,* CS Docket No. 97-80, Notice of Proposed Rulemaking, 12 FCC Rcd 5639 (1997).

[609] *1995 Report,* 11 FCC Rcd at 2149-50 ¶ 191-193; *1996 Report,* 12 FCC Rcd at 4446 ¶ 184.

[610] *See, e.g., DSL: coming soon?,* Feb. 3, 1997; Web site at http://www.internettelephony.com/archive/2.03.97/CoverStory/ coverstory.html. *USA Today* is also reporting that GTE will soon offer the service to large residential and office buildings in Los Angeles, San Francisco, and Chicago, but the company has not yet officially announced this. *Local Carriers Roll Out Digital Modems,* Nov. 17, 1997; Web site at http://www.usatoday.com/money/ mds2.htm.

[611] *See Telephony,* Comm. Daily, Nov. 17, 1997.

[612] *See 1996 Report,* 12 FCC Rcd at 4401 ¶ 77.

construction has begun in southeastern Pennsylvania with voice and data services to be offered first, and video to follow.[613]

IV. COMPETITIVE RESPONSES

A. New Case Studies

178. During 1997, the Commission issued decisions finding that an additional 45 cable communities with approximately 300,000 subscribers faced effective competition.[614] In the majority of these markets, the entrant was a LEC. A majority of incumbent cable operators responded by offering subscribers: (1) improved programming; (2) additional channels at the same monthly rate; (3) reduced rates for basic tier service; and (4) new services such as upgraded converter boxes with interactive programming guides.

179. In this section of the report, we analyze selected cable markets where the Commission found effective competition since the last report. We are particularly interested in competitive responses of both the incumbent and the new entrant.

1. Columbus, Berea, and Columbus Grove, Ohio

180. The *1996 Report* described the entry by Ameritech into Time Warner's western Columbus market and Coaxial's eastern Columbus market in May 1996 and July 1996, respectively.[615] In December 1996, the Commission issued an order finding effective competition in the area served by Time Warner. The Commission asked Coaxial to file a supplement to its original petition. On February 4, 1997, the Commission issued an order finding effective competition in the area served by Coaxial.[616] The Commission found that Ameritech's cable system overlaps about fifty percent of Coaxial's system (which passes approximately 93,000 homes) and that Coaxial had lost subscribers who switched to Ameritech.[617]

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[613]Telephone interview with Marie Breslin, Director, FCC Relations, Bell Atlantic, October 15, 1997.

[614]In these cases, the incumbent operators relied on a new test for effective competition provided by the 1996 Act whereby a cable system is considered to be subject to effective competition (and therefore exempt from rate regulation) where:

> a local exchange carrier or its affiliate (or any multichannel video programming distributor using the facilities of such a carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable services in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area. 47 U.S.C. § 543(a)(2).

[615]*1996 Report*, 12 FCC Rcd at 4454-56 ¶¶ 209-12.

[616]*Coaxial Communications of Central Ohio, Inc., Petition for Determination of Effective Competition*, Memorandum Opinion and Order ("Columbus Order"), 12 FCC Rcd 1872,1877 ¶ 13 (1997).

[617]*Id.* at 1876 ¶ 11.

181. In June 1996, Ameritech was also awarded a cable franchise in the city of Berea, Ohio.[618] Ameritech offered a 17 channel basic package called Localcast for $9.95 per month. Its expanded basic package offered 59 channels (which subscribers could access without a set-top box) at a rate of $27.95 per month. This service included all 17 channels from Localcast plus 42 other channels including TNT, SportChannels, MTV and the Disney Channel.[619] These cable services and prices are very similar to those offered by Ameritech in the Columbus market.[620]

182. Cablevision, the incumbent cable operator in Berea with approximately 4,500 subscribers, offers a total of 74 channels on its basic and expanded basic service tiers.[621] Cablevision has responded to Ameritech by offering new expanded basic tier channels free for six months.[622] Cablevision offered to maintain the discounted per channel rate for its expanded basic tier after the expiration of the free offering period. According to Ameritech, Cablevision's discount amounted to a 20% reduction per channel.[623] In addition, Cablevision moved the Disney Channel from an a la carte service to the expanded basic tier, saving customers who had subscribed to the Disney Channel over $11 per month.[624]

183. Cablevision's petition for determination of effective competition was granted in March 31, 1997. The Commission found that Ameritech is a LEC, provides comparable programming to Cablevision's services, and has completely overbuilt the city of Berea. In addition, the Commission found that Ameritech's actual offering of service combined with aggressive marketing efforts have resulted in a decline in Cablevision's subscribership.[625]

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[618] *Cablevision of the Midwest, Inc., d/b/a V Cable, Inc., Petition for Determination of Effective Competition*, CSR 4944-E, Memorandum and Opinion Order ("Berea Order"), DA 97-648 (1997) at 2.

[619] Ken Wood, *Ameritech, Cablevision Lock Horns*, The News Sun, Sept. 26, 1996, at A1.

[620] *Petition of Coaxial Communications of Central Ohio, Inc., For Determination of Effective Competition*, Petition for Special Relief, CSR 4789-E, (July 15, 1996), Exhibit C.

[621] *V Cable, Inc., Berea, OH, Petition for Determination of Effective Competition*, Petition for Special Relief, CSR 4944-E (Feb. 14, 1997), Exhibit 14.

[622] Ken Wood, *Berea Subscribers Reaping Benefits of Cable Television Competition*, The News Sun, Nov. 14, 1996 at A10.

[623] *Implementation of Sections of the Cable Act of 1992, Rate Regulation Horizontal and Vertical Ownership Limits Development of Competition and Diversity of Video Programming Distribution and Carriage*, Comments of Ameritech New Media, Inc. on Petition to Update Cable Television Regulations and Freeze Existing Cable Television Rates Filed by Consumers Union and Consumer Federation of America ("Comments on Consumer Union Petition"), RM No. 9167 (October 30, 1997), Attachment 1.

