

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

Application of)
)
EchoStar Communications Corporation,)
General Motors Corporation,)
Hughes Electronics Corporation,)
)
Transferors) CS Dkt. No. 01-348
)
and)
)
EchoStar Communications Corporation,)
)
Transferee,)
)
For Authority to Transfer Control)

DECLARATION OF J. GREGORY SIDAK

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INTRODUCTION

1. The proposed acquisition of Hughes Electronics Corporation by EchoStar Communications Corporation would reduce competition in the sale of multichannel video programming distribution (MVPD) services to consumers. The claimed efficiency justifications for the merger are doubtful and, in any event, could be achieved without merging horizontal competitors. Because of its deleterious economic effects, this horizontal merger of direct broadcast satellite (DBS) service providers would harm consumer welfare and the public interest. Consequently, the merger cannot be allowed under either antitrust law or federal telecommunications law.

QUALIFICATIONS

2. My name is J. Gregory Sidak. I am the F.K. Weyerhaeuser Fellow in Law and Economics Emeritus at the American Enterprise Institute (AEI) and the president and chief executive officer of Criterion Economics, L.L.C. in Washington, D.C. I have been a consultant on regulatory and antitrust matters to the Antitrust Division of the U.S. Department of Justice and the Canadian Competition Bureau and to more than forty companies in the telecommunications, computer software, electric power, natural gas, mail and parcel delivery, broadcasting, newspaper publishing, recorded music, and financial services industries in North America, Europe, Asia, and Australia.

3. My academic research concerns regulation of network industries, antitrust policy, the Internet and electronic commerce, intellectual property, and constitutional law issues concerning economic regulation. I have directed AEI's Studies in Telecommunications Deregulation since the project's inception in 1992.

4. I served as Deputy General Counsel of the Federal Communications Commission (FCC) from 1987 to 1989, and as Senior Counsel and Economist to the Council of Economic Advisers in the Executive Office of the President from 1986 to 1987. As an attorney in private practice, I worked on numerous antitrust cases and federal administrative, legislative, and appellate matters concerning telecommunications and other regulated industries.

5. I am the author or co-author of five books concerning pricing, costing, competition, and investment in network industries,¹ and of approximately fifty scholarly articles in law reviews or economics journals, including the *American Economic Review Papers and Proceedings*, *California Law Review*, *Columbia Law Review*, *Journal of Network Industries*, *Journal of Political Economy*, *New York University Law Review*, *Stanford Law Review*, *University of Chicago Law Review*, *Yale Law Journal*, and *Yale Journal on Regulation*. I have testified before committees of the U.S. Senate and House of Representatives on regulatory and constitutional law matters, and my writings have been cited by the Supreme Court of the United States, the lower federal and state supreme courts, state and federal regulatory commissions, and the European Commission. In the landmark antitrust decision *United States v. Microsoft Corporation*, my *University of Chicago Law Review* article with Professor Howard Shelanski, “Antitrust Divestiture in Network Industries,” was the first work of legal scholarship that the U.S. Court of Appeals for the District of Columbia Circuit quoted as authority in its opinion.² From 1993 to

1. J. GREGORY SIDAK & DANIEL F. SPULBER, *DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT* (Cambridge University Press 1997); WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TOWARD COMPETITION IN LOCAL TELEPHONY* (MIT Press 1994); WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TRANSMISSION PRICING AND STRANDED COSTS IN THE ELECTRIC POWER INDUSTRY* (AEI Press 1995); J. GREGORY SIDAK & DANIEL F. SPULBER, *PROTECTING COMPETITION FROM THE POSTAL MONOPOLY* (AEI Press 1996); J. GREGORY SIDAK, *FOREIGN INVESTMENT IN AMERICAN TELECOMMUNICATIONS* (University of Chicago Press 1997).

2. Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001).

1999, I was a Senior Lecturer at the Yale School of Management, where I taught a course on telecommunications regulation with Dean Paul W. MacAvoy.

6. From Stanford University, I received A.B. (1977) and A.M. (1981) degrees in economics and a J.D. (1981). I was a member of the *Stanford Law Review*. Following law school, I served as a law clerk to Judge Richard A. Posner during his first term on the U.S. Court of Appeals for the Seventh Circuit.

7. I file this declaration in my individual capacity as a consultant to the National Association of Broadcasters and not on behalf of the American Enterprise Institute, which does not take institutional positions on specific regulatory, adjudicatory, or legislative proceedings.

SUMMARY OF CONCLUSIONS

8. The National Association of Broadcasters has asked me to evaluate the competitive consequences of EchoStar's proposed acquisition of Hughes Electronics, which markets its direct broadcast satellite service under the DirecTV brand name.

9. The proposed merger of EchoStar and DirecTV would harm consumers by reducing the combined firm's incentive to compete on price and non-price terms. In Part I of this declaration, I analyze the effect of the proposed merger on competition in the sale of multichannel video programming distribution services to consumers. I show that the proposed merger would lead to an increase in price that harms consumers, and that consumer welfare could not be protected by the merged firm's commitment to charge a uniform national price.

10. In Part II, I analyze the effect of the proposed merger on one important aspect of non-price competition: the carriage of local broadcast stations. I show why the proposed merger

would likely reduce the rate of growth in the number of DBS households with access to local broadcast stations.

11. In Part III, I review the claimed efficiencies from the proposed merger. I show that those efficiencies could be achieved without the merger. I also show the magnitude of the claimed reductions in marginal cost that would be necessary to offset the consumer harm that the proposed merger would cause.

12. Because of its deleterious economic effects, the proposed merger of EchoStar and DirecTV would harm consumer welfare and the public interest. Consequently, the merger cannot be allowed under either antitrust law or federal telecommunications law.

I. THE PROPOSED MERGER WOULD CREATE A MONOPOLY OR A DUOPOLY IN THE SALE OF MVPD SERVICES

13. The proposed merger between EchoStar and DirecTV would “substantially lessen competition, or tend to create a monopoly”³ in the geographic markets in which the two companies currently compete in the supply of MVPD services. I first present analysis of the pre-merger and post-merger concentration in the MVPD market. I then calculate the price increase and the loss in consumer welfare that would result from the proposed merger. Next, I show why the single national price that EchoStar and DirecTV propose, so as to mitigate the consumer harm from the proposed merger, would still result in a higher post-merger price. I present evidence that EchoStar’s own antitrust analysis shows that the proposed merger would harm consumers. Finally, I critique arguments made by Professor Robert D. Willig, who has submitted

3. 15 U.S.C. § 18.

expert economic testimony on behalf of EchoStar and DirecTV in support of their proposed merger.

A. The Proposed Merger Would Increase Concentration in the MVPD Market

14. EchoStar and DirecTV are the only two competitors that supply high-power DBS service in the United States. DirecTV was the first provider of such DBS services in the United States, entering in 1994, and was followed by EchoStar in 1996. Through head-to-head competition with one another for subscribers, the two firms (along with other firms with which DirecTV or EchoStar has merged over the past six years) have taken the DBS industry from zero subscribers in 1994 to more than 17 million subscribers today.

15. Whether characterized as a merger to monopoly or as a merger to duopoly, the proposed merger of EchoStar and DirecTV presumptively would substantially injure competition. Although a merger to monopoly would harm consumers by ending rivalry and allowing the monopolist to raise price and reduce quality without retaliation, a merger to duopoly would be equally subject to condemnation. The U.S. Court of Appeals for the D.C. Circuit said, in *FTC v. H.J. Heinz Co.* in 2001, that it could find no case in which a “court has ever approved a merger to duopoly under . . . circumstances” where the market was already highly concentrated and high barriers to entry existed.⁴

16. I begin my analysis by defining the relevant product and geographic markets. The *Merger Guidelines* define a relevant market for the analysis of a merger as “a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or

4. 246 F.3d 708, 715-16 (D.C. Cir. 2001).

seller of those products in that area likely would impose at least a ‘small but significant and nontransitory’ increase in price, assuming the terms of sale of all other products are held constant.”⁵ The proper analysis requires data on the own-price elasticity of demand and the marginal cost for the given product.

1. Product Market Definition

17. To define the relevant product market based on the *Merger Guidelines*, it is necessary to ask if a hypothetical profit-maximizing monopolist would need to control more than the DBS market to impose a “significant and nontransitory” price increase. There is a significant share of consumers that views cable television service as a close substitute for DBS service. A hypothetical monopolist would therefore need to control the cable television assets as well as the DBS market in the same relevant geographic market to exercise market power.

18. The MVPD product market definition used by the FCC includes several fringe competitors to cable television and DBS service, such as satellite master antenna television systems (SMATV), multichannel multipoint distribution service (MMDS), and home satellite dishes (HSD) operating in the C-band. Because the *Merger Guidelines* prescribe the *narrowest* set of products needed for a hypothetical monopolist to exercise market power, the collection of DBS with those (often inferior) product offerings into one large product market is potentially incorrect. Indeed, the share of those peripheral services *declined* in 2001,⁶ which suggests that

5. U.S. Dept. of Justice and Federal Trade Commission, Horizontal Merger Guidelines §§ 0.2, 1.0 (rev. Apr. 8, 1997) [hereinafter *Merger Guidelines*].

6. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eighth Annual Report, CS Dkt. No. 01-129, 17 F.C.C.R. ¶ 67 (2002) [hereinafter *Eighth Annual Report*] (“The home satellite dish (‘HSD’) or Cband segment of the satellite industry continues to experience a decline in subscribership. Between June 2000 and June 2001, C-band subscribers fell from 1,476,717 to 1,000,074, an average loss of 1,306 subscribers per day.”); *id.* ¶ 71 (“However, Sprint, which introduced its video, voice, and data service to consumers and businesses in 1998, recently announced that it will terminate this (MMDS) service.”).

consumers do not perceive those services to be close substitutes to DBS. I thus define the relevant product market as cable television service and DBS service.⁷

19. EchoStar and DirecTV claim that the relevant product market for the purpose of this proceeding (as opposed to a 2001 antitrust proceeding involving DirecTV and EchoStar) is the MVPD market. As I demonstrate below, the inclusion of non-DBS services in the relevant market has little effect on the analysis of the proposed merger. Table 1 summarizes the effect of expanding the definition of the relevant product market.

TABLE 1: ANALYSIS OF MERGER AS THE PRODUCT MARKET DEFINITION EXPANDS:
DECREASE IN THE NUMBER OF SERVICE PROVIDERS

Geographic Market	Product Market		
	DBS Only	DBS and Digital Cable	DBS and All Cable
Area Not Passed by Cable	2 to 1	2 to 1	2 to 1
Area Passed But Not Upgraded to Digital	2 to 1	2 to 1	3 to 2
Area Upgraded to Digital	2 to 1	3 to 2	3 to 2

As Table 1 shows, in areas of the country not passed by cable television systems, the product market definition does not affect the reduction in the number of competitors—that is, the merger would reduce the number of competitors from two to one under *any* product market definition. The only difference in competitive effects occurs in areas that are passed by cable television systems. In areas where the cable television system has been upgraded for digital capability—a

7. By adopting this definition of the relevant product market, I do not foreclose the possibility that DBS service has become a product market by itself. Rather, I am conservatively analyzing the proposed merger within the broader definition of an MVPD product market, an approach that accords with both the FCC’s previous analysis and the assertions by EchoStar and DirecTV in this proceeding.

Collectively, HSD, MMDS, SMATV, and OVS operators account for such a small share of the MVPD market that they are not likely to materially affect the analysis of the proposed merger’s effect in either rural markets not passed by cable television systems or in urban markets that are passed by cable television systems. See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Seventh Annual Report, CS Dkt. No. 00-132, 16 F.C.C.R. 6037 ¶ 8, Table C-2 (2001) [hereinafter *Seventh Annual Report*]. For that reason, I exclude these fringe suppliers from my analysis.

potentially closer substitute than analog cable for DBS service—the proposed merger would reduce the number of competitors from three to two when the product market excludes analog cable television systems. In areas that have been upgraded to digital capability, the competitive assessment of the merger does not depend on whether analog offerings are included.

2. Geographic Market Definition

20. In its *Eighth Annual Report* on MVPD competition, released in January 2002, the FCC explained why the market for the delivery of video programming is local: “For purposes of assessing the impact of horizontal concentration, it is appropriate to examine both the national programming market and the *local* distribution market because cable operators generally acquire programming on the national level and distribute it on the *local* level through their locally franchised systems.”⁸ The geographic market is local because, from the perspective of MVPD customers, there is no substitution of MVPD services in one city for the similar services provided in another city. On January 28, 2002, for example, EchoStar ran a full-page advertisement in the *Washington Post* for its DISH service, in which the firm repeatedly mentioned the multiple ways that its service offerings vary by locale.⁹ In the advertisement, EchoStar warned that “regional sports networks and Turner South [are] not available in all areas.”¹⁰ EchoStar also acknowledged that “Local Broadcast Networks by satellite [are] only available to customers who reside in the specified local Designated Market Area (DMA),” and that “Distant Broadcast Networks packages by satellite are only available . . . in limited areas, to homes that are located outside a

8. *Eighth Annual Report*, *supra* note 6, at ¶ 116 (emphasis added).

9. *Finally, Satellite TV For Every TV*, WASH. POST, Jan. 28, 2002, at A22 (advertisement).

10. *Id.*

Grade A or B designated area.”¹¹ The fact that EchoStar varies its service offerings across local areas undermines its claims that the relevant geographic market is national.

21. Moreover, the intention of EchoStar and DirecTV to use spot beams to insert local programming is a highly probative fact that they now compete, and in the future plan to continue competing, locally. Spot beams offer DBS providers a more efficient way to broadcast local channels. Although spot-beam technology has been used for decades by numerous satellite systems, including Intelsat,¹² DBS providers have never before employed it. To broadcast local channels, DBS providers had to transmit these channels across the full-CONUS footprint, and then black out the signals everywhere but in the channels’ respective local geographic markets. Spot-beam technology enables DBS satellites to target broadcast frequencies narrowly at specific local markets and reuse the same frequencies to broadcast different programming in other geographic markets. In November of 2001, DirecTV launched DIRECTV 4S, the first satellite to use spot-beam technology, DIRECTV 4S is currently being used to broadcast nearly 400 local channels.¹³ EchoStar has contracted for two new spot beam satellites, EchoStar VII and VIII, and plans to launch at least one spot beam satellite in 2002.¹⁴

22. Nielsen Media Research divides the United States into 210 non-overlapping Designated Market Areas (DMAs) to measure and tabulate television ratings. DMAs identify

11. *Id.*

12. Declaration of Richard G. Gould on behalf of the National Association of Broadcasters ¶ 2, Authority to Transfer Control filed by EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation, CC Dkt. No. 01-348 (filed Feb. 4, 2002) [hereinafter *Gould Declaration*].

