

**GAO**

Report to the Subcommittee on  
Antitrust, Business Rights, and  
Competition, Committee on the  
Judiciary, U.S. Senate

---

July 1999

# TELECOMMUNICATIONS

## The Changing Status of Competition to Cable Television



---

---

**Resources, Community, and  
Economic Development Division**

B-281027

July 8, 1999

The Honorable Mike DeWine  
Chairman  
The Honorable Herb Kohl  
Ranking Minority Member  
Subcommittee on Antitrust, Business Rights  
and Competition  
Committee on the Judiciary  
United States Senate

Despite congressional efforts to constrain cable television rates and promote competition in the subscription television market,<sup>1</sup> the average bill for cable television has risen faster than the rate of inflation in recent years.<sup>2</sup> There is also continuing concern that competition in the market is developing more slowly and in different ways than was expected after the 1996 Telecommunications Act and that shaping public policy in telecommunications markets has become increasingly difficult as technology rapidly redefines the industry. Consequently, you asked us to provide information on (1) the status of competition in the subscription television market, (2) the extent to which ownership ties between cable companies and program suppliers (such as CNN) may be affecting the development of competition, and (3) key factors that may influence the development of competition in the future.

In order to evaluate these issues, we interviewed companies and trade associations representing cable companies, their competitors, and television programming networks. In addition, we convened a panel of experts to discuss issues concerning competition in the market. The panel included government officials, academic experts, and a representative of a consumer group. Our methodology is discussed in more detail in appendix I. Appendix II lists the names of the companies we interviewed, and appendix III lists the experts who participated in our panel.

---

**Results in Brief**

The cable industry maintains a high share of the subscription television market nationally and is currently not very competitive. However, the satellite industry competes against cable companies throughout the United

---

<sup>1</sup>This market comprises firms offering multiple channels of television programming for a subscriber fee, such as that provided by cable and satellite companies.

<sup>2</sup>Although average cable bills have been rising, the average number of channels offered to subscribers has also been increasing during recent years.

---

States, and its market share has increased considerably since the introduction of a new generation of satellite television service, known as direct broadcast satellite (DBS) service, in 1994. Satellite's share of customers purchasing subscription television service grew from 4 percent in 1994 to 12 percent by mid-1998. During that same time period, the market share of the cable industry declined from 93 percent to 85 percent. Despite expectations of rapid entry into the subscription television market, telephone companies have progressed more slowly and are providing only limited competition to cable. Competitors to incumbent cable companies are pursuing strategies to compete more effectively through pricing, the number of channels offered, and customer service. Partly in response to competition, cable companies are upgrading their systems; improving service; and introducing new services, such as Internet access. These behaviors by both incumbent cable companies and other providers may indicate that the market is becoming more competitive despite the continued high market share held by the cable industry. However, some of these behaviors may have occurred even in the absence of increased competition from other subscription television providers.

While many cable companies provide television programming throughout the United States, the four largest cable companies as of June 1998 accounted for 55 percent of all television subscribers. In addition, the six largest cable companies at that time had significant ownership interests in program suppliers (that is, owners of subscription channels, such as HBO and CNN). Most cable companies are following strategies to cluster their operations geographically so that they operate most of the cable systems in a particular city or region. These companies realize benefits from their size, ownership interests, and clustering. Some industry participants have expressed concerns about competitive advantages that the ownership relationships may create for incumbent cable companies. For example, some of our panel of experts noted that ownership relationships may enable large cable companies to get more favorable terms when buying programming and to restrict their competitors' access to programming.

The likely future development of competition in the subscription television market is difficult to predict, but certainly several key factors will influence it. For example, the satellite companies' continued growth will be affected by their ability to provide subscribers with local network programming (by ABC, NBC, CBS, etc.). Additionally, there is great uncertainty about how the broadcasting industry will transition to a new digital format because traditional television stations have a good degree of flexibility in how they can use the increased capacity they have been

---

granted for providing digital television. More broadly, the subscription television market could be affected by developments in the larger telecommunications market because other telecommunications companies, such as telephone companies, are attempting to provide consumers with “one-stop shopping”—that is, seeking to provide an array of services including telephone service, subscription television service, and Internet access. If several different types of companies—cable companies, telephone companies, electric companies, and companies using different kinds of “wireless” technologies—are successful in bringing a “bundle” of telecommunications services to consumers, competition among alternative delivery mechanisms—a cable wire, a telephone wire, an electric wire, and wireless—may develop. However, if one of the technologies that uses a wired connection to homes and businesses emerges as the most efficient, it could become the dominant means of delivering various telecommunications services, and greater competition for subscription television and other telecommunications services may not develop.<sup>3</sup>

---

## Background

About 98 percent of U.S. homes have at least one television set, and television service is delivered to the home in several ways. Currently, there are three technologies<sup>4</sup> that deliver most television service to individual homes: over-the-air broadcasting, cable television, and satellite, each of which is covered under a unique regulatory framework.<sup>5</sup> Additionally, the channels that viewers watch on television fall primarily into two categories—broadcast channels (which include the broadcast networks and independent local channels) and subscription channels.

---

## The Over-The-Air Broadcast Industry

The broadcast industry has two key components. The first is composed of local television stations. All television stations in this country must be licensed by the Federal Communications Commission (FCC). The FCC license gives a station the right to use a specified portion of the radio

---

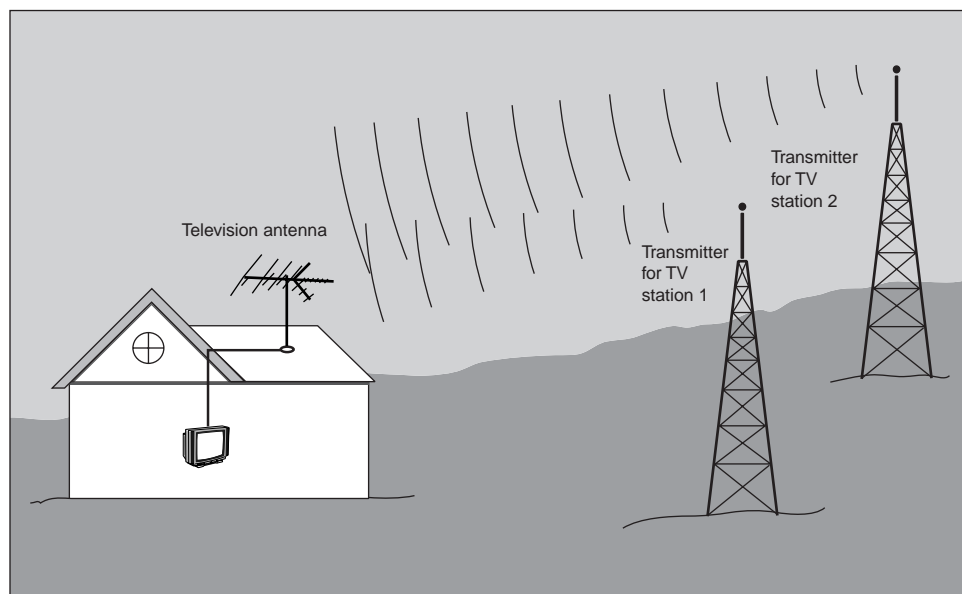
<sup>3</sup>If a wireless technology is the most efficient for providing a bundle of services, monopolization is less of a concern because of the potential for allocating additional spectrum to allow for additional providers. However, there is a limited amount of spectrum, and spectrum is not fully flexible across uses.

<sup>4</sup>In addition, “wireless cable” systems provide competition in limited areas. Wireless cable systems use microwave frequencies to transmit programming to receiving antennas.

<sup>5</sup>Under the Communications Act of 1934, as amended, the Federal Communications Commission (FCC) has the authority to regulate all interstate and foreign communication by wire or radio. (See 47 U.S.C. 151). The Department of Justice or the Federal Trade Commission conducts antitrust reviews of certain mergers involving the telecommunications industry. FCC also reviews telecommunications mergers.

spectrum to transmit video signals in a particular geographic area—that is, all TV stations have a license to operate in a particular local market. Because the video signal from a local TV station is broadcast through radiowaves or “over the airwaves,” this method of providing television is called “over-the-air,” or broadcast, TV. Figure 1 shows how a household can receive television signals over the air through a rooftop antenna.<sup>6</sup>

**Figure 1: the Delivery of Television Over the Air**



Roughly 78 percent of the commercial television stations in the United States are owned by or affiliated with a broadcast network—the second component of the broadcast industry. There are seven major commercial broadcast networks today.<sup>7</sup> These networks purchase and produce an array of programs such as news, situation comedies, dramas, sports shows, soap operas, and so forth. Broadcast networks themselves do not distribute the television programming they produce to individual households; it is the local TV stations that are owned by or affiliated with

<sup>6</sup>Even an antenna on the back of a TV set—so-called “rabbit ears”—may be sufficient to pick up over-the-air stations in many cases.

<sup>7</sup>The seven networks are ABC, CBS, Fox Broadcasting Company, NBC, PaxTV, United Paramount Network (UPN), and Warner Brothers (WB).