[624] Ameritech News Release June 18, 1996 at 1; and Ameritech Comments at 10-11.

[625] Berea Order at 3-4.

184. In September 1996, Quality One Technologies ("Q1"), a wholly-owned subsidiary of Columbus Grove Telephone Company, was granted a cable franchise by the Village of Columbus Grove.[626] In May 1997, Q1 began offering cable services in competition with Time Warner, the incumbent cable operator.[627] Q1 offers four services: a 12 channel Basic Package for $7.95; a 15 channel Basic Plus Package for $10.95; a 29 channel Tier I Package for $18.90; and a 45 channel Tier II Package for $29.85 (including one converter box).[628]

185. At the time that Q1 entered the market, Time Warner offered four service packages: a 12 channel Basic service for $7.98; a 15 channel Value Plus service for $9.65; a 39 channel CPST service for $27.14; and a 47 channel Cable Plus service $30.09.[629] Q1 offered additional programming in each of its packages, except for the largest package which was priced the same as Time Warner's comparable package. In contrast to Time Warner's services, Q1 included, for example, the Learning Channel in its Basic service, the Disney Channel in its Basic Plus service, and ESPN, USA, Sci-Fi, Sports Ohio, and the Cartoon Network in its Tier I service. Thus, except for the largest service package which was comparable to Time Warner's, Q1 offered additional programming on its first three levels of service and lower prices on its Basic and Tier I services.

186. In response to Q1's competitive service, Time Warner changed its channel lineup on its two largest services and instituted a customer loyalty program.[630] Time Warner moved the History Channel, Sportschannel, Cartoon Network, and TV Land from its highest priced Cable Plus service to its CPST service at no additional cost. Time Warner's new CPST service offered 43 channels for $27.14 compared to Q1's 29 channel Tier I Package for $18.90 and 45 channel Tier II Package for $29.85 (including one converter box). Time Warner also added three channels not available on Q1 (i.e., Animal Planet, Classic Sports and CNN SI) to its Cable Plus service at no additional cost.[631] In addition, Time Warner promises not to increase its rates for one year and to allow customers to earn a monthly credit that can be used to pay their cable bill at the end of the year.[632]

187. On July 15, 1997, Time Warner filed a petition for determination of effective competition in Columbus Grove. Time Warner claims that Q1 is affiliated with a LEC, offers comparable service,

[626]*Time Warner Entertainment Company, L.P., d/b/a Time Warner Cable, for Determination of Effective Competition*, Petition for Special Relief, CSR 5059-E (July 15, 1997), Exhibit C.

[627]*Id.* at 8.

[628]*Id.* at Exhibit L.

[629]*Id.* at Exhibits N and O.

[630]*Id.* at 11.

[631]*Id.* at Exhibits I, N and O.

[632]*Id.* at 11 and Exhibit N.

serves customers in Columbus Grove, and is an actual competitor in the market.[633] On November 17, 1997, the Commission granted the petition.[634]

2. *Fairfield, Bridgeport, Stratford, Orange, Woodbridge, and Milford, Connecticut*

188. In September 1996, Southern New England Telephone ("SNET") was awarded a cable franchise for the entire state of Connecticut. In May 1997, SNET started to offer cable services to about 7,200 residents in the city of Fairfield. By July 1997, SNET was planning to add the remaining 53,000 Fairfield households to its service area. SNET offers 65 channels for $26.50 a month, free installation and a 30-day guarantee (if new SNET subscribers are not happy with their service during the first 30 days, SNET will switch them back to their previous cable provider for free). In addition, SNET offered a $30 voucher to its cable subscribers redeemable on the purchase of any other SNET service, including the phone services.[635]

189. Cablevision of Connecticut is the incumbent provider with a cable franchise comprised of six communities in Fairfield and New Haven counties: Fairfield City (15,000 subscribers), Bridgeport (35,000 subscribers), and Stratford (13,000) in Fairfield County; and Milford (17,000 subscribers), Orange (4,000 subscribers), and Woodbridge (3,000 subscribers) in New Haven County ("Fairfield-New Haven"). Cablevision charged $32.95 per month for 82 channels for its basic plus expanded basic package (its "Optimum TV" service, excluding pay per view channels).[636] In response to SNET's entry, Cablevision offered discounts up to $15 or 45% on the $32.95 Optimum TV service package to its Fairfield City subscribers. In addition, Cablevision offered a free month of Optimum TV, a free four week subscription to "Total Magazine," and free installation (up to three television sets) to new subscribers in the Fairfield area.[637] Cablevision also attempted to become more customer service oriented. According to SNET, Cablevision established a new customer service line for its Fairfield City subscribers and performed a "door to door customer satisfaction survey in Fairfield, followed by a gift package in return for completing the survey."[638] Cablevision also started to build a state-wide fiber network (similar to SNET's fiber network) which is expected to be completed by the end of this year.

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[633] *Id.*

[634] *Time Warner Entertainment Company, L.P., d/b/a Time Warner Cable, for Determination of Effective Competition*, CSR 5059-E, Memorandum Opinion and Order, DA 97-2414 ¶ 11 (rel. Nov. 20, 1997).

[635] Stephen Higgins, *1-Day Old Cable TV Rivalry Produces Instant Savings*, New Haven Register, Friday, May 23, 1997, at A1; and Edward J. Crowder, *SNET TV Now in Tune with Fairfield*, Connecticut Post, May 23, 1997, at C1.

[636] *Id.*

[637] SNET Opposition Petition for Special Relief, July 10, 1997 ("SNET Opposition Petition") at 7.

[638] SNET Opposition Petition at 8.