13. *DirectTV Completes Testing of DIRECTV 4S*, DirecTV Press Release, Dec. 19, 2001; *DIRECTV Successfully Launches Spot Beam Satellite*; DirecTV Press Release, Nov. 26, 2001. Available at <http://www.directv.com/press/presscurrent/1,1133,1,00.html>.

14. *EchoStar Announces Construction Plans for Three New Satellites to Serve DISH Network’s Fast Growing Satellite TV Service*, EchoStar Press Release, Feb. 3, 2000; Kris Hudson, *EchoStar, DirecTV to Boost Local Channels*, DENVER POST, Dec. 28, 2001, at C1.

television stations whose broadcast signals reach a specific area and attract the most viewers. Because DBS service providers compete against cable television service providers at the DMA level, for the purpose of this proceeding, I define the relevant geographic market as a DMA. The DMA is the most disaggregated level of data collection for computing market shares in the MVPD market. To be sure, any exercise in market definition that seeks to use actual data must recognize the measurement limitations inherent in the data. Thus, in this proceeding as in any other antitrust case, empirical calculations of market shares are the starting point, not the finish line, for competitive analysis.¹⁵

23. In local markets passed by cable television systems, the proposed merger would reduce the number of suppliers from three to two. As the FCC explained in its *Eighth Annual Report*, because overbuilding of cable television systems is rare, most consumers have the alternative of subscribing to one of two DBS service providers and at most one wireline cable provider:

While competitive satellite alternatives to the incumbent wireline MVPDs are developing and attracting an increasing proportion of MVPD subscribers, most consumers have limited choices among video distributors. A relatively small percentage of consumers have a second wireline alternative, such as an OVS or overbuild cable system.¹⁶

Hence, the merger of two DBS providers would create a monopoly in every local MVPD market that is not served by a cable television system, and, at best, a duopoly in every local MVPD market that is served by a cable television system.

15. For example, if the firm under examination faces an obligation to serve and is required by regulation to price below cost for reasons of social policy, a high market share will not mean that unconstrained market power is being exercised. Such conditions typically hold for local exchange carriers, but not for cable television operators or DBS service providers. *See, e.g.*, J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES 353-56 (Cambridge University Press 1997); William E. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 944-45 (1981).

16. *Eighth Annual Report*, *supra* note 6, ¶ 119.

3. HHI Analysis

24. I have calculated the Herfindahl-Hirschman Index (HHI) of market concentration for each of the 210 DMAs on both a pre-merger and post-merger basis.¹⁷ Nielsen Media Research tabulates the percentage of television households that subscribes to cable television service and to DBS service in each DMA. The percentage of television households that subscribes to DirecTV and EchoStar is not available by DMA. I therefore apply the national market shares of DirecTV (11.32 percent) and EchoStar (6.87 percent) to the DMA share of DBS service to estimate the market shares of DirecTV and EchoStar in each DMA.¹⁸ Table 2 presents the results of the HHI analysis for the twenty local markets that would be most seriously affected by the proposed merger. A complete list of HHI calculations for all 210 DMAs appears as Appendix 1.

17. The HHI is the sum of the squares of the individual market shares of all market participants. The higher the HHI, the greater the market concentration. *See, e.g.*, DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 247 (Addison Wesley 3rd ed. 2000). The *Merger Guidelines* consider a post-merger HHI above 1800 to be highly concentrated and set enforcement thresholds of 50 and 100 points for the increase in HHI resulting from a merger. *Merger Guidelines, supra* note 5, § 1.51c. Mergers that raise the HHI by more than 50 points raise “significant competitive concerns,” and mergers that raise the HHI by more than 100 points are presumed to “create or enhance market power or facilitate its exercise.” *Id.*

18. *Eighth Annual Report, supra* note 6, Table C-3.

TABLE 2: PRE-MERGER AND POST-MERGER HHIS BY DMA, RANKED BY SIZE OF INCREASE

Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
Springfield, MO	62.9%	37.1%	23.1%	14.0%	4,686	5,333	647
Bowling Green, KY	63.2%	36.8%	22.9%	13.9%	4,716	5,351	635
Hattiesburg-Laurel, MS	64.3%	35.7%	22.2%	13.5%	4,813	5,411	598
Meridian, MS	65.5%	34.5%	21.5%	13.0%	4,917	5,478	561
Presque Isle, ME	65.7%	34.3%	21.3%	12.9%	4,942	5,494	552
Great Falls, MT	65.7%	34.3%	21.3%	12.9%	4,944	5,496	552
Bangor, ME	66.9%	33.1%	20.6%	12.5%	5,053	5,569	516
Missoula, MT	67.1%	32.9%	20.5%	12.4%	5,072	5,582	510
Duluth-Superior, MN	67.8%	32.2%	20.0%	12.2%	5,148	5,635	487
Columbus-Tupelo, MS	68.0%	32.0%	19.9%	12.1%	5,171	5,651	480
Paducah, KY-Cape Girardeau, MO	68.7%	31.3%	19.5%	11.8%	5,243	5,702	459
Terre Haute, IN	68.9%	31.1%	19.4%	11.8%	5,257	5,712	455
Burlington, VT-Plattsburgh, NY	69.0%	31.0%	19.3%	11.7%	5,267	5,720	453
Traverse City-Cadillac, MI	69.0%	31.0%	19.3%	11.7%	5,273	5,724	451
Wausau-Rhineland, WI	69.3%	30.7%	19.1%	11.6%	5,306	5,748	442
Columbia-Jefferson City, MO	69.4%	30.6%	19.1%	11.6%	5,310	5,751	441
Butte-Bozeman, MT	69.7%	30.3%	18.9%	11.5%	5,341	5,774	433
Sherman, TX-Ada, OK	70.0%	30.0%	18.6%	11.3%	5,381	5,803	422
Billings, MT	70.4%	29.6%	18.4%	11.2%	5,424	5,835	411
Boise, ID	71.0%	29.0%	18.1%	11.0%	5,486	5,882	395

Source: Nielsen Media Research, Nov. 2001.

Note: DirecTV and EchoStar market shares are approximated by using nationwide market shares.

As Table 2 shows, the increase in the HHI in Springfield, Missouri would be 647. Appendix 1 shows that in 188 of the 210 DMAs the increase in HHI would be greater than 50 points, and that in 160 of the 210 DMAs the increase in HHI would be greater than 100 points. The DMAs where the increase in HHI would be smallest are urban areas where cable television's share of the MVPD market is very high, such that the presence of one versus two DBS providers does not make a significant difference in market concentration. The DMAs where the increase in HHI would be largest are rural areas where cable television's share of the MVPD market is lower.

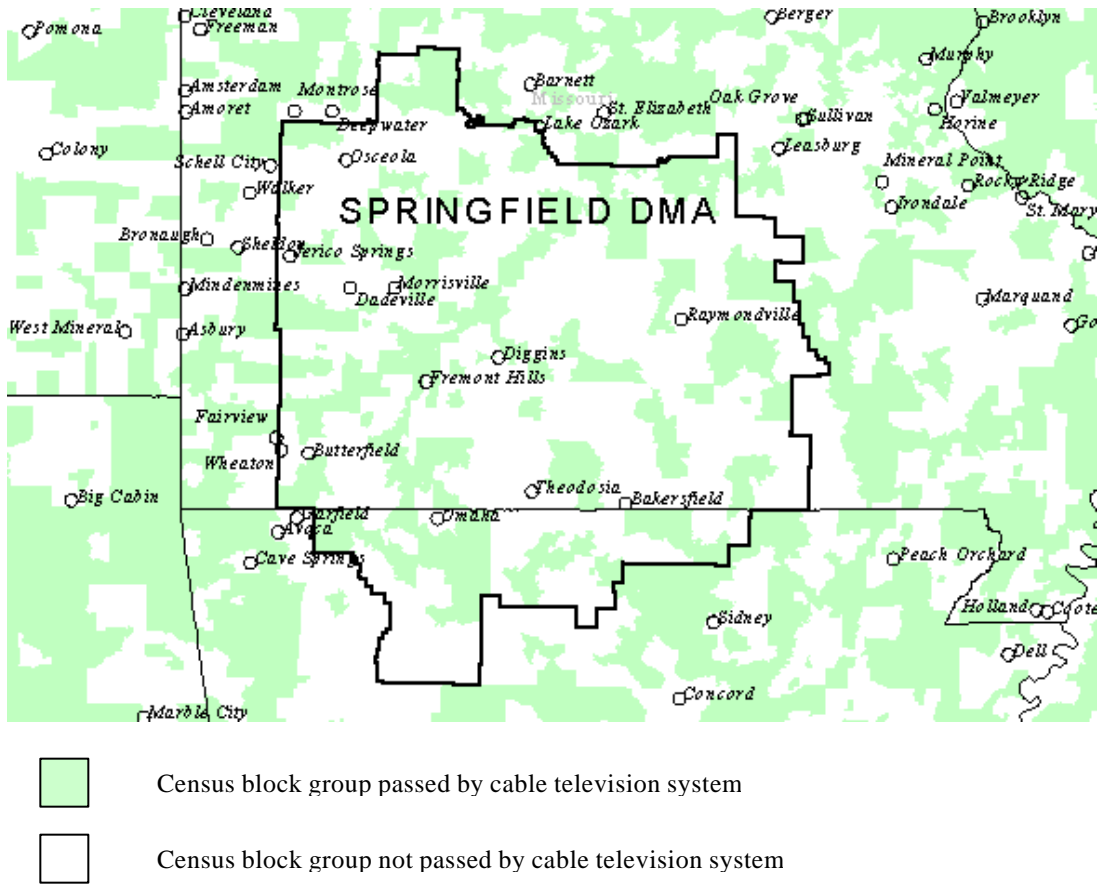
25. According to Nielsen Media, the majority of subscribers in each DMA receives multichannel video programming through a cable television system. The lowest share of cable television systems is in Springfield, Missouri, where the share of cable is 62.9 percent.

Calculating the increase in market concentration by DMA ignores many pockets within each DMA where consumers are not served by cable television systems, where the MVPD market would tighten from a duopoly to a monopoly should the proposed merger be permitted. According to DirecTV, 29 percent of DBS subscribers live in areas that are not passed by cable television systems.¹⁹ For these consumers, the post-merger HHI would be the maximum possible, 10,000.

26. Using the Warren database of local cable television systems, I have produced detailed maps of cable deployment for each of the top DMAs listed Table 2. Figure 1 shows the map of the Springfield, Missouri DMA.

19. Comments of DirecTV, Inc., Annual Assessment of the Status of Competition in the Markets for the Delivery of Video Programming, CS Dkt. No. 01-129 (filed Aug. 3, 2001) [hereinafter *DirectTV Comments*].

FIGURE 1: MAP OF SPRINGFIELD, MISSOURI DMA



Source: MediaPrints, Warren Communications News and the Janus Group; Geolytics, Inc.; Geographic Data Technology; U.S. Census Bureau, Census 2000.

As Figure 1 shows, there are several towns (shown in italics) that are not fully passed by cable television systems. For example, the towns of Osceola, Dadeville, Diggins, Fremont Hills, Butterfield, Omaha, Theodosia, Bakersfield, and Raymondville are not fully passed by cable television systems. For those towns, the post-merger HHI would be 10,000. It should come as no surprise that 37.1 percent of the MVPD customers of Springfield, Missouri subscribe to DBS services. I provide detailed maps of cable television systems in 20 DMAs in Appendix 2.

27. In the past, the FCC has favored competition over monopoly in markets that use satellite technology to broadcast content. In 1997, the FCC created the satellite Digital Audio Radio Service (DARS), which delivers CD-quality music on a nationwide subscription basis by satellite.²⁰ DARS is the audio analog to video DBS service. The FCC determined that it had only 25 MHz of spectrum available and that a viable DARS would require 12.5 MHz.²¹ The FCC decided to auction two licenses, stating that competition between the two DARS providers would enhance diversity of programming voices and produce more competitive subscription rates.²²

28. The DARS example mirrors the proposed merger of DirecTV and EchoStar. The FCC favored a duopoly in the DARS market rather than a monopoly, even though DARS faced competition from incumbent terrestrial radio service and CD players, neither of which could remotely be called a monopoly. In contrast, DBS service faces significant competition only from a wireline cable television system, which is nearly always a monopoly in the MVPD market. If the FCC reasoned that the existence of two competitors in the DARS market would produce a better outcome for consumers, then it follows with greater force that the existence of two competitors in the DBS market would also produce a better outcome for consumers than would the DBS monopoly being proposed by EchoStar and DirecTV. DBS faces fewer substitutes than DARS. Unlike the competition facing DARS, the competition facing DBS is a monopoly.

29. The FCC has never said that it would serve the public interest to have a single DBS licensee for the full CONUS footprint. By analogy, the Commission rejected such an approach with respect to the grant of land mobile telephone licenses for any given geographic

20. Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking, IB Dkt. No. 95-91, 12 F.C.C.R. 5756 ¶¶ 1-2 (1997).

region. In 1981, when the Commission decided to license two systems for every cellular service area, it stressed that competition “will foster important public benefits of diversity of technology, service and price, which should not be sacrificed absent some compelling reason.”²³ Since then, the FCC “has consistently barred any (cellular) licensee from owning a significant interest in both spectrum blocks in the same service area.”²⁴ The Commission’s allocation of all three CONUS slots to a single DBS firm, which would be the practical effect of approving the proposed merger of EchoStar and DirecTV, would therefore represent a significant departure from the agency’s competitive analysis in the case that provides the closest analogy on economics grounds.

4. Barriers to Entry

30. It is unlikely, because of the existence of barriers to entry in the MVPD market, that new firms will enter the MVPD market to challenge the services of incumbent cable television and DBS service providers in the near future. The FCC, in its *Eighth Annual Report*, characterized those barriers to entry as “substantial,” consisting of: “(a) strategic behavior by an incumbent designed to raise its rival’s costs, e.g., limiting the availability to rivals of certain popular programming as well as equipment; (b) local and state level regulations, e.g., causing new entrants to incur a delay in gaining access to local public rights-of way facilities; and (c) technological limitations, e.g., DBS and MMDS line-of-sight problems.”²⁵ Despite recent efforts of legislators to reduce these barriers to entry, there has been little overbuilding of existing cable

21. *Id.* at 5756 ¶ 3.

22. *Id.* at 5786 ¶ 78.

23. An Inquiry Into the Use of Bands 825-845 MHz & 870-890 MHz for Cellular Communications Systems, CC Dkt. No. 79-318, 86 F.C.C.2d 469, 478 (1981).

24. MICHAEL K. KELLOGG, JOHN THORNE & PETER W. HUBER, FEDERAL TELECOMMUNICATIONS LAW 667 (Little, Brown & Co. 1992).

systems, and although alternatives to cable television service and DBS service do exist, those alternatives have failed to emerge as viable substitutes to the multichannel video programming offered by cable television and DBS firms.