---

the networks that distribute the programs via the airwaves.<sup>8</sup> Many TV stations, whether affiliated with a network or not, also produce programming, such as local news and other local-interest programming.

The broadcast industry is largely funded through the national, regional, and local advertisements that are aired along with other programming on local TV stations. Households that receive only over-the-air TV pay no subscription fee for access to the signals of the TV stations in their area—they need only to have a TV set and an adequate antenna. In most cities, a typical home would be able to receive several over-the-air stations: the local TV stations affiliated with the broadcast networks, a public television station, and perhaps other independent local television stations. Approximately 22 percent of all households in the United States do not subscribe to cable or any other subscription television service but rely exclusively on over-the-air technology for their television programming.

---

## The Cable Industry

Cable television originally developed as a means of providing the signals of local television stations to rural and mountainous areas that could not get adequate reception of those signals through conventional over-the-air antennas. Early cable systems used large antennas to capture the signals of nearby television stations and then retransmitted those signals to homes through special wires (coaxial cables) owned by the cable companies. Cable companies obtain a franchise license under agreed-upon terms and conditions from a local authority, such as a county or township that grants them the right to operate in a specified area and run cables along public rights-of-way.<sup>9</sup> Many aspects of cable companies' operations are regulated by the FCC. Additionally, a 1976 copyright law grants to cable companies a permanent license allowing them to transmit over-the-air television signals through their cable systems.<sup>10</sup>

During the 1970s, developments in satellite technology enabled video signals to be transmitted economically via satellites, opening the door for

---

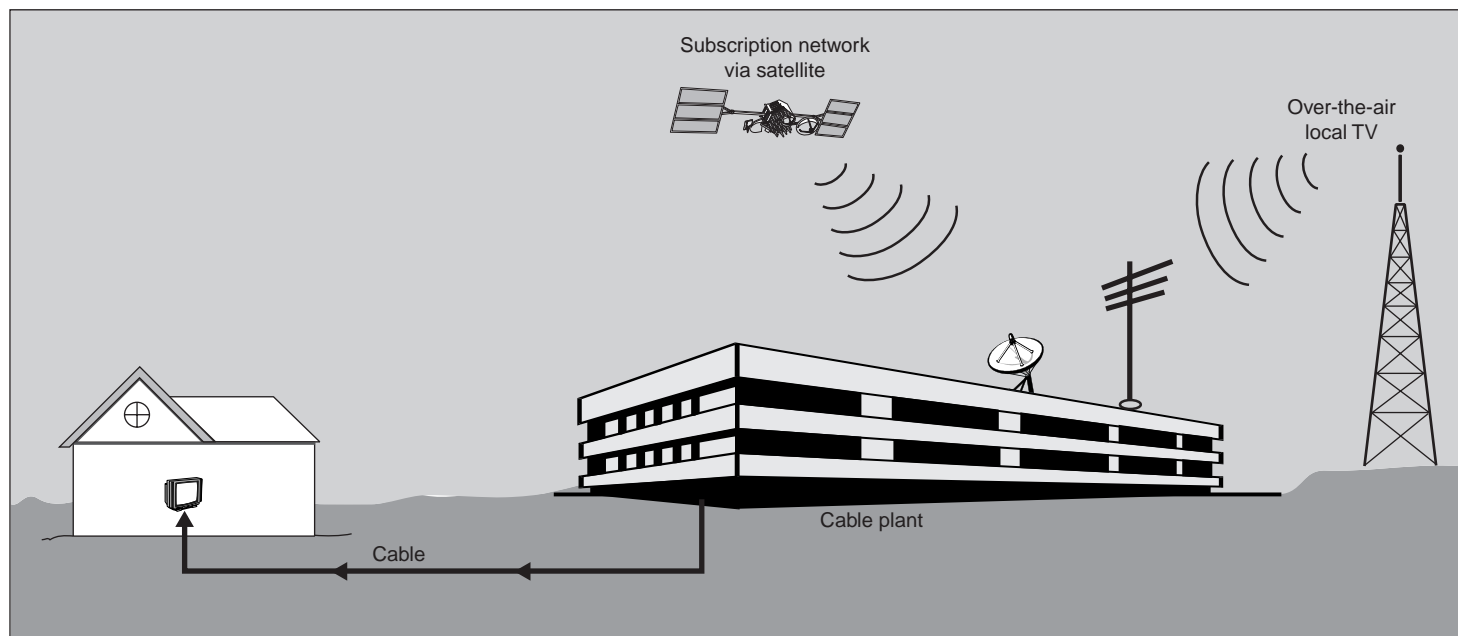
<sup>8</sup>Some of the broadcast networks also have divisions that produce channels designed for distribution solely on subscription television, such as CNBC and FOXNEWS.

<sup>9</sup>In some cases, cable franchises are administered at the state level.

<sup>10</sup>Under this copyright license scheme (17 U.S.C. 111), commonly referred to as a compulsory cable copyright license, copyright owners are required to license their works to users at government-set prices, terms and conditions. Generally, cable operators pay little or no copyright fees to carry local signals. In the Cable Act of 1992, the Congress adopted statutory "must-carry" rules coupled with "retransmission" consent provisions. Under these provisions, a cable operator may not carry a broadcast station's signal if the station has not elected must-carry status or if the station has not granted prior consent (retransmission).

the development of new networks, such as HBO and CNN, designed primarily for the distribution of programming via satellite to cable systems throughout the country. Unlike the broadcast networks, which gain revenues largely through advertising, these subscription networks are supported through both advertising and fees paid by cable operators. Figure 2 illustrates how a household can receive television service from a typical cable system. The cable plant primarily receives two kinds of signals: (1) signals broadcast by local TV stations from TV towers in the area and (2) signals via satellite from subscription networks.<sup>11</sup> These signals are all provided to subscribers through the cable system's wires.

Figure 2: the Delivery of Television Via Cable



Once subscription networks were added to cable companies' channel offerings, consumers faced the choice between having access to only the available over-the-air stations for free or paying a fee to obtain the broadcast stations as well as several new subscription networks over a cable system. Today, about 97 percent of homes in the United States have

<sup>11</sup>Cable plants may also receive terrestrial (land-based) microwave transmissions.



---

access to a cable system, and approximately 66 percent of these households subscribe to a cable service.

---

## The Satellite Industry

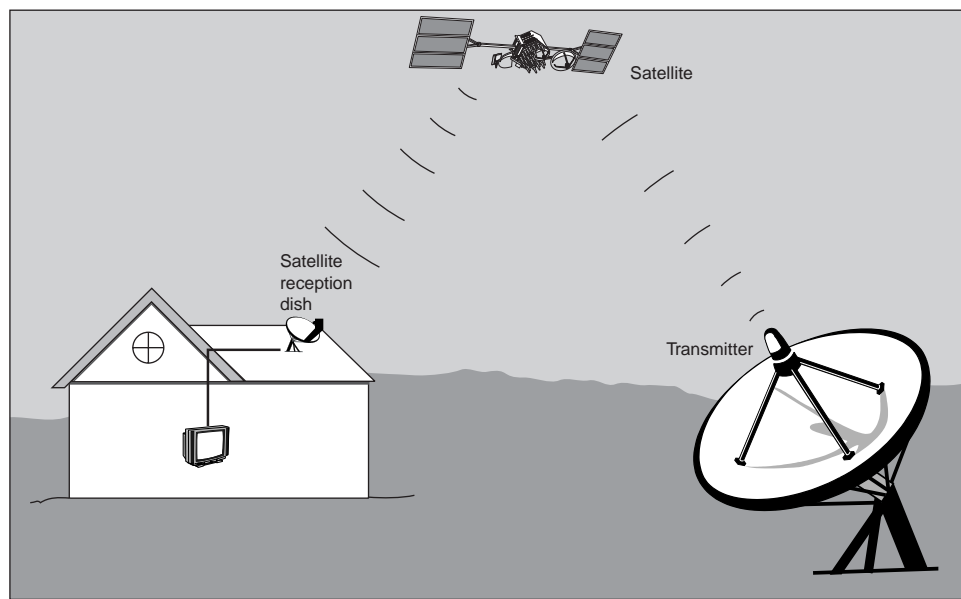
Satellite subscription television service emerged in the early 1980s as an alternative to cable service in rural areas where over-the-air broadcast and cable systems were inaccessible. Satellite systems obtain authorization from FCC to place satellites in specific orbital locations from which they can transmit video signals to all or much of the continental United States.<sup>12</sup> Satellite companies transmit their programming directly to subscribers' homes where satellite reception dishes (which subscribers purchase or rent) are installed to capture the video signals and transmit them through a wire to television sets. In 1994, a new type of satellite technology called Direct Broadcast Satellite (DBS) was introduced that uses pizza-sized satellite reception dishes that can be mounted on rooftops or window sills.<sup>13</sup> Satellite television is available nationwide, and each DBS company generally offers the same programming packages and price throughout the country. Since the introduction of DBS, satellite delivery of television has become more popular in urban settings. The majority of satellite subscribers today receive DBS from one of a few national companies offering such service. Figure 3 shows how a household can receive television service from a satellite company. Subscription television networks transmit to a satellite (for example, CNN transmits much of its programming from Atlanta, where it is produced), and then all programming is transmitted directly to the subscriber's satellite dish.

---

<sup>12</sup>The International Telecommunications Union, an intergovernmental organization through which countries coordinate the use of radio frequencies, apportions, on a global basis, radio spectrum and orbital locations for DBS service. The United States was assigned eight orbital locations for these satellites, three of which reach the entire continental United States.

<sup>13</sup>Some households receive programming through a "home satellite dish," which is similar to DBS delivery but requires the use of a larger satellite dish. Home satellite dish delivery accounted for approximately 2 million subscribers as of June 1998; however, its number of subscribers and market share have been declining. The satellite association attributes this decline to households' switching from home satellite dish delivery to DBS delivery.

**Figure 3: the Delivery of Television Via Satellite**



Because DBS uses a digital technology, these systems currently have a higher channel capacity and transmit clearer pictures and sound than many cable systems.<sup>14</sup> However, there are some current legal limitations on when DBS companies may transmit network broadcast signals,<sup>15</sup> which the Congress is seeking to address. As discussed later in this report, bills have passed both the House of Representatives and the Senate that would allow DBS companies to provide local broadcast signals to all customers within local broadcast areas.

<sup>14</sup>Digital technology more efficiently uses radio spectrum, so more services can be provided with a given amount of radio spectrum. Also, because of the way that digital signals are transmitted, less degradation of the signals occur.

<sup>15</sup>In particular, the Satellite Home Viewers Act establishes a copyright license allowing satellite carriers to provide network programming only to homes where the subscriber's television reception of local broadcast stations via a standard rooftop antenna is not adequate (does not meet a certain signal intensity standard). In these cases, and if certain other conditions are met, the households are considered "unserved," and the DBS operator can provide network broadcasts (usually from faraway markets) under its copyright license.

---

## Cable Maintains a High Market Share, but New Entrants Are Becoming Increasingly Competitive

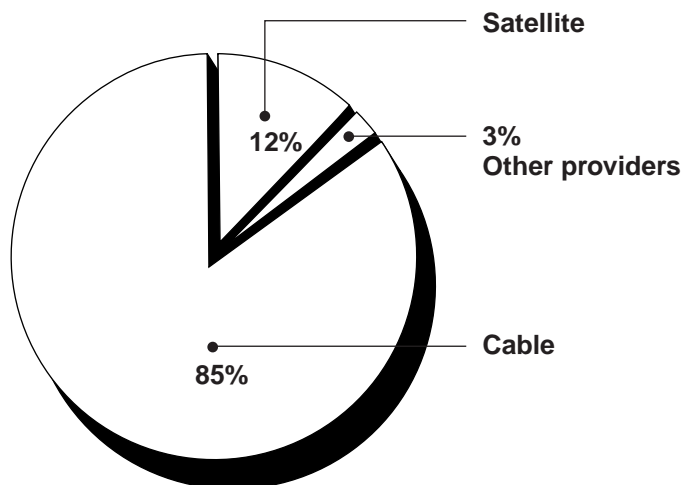
The cable industry continues to serve 85 percent of the customers purchasing subscription television services. However, DBS companies compete against cable operators throughout the United States, and their subscriber base has increased considerably since the service was launched in 1994. Local telephone companies, expected to begin providing subscription television service after the enactment of the 1996 Telecommunications Act, have entered the market slowly and are providing only limited competition to cable. DBS companies and other competitors to cable companies are pursuing strategies to compete with incumbent cable firms on the basis of price, the channels and other services offered, and customer service; cable companies are responding to this increased competition.

---

## Cable Continues to Maintain a High National Market Share

According to June 1998 data reported by FCC, over 65 million households, or 85 percent of all the households that have a subscription television service use cable television. Although its number of subscribers continues to grow, the cable industry's market share of subscribers has declined slightly in each of the last 4 years, from a level of 93 percent of subscribers in December 1994. Nearly all of the participants on our panel of experts stated that although competition in this industry is beginning to develop in earnest, the subscription television market is currently not very competitive. Figure 4 shows cable's and its competitors' market shares of households that pay for their television programming.

Figure 4: Subscription Television Providers' Market Shares, June 1998



Source: FCC, Dec. 1998.

Despite the high national market share of the cable industry, competition in this industry really plays out in local markets. At the local level, competition varies more than the national data suggest. According to our discussions with industry participants, it appears that the degree of competition in the local markets varies on the basis of several factors related to the nature of each market.

### Satellite Television Is a National Competitor to Cable and Is Growing in Popularity

DBS service has enjoyed very rapid growth since 1994, when the service first went on the market. Within the 12-month period between June 1997 and June 1998, there were more than 2 million new DBS subscribers added—a 43-percent increase over the prior year's total number of subscribers—and as of June 1998, the market share of DBS companies and other satellite television providers together had grown to 12 percent of all households that have a subscription television service.<sup>16</sup> DBS industry analysts told us they foresee continued growth in the DBS market.

There are some aspects of DBS service that are very attractive to some subscribers. First, through the use of digital technology, DBS' picture and sound quality is considered to be state-of-the-art, and surveys have found

<sup>16</sup>According to a satellite industry association, 28 percent of DBS customers also subscribe to a cable service.

---

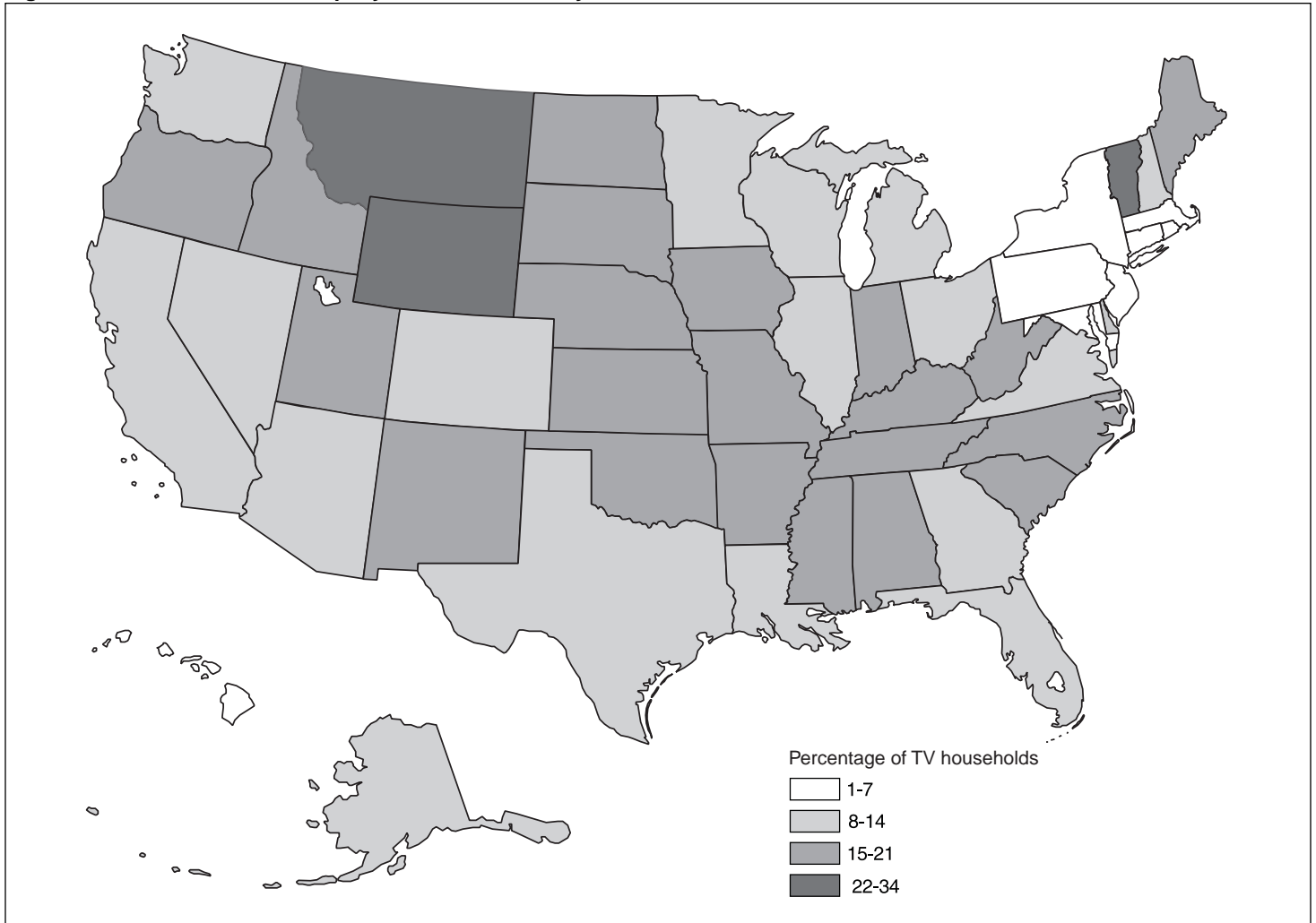
these factors to be important to many. Second, DBS firms currently offer a greater number of channels than most cable systems.<sup>17</sup> For subscribers who are interested in movies or sports, DBS may offer a more attractive package of channels than most cable systems.