31. Overbuilding, which the FCC has called “historically difficult,” refers to the actions of a firm to enter a given geographic area as a wireline competitor to an existing cable company.²⁶ Although the FCC noted in January 2002 that a number of broadband service providers (BSPs) have attempted to overbuild existing cable systems, it also observed that these firms have had trouble obtaining sufficient capital, and consequently “many BSPs have scaled back plans, reduced capital expenditures, reduced staffs, or shut down operations completely.”²⁷

32. With a few minor exceptions, overbuilding has failed to provide a challenge to the MVPD incumbents, and it appears unlikely to do so in the future. Indeed, it is a distinct possibility that in the next several years not only will wireline cable coverage fail to expand, it might actually significantly contract. According to a report from Credit Suisse First Boston, increased DBS subscribership, combined with the cost of cable systems upgrades, could force many local cable systems in primarily rural areas to discontinue operations by 2006. This exit from the market would leave over eight million current cable television subscribers without access to cable television systems.²⁸

33. It would be prohibitively difficult for a new DBS firm to enter the MVPD market as a feasible competitor because the majority of satellite broadcasting frequencies available for the United States have already been assigned. By international agreement, the United States has a

25. *Eighth Annual Report*, *supra* note 6, ¶ 118.

26. *Id.* ¶ 107.

27. *Id.* ¶ 108.

total of eight orbital locations, or slots, authorized for DBS service, and a transponder at each orbital slot can broadcast 32 frequencies. Only three of the eight orbital slots, however, can service the entire continental United States: the slots at 101° WL (West Latitude), 110° WL, and 119° WL.²⁹ All 96 full-CONUS frequencies available at these slots are licensed to DirecTV (46) and EchoStar (50).³⁰ Two other orbital slots can serve half of the continental United States (half-CONUS), and DirecTV and EchoStar control 55 percent of the frequencies at those locations.³¹ In other words, the firm that would result from the proposed merger of DirecTV and EchoStar would control nearly every frequency allocated for DBS broadcast service in the United States, including *100 percent* of the full-CONUS frequencies. Because orbital slot allocation is governed by the International Telecommunication Union, not the FCC, the current number of orbital locations is fixed.³² The FCC cannot relieve this binding capacity constraint by allocating additional locations to allow a new DBS firm to enter the market. In this respect, the orbital slot constraint is an absolute barrier to entry in the Stiglerian sense.³³

B. The Proposed Merger Would Produce Anticompetitive Effects in the Sale of MVPD Services

34. EchoStar and DirecTV currently have over 17 million subscribers.³⁴ The proposed merger of EchoStar and DirecTV would produce a monopoly for the roughly five million DBS

28. CREDIT SUISSE FIRST BOSTON, NATURAL SELECTION: DBS SHOULD THRIVE AS THE FITTEST TO SERVE RURAL AMERICA 1 (Oct. 12, 2001) [*hereinafter* CSFB DIGITAL CABLE REPORT].

29. *Gould Declaration*, *supra* note 12, at 3.

30. Seth Schiesel, *Local Signals May Be Costly for Satellite TV Providers*, N.Y. TIMES, Dec. 13, 1999, at C1.

31. *WSNet Files for U.S. Landing Rights From Two Canadian Orbital Locations; In Response to the EchoStar/DIRECTV Merger, WSNet Pursues Alternative DBS Spectrum*, BUS. WIRE, Nov. 27, 2001.

32. See INTERNATIONAL TELECOMMUNICATION UNION, GLOBAL ACCESS TO SCARCE RESOURCES: GLOBAL ACCESS TO THE ORBIT AND SPECTRUM, ITU No. 3237 (Feb. 11, 2000).

33. See GEORGE J. STIGLER, THE ORGANIZATION OF INDUSTRY 67 (Richard D. Irwin 1968); *United States v. Microsoft Corp.*, 253 F.3d 34, 38 (D.C. Cir. 2001) (discussing Stiglerian barriers to entry).

34. DirecTV Press Release, *DIRECTV Announces Fourth Quarter and Year-End 2001 Subscriber Growth; Strong Performance Exceeds Expectations; DIRECTV Ends Year with 10.7 Million Customers* (Jan. 8, 2002);

subscribers in areas not passed by cable television systems and a duopoly for the roughly twelve million DBS subscribers in areas passed by cable television systems.³⁵ In the following sections, I estimate the price increase in both areas that would result from the proposed merger. I then calculate the total consumer welfare loss associated with the proposed merger.

1. The Price Increase Resulting from a Duopoly-to-Monopoly Merger in Areas Not Passed by Cable Television Systems

35. In rural areas of the United States that are not passed by cable television systems, the proposed merger between EchoStar and DirecTV would be a merger to monopoly for the roughly five million DBS subscribers.³⁶ The pricing rule for a monopolist appears in any basic microeconomics textbook.³⁷ The monopoly-pricing rule is:

$$(1) \quad \frac{p-c}{p} = \frac{1}{e},$$

where p is the price, c is the marginal cost, and e is the absolute value of the own-price elasticity of demand for the DBS industry.

36. Using estimates of pre-merger prices for DBS service and the own-price elasticity of demand for DBS, I calculate the implied marginal cost of a DBS provider in areas not passed

EchoStar Press Release, *EchoStar Reports Over \$1 Billion of Revenue, Record EBITDA and Net Income in Third Quarter* (Oct. 23, 2001).

35. To calculate the number of subscribers in areas not passed by cable television systems, I assume 29 percent of DBS subscribers live in areas not passed by cable television systems. *See DirecTV Comments, supra* note 19. My estimate is extremely conservative because the actual percentage of DBS subscribers who live in areas not passed by cable television systems likely is much higher. According to a survey of DBS customers conducted by the Yankee Group in May 2000, 38 percent of DBS subscribers said that cable television service was not available in their area. *See THE YANKEE GROUP, 2000 DBS SUBSCRIBER STUDY*, at 6.

36. There are potentially millions of additional customers who would be subject to monopoly provision of MVPD services. For example, CSFB estimates that eight million subscribers to analog cable television will lose their service when the cable system operator shuts down. *See CSFB DIGITAL CABLE REPORT, supra* note 28.

37. *See, e.g.,* LUIS CABRAL, *INTRODUCTION TO INDUSTRIAL ORGANIZATION* 171 (MIT Press 2000); DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 88 (Addison Wesley 3rd ed. 2000); HAL R. VARIAN, *MICROECONOMIC ANALYSIS* 235 (University of Michigan 3rd ed.1992).

by cable television systems under an oligopoly with two firms.³⁸ According to Pegasus Communications, the average revenue per unit (ARPU) for DirecTV in the third quarter of 2001 was \$46.76.³⁹ For the own-price elasticity of demand for DBS service, I use as a midpoint the own-price elasticity of demand for cable television service of -2.5 . According to the FCC's February 2001 *Cable Pricing Report*,⁴⁰ the own-price elasticity of demand for cable television is -1.95 .⁴¹ It is reasonable to use a higher (in absolute value terms) own-price elasticity for DBS service, because DBS is a new product whose demand is likely to be more price-sensitive than the demand for the product of the entrenched monopolist. Using the pre-merger price of \$46.76 and an own-price elasticity of demand for DBS service in areas not passed by cable television systems of -2.5 , the implied marginal cost of a DBS provider in areas not passed by cable television systems is \$37.40.

37. Substituting my estimate of the own-price elasticity of demand of -2.5 into the monopoly-pricing rule of Equation 1 yields a post-merger markup over price equal to 40 percent. Given the current implied monthly marginal cost of \$37.40, the predicted post-merger price from the monopoly model is \$62.35 for the roughly five million DBS subscribers in areas not passed by cable television systems.

38. Under the Cournot model, the pricing rule in a three-firm equilibrium takes the form $[p - c]/p = 1/ne$, where n is the number of firms. *See, e.g.,* CARLTON & PERLOFF, *supra* note 37, at 202.

39. *Pegasus Communications Corporation Reports Results for Third Quarter and Nine Months Ended September 30, 2001*, BUS. WIRE, Nov. 1, 2001. Because Pegasus Communications is a major retailer for DirecTV in rural areas, Pegasus's ARPU represents a reasonable proxy for the price of DBS service in rural areas. In a later section of my declaration, I use DirecTV's ARPU for the price of DBS service in urban areas.

40. Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992; Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment, 16 F.C.C.R. 4363 ¶ 48 (2001).

41. *Id.*

2. The Increase in Price Resulting from a 3to-2 Merger in Areas Passed by Cable Television Systems

38. In areas that are passed by cable television systems, the proposed merger would be a merger from three firms to two firms. Oligopolistic industries are characterized by strategic interdependence between firms. Because the number of firms is few, each firm takes the decisions of other firms into consideration. Antitrust economists commonly use two pricing models, Cournot competition and Bertrand competition, to analyze the interaction of firms in oligopolistic markets. In the following sections, I estimate the size of the post-merger price increases in areas passed by cable television systems under both the Cournot and Bertrand models of oligopolistic competition.

a. Price Effects Under Cournot Competition

39. Cournot competition assumes that the products of the competing firms are perfect substitutes. Each firm independently sets output to maximize profit, based on its forecasts about the output of the other firms in the industry. Price is determined by the total output produced by all firms in the industry. A Cournot equilibrium occurs when each firm is maximizing its profits given the other firms' output, and no firm could increase its profits by producing less or more output. The Cournot pricing rule appears in any industrial organization textbook.⁴² The Cournot pricing rule can be written as:

$$(2) \quad \frac{p-c}{p} = \frac{1}{ne},$$

42. Each firm maximizes the profit function $q_i [P(q_i + q_{-i}) - c]$ with respect to its own quantity choice, where q_i is the quantity of output of firm i , and q_{-i} is the quantity of output of all other firms in the market. See, e.g., CARLTON & PERLOFF, *supra* note 37, at 243.

where p is the price, c is the marginal cost, e is the absolute value of the own-price elasticity of demand, and n is the number of firms.

40. Using the Cournot-pricing rule in Equation 2, my prediction of the post-merger price in areas passed by cable television systems relies on estimates of the average revenue per unit of each firm and the own-price elasticity of demand for the DBS industry in areas passed by cable television systems. According to Morgan Stanley Dean Witter, the ARPU for EchoStar was \$49.26, and the ARPU for DirecTV was \$56.45, in the third quarter of 2001.⁴³ The own-price elasticity of demand for DBS service is likely to be more price-sensitive in areas passed by cable television systems. For the own-price elasticity of demand for DBS service in those areas, I use -2.75 , which is slightly higher than the -2.5 figure that I used in areas not passed by cable television systems.

41. It is now possible to estimate a post-merger duopoly price under Cournot competition. Substituting the own-price elasticity of demand for DBS estimate of -2.75 and the (minimum) price estimate of \$49.26 for EchoStar, I derive the price-cost markup for the DBS industry with three firms (one local cable television firm and the two DBS firms).⁴⁴ On the basis of the Morgan Stanley Dean Witter price data discussed above, and calculating the pre-merger price-cost markup for the two DBS firms to be 12.1 percent, it follows from the Cournot pricing rule that the (minimum) monthly cost would be \$43.29. Next, I derive the post-merger price-cost markup for the *combined* DBS firm, which is 18.1 percent. Under the Cournot pricing rule, the

43. MORGAN STANLEY DEAN WITTER, HUGHES ELECTRONICS, INVESTEXT ANALYST REPORT, Nov. 15, 2001, at 2.

44. This calculation assumes that cable television system operators and DBS firms have the same price-cost markup.

predicted post-merger price for the combined DBS firm would be \$52.85, which would represent a 7.28 percent increase in the price of DBS service for existing EchoStar customers.⁴⁵

b. Price Effects Under Bertrand Competition

42. Bertrand competition allows for the possibility that the products of the competing firms are differentiated. Each firm independently sets its price to maximize profit, based on its forecast about the prices of the other firms in the market. A Bertrand equilibrium occurs when each firm is maximizing its profits given the other firms' pricing decision, and no firm could increase its profits by changing its price.

43. Although the MVPD service providers largely offer the same programs, there is some degree of differentiation among their product offerings and associated options. For example, the DirecTV package offers consumers the option to purchase NFL games, whereas the cable television package offers consumers the option to purchase high-speed Internet services. In any given geographic market, it is therefore reasonable to characterize the current competition between DirecTV, EchoStar, and the local cable television system operator as a Bertrand oligopoly. Bertrand competition models the firms with the differentiated products as independently setting prices. The array of prices of all the firms in the market then determines the quantity demanded of each firm's product.

44. In this section, I use a merger-simulation model to estimate the post-merger prices that the merged entity would charge.⁴⁶ The Department of Justice often uses the merger-

45. According to the Cournot pricing model, in areas passed by cable television systems, DirecTV customers would not experience a price increase.

46. To estimate post-merger prices, I use the merger-simulation model developed by Professor Luke Froeb and posted on his website, <http://mss.math.vanderbilt.edu/~pscrooke/MSS/linearmerger.html>.

simulation model to estimate the unilateral price effect of mergers.⁴⁷ Applied to the present case, three firms—EchoStar, DirecTV, and a representative cable television firm—choose a price to maximize their individual profits, which yields three first-order conditions. One can show that the *pre-merger* pricing rule for each firm in a Bertrand differentiated-product model simplifies to the following first-order equation:

$$(3) \quad p_i = \frac{c_i e_{ii}}{e_{ii} - 1},$$

where c_i is the marginal cost and e_{ii} is the own-price elasticity of demand for firm i . Using estimates of the own-price elasticity of demand for DBS service, market shares, and pre-merger prices, I solve for the set of marginal costs that satisfy those three first-order conditions.

45. Next, I assume that, after the merger, the merged firm chooses two prices—the price for EchoStar and the price for DirecTV—to maximize the *joint* profits of the merged entity.⁴⁸ Using estimates of the own-price and cross-price elasticities of demand for each of the three MVPD service providers, market shares, and marginal costs estimates from above, I solve for the set of post-merger prices that satisfy the three new first-order conditions. For the merged firm, the *post-merger* pricing rules are as follows:

47. See, e.g., *United States v. Interstate Bakeries Corp.*, Civil Action No. 95C-4194 (N.D. Ill., filed July 20, 1995); *United States v. L’Oreal USA, Inc.*, 142 F. Supp. 2d 17 (D.D.C. 2000). For discussions of merger simulation, see Luke M. Froeb & Gregory J. Werden, *Residual Demand Estimation for Market Delineation: Complications and Limitations*, 6 REV. INDUS. ORG. 33 (1991); Luke M. Froeb & Gregory J. Werden, *The Effects of Mergers in Differentiated Products Industries: Logit Demand and Merger Policy*, 194 J.L. ECON. & ORG. 407 (1994); Gregory J. Werden, *Product Differentiation: Simulating the Effects of Differentiated Products Mergers: A Practical Alternative to Structural Merger Policy*, 5 GEO. MASON L. REV. 363 (1997); Jonathan B. Baker, *Product Differentiation: Contemporary Empirical Merger Analysis*, 5 GEO. MASON L. REV. 347 (1997); Gregory J. Werden, *Demand Elasticities in Antitrust Analysis*, 66 ANTITRUST L.J. 363 (1998).