Although satellite systems offer a national service, their market penetration varies significantly by local area. In particular, as figure 5 shows, DBS has enjoyed much greater penetration in more rural states. This pattern of development may be due to the lack of cable systems in such areas, to less channel capacity on the cable systems in some rural locations, or simply to the early marketing strategies of satellite companies.

---

<sup>17</sup>As cable systems upgrade to digital technology DBS' advantage of a greater channel capacity over cable will diminish.

Figure 5: Satellite Subscribership, by State as of January, 1999



Source: Data from SkyTRENDS, 1999, a market research and data collection organization for the satellite industry.

**Competition to Cable From Telephone Companies and Other Providers Is Limited Nationally but Significant in Some Local Markets**

As figure 4 indicates, subscription television service offered by telephone companies, electric utilities, and other providers constitutes a relatively small percentage of the national market. According to our discussions with industry participants, it appears that despite the small national market share held by these competitors, their presence is important in some local markets. Moreover, according to FCC, where cable companies face direct competition in local markets, consumers often receive benefits,

---

including lower prices, additional channels at the same monthly rate, improved customer service, and new services such as interactive applications.

The 1996 Telecommunications Act eliminated a restriction on telephone companies' provision of television programming within their telephone service areas. While telephone companies providing programming are not generally using their telephone networks to compete with cable companies, they have entered the market using other distribution systems.<sup>18</sup> One regional telephone company, Ameritech, has built a second cable system in several cities that competes against the incumbent cable operator's system. Bell Atlantic has entered into a joint marketing arrangement with a DBS company within its territory under which the telephone company markets the DBS system under the telephone company's brand name. BellSouth has purchased some "wireless cable" systems that use microwave technology to transmit television signals to homes. Overall, FCC reports that telephone companies are not yet a national presence in the subscription television market, but their competitive presence is growing, and in certain areas, such as the Midwest, they are already becoming significant regional competitors. FCC has reported that Ameritech and BellSouth have acquired cable franchises which give them potential access to more than 2.7 million homes.

The 1996 Telecommunications Act also contains provisions that effectively allow public utility holding companies to enter telecommunications markets, so these and other companies have also entered the subscription television market in some local areas. FCC states that utilities have the potential to become major competitors but thus far are not significant or nationwide competitors in the subscription television market. Additionally, some companies have focused their operations on the multiple-dwelling-unit market, which includes apartment buildings and condominiums. FCC also reports that investment in and the development of Internet video service is continuing, and some video service is being offered over the Internet, although the pictures are not of the quality provided by subscription television.

The availability of free over-the-air broadcast television may also influence the competitiveness of the subscription television market. For example, some cable firms we spoke with noted that they feel competitive pressure from the availability of free over-the-air television. In fact, some studies have found that in addition to other factors, a greater number of free

---

<sup>18</sup>US WEST is using its telephone infrastructure to deliver video programming in Phoenix, Arizona.

over-the-air TV channels in a particular city tends to reduce cable subscriptions and rates.<sup>19</sup> On the other hand, some members of our expert panel noted that the small number of channels available through over-the-air technology, as compared to a subscription service, does not meet the needs of many consumers who currently choose to buy a subscription service.

### Competitors Are Adopting Various Strategies to Attract Subscribers

To attract subscribers to their services, competitors to incumbent cable firms are pursuing a variety of strategies to compete for subscribers, including (1) offering competitive pricing, (2) offering a greater number of channels and expanding services, and (3) providing quality customer service.

- DBS companies are competing on price by reducing the up-front costs of purchasing necessary equipment, such as satellite reception dishes,<sup>20</sup> as well as maintaining their programming package prices. According to one DBS company, its programming package price has not changed in the past few years, and in 1998 the company guaranteed its subscribers that no price increase would take effect before 2000. In addition to offering packages with extensive programming, DBS companies also offer programming packages with fewer channels for reduced monthly payments.<sup>21</sup> Other competitors, operating second cable systems or wireless cable systems, also told us that they have attracted subscribers by offering their services at prices that are competitive with those of incumbent cable companies.
- Another means by which providers are seeking to compete with incumbent cable systems is through the number of channels offered and services provided. These competitors are seeking to attract new customers with expanded channel selection, better picture quality and enhanced sound. DBS providers said that they offer over 200 channels of digital video and audio programming, which is a much larger selection than most cable operators can provide. One of the wireless cable systems of a telephone company is offering subscribers 160 channels of programming, also

<sup>19</sup>Robert W. Crandall and Harold Furchtgott-Roth, *Cable TV: Regulation or Competition?* (Washington, D.C.: Brookings Institution, 1996), p. 55; Mark M. Bykowsky and Timothy Sloan, "Competitive Effects of Broadcast Signals on the Price of Basic Service," NTIA Staff Paper (Apr. 6, 1990); James N. Dertouzos and Steven S. Wildman, "Competitive Effects of Broadcast Signals on Cable," paper prepared for the National Cable Television Association, (Mar. 1, 1990).

<sup>20</sup>Some DBS promotions require subscription to particular programming packages. Also, subscribers incur additional equipment costs to be able to view programming on more than one television set.

<sup>21</sup>These include DBS programming packages such as 18 video channels and 31 audio channels for \$14.99 per month and 40 video channels for \$19.99 per month.



---

considerably more than most cable systems' programming, and a representative of an electric utility whom we interviewed told us that its system currently offers subscribers more channels than the cable competitors it faces. Additionally, many of these providers are offering other services along with subscription television service, such as Internet access.

- Many providers also told us that they compete with cable operators through their customer service operations. For example, DBS companies told us they seek to provide quality customer service, and one company said that its customer service switchboard is open 24 hours per day, 7 days per week. Both telephone company and electric utility representatives we spoke with noted that one of their competitive advantages is the customer service reputation associated with their brand name.

Nearly all cable operators we spoke with told us that they view the competition from new providers as significant and are pursuing strategies to retain and increase their subscriber base. Among these strategies are pricing modifications, an expansion of programming, new services, and improved customer service. Although cable companies have increased their prices, some cable companies told us that they price their programming packages to be competitive and, because of competition, have not increased their prices as much as they might have otherwise. Cable companies also told us that they have increased their prices because of the increased costs of programming, costs for upgrading, and the general increases in their business costs. Many cable companies explained that they are upgrading and rebuilding their systems to offer subscribers a greater number of channels. Also, most of these cable companies pointed out that their system upgrades are enabling them to offer new services, such as Internet access and telephone service. Cable infrastructure investments have totaled more than \$20 billion during the period 1996 through 1998. Although the cable industry maintains a high market share of television subscribers, the responsiveness of these firms in upgrading their systems and expanding services may indicate that the market is becoming more competitive than the data on market shares alone may indicate. Alternatively, it is also possible that these firms may have upgraded their services and expanded their service offerings in the absence of increased competition from other subscription television providers.

---

## Cable Operators' Extensive Ownership Ties Result in Some Clear Efficiencies, but Ownership Relationships May Adversely Affect Competition

Although there are more than 10,000 cable franchises throughout the nation, the ownership of cable operations is fairly concentrated. In addition, there are ownership ties between cable systems and program suppliers, or subscription networks. Also, nearly all cable companies are trying to cluster their operations in order to own most of the cable systems in particular geographic areas. We found that ownership ties and clustering strategies provide important cost savings as well as possible competitive advantages to cable companies. To address concerns about the effect that large cable companies might have on the terms competitors receive when buying programming and the availability of programming to the competitors, many companies we spoke with, as well as some of our expert panelists, stated that additional steps to ensure competitors' fair terms for and access to programming should be considered.

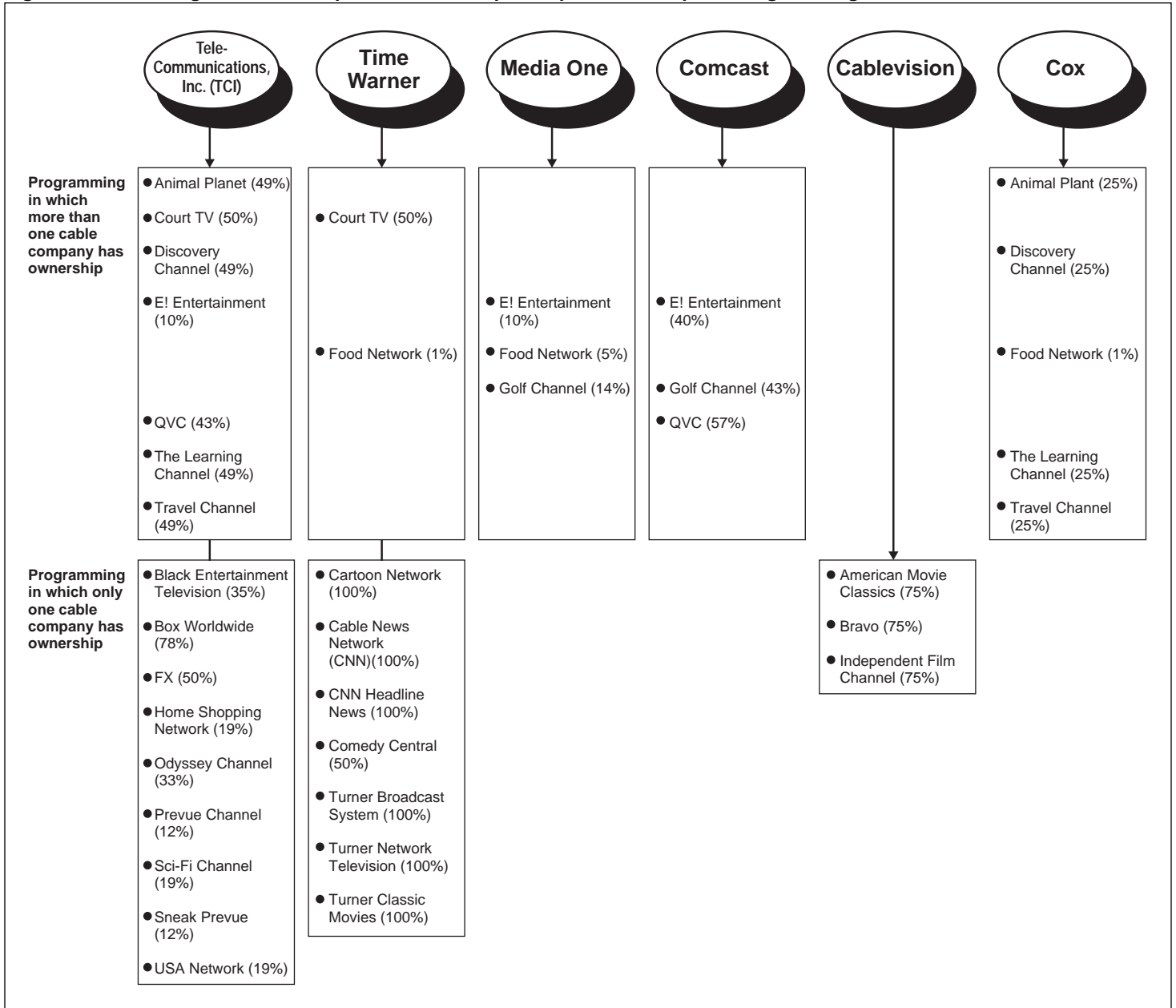
---

## Extensive Ownership Ties Exist Among Cable Operators and Between Cable Operators and Program Suppliers

The cable industry is a fairly concentrated industry and is also characterized by significant ownership ties among cable companies and related firms. There are three ownership issues that characterize the cable industry: "vertical" relationships between cable operators and program suppliers, or subscription networks; "horizontal" concentration and relationships among cable operators; and clustered cable systems, whereby cable operators consolidate ownership within geographical areas.

The largest cable companies have ownership interests in subscription networks, which create vertical ownership ties in the industry. Five of the 16 cable companies we interviewed have ownership interests in subscription networks. In 1998, FCC reported that 95 of 245 subscription networks were vertically integrated with some minimum ownership interest by at least one cable operator. Cable companies, either individually or collectively, owned 50 percent or more of 78 subscription networks. Moreover, cable companies' ownership interest in programming included 29 of the top 50 most popular subscription networks. Figure 6 shows cable companies' ownership interests in popular subscription programming, as of July 1998.

Figure 6: the Six Largest Cable Companies' Ownership of Popular Subscription Programming



(Figure notes on next page)

---

Notes: In addition, Jones Intercable has a 97-percent ownership interest in Knowledge TV.

Since the date of the data used in this figure, several changes have occurred in the industry. For example, on March 9, 1999, AT&T announced that its merger with TCI was complete and that TCI would become the AT&T business unit, AT&T Broadband & Internet Service. In addition, on May 6, 1999, AT&T and MediaOne Group announced that it had entered into a definitive merger agreement.

Source: FCC's data as of Mar. 1998.

FCC's data also reveal an industry that is fairly concentrated horizontally; in particular, the top four cable companies as of July 1998—Tele-Communications, Inc. (TCI), Time Warner, Media One, and Comcast—accounted for 55 percent of all television subscribers.<sup>22</sup> In addition, some cable companies have ownership ties with other cable companies. For example, in 1998, TCI owned 10 percent of Time Warner Inc.; Media One owned 25 percent of Time Warner Entertainment (a limited partnership of Time Warner Inc., which includes cable systems and other entertainment business interests); and Comcast, the fourth largest cable company, owned a controlling interest in Jones Cable, the eighth largest cable company at that time.<sup>23</sup> In addition, several of the smaller cable companies we interviewed told us that larger cable companies hold an ownership interest in them. While these companies generally do not compete against each other in local markets—that is, consumers rarely have a choice of cable operators—this level of concentration has more significance for the market for program acquisition.

In recent years, cable companies have engaged in a clustering strategy in order to consolidate their systems in and around particular cities or regions, which have then become dominated by one company. FCC reports that 34 million subscribers are located in clusters of 100,000 or more subscribers in 1998. Figure 7 provides an illustration of how a cable company might develop a cluster of systems in and around a particular city. Before the clustering, cable systems' ownership is geographically

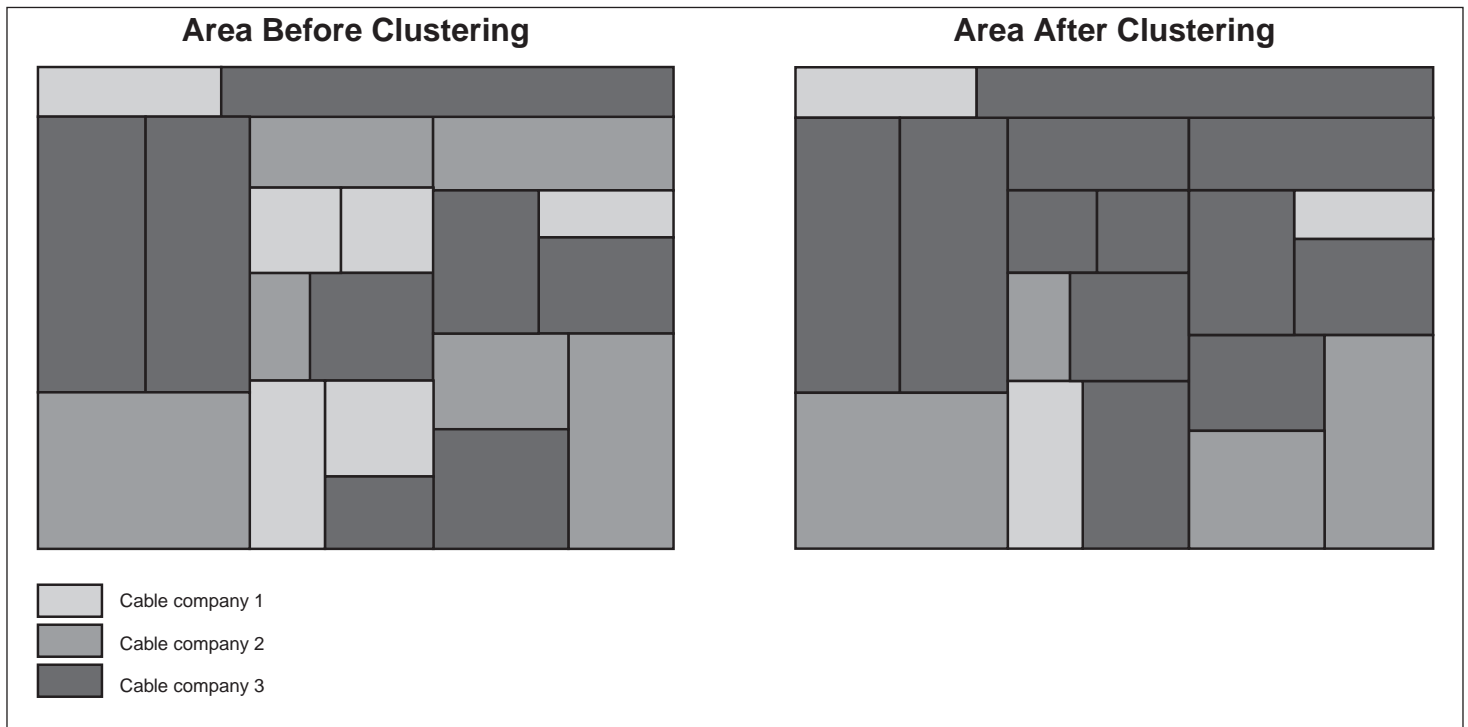
---

<sup>22</sup>Industries are considered concentrated when a few firms account for most of the production of a particular product. One common measure of concentration is the four-firm concentration ratio, which measures the portion of the industry accounted for by the four largest firms. Therefore, measured by subscribership, the national four-firm concentration ratio for the cable industry was 55 percent at the time of these data, which would constitute a fairly concentrated industry. Since cable companies typically have even higher market shares in local markets, experts believe that in many cases the relevant concentration of the industry is higher than the national concentration indicates.

<sup>23</sup>Currently there are proposed mergers in the industry that would change the individual companies' relative sizes.

dispersed in this hypothetical city, but in the second panel, one cable company has come to have most system franchises in this area.