48. The merged firm maximizes the profit function $(p_i - c_i) Q_i(p) + (p_j - c_j) Q_j(p)$ with respect to the price for each product.

$$(4a) \quad \frac{p_i - c_i}{p_i} = \frac{1}{e_{ii}} \left[-s_i(p) - s_j(p) e_{ji} \frac{p_j - c_j}{p_j} \right] \frac{1}{s_i}, \text{ and}$$

$$(4b) \quad \frac{p_j - c_j}{p_j} = \frac{1}{e_{jj}} \left[-s_j(p) - s_i(p) e_{ij} \frac{p_i - c_i}{p_i} \right] \frac{1}{s_j},$$

where e_{ji} is the cross-price elasticity of demand for product j with respect to the price of product i , and s_i is the revenue share of firm i .

46. The merger-simulation model requires as inputs four pieces of data: (1) comparative prices, (2) own-price and cross-price elasticities of demand, (3) estimates of marginal cost, and (4) pre-merger market shares. For the comparative prices and estimates of marginal costs, I again rely on Morgan Stanley Dean Witter's estimate of the average revenue per unit for DirecTV and EchoStar. For market shares in areas passed by cable television systems, I again rely on the FCC's *Eighth Annual Report* from January 2002. For the cross-price elasticity between EchoStar and DirecTV, I rely on the market shares of EchoStar and DirecTV to calculate the diversion ratio.⁴⁹ In particular, I use the diversion ratio and the own-price elasticity of EchoStar and DirecTV to obtain an estimate of the cross-price elasticity according to the following formula:⁵⁰

$$(5) \quad \frac{e_{ij}}{e_{ii}} = \frac{s_i}{1 - s_j},$$

where e_{ii} is the own-price elasticity of demand for firm i , e_{ij} is the cross-price elasticity of demand for firm i with respect to the price of firm j , and s_i is the market share of firm i .

49. The diversion ratio from firm A to firm B is defined as the percentage of market share lost by firm A that is captured by firm B in response to a price increase by firm A . See Carl Shapiro, *Mergers with Differentiated Products*, 10 ANTITRUST MAG. 23 (1996).

47. Using Equation 5, I find a cross-price elasticity of demand between EchoStar and DirecTV of 0.184 and a cross-price elasticity of demand between DirecTV and EchoStar of 0.298.⁵¹ I use an own-price elasticity of -1.95 for cable television service from the FCC's 2001 *Cable Pricing Report*, and an own-price elasticity of -3.0 for DirecTV and EchoStar. Using the merger-simulation model, I estimate that, following the proposed merger, the prices for EchoStar and DirecTV offerings would increase by 4.0 percent and 1.4 percent, respectively. The number of EchoStar subscribers would fall by 8.0 percent.

48. The diversion-ratio method of calculating cross-price elasticities assumes that all products in the relevant product market are close substitutes—that is, when the price of one product increases, there is an *equal* diversion to the other products in the market. Because consumers perceive DirecTV and EchoStar to be closer substitutes to each other than to cable, I also estimate the post-merger increase in price using a higher cross-price elasticity for DirecTV and EchoStar of 0.5. Using that higher cross-price elasticity, I estimate that, following the proposed merger, the prices for the EchoStar and DirecTV offerings would increase by 7.3 percent and 3.5 percent, respectively.

3. The Consumer Welfare Loss Resulting from the Proposed Merger

49. The proposed merger would increase the price of DBS service in areas not passed by cable television systems and also in areas passed by cable television systems. That price increase would decrease the number of DBS subscribers. The post-merger equilibrium would produce a deadweight loss to marginal consumers (who subscribed to DBS service before the

50. *Id.*

51. In Appendix 3, I document a series of anecdotes that are evidence that DirecTV and EchoStar engage in intense price competition.

merger, but would not subscribe afterward) and a transfer of consumer surplus from inframarginal consumers to the remaining MVPD firm(s). Table 3 presents calculations of the deadweight loss to consumers and the wealth transfer from consumers to MVPD firms both under a non-cooperative outcome (monopoly pricing in 2-to-1 markets and Bertrand or Cournot pricing in 3-to-2 markets) and a perfectly collusive outcome (monopoly pricing everywhere).

TABLE 3: ANNUAL LOSS IN CONSUMER WELFARE FROM THE PROPOSED MERGER

Geographic Market	Deadweight Loss (\$ millions)	Wealth Transfer to DBS Providers (\$ millions)	Total Consumer Welfare Loss (\$ millions)	NPV Over Next Five Years (\$ millions)
Area Not Passed by Cable (1)	378.6	151.5	530.1	2,285.9
Areas Passed by Cable (Cournot)	17.9	143.1	161.0	694.3
Areas Passed by Cable (Bertrand)	4.2	169.8	174.0	750.3
Areas Passed by Cable (Collusion)	781.5	455.2	1,236.6	5,332.4
Total (1 + Cournot)	396.5	294.6	691.1	2,980.1
Total (1 + Bertrand)	382.8	321.3	704.1	3,036.2
Total (1 + Collusion)	1,160.1	606.7	1,766.7	7,618.2

Notes: I assume that 29 percent of DBS customers reside in areas not passed by cable television systems. See Comments of DirecTV, Inc. in CS Dkt. No. 01-129 (filed Aug. 3, 2001). For my net present value (NPV) calculations, I assume a discount rate equal to 8 percent.

The deadweight loss measures the consumer surplus that would be lost by DBS subscribers who would not subscribe to DBS after the merger as a result of the price increase. As Table 3 shows, the total annual deadweight loss to consumers from the proposed merger would be \$397 million under the Cournot pricing rule and \$383 million under the Bertrand pricing rule. The majority of the deadweight loss would occur in areas not passed by cable television systems, where both the increase in price and the decrease in the number of DBS subscribers would be higher than in areas passed by cable television systems.⁵² Under a perfectly collusive outcome, the deadweight loss would reach \$1.16 billion per year.

52. The magnitude of the deadweight loss depends on the price increase and the decrease in the number of subscribers. Consumers are more price-sensitive and more likely to switch to alternatives under Cournot competition than under Bertrand competition, because firms produce identical products under Cournot competition, but

50. The wealth transfer measures the additional revenue that DBS providers would receive from the remaining DBS subscribers who would pay a higher price after the proposed merger. The total annual wealth transfer to DBS firms from the proposed merger would be \$295 million under the Cournot pricing rule and \$321 million under the Bertrand pricing rule.⁵³ The majority of the transfer to DBS firms would occur in areas passed by cable television systems, where the price increase would be lower than in areas not passed by cable television systems, but the number of post-merger DBS subscribers would be much higher. Under a perfectly collusive outcome, the wealth transfer would reach \$606.7 million per year.

51. Under the Cournot pricing rule, the total consumer welfare loss from the proposed merger, consisting of the sum of the deadweight loss and the wealth transfer from consumers to DBS firms, would be \$691 million per year. Under the Bertrand pricing rule, the total consumer welfare loss from the proposed merger would be \$704 million per year. Under a perfectly collusive outcome, the total welfare loss would be \$1.76 billion per year. Over the next five years, the net present value of the total consumer welfare loss, discounted at an interest rate of 8 percent, would be \$2.98 billion under the Cournot pricing rule, \$3.04 billion under the Bertrand pricing rule, and \$7.62 billion under perfect collusion. To summarize, my estimate of the annual welfare loss ranges from \$691 million to \$1.77 billion per year.⁵⁴

differentiated products under Bertrand competition. The deadweight loss would therefore be higher under Cournot competition, where both the price increase and the resulting decrease in the number of subscribers would be higher than under Bertrand competition.

53. There would also be a wealth transfer to cable television system operators, as the Bertrand model predicts a 3.8 percent increase in the price of cable television service.

54. My estimates of welfare losses are robust. I conducted sensitivity analysis by varying the key inputs in the merger-simulation model—the various price elasticities of demand. Consequently, the total annual welfare loss varied between \$483.4 million (for a non-cooperative equilibrium with an own-price elasticity of demand for DBS service equal to -3.5) and \$5.68 billion (for a cooperative equilibrium with an own-price elasticity of demand for DBS service equal to -1.5). Of course, because Table 3 reports calculations of welfare losses under perfect

C. The Pledge by EchoStar and DirecTV to Charge a Single National Price Would Not Be a Sufficient Safeguard Against the Demonstrable Anticompetitive Effects of the Proposed Merger

52. To allay fears that the proposed merger would cause monopoly pricing in rural markets, EchoStar has represented to the FCC that it would charge a uniform national price for DBS service.⁵⁵ A uniform national price, however, would not suffice to counteract the anticompetitive effects of the proposed merger.

53. EchoStar's chief executive officer has attempted to respond to this concern by saying the merged firm would not *really* implement a national uniform pricing plan, but would instead retain the ability to respond to price promotions and equipment rebates offered by cable providers in specific local markets: "if somebody comes in and offers a \$300 rebate to get your customers in a particular location, then you have to have the ability to respond to that."⁵⁶ But the ability to charge different prices in different local markets would, of course, eviscerate the "uniform" pricing plan. For the purpose of my analysis, I assume that the uniform-pricing commitment could not be relaxed in certain geographic areas.

1. A Single National Price Would Produce a Higher Post-Merger Price

54. The single national price that EchoStar and DirecTV propose to set after their merger would be higher than the pre-merger price, even if it were the same in rural and urban areas. That is because the merged firm would stand to profit more by raising its price in rural areas than it would stand to lose in urban areas. As a result of the uniform-pricing pledge,

collusion, Cournot oligopoly, and Bertrand oligopoly, it already embodies a form of sensitivity analysis that is predicated on the nature of the strategic interaction of pricing decisions among firms.

55. EchoStar Communications Corporation, General Motors Corporation, Hughes Electronics Corporation and EchoStar Communications Corporation, Consolidated Application for Authority to Transfer Control 34, 42 (Dec. 3, 2001) [*EchoStar Merger Application*].

56. *Ergen Makes His Case*, SATELLITE BUS. NEWS, Dec. 31, 2001, at 1 (quoting Charles Ergen).

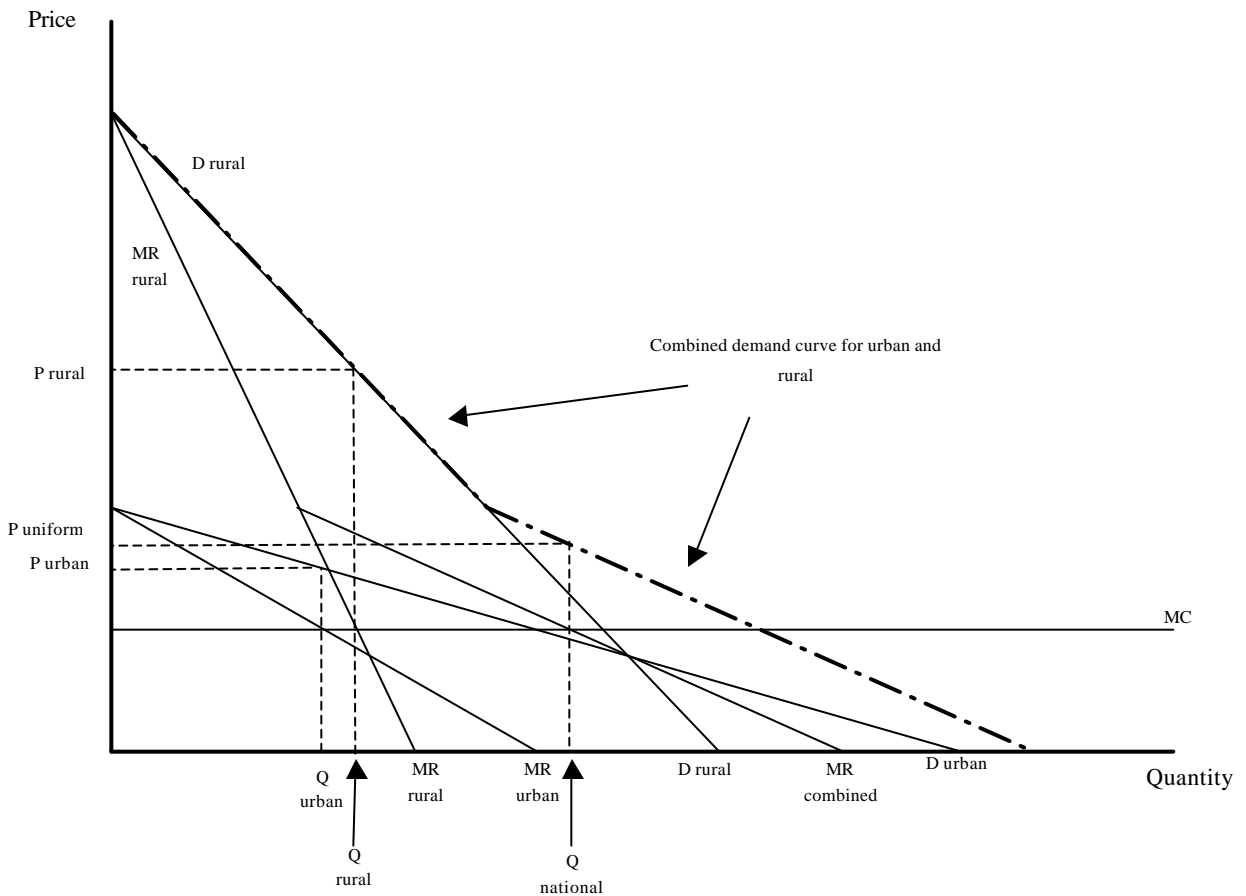
metropolitan consumers would pay a higher price (relative to the price that would be charged in urban areas if the merged firm were free to price discriminate). The higher uniform price would serve to lower the price charged to rural subscribers relative to the price that would be charged by a discriminating monopolist, although that lower price still would not be so low as the pre-merger price.

55. In the preceding section, I derived the profit-maximizing prices that the merged DBS firm would charge in rural markets that are not passed by cable television systems and in urban markets that are passed by cable television systems, *if the firm were not constrained to charge a uniform national price*. The unregulated profit-maximizing rural price would exceed the unregulated profit-maximizing urban price, because the merged DBS firm would be a monopolist in rural markets but only a duopolist in urban markets. The own-price elasticity of demand for DBS service would be less price-sensitive in rural markets than in urban markets, because there is, and would continue to be, no cable television substitute for DBS service in rural markets. If the merged DBS firm committed itself to maintaining a uniform national price, it would set its price to maximize the sum of the firm's profit across rural markets and urban markets. This result is depicted graphically in Figure 2. The uniform national price would fall between the unregulated monopoly price and the unregulated duopoly price. The only unanswered question is whether the uniform national price would fall closer to the unregulated monopoly price or to the unregulated duopoly price.