Figure 7: Hypothetical Illustration of Geographic Clustering by a Cable Company



**Cross-Ownership Among Market Participants Creates Efficiencies**

The various ownership ties that exist in the cable industry provide efficiencies to cable operators that help to decrease their cost of providing cable service. Our discussions with industry participants and the comments made by our expert panel revealed important efficiencies resulting from vertical integration, horizontal concentration, and the clustering of cable systems.

One of the most important efficiencies of vertical integration between cable operators and program suppliers—that is, companies that develop programming and own subscription networks—comes from the reduced risk of program development. Developing new and innovative programming is costly and risky. Not only does the vertical relationship help to reduce costs of negotiating and enforcing long-term contracts

---

between cable companies and program suppliers, but the relationship also helps to ensure an outlet for newly developed programming. For program suppliers, this minimizes the risk that programs will be developed but not be marketable. From the cable operators' perspective, ownership ties to program suppliers help guarantee the continued availability of programming. Several of the companies we interviewed told us that subscription networks were largely developed through investments by the larger cable companies. Even competitors to cable agree that the cable companies' vertical ties to program suppliers are largely responsible for the development of the varied programming that now exists. All of the expert panel members agreed that vertical relationships in this industry have promoted efficiencies in the cable industry.

Benefits are also gained by the large size of some cable companies and from horizontal relationships with other cable companies. Larger cable companies may enjoy reduced programming costs and also have costs savings in management and other overhead functions. For smaller cable companies, an ownership link to a larger company may allow the smaller company to obtain programming at reduced rates.<sup>24</sup> Several of the smaller cable companies we interviewed noted that even small ownership links to larger cable companies could enable them to purchase programming at reduced rates.

Finally, nearly all the cable companies we spoke with said that they had engaged in clustering in order to consolidate their cable franchises in specific geographic areas. The companies noted that they could obtain greater economies of scale from doing this as compared to having cable systems that were noncontiguous and more geographically spread out. In particular, the clustering strategy enables firms to consolidate facilities for receiving and transmitting programming, reduce the number of repair crews, have regional customer service centers, reduce management, and compete more effectively for local advertising dollars. In addition, the companies said that clustering provides the critical mass of subscribers necessary to support the huge capital investment needed to make system upgrades designed to enable companies to enter other lines of telecommunications services, such as Internet access and local phone service.

---

<sup>24</sup>Smaller cable companies may also reduce the rates they pay for programming by purchasing through a buying cooperative.

---

## Ownership Ties May Have Adverse Competitive Effects

Although there are efficiencies realized from the ownership relationships in the cable industry, there is also the potential for adverse market effects from these relationships. Certain federal laws and FCC rules have been designed to ensure that vertically integrated cable companies make their programming available to other market participants and to limit the extent of horizontal concentration in the industry. Despite these safeguards, several market participants we spoke with, as well as most of our expert panel members, expressed concerns about potential harmful effects of ownership ties and the concentration within the cable industry.

The Cable Television Consumer Protection and Competition Act of 1992 includes provisions aimed at, among other things, enhancing competition in the subscription television market. As required by the act, FCC developed rules—commonly referred to as the program access rules—designed, in part, to ensure that vertically integrated cable operators generally make their satellite subscription programming available to competitors. Many of the firms we spoke with, as well as our expert panel, noted that the program access rules were very important in helping new competitors—particularly, the DBS firms—to get a foothold in the subscription television market. Despite the success of the program access rules, most of the “noncable” providers and competing cable companies (who are “overbuilding” a cable system where an incumbent’s system exists) we spoke with expressed concerns about access to reasonably priced subscription networks that are owned by cable companies.<sup>25</sup> Such concerns include a perceived “loophole,” whereby programs owned by cable companies that are delivered to cable systems’ facilities through means other than satellite, such as through fiber wires, are not covered under the current program access rules. Although there have only been a few complaints filed with FCC on this issue, there is concern that such delivery of programs may become more widespread, particularly as the clustering of cable systems increases. FCC has recently agreed that this practice needs to be monitored, but the Commission noted that the program access rules<sup>26</sup> as written would need to be clarified to provide clear authority to FCC over programming delivered in this manner. Most of our expert panelists said that the rules requiring access to

---

<sup>25</sup>Several of the noncable providers and smaller cable companies we spoke with also noted that they believe significant price differentials exist for programming across subscription television providers of different sizes and that, if true, these price differences are particularly problematic for new entrants who are just beginning their operations. Current laws and regulations allow price differentials in some cases. See our report, *Telecommunications: Sports Programming Costs and Cable TV Rates* (GAO/RCED-99-136, June 22, 1999) for additional information on programming price differentials.

<sup>26</sup>See 13 FCC Rcd 15822, 15856 P 71 (1998). The program access rules are found at 47 C.F.R. 76.1000-76.1004.

---

programming should be broadened to include cable-owned programming delivered to cable systems through means other than satellite.

The 1992 Cable Act directed FCC to place limits on the concentration of ownership of cable systems nationwide. Under the limit that FCC has set, generally no person or entity can own or have an attributable interest in a cable system that reaches more than 30 percent of the homes with access to cable nationwide.<sup>27</sup> FCC has stated that with this limit, it is unlikely that a cable company, or a combination of two cable companies acting together, could thwart entry by a new subscription network. Some of the companies we interviewed, however, expressed concerns that dominant cable operators are winning price concessions and may have significant bargaining power vis-à-vis subscription networks even when there is no ownership link. According to these companies, a subscription network needs its product to be carried by at least one of the two largest cable companies in order to be economically viable—thus creating a dependence on the larger cable companies and giving them significant influence over the subscription network. In fact, most of our expert panel members stated that program suppliers that are not vertically integrated (such as MTV, A&E Network, and the Weather Channel) may be very dependent on large cable companies. Some of the expert panel members stated that programming of suppliers that are not vertically integrated should generally be required to be made available to all competitors, as is currently the case for programming owned by vertically integrated suppliers.

---

## Several Key Factors Could Affect Future Competition in the Subscription Television Market

Market participants, expert panel members, and others with whom we spoke identified several issues that could affect the future development of competition in the subscription television market. These key factors include (1) DBS companies' provision of network broadcasts, (2) rules governing access to households in multiple dwelling units (e.g., apartments and condominiums), and (3) the broadcast industry's transition to a digital TV format. In addition, the subscription television market could be affected by developments in the broader telecommunications market. Because other telecommunications providers are seeking to provide a bundle of services—telephone service, subscription television, and Internet access—consumers may someday have the choice of diverse providers and delivery mechanisms for the many different telecommunications services they buy. However, if one

---

<sup>27</sup>FCC is currently not enforcing this rule, pending the outcome of a court case in which the constitutionality of the enabling statute and rules are being challenged. Meanwhile, FCC is reviewing its rules and the method by which horizontal ownership is calculated.



technology proves to be the most efficient means of providing bundled services, it may become dominant and thwart competition in the subscription television market.

## DBS Faces Challenges in Providing Network Broadcasts

DBS represents the single largest competitor to the cable industry, and its growth is expected to continue. However, the DBS providers we spoke to, as well as others, stated that DBS companies are disadvantaged by their lack of network broadcasts in their DBS package. While the 1988 Satellite Home Viewers Act grants a copyright license allowing satellite companies to include television station signals (usually with so-called “distant networks”—i.e., those from faraway markets) in their package,<sup>28</sup> this license is limited to providing these signals to “unserved” households.<sup>29</sup> According to officials we spoke with, the purpose of limiting satellite companies’ provision of network broadcasts to only unserved households is to protect the local broadcast television stations from losing viewers, which could happen if “served” households received network broadcasts from faraway markets via satellite.

At the time that this act was passed, it worked well in helping satellite providers fill in gaps in service for people in more rural locations. However, since DBS was launched in 1994, new issues have arisen. With the smaller DBS dish (compared to that for earlier satellite systems), DBS providers have marketed their service towards more urban areas. As a result, the lack of local broadcast networks has become a competitive impediment for DBS firms. Given the current status of the law, satellite providers have concerns about (1) how their subscribers can receive local network broadcasts and (2) how an unserved household is defined.

- Local Network Broadcasts. Market participants and our panel of experts told us that DBS carriers would be more viable competitors to cable firms if they provided network broadcasts from local television stations into local markets across the country. Similarly, FCC reported in 1998 that a survey conducted by an association of DBS providers showed that for 55 percent of the shoppers who considered but chose not to purchase a DBS system, the lack of local television station broadcasts was the reason cited for not purchasing the system. In fact, 28 percent of DBS customers also subscribe

<sup>28</sup>The act was amended in 1994 and 1997 and will expire at the end of 1999, unless extended by the Congress.

<sup>29</sup>An unserved household is defined as one that cannot receive adequate over-the-air television reception (according to certain measures) and has not received cable service within the previous 90 days.

---

to a cable service, indicating that DBS is not a fully competitive alternative to cable for some subscribers.

Currently, DBS providers encourage their subscribers to obtain their local network broadcasts by using an over-the-air antenna, if possible. One DBS provider is attempting to include local network broadcasts by bundling, along with the DBS dish, an over-the-air television reception antenna. This will enable the firm to provide consumers with the subscription network channels transmitted to the dish while the over-the-air stations are transmitted to the standard antenna. No changes in current law are necessary to allow consumers to receive local network broadcasts along with DBS service in this fashion.

At the time the Satellite Home Viewers Act was passed, satellite providers did not possess the technology to transmit the local signals in many markets throughout the country. Because of technological advances, it is now feasible for a DBS provider to transmit the local network broadcast signals in many markets, and DBS providers want to provide local network broadcasts using their satellites. Currently, one DBS provider offers local network broadcast packages for customers in 20 metropolitan areas, but it does so only for subscribers who qualify as unserved households in these areas. A bill, H.R. 1554, which passed the House of Representatives on April 27, 1999, would expressly provide DBS carriers a copyright license to carry local broadcast signals into local markets for all subscribers there, regardless of whether they can obtain network broadcasts using an over-the-air antenna.<sup>30</sup> The Senate passed similar legislation (i.e., a different version of the House bill) on May 20, 1999.<sup>31</sup>

- The Definition of an Unserved Household. The DBS providers we interviewed told us that the definition of unserved needs to be clarified and broadened. In particular, there is concern that the manner used to determine whether reception is “adequate” is not sufficient and that some households might be deemed to have adequate reception by this definition even if the viewers do not find the quality of the reception to be of high enough quality. In response to such concern, FCC recently adopted an

---

<sup>30</sup>One of the most difficult policy debates surrounding DBS companies’ provision of local signals relates to whether the DBS carriers would be required to carry all local broadcast stations in the markets where they chose to provide local signals. Cable companies are generally required, depending on the capacity of their systems and other factors, to carry all broadcast signals in each local market under a provision of the 1992 Cable Act. An FCC official told us that this provision is generally interpreted as having been designed to help protect the economic viability of over-the-air television by ensuring that consumers who receive television through a cable wire will have access to all the local over-the-air stations.

<sup>31</sup>Both the House and Senate versions of the bill would extend the copyright license by 5 more years.

---

order, which according to the Commission, should foster more accurate methods for determining the intensity of broadcast signals—the primary element used in determining if a consumer is unserved—by providing a uniform method of measuring signals’ strength at individual households. Additionally, according to the companies, the requirement that a household not receive cable service for at least 90 days to be considered unserved is anticompetitive. In fact, both the House and Senate passed bills would eliminate the 90-day waiting period.

---

### Greater Choice for Occupants May Increase Competition in Multiple Dwelling Units

Multiple dwelling units, such as apartments and condominiums, represent a profitable submarket for subscription television providers. First, multiple dwelling units are a densely populated market, where many households may live in one building or housing complex, so serving multiple dwelling units enables a provider to access many potential customers. Second, serving the multiple-dwelling-unit market can, in some cases, involve relatively low costs because companies can serve selected buildings without any obligation, such as a cable company would have under its franchise agreement, to invest in a broader infrastructure outside the building or serve the broader community. This market also represents a significant part of the overall market—FCC reports that multiple dwelling units constitute 28 percent of U.S. households and that the cable industry currently dominates this market.

FCC issued two orders in 1998 to help ease entry and access by competitors into the multiple-dwelling-unit market and to provide individual consumers with more choices with respect to their television programming provider. One of the orders attempts to clarify the control of the wires necessary to reach each unit in a building and may allow noncable or other entrant firms, under certain conditions, to have access to the existing wires. This access gives building owners and customers more discretion in choosing a subscription television provider. The other FCC order allows individual renters to install satellite dishes within the space they rent that is under their exclusive control.

In its proceedings, FCC received several comments expressing concerns about how effective these FCC orders will be in making the multiple-dwelling-unit market more competitive. For example, because existing contracts between incumbent cable companies and multiple-dwelling-unit owners sometimes have no explicit expiration date, potential entrants may never have an opportunity to serve the residents of such buildings. Also, even when entrants have an ability to access a

---

building, laying additional wires within multiple dwelling units is costly and disruptive, so building owners may not be willing to allow it in order to change subscription television providers. Finally, the expansion of rules allowing renters to install satellite dishes may not benefit all renters because DBS transmissions require a clear line of sight from the reception dish to the southern sky where the satellites are located.

---

### Digital Broadcasting May Create Competitive Opportunities for Broadcasters

The broadcast industry has recently begun to transition to a new digital broadcast format. Local television stations across the country have been given additional radio spectrum over which they are expected to begin transmitting digital video signals that will provide better-quality pictures and sound than traditional over-the-air TV. The transition to digital broadcasting is currently scheduled to take until 2006, at which time broadcasters are expected to return to the federal government that portion of the radio spectrum that had previously been used to transmit traditional over-the-air television signals.

The new digital technology opens up a variety of options to television broadcasters. The additional capacity offered by the technology enables broadcasters to either transmit one “high-definition” digital television signal—a very high quality digital signal—or to transmit several channels of standard-definition digital television, which will still constitute a considerable improvement over the quality of traditional television. The new system will also support the delivery of other services simultaneously with television and audio programming, such as digital data services. FCC has expressed a willingness to allow television broadcasters these flexible uses of the new system (as long as the station broadcasts one free over-the-air digital channel), and many industry representatives and experts we spoke with indicated that if broadcasters use the spectrum to transmit multiple channels, they may become more competitive with cable television and other subscription television services. In fact, one of the expert panel members noted that if broadcasters choose to focus only on providing high-definition TV, this would “basically exclude . . . [them] from being competitive.” At the same time, some of the panel members noted that even if digital television poses a competitive threat to cable companies, it is in the long term—perhaps 10 years from now.

---

## Changes in the Broader Telecommunications Market Will Affect Competition to Cable Television

The future status of competition in the subscription television market depends not only on the regulation of the market and the business plans and strategies of the current players, but also on larger market forces. In particular, the subscription television market is part of the broader telecommunications industry, which is experiencing considerable diversification, consolidation, and technological advances. Markets for video, voice, and data services are rapidly converging, as firms in previously distinct industry segments are merging, deploying new technologies and infrastructures, and introducing new communications applications and services. These changes are evident from some recent mergers, such as the recently approved merger between AT&T and TCI (the largest cable company). The primary goal of this merger, according to the companies, is to combine voice, television, and data services. Many of the cable firms we spoke with are already providing or positioning themselves to provide new services, such as high-speed Internet service and telephone service, in addition to their subscription television service.

As with the subscription television market, a multitude of technological, legal and regulatory, as well as economic issues are at the crux of the transformation in the larger telecommunications industry. Therefore, the convergence taking place among industry segments; the outcome of technological and legal and regulatory changes; and the underlying economics of the industry at large will likely have as much of an effect on the subscription television market as the outcome of the issues within this market. These larger changes may bring about a more competitive subscription television market, as providers throughout the telecommunications industry begin to provide packages of services that may include television service. Ultimately, consumers may have a choice of packages of services provided via many pathways to the home. At the same time, if one technology—particularly if it is a “wired” technology<sup>32</sup>—is most efficient at providing these telecommunications services, it may become the dominant pathway to the home for delivering communications services (voice, data, and video services), and greater competition in the market may not develop.

---

<sup>32</sup>If a wired technology becomes dominant, this can create a “bottleneck” in which providers of telecommunications services can access homes and businesses only by transmitting through the wire of another company. However, if a wireless technology is an efficient means of providing services, concerns about a bottleneck may be reduced because there is less physical infrastructure needed to access homes. Monopolization of the market is less of a concern because additional spectrum could be allocated to allow for additional providers. At the same time, however, there are some limits on the availability and flexibility of additional spectrum.

---

## Observations

The dynamic nature and the many different technologies that constitute the telecommunications market present a challenge to lawmakers and regulators. It is difficult to foresee or predict what will develop in these markets. Recent examples of developments that were not fully foreseen include the significant growth in DBS and the importance of the Internet as a communication and commerce tool. Also, some expected developments, such as telephone companies' entry into the subscription television market in a significant way, have not always happened, or at least not always in the expected time frame. Our discussions with industry participants and experts highlighted that markets often develop in unexpected ways, with new competitors or new services coming on the scene seemingly out of "left field." In the long term, the subscription television market will probably be most affected by how technologies converge and by how many pathways to the home become viable means of delivering bundled telecommunications services. The best hope for greater competition in this and related telecommunications markets is for multiple means of delivering bundled services to be feasible and economically viable.

---

## Agency Comments

We provided a draft of this report to the Federal Communications Commission (FCC), as well as to the members who participated in our expert panel (see app. III). FCC provided technical comments that we have incorporated, where appropriate. In its written reply, FCC said that our conclusions are not inconsistent with those found in the Commission's own research (see app. IV for FCC's complete reply). Five of the seven expert panelists reviewed the draft and also provided comments that we considered and incorporated, where applicable. These expert panelists generally agreed with the overall findings of the report. In addition, four of the five panelists agreed with the overall message of the report. One panelist took issue with what he described as an overly optimistic view of the level of competition in the market. In response to this concern and to highlight our findings on the current status on competition in the industry, we added into the "Results in Brief" material that appeared only later in the draft report.

---

We conducted our review from July 1998 through May 1999 in accordance with generally accepted government auditing standards.