56. To set the uniform national price, the profit-maximizing DBS firm would raise the duopoly price to the point where the gains from rural consumers (gains from inframarginal consumers minus losses from marginal consumers) would equal the losses from urban consumers (gains from inframarginal consumers minus losses from marginal consumers). The resulting

price would depend on the relative shares of consumers living in rural and urban areas, and the relative own-price elasticities of demand of each group of consumers of DBS service. In any event, the resulting price would be lower than the unregulated rural monopoly price and higher than the unregulated urban duopoly price.

FIGURE 2: THE DEMAND FOR DBS SERVICE IN RURAL AND URBAN AREAS UNDER A UNIFORM NATIONAL PRICE



As Figure 2 shows, the uniform national prices lies between the unconstrained rural and unconstrained urban post-merger prices. This result flows from the fact that, if constrained to charge a single national price, the merged entity in effect would face a demand curve and a

corresponding marginal revenue curve that were the horizontal summations of the separate demand and marginal revenue curves, respectively, of rural and urban consumers.

57. In a January 2002 report, analysts from Salomon Smith Barney Equity Research stated that the faster growth of DBS service in rural areas that are not passed by cable would result in prices that are closer to the monopoly price than to the duopoly price:

While a national pricing scheme would enable everyone to enjoy the same pricing, it seems clear to us that DBS pricing is most valuable in rural areas where there is less competition. DBS growth has slowed dramatically where digital cable has been rolled out, and that growth is increasingly coming from uncabled areas or areas served only by analog cable. If this is the case, EchoStar would seem to have little incentive to have national pricing that was competitive in the urban areas. Simply put, if most of EchoStar's growth is coming from rural areas, it has little incentive to have pricing that is competitive in urban areas.⁵⁷

In addition to being closer to the monopoly price than to the duopoly price, the national uniform price would also rise over time as a result of adverse selection.⁵⁸ Under the most extreme scenario, as more urban consumers defected from DBS service, the share of rural consumers would increase, which would make it profitable for the DBS monopoly to raise its uniform national price. The increase in the uniform national price and the defection of urban consumers would feed on each other, until all urban consumers had defected from DBS service and all remaining DBS consumers were rural.

58. Stated differently, EchoStar's promise to charge a uniform national price is a public invitation for cable system operators to join in a tacitly collusive strategy of market allocation in the delivery of multichannel video programming: DBS will take the rural

57. SALOMON SMITH BARNEY EQUITY RESEARCH, DBS INDUSTRY UPDATE 21-22 (Jan. 17, 2002) [*hereinafter* SALOMON SMITH BARNEY].

customers, and cable television will be free to take the urban customers. The uniform-national-pricing rule could facilitate collusion between the merged DBS firm and cable television systems operator by raising the costs to the merged DBS firm of cutting its price. In other words, if the merged DBS firm sought to attract customers in any one area, it would have to cut price nationwide. The merged DBS firm's resulting disincentive to cut price would resemble the competitive problems of most-favored-nations provisions.⁵⁹

59. One alternative to this hypothesis of tacit collusion is the prediction that EchoStar's commitment to charge a uniform national price is simply not credible.⁶⁰ The problem is analogous to the rate-integration requirement in section 254(g) of the Telecommunications Act of 1996, which required interexchange carriers (IXCs) to set a single national price.⁶¹ The IXCs have urged Congress to repeal this provision because it limits their ability to respond to competitive offerings of regional carriers. It is entirely conceivable that, a year after receiving merger approval, EchoStar would claim the need to respond, with differential pricing, to the competitive offerings of cable system operators in selected urban areas. At that time, EchoStar's arguments would resemble the familiar requests of the IXCs for pricing flexibility in the face of section 254(g). If no subsequent pricing flexibility were allowed, then the uniform national price charged by the merged DBS firm would succeed in creating a price floor for cable system

58. Adverse selection occurs when sellers of a good know the quality of their product, but buyers do not. The asymmetry of information leads to a market where only products of low quality are sold. *See, e.g.,* George A. Akerlof, *The Market for Lemons: Quality Uncertainty and the Market Mechanism*, 89 Q.J. ECON. 488 (1970).

59. *See* Jonathan B. Baker, *Vertical Restraints with Horizontal Consequences: Competitive Effects of "Most-Favored-Customer" Clauses*, 64 ANTITRUST L.J. 517 (1996).

60. The earlier quote by EchoStar's CEO is consistent with this hypothesis. *See* text accompanying note 56 *supra*.

61. 47 U.S.C. § 254(g).

operators in urban areas, which obviously would harm consumers of cable television services in urban markets.

2. The Merged Firm Would Use Non-Price Discrimination Against Rural Customers

60. As evidenced by the promotions run by DirecTV and EchoStar, the monthly charge for programming packages is only one component of the price of DBS service. The two other components are installation and equipment. DirecTV and EchoStar frequently run promotions that grant reductions or waivers for the installation charge or equipment charge. These promotions cause the effective price of DBS service to differ across local markets, even though the monthly charge for programming might be the same throughout the United States. If the monopoly provider of DBS service were to commit to a uniform national price, then all components of price—including equipment charges and installation charges—and all promotions would have to be uniform across the nation as well.

61. Even if a uniform national pricing rule could be enforced, the monopoly provider of DBS service could still use non-price aspects of DBS service—quality of customer service—to discriminate against rural customers. The uniform-national-pricing rule would be analogous to rate-of-return regulation in rural areas. Because the monopolist could not raise its price, it would look to lower its costs to attain the profit-maximizing price-cost markup. This constraint would result in lower service quality in areas that are not passed by cable television systems.

3. A Single National Price Would Produce the Same Kind of Consumer Harm That Economists Associate with the Robinson-Patman Act

62. The pledge by EchoStar and DirecTV to charge a uniform national price can be analyzed under the identical framework used by economists for decades to criticize the Robinson-Patman Act. The Robinson-Patman Act of 1936 was motivated by the desire to protect

wholesale grocers by constraining the buying power of chain grocery stores.⁶² In particular, wholesale grocers alleged that the chains were prospering unfairly as recipients of discriminatorily low prices. Section 2(a) of the act made it “unlawful for any person . . . to discriminate in price between different purchasers . . . where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly . . . or to injure, destroy, or prevent competition with any person who . . . knowingly receives the benefit of such discrimination, or with customers of either of them.”⁶³ The anticompetitive and counterproductive effect of the act has been the subject of extensive academic research and criticism.⁶⁴

63. A critique of the act typically begins with the rigidity of the regulation with respect to pricing. It is not difficult to show that the two justifications for price discrimination—cost differentials or a demonstration that the lower price was a response to price cut by competitor—are quite limited. With respect to the second defense, the act only allows competitors to meet the lower price of its competitor and not to beat it. Applied to the present case, the merged DBS firm would only be able to meet the (presumably) lower cable television price if it could demonstrate to the FCC that the DBS firm was justified in lowering prices to compete effectively with the local cable television system operator. Recognizing this weak response, the cable television firm is *less* inclined to reduce prices relative to a world in which the DBS service provider could freely respond in the best way. If the cable system operator

62. For critical discussions of the Robinson-Patman Act, see ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 382-91 (Basic Books 1978); GEORGE J. STIGLER, *THE THEORY OF PRICE* 210 (Macmillan Publishing Co. 4th ed. 1987); JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 133-34 (MIT Press 1988).

63. 15 U.S.C. §13.

64. *See, e.g.*, RICHARD POSNER, *THE ROBINSON-PATMAN ACT: FEDERAL REGULATION OF PRICE DIFFERENCES* (American Enterprise Institute 1976).

knows that the DBS provider needs regulatory clearance to lower its price, then the cable system operator would be encouraged to leave cable prices fixed at their current levels. Stated differently, in a more competitive world, the threat of retaliation by the DBS service provider keeps downward pressure on cable television prices. Elimination of that threat removes the downward price pressure. In summary, like the Robinson-Patman Act, the pledge by EchoStar and DirecTV to price uniformly would impede the downward movement of prices in MVPD markets.

D. EchoStar's Own Antitrust Analysis in Recent Litigation Is Evidence That the Merger Would Harm Consumers

64. In February 2000, EchoStar sued DirecTV on antitrust grounds for allegedly coercing retailers to stop offering both EchoStar and DirecTV product lines in head-to-head competition.⁶⁵ In March 2000, DirecTV filed a counterclaim against EchoStar.⁶⁶ In April 2001, EchoStar amended its complaint to claim that Circuit City, Radio Shack, and Best Buy also engaged in anticompetitive conduct.⁶⁷ In its amended complaint,⁶⁸ and in its response to DirecTV's motion for summary judgment,⁶⁹ EchoStar presented its own analysis of the market for DBS service. If taken at face value, that antitrust analysis provides conclusive evidence that the proposed merger of EchoStar and DirecTV would harm consumers.

65. Complaint, EchoStar Communications Corp. v. DirecTV Enterprises, Inc., No. 00-K-212 (D. Colo., filed Feb. 1, 2000).

66. Counterclaim, EchoStar Communications Corp. v. DirecTV Enterprises, Inc., No. 00-K-212 (D. Colo., filed Mar. 13, 2000).

67. Amended Complaint, EchoStar Communications Corp. v. DirecTV Enterprises, Inc., No. 00-K-212 at ¶ 41 (D. Colo., filed Apr. 5, 2000).

68. *Id.*

69. Motion for Summary Judgment, EchoStar Communications Corp. v. DirecTV Enterprises, Inc., No. 00-K-212 (D. Colo., filed Nov. 6, 2000).

65. In its amended complaint, EchoStar argued that the “first relevant market affected by Defendants’ conduct is the high-power DBS market.”⁷⁰ Later, in its response to DirecTV’s motion for summary judgment, EchoStar reiterated that “DBS is in a separate product market from alternative sources of programming, including cable television,”⁷¹ and that the relevant product market for the analysis of the litigation between EchoStar and DirecTV is “not the MVPD Market, but rather a submarket of the MVPD Market known as the High Power DBS market.”⁷² Regardless of how one defines the relevant market, EchoStar tellingly asserted that “DIRECTV and EchoStar *react primarily to each other* when setting equipment and service prices,”⁷³ and that, were it not for EchoStar, “DIRECTV could raise its prices above the competitive level without experiencing a significant constraint by cable.”⁷⁴ EchoStar explained that “cable television is an imperfect and comparatively weak substitute for DBS.”⁷⁵ A significant number of DBS subscribers, EchoStar stated, “view DIRECTV and EchoStar as a significantly closer substitute than alternative sources of programming, including cable television.”⁷⁶ Significant numbers of subscribers subscribe to both DBS service and cable television service, EchoStar said, such “that the two products are imperfect substitutes.”⁷⁷

66. EchoStar argued that consumers do not see cable television service as a close substitute for DBS service, because DBS service is a highly superior product: “DBS and/or High Power DBS is superior to most cable services in several respects, including higher quality

70. Amended Complaint, *supra* note 67, ¶ 76.

71. *Id.* at 12.

72. *Id.* at 7-8.

73. *Id.* at 12 (emphasis added).

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

picture, substantially more programming options, and pay-per-view in a ‘near-on-demand’ environment that consumers find more attractive than the pay-per-view environment offered by cable.”⁷⁸ EchoStar argued that “DBS is the only choice for consumers desiring a broad range of premium sports broadcasting, such as access to all professional sports league games,”⁷⁹ and that “consumers desiring as broad a range of television programming and entertainment options as possible, comprehensive premium sports coverage, maximum clarity of video and audio transmission, and ease of installation and operation have no alternative to High Power DBS service, since cable does not offer such choices.”⁸⁰

67. If EchoStar was correct in 2001 that DBS service constitutes its own relevant product market, then the proposed acquisition of DirecTV by EchoStar in 2002 would constitute a duopoly-to-monopoly merger in *all* DMAs, not merely the ones that are not served by cable television systems. Applying the national shares of DirecTV (62.23 percent) and EchoStar (37.77 percent), this definition of the relevant product market implies a pre-merger HHI of 5299 and a post-merger HHI of 10,000—for an increase in the HHI of 4,701. The merger of EchoStar and DirecTV would ensure monopoly prices in *all* DMAs. EchoStar further argued, correctly, that even if one includes cable television service in the definition of the relevant market, the only competition in rural areas is the competition between the two DBS providers: “Millions of potential DBS and/or High Power DBS customers live in areas that do not have access to cable

78. *Id.*

79. *Id.*

80. *Id.*

such that, if there is no competition between DirecTV and EchoStar, there is no competition at all.’⁸¹

E. Professor Willig’s Declaration on Behalf of DirecTV and EchoStar Obscures the Relevant Competitive Issues

68. Professor Robert D. Willig of Princeton University offers his expert opinion on the economic effects of the proposed merger in a declaration filed on behalf of EchoStar and DirecTV. I cannot agree with three main points in Professor Willig’s declaration: (1) his characterization of the (lack of) competition between EchoStar and DirecTV, (2) his characterization of the relevant geographic market as the national market, and (3) the methodology used to calculate the number of homes not passed by cable television systems. I discuss each point below.

1. Professor Willig Dismisses Competition Between DirecTV and EchoStar

69. In his declaration filed on behalf of EchoStar and DirecTV, Professor Willig embraces the MVPD market as the relevant product market. His definition of the relevant market is important not only for what it says, but also for what it does not say. Professor Willig spends nine paragraphs discussing the relevant product market but then relegates the topic of competition *between* EchoStar and DirecTV to a single footnote 5, which reads in full:

When queried regarding their pricing decisions relative to the other DBS providers, executives at both EchoStar and DirecTV indicated that they monitor the pricing of the other firm, but that such pricing plays little (if any) role in their own pricing decisions. The executives repeatedly emphasized that the primary determinant of their pricing was the price required to lure cable subscribers to DBS.⁸²

81. *Id.* at 12-13.

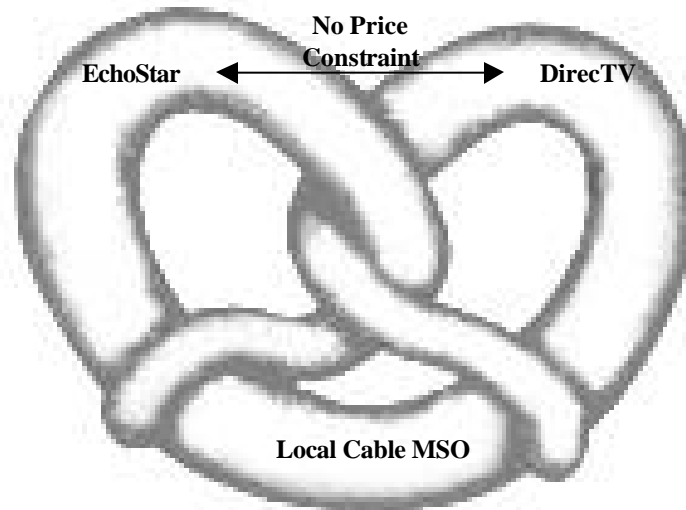
82. Declaration of Robert D. Willig on behalf of Echostar Communications Corporation, Hughes Electronics Corporation, and General Motors Corporation 6 ¶ 10 n.5 (filed Dec. 3, 2001) [hereinafter *Willig Declaration*].

Strictly speaking, Professor Willig is not even offering expert testimony on this point. Rather, he is merely repeating what he has supposedly been told by executives at EchoStar and DirecTV—who, of course, are quite capable of providing their own sworn testimony. The numerous statements to the contrary that EchoStar made in 2001 in its antitrust suit against DirecTV make it natural to question whether it is reasonable for Professor Willig to accept factual assertions of his clients in this case at face value. Stated differently, Professor Willig is not supplying an expert opinion of the economic plausibility of these assertions by the management of EchoStar and DirecTV. Conspicuously absent from footnote 5 is any statement by Professor Willig that he *agrees* with the assertion that EchoStar and DirecTV do not influence one another's pricing.

70. Professor Willig insists that the demand for cable television service and the demand for DBS service are cross-price elastic, for that assumption expands the definition of the relevant market and makes the market shares of EchoStar and DirecTV look small.⁸³ But there remains the inconvenient question that Professor Willig elides: Are the demand for EchoStar and the demand for DirecTV cross-price elastic? Professor Willig never says “no.” One way out of this logical trap would be to define two distinct submarkets within the MVPD market: (1) MVPD excluding EchoStar, and (2) MVPD excluding DirecTV. Figure 3, which I call EchoStar's Pretzel, shows the two distinct product markets implied by Professor Willig's position:

83. Although, as any sophisticated student of antitrust analysis knows, an arbitrary expansion or contraction of the definition of the relevant market is matched by a countervailing adjustment in the (correctly calculated) market shares and cross-price elasticity of supply by fringe firms. *See* Landes & Posner, *supra* note 15.

FIGURE 3: ECHOSTAR'S PRETZEL—TWO DISTINCT PRODUCT MARKETS



If, as EchoStar's Pretzel depicts, DirecTV did not constrain the price of EchoStar (and vice versa), then a hypothetical monopoly distributor of multichannel video services that owned EchoStar and the cable system operator in some relevant geographic market could, without simultaneously owning DirecTV, raise its price significantly above the competitive levels for a nontransitory period of time. By embracing the larger MVPD product market, however, Professor Willig acknowledges that DirecTV constrains the pricing of EchoStar, and that DirecTV should therefore be included in the *same* product market as EchoStar.

71. On a more fundamental level of microeconomic theory, it is counterintuitive to say that two virtually identical products, *A* and *B*, are each substitutes for some nonidentical product *C*, yet *A* and *B* are not substitutes for one another. Although there may exist some exceptions, it is generally the case that if *A* is a substitute for *C*, and *C* is a substitute for *B*, then

by transitivity A is also a substitute for B .⁸⁴ If Coke is a substitute for Seven-Up, and Seven-Up is a substitute for Pepsi, then Coke and Pepsi are most likely also substitutes for one another.⁸⁵ Applied to the present case, Professor Willig is asking the Commission to believe that consumers perceive that (1) EchoStar is a substitute for cable television service, and (2) cable television is a substitute for DirecTV, but (3) EchoStar is not a substitute for DirecTV, and DirecTV is not a substitute for EchoStar. This reasoning is pretzel logic, and it should be rejected.

72. The only remaining explanation is that DirecTV and EchoStar are indeed part of the MVPD market, but that DirecTV and EchoStar currently set their prices in a coordinated fashion. Stated differently, collusion between DirecTV and EchoStar would be consistent with the assertion that DirecTV does not constrain the pricing of EchoStar. Needless to say, there is no basis in economic analysis for Professor Willig to claim that the factual representations that EchoStar made to him about the lack of competitive interaction between EchoStar and DirecTV are more credible than the contrary representations that EchoStar made on the same subject to a federal district court less than one year earlier.⁸⁶

2. Professor Willig Understates the Number of MVPD Households That Are Not Passed by Cable

73. In its *Eighth Annual Report* on the state of MVPD competition, the FCC relied exclusively on Kagan Media's estimated number of homes passed by cable television systems.⁸⁷

84. This transitive relationship is reminiscent of the strong axiom of revealed preference. See JAMES M. HENDERSON & RICHARD E. QUANDT, MICROECONOMIC THEORY: A MATHEMATICAL APPROACH 46 (McGraw-Hill 3d ed. 1980); see also DAVID M. KREPS, A COURSE IN MICROECONOMIC THEORY 23 (Princeton University Press 1990) (proposition 2.2(c)).

85. Cf. JOSEPH E. STIGLITZ, ECONOMICS 212 (W.W. Norton & Co. 1993) (using Coke and Pepsi to illustrate substitutes).

86. Perhaps some economic theory that I have not considered could justify Professor Willig's characterization of the pricing interaction between EchoStar and DirecTV. But Professor Willig does not articulate that theory, let alone provide empirical evidence in support of it.

87. *Eighth Annual Report*, *supra* note 6, at ¶ 17.

Professor Willig's reliance on cable industry estimates (previously adopted by the FCC) that "96.6 of TV households are passed by cable"⁸⁸ is an oversimplification that ignores the substantial segment of U.S. households for which cable television access is not a realistic MVPD alternative.

74. Kagan Media, a telecommunications consultancy, releases an annual report of the cable industry entitled the *Cable Financial Databook*, which contains estimates of the number of homes passed by cable for the nation as a whole.⁸⁹ Kagan's measure of homes passed by cable, however, has at least two serious flaws. First, the vagueness of the definition prevents any single firm from accurately estimating homes passed. Second, even if the firm "correctly" applies the definition, there is no guarantee that any interpretation used by *one* firm will be used consistently by *all* firms. The wide variation of definitions accepted in the cable television industry for homes passed, and the lack of uniformity with which data are gathered, undermine the reliability of Kagan's homes-passed measure.

75. Moreover, Kagan does not define "homes passed" in its quarterly questionnaire addressed to cable system operators. If a cable operator were to search the Internet for the meaning of "homes passed," it would have to choose from among the following confusing and sometimes contradictory definitions:

88. *Willig Declaration*, *supra* note 82, at 24 ¶ 36.

89. *See generally* http://www.inside.com/product/description_kagan.asp.

- The number of homes in which cable television service is or can be readily made available because feeder cables are in place nearby;⁹⁰
- The number of homes in which cable television service is or can be readily available;⁹¹
- The total number of homes that have the potential for being connected to the cable system;⁹² or
- The total number of households that are capable of receiving cable television service.⁹³

Moreover, inconsistency in cable operators' census of multiple dwelling units (MDUs) results in some operators counting an apartment building as a single "household," while others count each apartment as a separate "household." This absence of any clear definition of the proximity of cable television facilities to housing units creates uncertainty at a minimum, and at worst encourages a cable television operator to exaggerate its coverage (presumably with an eye to attracting greater advertising revenues).

3. Professor Willig Confuses the Single Nationwide Video Programming Market with the Thousands of Local MVPD Markets

76. I cannot agree with Professor Willig's assertion that the relevant geographic market is national. In paragraphs 7 and 8 of his affidavit, Professor Willig describes the *Merger Guidelines*' method for defining the relevant market in terms of its product and geographic dimensions. Although he devotes the following nine paragraphs to exploring the product dimension of the relevant market, Professor Willig dismisses the geographic component in a single sentence: "Finally, for the purposes of evaluating the competitive impact of the proposed

90. Downloaded at <http://www.spotcable.com/asp/abo/glossary.asp?section=publicresources&sub=glossary> (visited Dec. 12, 2001).

91. Horizon Media, Inc. advertising consultants, <http://www.horizonmedia.com/glossary/h.htm> (visited Dec. 12, 2001).

merger, the national pricing for monthly subscription and programming fees by both EchoStar and DIRECTV suggest that a national-level analysis is the most appropriate (see below for further discussion of the competitive effects of the proposed merger).⁹⁴ Under the *Merger Guidelines*, Professor Willig's assertion of a nationwide market implies that a hypothetical monopoly provider of DBS service in, say, Washington, D.C., would need to control the delivery of all DBS services *in every other city in the nation* to impose a small but significant and nontransitory increase in price on its Washington, D.C., customers. But a DBS customer living in the suburbs of Washington, D.C., does not consider Comcast cable television service delivered in Philadelphia (or any other U.S. city) to be a substitute for Comcast cable television service in Washington, D.C. Professor Willig conflates the nationwide market for video programming and the local markets for delivery of multichannel video programming. To do so, however, would obscure the high degree of concentration in MVPD services for any given local geographic market.

77. Professor Willig states that “cable firms . . . set price on a local franchise-by-franchise basis, and prices can differ depending on many factors that are specific to the market in which the franchise is located.”⁹⁵ By this admission he suggests, evidently, that the local market defined by a cable television system's footprint *is* the relevant geographic market in which to evaluate MVPD competition. Although Professor Willig acknowledges local variations in DBS equipment costs and installation costs due to temporary promotions, he concludes that these promotions reflect competition between DBS service providers and the local cable television

92. Downloaded at <http://www.aoltimewarner.com/about/companies/glossary/cable.html> (visited Dec.12, 2001).

93. *Seventh Annual Report*, *supra* note 7, at n.12.

system operator, but not *between* DBS service providers.⁹⁶ That conclusion is unsupported and unsupportable. Perhaps a few technologically sophisticated subscribers may obtain equipment from suppliers outside the relevant geographic market. But it seems more reasonable to expect that the vast majority of subscribers will continue to rely upon local installers to furnish the equipment, point their dishes correctly, and activate their service.⁹⁷

II. THE PROPOSED MERGER WOULD SLOW THE GROWTH OF DBS HOUSEHOLDS WITH ACCESS TO LOCAL BROADCAST STATIONS

78. In the previous section, I demonstrated empirically that the proposed merger would increase DBS prices. There is also strong evidence to conclude that the proposed merger of EchoStar and DirecTV would reduce competition in non-price dimensions. In this Part, I demonstrate that the proposed merger would likely slow the rate at which EchoStar and DirecTV extend the retransmission of local broadcast stations to the remaining DMAs that lack such service now. Although the local cable television operator provides some stimulus for the merged DBS firm to carry local broadcast stations, the existence of a second DBS firm would provide—and has provided—a stronger incentive for each DBS firm to carry local broadcast stations because consumers perceive the DBS firms as being closer substitutes.

79. Upon passage of the Satellite Home Viewers Improvement Act (SHVIA) on November 29, 1999, both DirecTV⁹⁸ and EchoStar⁹⁹ announced their intention to offer local-to-

94. *Willig Declaration, supra* note 82, at 11 ¶ 18.

95. *Id.* at 20 ¶ 29.

96. *Id.* at 19 n.25.

97. *Id.*

98. DirecTV Press Release (Nov. 29, 1999).

99. EchoStar Press Release, *DISH Network Launches Local Channels to 33 Percent of U.S. Households* (Nov. 24, 1999)

local programming. As of January 2002, DirecTV offered local-to-local programming in 41 cities, and EchoStar offered local-to-local programming in 35 cities. Of EchoStar's 35 local markets, only one—Albuquerque, New Mexico—does not also receive DirecTV local-to-local programming.

80. EchoStar was first to announce its plans¹⁰⁰ to enter local markets with local-to-local broadcasting (originally using a two-dish solution), and it advertised that “[t]he DISH Network is the only satellite television company to retransmit local TV signals.”¹⁰¹ DirecTV's response was that consumers could get local programming using antennas in conjunction with their DBS service.¹⁰² Finally, in 1999, DirecTV announced that it too would offer local-to-local programming, and that it would make this offer with a one-dish solution, unlike EchoStar.¹⁰³

81. The intense rivalry between the two DBS providers has spurred carriage of local broadcast stations. Finding that local coverage is important to many subscribers, the two DBS providers have offered local broadcast stations in dozens of markets. Often, when one company introduces coverage, the other quickly follows suit. For example, EchoStar added Orlando on January 31, 2000.¹⁰⁴ DirecTV added Orlando three days later.¹⁰⁵

100. EchoStar Press Release, *EchoStar to Launch Local Channels; EchoStar CEO and Chairman Charlie Ergen Offers Statements on Completion of Satellite TV Legislation by Congress* (Nov. 19, 1999).

101. EchoStar Press Release, *The \$49 Professional Installation Special—DISH Network Launches More Channels for Less Money* (July 31, 1998).

102. *Hearing on S. 303, The Satellite Television Act of 1999, Before the Senate Committee on Commerce, Science and Transportation*, 106th Cong., 1st Sess. (Feb. 23, 1999) (statement of Eddy W. Hartenstein, President, DirecTV, Inc.).

103. DirecTV Press Release, *DirecTV To Offer Local Broadcast Network Channels; Leading Satellite TV Service Plans to Offer Local-into-Local Services to 50 Million Homes* (May 5, 1999).

104. EchoStar Press Release, *DISH Network Now Offers Orlando Local Channels Via Satellite Television* (Jan. 31, 2000).

105. DirecTV Press Release, *DIRECTV Offers Local Broadcast Network Channels in Orlando and Seattle Beginning Feb. 5* (Feb. 3, 2000).

82. For certain local markets, the joint profits for the DBS providers while not providing local broadcast stations could exceed the joint profits for the DBS providers while providing local broadcast stations. Stated differently, for certain local markets, the “entry” of the second DBS provider lowers the joint profits relative to the joint profits associated with not providing local broadcast stations. For example, a small market with few households might not justify the investment in capacity to offer local broadcast stations. In those local markets, the two DBS providers would prefer to agree not to provide local broadcast stations. Because a single DBS firm that provided local carriage *while its rival did not* would capture virtually 100 percent of the market share, the privately optimal equilibrium (in which neither firm offered local stations) would be difficult to establish. The two DBS firms would ultimately select the inferior equilibrium—that is, each firm would offer local broadcast stations and earn lower profits—because neither one could survive in that market if the other were to defect unilaterally from the cooperative solution. This problem is the classic Prisoner’s Dilemma.¹⁰⁶ Applied to the present case of competition between EchoStar and DirecTV, one solution to the Prisoner’s Dilemma is to merge.

83. There is strong evidence that rivalry between the two DBS providers has driven the carriage of local broadcast stations. By eliminating that rivalry, the proposed merger would slow the growth of DBS households with access to local broadcast stations. I estimate that for the 35 overlap markets in which both DBS firms offer local broadcast stations, the average lag between entry dates was 62.9 days. More important, for 69 percent of the local markets, the lag was less than 45 days. For 50 percent of the local markets, the lag was less than 30 days. This

106. For a review of the Prisoner’s Dilemma, see ROBERT GIBBONS, GAME THEORY FOR APPLIED ECONOMISTS 2

climate of intense rivalry has resulted in 61 percent of all U.S. households having access to local stations through DBS service. DirecTV announced on January 8, 2002 that it would provide local broadcast stations to 67 percent of U.S. households by the end of 2002.¹⁰⁷ DirecTV's January 2002 announcement directly contradicts its suggestion to the Commission that it cannot expand local coverage without the proposed merger.