As agreed with your offices, unless you publicly release its contents earlier, we plan no further distribution of this report until 14 days after the date of this letter. At that time we will send copies of this report to

---

interested congressional committees, the Chairman and Commissioners of the Federal Communications Commission, the Federal Trade Commission, the Department of Justice, and others who participated in this study.

Copies of this report will also be made available to others upon request. If you or your staff have any questions about this report, please contact me at (202) 512-7631. Key contributors to this report are listed in appendix V.

A handwritten signature in black ink that reads "Judy A. England-Joseph". The signature is written in a cursive, flowing style.

Judy A. England-Joseph  
Director, Telecommunications Issues

---

# Contents

---

|   |    |
|---|----|
| Letter  | 1  |
| Appendix I<br>Scope and<br>Methodology  | 32 |
| Appendix II<br>Market Participants<br>GAO Interviewed                                       | 34 |
| Appendix III<br>Members of the<br>Expert Panel GAO<br>Convened                              | 36 |
| Appendix IV<br>Comments From the<br>Federal<br>Communications<br>Commission                 | 37 |
| Appendix V<br>GAO Contacts and<br>Staff<br>Acknowledgments                                  | 38 |
| Figures   |    |
| Figure 1: The Delivery of Television Over the Air   | 4  |
| Figure 2: The Delivery of Television via Cable  | 6  |
| Figure 3: The Delivery of Television via Satellite  | 8  |
| Figure 4: Subscription Television Providers' Market Shares,<br>June 1998                    | 10 |
| Figure 5: Satellite Subscribership, by State as of January, 1999                            | 12 |
| Figure 6: The Six Largest Cable Companies' Ownership of<br>Popular Subscription Programming | 17 |



---

**Figure 7: Hypothetical Illustration of Geographic Clustering by a Cable Company**

**19**

---

**Abbreviations**

|     |                                   |
|-----|-----------------------------------|
| DBS | direct broadcast satellite        |
| FCC | Federal Communications Commission |
| GAO | General Accounting Office         |

---

# Scope and Methodology

---

To respond to the objectives of this report—to provide information on (1) the status of competition in the subscription television market, (2) the extent to which ownership ties between cable companies and program suppliers may be affecting the development of competition, and (3) key factors that may influence the development of competition in the future—we gathered information from a variety of sources.

We interviewed officials and obtained documents from the Federal Communications Commission, the Department of Justice, and the Federal Trade Commission. We also interviewed officials from the following industry trade associations: the National Cable Television Association; the Cable Telecommunications Association; the Small Cable Business Association; the Satellite Broadcasting and Communications Association; the National Association of Broadcasters; the Association of Local Television Stations; the Wireless Communications Association; the American Public Power Association; and the Edison Electric Institute.

In addition, we designed a structured interview to obtain information from the relevant market participants: cable companies, direct broadcast satellite (DBS) companies, telephone companies, wireless cable companies, electric utilities, broadcast networks, and subscription networks. We completed 41 interviews with representatives from the various companies (see app. II). Of the 41 interviews, 16 were with cable companies.<sup>33</sup> In order to obtain a diverse sample of cable companies representing a number of different views, our criteria for selection were based on the size of the cable firm—large, medium-sized, small—as defined by the number of subscribers. Specifically, we selected the two largest cable companies, each of which had over 10 million subscribers. In addition, we selected four more large cable companies, which each had over 1 million subscribers. We also selected five medium-sized cable companies with 71,000 to 905,000 subscribers and five smaller cable companies with 8,000 to 70,000 subscribers. In addition, we conducted structured interviews with three DBS companies; five telephone companies (four Regional Bell Operating Companies and one competitive local exchange carrier); three wireless cable companies; two electric utilities; six broadcasters; five subscription networks; and one provider of private cable (specializing in service to multiple dwelling units). We analyzed the data collected from the structured interviews by industry and compared responses across industries.

---

<sup>33</sup>We interviewed all of the cable companies using the structured questionnaire. Because of time constraints, we interviewed one of the remaining companies without the structured questionnaire.

---

Furthermore, we convened an expert panel of seven individuals. The panel included government officials, academic experts, and a representative of a consumer group. (The names and affiliations of the panel members are listed in app. III.) We held an all-day meeting with the panel at our offices in Washington, D.C. Prior to the meeting, we provided each panel member with a set of nine discussion questions. At the end of each discussion, we asked the panelists to respond to a set of questions using an anonymous ballot. We recorded and transcribed the meeting to ensure that we accurately captured the panel members' statements.

To accomplish our assignment, we also received assistance from Professor Douglas Gomery of the College of Journalism, University of Maryland, College Park, who specializes in media studies. Professor Gomery reviewed and commented on our overall methodology and provided background on the telecommunications market and market participants. He also reviewed and commented on our final report.

---

# Market Participants GAO Interviewed

---

---

## Cable Companies

Anderson-Eliason Cable Group  
Cable America  
Charter Communications  
Comcast Communications, Inc.  
Eagle Communications  
Jones Intercable  
Intermountain Cable  
Massillon Cable TV, Inc.  
MediaOne  
Raystay Co.  
Renaissance Media Partners  
TCA Cable TV, Inc.  
Tele-Communications, Inc.  
Telemedia  
Time Warner Inc.  
Triax Telecommunications Company, L.L.C.

---

## Direct Broadcast Satellite

DIRECTV, Inc.  
EchoStar Communications Corporation  
PRIMESTAR, Inc.

---

## Telephone Companies

Ameritech New Media, Inc.  
Bell Atlantic Video Services  
BellSouth  
Southwestern Bell Video Services, Inc.

---

## Multipoint Multichannel Delivery System (Wireless Cable) Companies

American Telecasting  
Heartland Wireless  
People's Choice TV

---

## Electric Utilities

Boston Edison Company  
Cedar Falls Utilities

---

## Competitive Local Exchange Carrier

RCN Telecom Services, Inc.

---

**Appendix II**  
**Market Participants GAO Interviewed**

---

**Private Cable (Focusing  
Mostly on Serving Multiple  
Dwelling Units)**

Optel

---

**Broadcasters**

ABC, Inc.  
CBS Worldwide, Inc.  
FOX Broadcasting Company  
National Broadcasting Company (NBC)  
Sinclair Broadcasting Group, Inc.  
Tribune Company (WB)

---

**Programmer Suppliers**

A&E Television Networks  
The Golf Channel  
The Military Channel  
The Weather Channel  
MTV Networks

# Members of the Expert Panel GAO Convened

---

Dale Hatfield, Chief Office of Engineering and Technology, Federal Communications Commission

Thomas Hazlett, Professor and Director of Telecommunications Policy, University of California at Davis, and Resident Scholar, American Enterprise Institute

Gene Kimmelman, Co-Director, Washington Office, Consumer's Union

Robert Pepper, Chief, Office of Plans and Policy, Federal Communications Commission

Donald Russell, Chief, Telecommunications Taskforce, Antitrust Division, Department of Justice

David Waterman, Associate Professor, Department of Telecommunications, Indiana University

Steve Wildman, Director, Telecommunications Science, Management and Policy Program, Northwestern University

# Comments From the Federal Communications Commission



Federal Communications Commission  
Washington, D.C. 20554

May 20, 1999

Judy A. England-Joseph  
Director, Housing and Community Development Issues  
General Accounting Office  
Washington, DC 20548

Dear Ms. England-Joseph:

Your draft report entitled Telecommunications: The Changing Status of Competition to Cable Television (GAO/RCED-99-158, code 385749) has been reviewed in the Cable Services Bureau. It is my understanding that you have met with staff from various Bureaus, including the Cable Bureau, and received comments, reference materials, and assistance from them. We have no additional concerns with the report. Its conclusions are not inconsistent with those found in the Commission's own research. We appreciate very much the opportunity to review and comment on the draft report.

Sincerely,

A handwritten signature in black ink, appearing to read "Deborah A. Lathen", with a horizontal line extending to the right.

Deborah A. Lathen, Chief  
Cable Services Bureau

# GAO Contacts and Staff Acknowledgments

---

## GAO Contacts

Judy A. England-Joseph, (202) 512-7631  
Amy Abramowitz, (202) 512-4936

---

## Acknowledgments

In addition to those named above, Dennis Amari, Carol Bray, Harold Brumm, Venkareddy Chennareddy, Karin Lennon, Daniel Meyer, Lynn Musser, and Mindi Weisenbloom made key contributions to this report.



---

## Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

### Orders by mail:

U.S. General Accounting Office  
P.O. Box 37050  
Washington, DC 20013

### or visit:

Room 1100  
700 4th St. NW (corner of 4th and G Sts. NW)  
U.S. General Accounting Office  
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (202) 512-6061, or TDD (202) 512-2537.

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

[info@www.gao.gov](mailto:info@www.gao.gov)

or visit GAO's World Wide Web Home Page at:

<http://www.gao.gov>

---

**United States  
General Accounting Office  
Washington, D.C. 20548-0001**

**Bulk Rate  
Postage & Fees Paid  
GAO  
Permit No. G100**

**Official Business  
Penalty for Private Use \$300**

**Address Correction Requested**

---