III. EFFICIENCY CLAIMS FAIL TO JUSTIFY THE MERGER

84. Because of the serious competitive consequences of both mergers to monopoly and mergers that reduce competition from three to two, such mergers rarely if ever can be justified by promises of greater efficiency.¹⁰⁸ At the very least, the merger applicants must demonstrate extraordinary efficiencies that would “enhance the merged firm’s ability and incentive to compete, which may result in lower prices, improved quality, or new products.”¹⁰⁹ The U.S. Court of Appeals for the D.C. Circuit stressed in its *Heinz* decision in 2001 that claims of greater efficiencies must be verifiable through evidentiary showings that are “more than mere speculation and promises about post-merger behavior.”¹¹⁰ Moreover, the efficiencies must be ones that neither firm could ever achieve independently. If the claimed efficiencies are not merger-specific, then “the merger’s asserted benefits can be achieved without the concomitant

(Princeton University 1992).

107. DirecTV Press Release, *DirecTV to Launch Local Channels in 10 New Markets This Year* (Jan. 8, 2002), downloaded at <http://www.directv.com/press> on Feb. 2., 2002.

108. *Merger Guidelines*, *supra* note 5, at § 4 (“Efficiencies almost never justify a merger to monopoly or near-monopoly”); *Heinz*, 246 F.3d at 720.

109. *Merger Guidelines*, *supra* note 5, at § 4.

110. *Heinz*, 246 F.3d at 721.

loss of a competitor.”¹¹¹ In 2000, the FCC reiterated this same economic principle under its interpretation of the public interest standard in the Communications Act: “Claimed efficiencies . . . must be merger-specific, and, therefore, efficiencies that could be achieved through means less harmful to the public interest than the proposed merger cannot be considered true benefits of the merger.”¹¹²

85. The efficiency claims that EchoStar and DirecTV make concerning lower marginal cost and increased services (for some customers) are without merit. With respect to the latter, local broadcast programming can already be delivered with the existing satellite capacity. Even if one were to assume *arguendo* that the proposed merger would increase the DBS monopolist’s ability to provide local broadcast stations in certain geographic markets, those benefits would be captured only by DBS subscribers in those markets. Unfortunately, to the extent that those markets correspond to markets that are not passed by cable television systems, those DBS customers are the very customers who would be subjected to the largest price increase following the merger. The relevant question, therefore, is whether the benefits to those customers from having (clearer) local broadcast channels would outweigh the harms from the clearly higher post-merger price that they would have to pay for MVPD service delivered by a DBS monopolist.

111. *Id.* at 721-22 (citing 4A PHILLIP E. AREEDA, HERBERT HOVENKAMP & JOHN L. SOLOW, ANTITRUST LAW ¶973 n.19 (1998)).

112. Application of GTE Corporation, Transferor, and Bell Atlantic Corporation, Transferee; For Consent to Transfer Control of Domestic and International Sections 214 and 310 Authorizations and Application to Transfer Control of a Submarine Cable Landing License, Memorandum Opinion and Order, CC Dkt. No. 98-184, 15 F.C.C.R. 14,032, 14,141-42 (2000).

A. The Claimed Efficiencies Are Not Merger-Specific

86. EchoStar and DirecTV argue that they could liberate spectrum by not duplicating CONUS beams when distributing local stations and regional sports programming. But the decision by each DBS provider to employ spot beams (which reuse the same frequencies in different directions) is evidence that no merger is necessary to achieve gains in spectral efficiency. Spot beams are a less restrictive means of achieving the efficiency gains that the proposed merger promises to deliver. Before this proposed merger was ever announced, DirecTV launched spot-beam service in November 2001,¹¹³ and EchoStar announced in 2002 that it would do so in March 2002.¹¹⁴

87. DirecTV and EchoStar argue that their merger would serve the public interest by allowing the merged firm to overcome current channel-capacity limitations and offer local channels to areas where it would otherwise not be viable to do so. They argue that “DBS remains fundamentally constrained by its dependence upon the radio spectrum for operations,” that “[t]he problem of finite bandwidth is seriously exacerbated by the currently duplicative use of the DBS spectrum,”¹¹⁵ and that “DBS spectrum inefficiency has become a progressively more debilitating problem owing to a number of factors, including satellite mandatory carriage obligations and the increased competitive threat posed by the enhanced capabilities of digital cable.”¹¹⁶ EchoStar and DirecTV assert that, unless they are allowed to form a DBS monopoly,

113. *Boeing-built DirecTV-4S Satellite Ready for Launch; Spacecraft’s Spot-Beam Technology to Help DirecTV Add Local Channels in U.S. Markets*, BUS. WIRE, Nov. 19, 2001.

114. *EchoStar Corporation Selects Lockheed Martin Commercial Space Systems to Provide A2100-Based EchoStar VII Satellite*, M2 PRESSWIRE, Feb. 23, 2000.

115. *EchoStar Merger Application*, *supra* note 55, at 23.

116. *Id.* at 24-25.

“must carry obligations will effectively preclude the potential of effective competition with cable in all but the largest metropolitan areas now served by each DBS provider.”¹¹⁷

88. The assertion that DBS firms are capacity-constrained is without merit. According to Richard G. Gould, an expert on satellite design, DBS spectrum capacity is not the debilitating problem that EchoStar and DirecTV assert. In his engineering declaration, Mr. Gould states that, by relying on engineering techniques that one or both firms have already successfully used, either firm independently could use its allocated spectrum to offer all of its current national programming, all eligible local television stations in all 210 DMAs, and additional programming as well.¹¹⁸ EchoStar’s and DirecTV’s argument that, absent a merger, they will be technically constrained from providing local channels in additional DMA markets is further discredited by Mr. Gould’s assessment that the capabilities of satellite technology are rapidly developing: “The trend towards more and more efficient use of satellite technology has, if anything, accelerated in the past few years.”¹¹⁹ Thus, technological advancements will permit the broadcast of increasingly more channels per frequency of spectrum, just as they have since the advent of DBS service.

89. Professor Joseph Farrell, who served as chief economist of both the FCC and the Antitrust Division, and Professor Carl Shapiro, who served as chief economist of the Antitrust Division, have argued that any efficiencies that a firm can achieve unilaterally are not merger-specific, as required by the *Merger Guidelines*: “Efficiencies are not merger-specific if

117. *Id.* at 25.

118. *Gould Declaration*, *supra* note 12, at 2.

119. *Id.* at 17.

individual firms likely can *and will* achieve them without the necessity of merging.”¹²⁰ Where one firm is likely to grow in the near future absent the merger, an efficiency of scale economies that would be achieved by the merger are not merger-specific. In other words, according to the Farrell-Shapiro view, efficiencies that are simply economies of scale should not be found to justify a merger because they are not merger-specific but are generally attainable by unilateral action taking the form of internal growth or acquisition of generally available assets on the market, without the accompanying anticompetitive effects of a merger. The individual firm could otherwise expand output by offering its products at competitive prices and thereby increase its ability to expand independently. As a matter of policy, Professors Farrell and Shapiro argue, only efficiencies that combine complements and that cannot be attained through growth and rivalry without the merger should suffice to justify an otherwise anticompetitive merger. In contrast, Professors Farrell and Shapiro call efficiencies “synergies” if they result from integrating specific, unique, otherwise unattainable assets, and they argue that this category of efficiencies should weigh in favor of approving a merger.¹²¹

90. Thus, although DirecTV and EchoStar argue that they are “fundamentally constrained” by the technical limitations of DBS broadcasting, and that SHVIA’s must-carry regulations “effectively preclude the potential of effective competition” with cable television systems in terms of the ability of DBS service providers to carry local channels, in actuality both DBS firms can offer local programming to all 210 DMA markets without sacrificing any of their

120. Joseph Farrell & Carl Shapiro, *Scale Economies and Synergies in Horizontal Merger Analysis* 6 (Sept. 22, 2000) (emphasis in original) <http://www.haas.berkeley.edu/~shapiro/mergers.pdf> (forthcoming in ANTITRUST L.J.).

121. *Id.*

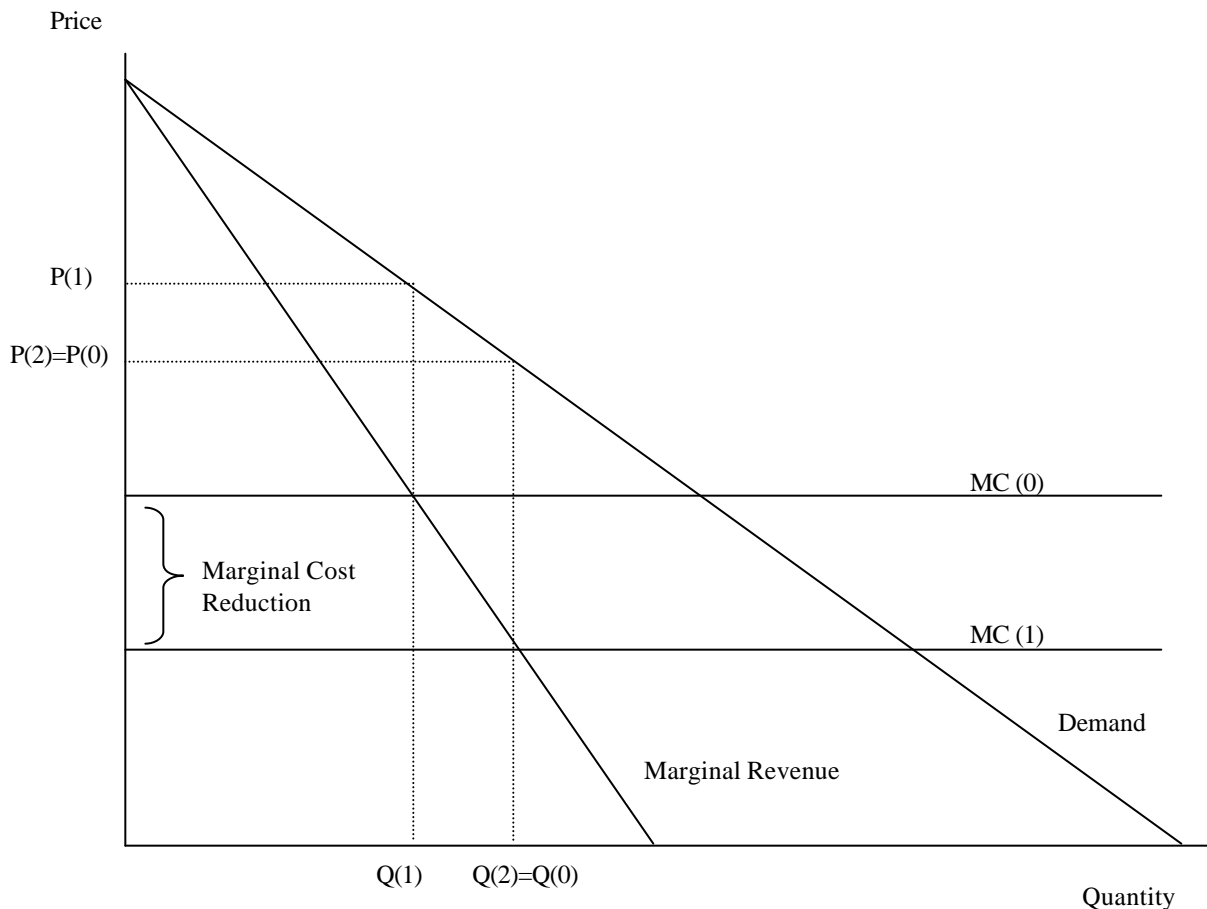
current programming.¹²² In short, it is not credible that the proposed merger of EchoStar and DirecTV is necessary to overcome spectrum inefficiencies and carry local channels in additional DMAs.

B. Reductions in Marginal Costs Would Be Unlikely to Prevent the Merged Firm from Raising Price Above Pre-Merger Levels

91. The *Merger Guidelines* state that for merger-specific efficiencies to justify a merger, they must be of a “character and magnitude” such that the merger is not likely to be anticompetitive. In this section, I calculate the percentage reduction in marginal costs that would be necessary to prevent the merged firm from raising price above pre-merger levels. Figure 4 shows the relationship between the reduction in marginal cost and the monopoly price.

122. *EchoStar Merger Application*, *supra* note 55, at 18.

FIGURE 4: THE REDUCTION IN MARGINAL COST NECESSARY TO LEAVE PRICE UNCHANGED FOLLOWING THE PROPOSED MERGER



I assume that the pre-merger price is equal to $P(0)$ and can be drawn anywhere above marginal costs, depending upon the pricing rule used by the duopolists. Without a reduction in marginal cost, the monopolist would choose the price $P(1)$, because the original marginal cost curve and the marginal revenue curve intersect at a quantity associated with that price. With a reduction in marginal costs equal to $MC(1) - MC(0)$, however, the monopolist would choose the pre-merger price $P(2) = P(0)$.

92. My analysis proceeds separately for the two categories of geographic markets. In areas that are not passed by a cable television system, I predicted that the DBS price would

increase from \$46.76 to \$62.35. Using the monopoly pricing rule described in Equation 1, I estimate that marginal cost in areas that are not passed by a cable television system would have to fall from \$37.40 to \$28.10, a reduction of 25 percent.

93. In areas that are passed by cable television systems, the necessary reduction in marginal cost is lower, because the post-merger price increase is lower than in areas not passed by cable television systems. Under Cournot competition, I predicted that the price for EchoStar customers would increase from \$49.26 to \$52.85 in areas that are passed by cable television systems. Using Equation 2, I estimate that marginal costs would have to decline from \$43.30 to \$40.30 (a reduction of 7 percent) to prevent the merged firm from raising the price of EchoStar. Because firms produce identical products under Cournot competition, I have already assumed that the marginal cost of the merged firm would be the lower of the marginal cost of EchoStar and the marginal cost of DirecTV. Hence, I have already assumed that there would be no cost to standardizing operations after the merger and that DirecTV's marginal cost would fall by 12.7 percent (from \$49.60 to \$43.30) after the merger.

94. Under Bertrand competition, EchoStar's price would increase from \$49.26 to \$51.22 and DirecTV's price would increase from \$56.45 to \$57.24. Because firms produce differentiated products under Bertrand competition, the merged firm would continue to market both brands. Using Equation 3, the marginal cost for DirecTV would have to fall by 1.4 percent (from \$37.60 to \$37.10), and the marginal cost for EchoStar would have to fall by 4 percent (from \$32.40 to \$31.60), to prevent the merged firm from raising prices. Table 5 summarizes my results.

TABLE 5: THE REDUCTION IN MARGINAL COSTS THAT WOULD BE NECESSARY TO PREVENT A POST-MERGER PRICE INCREASE

Geographic Market	Change in Marginal Costs	Percentage Decline
Areas Not Passed by Cable Television Systems	\$37.40 to \$28.10	25%
Areas Passed by Cable Television Systems —Cournot	\$43.30 to \$40.30	7%
Areas Passed by Cable Television Systems —Bertrand	\$32.40 to \$31.60	4%

As Table 5 shows, the necessary reduction in marginal costs varies from 4 percent in areas passed by cable television systems (under Bertrand competition) to 25 percent in areas not passed by cable television systems.

95. There are three major components to the marginal cost of DirecTV and EchoStar: (1) customer care, (2) subscriber acquisition, and (3) programming costs. The economic evidence submitted by EchoStar and DirecTV does not supply a reasonable basis to conclude that the merger would reduce marginal cost by the 25 percent. Hence, even after considering potential efficiencies that could reduce marginal costs, I continue to believe that it is highly likely that the proposed merger would raise prices.

C. Greater Post-Merger Efficiency in Spectrum Use Would Constitute a Reduction in Fixed Costs and Therefore Would Not Reduce Prices

96. EchoStar and DirecTV argue that they would achieve post-merger efficiencies by “freeing up” capacity, allowing the merged entity to increase the output per subscriber at the same cost.¹²³ In effect, they are claiming a fixed-cost efficiency. Regardless of the amount of output that would be generated by the merged firm, the cost of using the capacity would remain the same.¹²⁴ Efficiencies in the cost of spectrum space capacity therefore would not affect the

123. *EchoStar Merger Application*, *supra* note 55, at 27, 36; *Willig Declaration*, *supra* note 82, at ¶¶ 21-22.

124. *Id.* at ¶ 22.

prices paid by subscribers. As a general rule, fixed-cost efficiencies do not reduce consumer prices. A competitive firm sets price according to the marginal cost of supplying one additional unit of output. Variable costs are those that vary according to the amount of a firm's output, and thus they are the only costs that will affect the price that the firm sets. The leading treatise on antitrust law embraces this reasoning: "The economic distinction between fixed and variable costs suggests that not only are fixed costs savings not 'passed on' to consumers, but such savings do not lower the price at all and are entirely pocketed by the post merger firm."¹²⁵ No matter how many subscribers the DBS firm has, it would continue to spend the same amount to use the spectrum capacity that it has. It can be presumed that this merger would result in no price benefits to the consumer.

97. The MVPD and DBS-only markets and the claimed spectrum efficiencies fit this model exactly. That EchoStar and DirecTV could achieve such efficiencies in both MVPD and DBS-only markets is readily apparent. First, both companies have been growing explosively over the last few years.¹²⁶ Second, not only *can* EchoStar and DirecTV achieve these efficiencies unilaterally, but they *are* already achieving them using innovative technologies such as spot beam satellites, multi-feedhorn dishes, and advanced compression technology. If the resulting economies of scale are of value to the DBS firms, then EchoStar and DirecTV can achieve them through competition and innovation, to the benefit of consumers.

125. See AREEDA, HOVENKAMP & SOLOW, *supra* note 111, at ¶ 974d.

126. *Eighth Annual Report*, *supra* note 6, at ¶ 56.

CONCLUSION

98. The proposed merger of EchoStar and DirecTV would generate significant consumer welfare losses for existing DBS subscribers nationwide. For the roughly five million DBS subscribers in areas not passed by cable television systems, the proposed merger would raise prices by \$15 per month, or 33 percent. For EchoStar subscribers in areas passed by cable television systems, the proposed merger would raise prices by 4 percent and 7 percent under the Bertrand and Cournot models, respectively. The associated consumer welfare losses from those post-merger price increases would be approximately \$700 million dollars per year. Over the next five years, the net present value of the total consumer welfare loss, discounted at the interest rate of 8 percent, would be \$3 billion dollars.

99. The Commission's analysis of the proposed merger should end there. Even in the improbable case that a merger was necessary to achieve them, the claimed efficiencies from the proposed merger would fail to negate the resulting firm's incentive to raise prices. Nor would the pledge by EchoStar and DirecTV to price in a uniform fashion across urban and rural markets negate that incentive. Because the proposed merger of EchoStar and DirecTV would be anticompetitive, it would harm consumers and not be in the public interest. For these reasons, the FCC and the Department of Justice should block the proposed merger.

* * *

I declare under penalty of perjury that this declaration is true and correct. Executed this 4th day of February, 2002.

J. Gregory Sidak

APPENDIX 1: POST-MERGER HHIS BY DMA

DMA Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
Springfield, MO	62.9%	37.1%	23.1%	14.0%	4,686	5,333	647
Bowling Green, KY	63.2%	36.8%	22.9%	13.9%	4,716	5,351	635
Hattiesburg-Laurel, MS	64.3%	35.7%	22.2%	13.5%	4,813	5,411	598
Meridian, MS	65.5%	34.5%	21.5%	13.0%	4,917	5,478	561
Presque Isle, ME	65.7%	34.3%	21.3%	12.9%	4,942	5,494	552
Great Falls, MT	65.7%	34.3%	21.3%	12.9%	4,944	5,496	552
Bangor, ME	66.9%	33.1%	20.6%	12.5%	5,053	5,569	516
Missoula, MT	67.1%	32.9%	20.5%	12.4%	5,072	5,582	510
Duluth, MN-Superior, WI	67.8%	32.2%	20.0%	12.2%	5,148	5,635	487
Columbus-Tupelo-West Point, MS	68.0%	32.0%	19.9%	12.1%	5,171	5,651	480
Vernon, IL	68.7%	31.3%	19.5%	11.8%	5,243	5,702	459
Terre Haute, IN	68.9%	31.1%	19.4%	11.8%	5,257	5,712	455
Burlington, VT-Plattsburgh, NY	69.0%	31.0%	19.3%	11.7%	5,267	5,720	453
Traverse City-Cadillac, MI	69.0%	31.0%	19.3%	11.7%	5,273	5,724	451
Wausau-Rhineland, WI	69.3%	30.7%	19.1%	11.6%	5,306	5,748	442
Columbia-Jefferson City, MO	69.4%	30.6%	19.1%	11.6%	5,310	5,751	441
Butte-Bozeman, MT	69.7%	30.3%	18.9%	11.5%	5,341	5,774	433
Sherman, TX-Ada, OK	70.0%	30.0%	18.6%	11.3%	5,381	5,803	422
Billings, MT	70.4%	29.6%	18.4%	11.2%	5,424	5,835	411
Boise, ID	71.0%	29.0%	18.1%	11.0%	5,486	5,882	395
Harlingen-Weslaco-Brownsville-McAllen, TX	71.3%	28.7%	17.9%	10.8%	5,518	5,905	388
Minot-Bismarck-Dickinson(Williston), ND	71.7%	28.3%	17.6%	10.7%	5,563	5,940	377
Spokane, WA	71.8%	28.2%	17.6%	10.7%	5,576	5,950	374
Joplin, MO-Pittsburg, KS	71.9%	28.1%	17.5%	10.6%	5,583	5,955	372
Quincy, IL-Hannibal, MO-Keokuk, IA	71.9%	28.1%	17.5%	10.6%	5,585	5,957	372
Rapid City, SD	71.9%	28.1%	17.5%	10.6%	5,591	5,961	371
Tyler-Longview(Lufkin & Nacogdoches), TX	72.1%	27.9%	17.4%	10.5%	5,613	5,978	365
Shreveport, LA	72.2%	27.8%	17.3%	10.5%	5,620	5,984	364
Ottumwa, IA-Kirksville, MO	72.7%	27.3%	17.0%	10.3%	5,681	6,031	350
Jackson, MS	72.8%	27.2%	16.9%	10.3%	5,693	6,040	348
Little Rock-Pine Bluff, AR	73.2%	26.8%	16.6%	10.1%	5,745	6,081	336
Chico-Redding, CA	73.3%	26.7%	16.6%	10.1%	5,755	6,089	334
Evansville, IN	73.4%	26.6%	16.6%	10.1%	5,761	6,094	333
Yuma, AZ-El Centro, CA	73.4%	26.6%	16.5%	10.0%	5,765	6,097	332
Roanoke-Lynchburg, VA	73.4%	26.6%	16.5%	10.0%	5,768	6,099	331
Ft. Wayne, IN	73.7%	26.3%	16.4%	9.9%	5,795	6,121	326
Salt Lake City, UT	73.8%	26.2%	16.3%	9.9%	5,806	6,130	323
Greenville-New Bern-Washington, NC	74.2%	25.8%	16.1%	9.8%	5,853	6,167	314
Lubbock, TX	74.3%	25.7%	16.0%	9.7%	5,867	6,178	311
Albuquerque-Santa Fe, NM	74.5%	25.5%	15.9%	9.6%	5,889	6,196	307

DMA Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
Jackson, TN	74.6%	25.4%	15.8%	9.6%	5,908	6,211	303
Grand Junction-Montrose, CO	74.7%	25.3%	15.8%	9.6%	5,914	6,216	302
Twin Falls, ID	74.8%	25.2%	15.7%	9.5%	5,928	6,227	299
Alpena, MI	75.0%	25.0%	15.6%	9.5%	5,952	6,247	295
Columbia, SC	75.0%	25.0%	15.6%	9.5%	5,953	6,247	294
Medford-Klamath Falls, OR	75.1%	24.9%	15.5%	9.4%	5,970	6,261	291
Lexington, KY	75.2%	24.8%	15.4%	9.4%	5,980	6,269	289
Monroe, LA-El Dorado, AR	75.2%	24.8%	15.4%	9.4%	5,983	6,272	289
Greenville-Spartanburg, SC-Asheville, NC	75.6%	24.4%	15.2%	9.2%	6,026	6,306	281
Clarksburg-Weston, WV	75.7%	24.3%	15.1%	9.2%	6,043	6,321	278
Idaho Falls-Pocatello, ID	75.7%	24.3%	15.1%	9.2%	6,049	6,326	277
Wichita Falls, TX & Lawton, OK	75.9%	24.1%	15.0%	9.1%	6,065	6,338	274
Helena, MT	75.9%	24.1%	15.0%	9.1%	6,071	6,344	273
Abilene-Sweetwater, TX	75.9%	24.1%	15.0%	9.1%	6,073	6,346	272
South Bend-Elkhart, IN	76.2%	23.8%	14.8%	9.0%	6,105	6,372	267
Nashville, TN	76.3%	23.7%	14.8%	9.0%	6,114	6,379	265
Ft. Smith-Fayetteville-Springdale-Rogers, AR	76.3%	23.7%	14.7%	8.9%	6,123	6,386	263
Bluefield-Beckley-Oak Hill, WV	76.4%	23.6%	14.7%	8.9%	6,134	6,395	261
Jonesboro, AR	76.4%	23.6%	14.7%	8.9%	6,136	6,397	261
Houston, TX	77.0%	23.0%	14.3%	8.7%	6,207	6,456	249
Tallahassee, FL-Thomasville, GA	77.0%	23.0%	14.3%	8.7%	6,213	6,461	248
Albany, GA	77.1%	22.9%	14.3%	8.7%	6,216	6,464	247
Sioux City, IA	77.1%	22.9%	14.3%	8.7%	6,221	6,468	247
Casper-Riverton, WY	77.3%	22.7%	14.1%	8.6%	6,248	6,490	242
La Crosse-Eau Claire, WI	77.3%	22.7%	14.1%	8.6%	6,251	6,493	242
Gainesville, FL	77.4%	22.6%	14.1%	8.6%	6,255	6,496	241
Fargo-Valley City, ND	77.5%	22.5%	14.0%	8.5%	6,281	6,518	237
Amarillo, TX	77.5%	22.5%	14.0%	8.5%	6,281	6,518	237
Fresno-Visalia, CA	77.8%	22.2%	13.8%	8.4%	6,312	6,544	232
Richmond-Petersburg, VA	77.9%	22.1%	13.8%	8.4%	6,324	6,554	230
Raleigh-Durham (Fayetteville), NC	78.1%	21.9%	13.7%	8.3%	6,348	6,574	226
Tulsa, OK	78.2%	21.8%	13.6%	8.3%	6,361	6,585	224
Harrisonburg, VA	78.2%	21.8%	13.6%	8.2%	6,362	6,586	224
Bend, OR	78.2%	21.8%	13.5%	8.2%	6,373	6,596	222
Panama City, FL	78.3%	21.7%	13.5%	8.2%	6,383	6,604	221
Dothan, AL	78.4%	21.6%	13.4%	8.2%	6,395	6,614	219
Chattanooga, TN	78.5%	21.5%	13.4%	8.1%	6,405	6,622	218
Dallas-Ft. Worth, TX	78.6%	21.4%	13.3%	8.1%	6,425	6,639	215
Charlottesville, VA	78.8%	21.2%	13.2%	8.0%	6,442	6,654	212
St. Louis, MO	79.3%	20.7%	12.9%	7.8%	6,512	6,714	202
Yakima-Pasco-Richland-Kennewick, WA	79.3%	20.7%	12.9%	7.8%	6,515	6,716	202
Watertown, NY	79.3%	20.7%	12.9%	7.8%	6,516	6,717	201
Charleston-Huntington, WV	79.4%	20.6%	12.9%	7.8%	6,523	6,723	200
Beaumont-Port Arthur, TX	79.5%	20.5%	12.8%	7.7%	6,541	6,739	198

DMA Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
Des Moines-Ames, IA	79.5%	20.5%	12.8%	7.7%	6,545	6,742	197
Lincoln & Hastings-Kearney, NE	79.5%	20.5%	12.7%	7.7%	6,548	6,745	197
Tri-Cities, TN-VA	79.8%	20.2%	12.6%	7.6%	6,585	6,777	192
Eugene, OR	79.9%	20.1%	12.5%	7.6%	6,592	6,783	191
Elmira, NY	80.0%	20.0%	12.5%	7.6%	6,606	6,795	189
Indianapolis, IN	80.0%	20.0%	12.5%	7.6%	6,608	6,797	189
Alexandria, LA	80.0%	20.0%	12.4%	7.6%	6,613	6,801	188
Marquette, MI	80.0%	20.0%	12.4%	7.5%	6,618	6,806	187
Sioux Falls(Mitchell), SD	80.1%	19.9%	12.4%	7.5%	6,621	6,808	187
Macon, GA	80.1%	19.9%	12.4%	7.5%	6,627	6,813	186
Memphis, TN	80.2%	19.8%	12.3%	7.5%	6,643	6,827	184
Greensboro-High Point-Winston Salem, NC	80.2%	19.8%	12.3%	7.5%	6,644	6,828	184
Florence-Myrtle Beach, SC	80.2%	19.8%	12.3%	7.5%	6,645	6,829	184
Louisville, KY	80.3%	19.7%	12.2%	7.4%	6,656	6,838	182
Rockford, IL	80.5%	19.5%	12.1%	7.3%	6,687	6,865	178
Huntsville-Decatur (Florence), AL	80.6%	19.4%	12.1%	7.3%	6,692	6,869	177
Knoxville, TN	80.7%	19.3%	12.0%	7.3%	6,704	6,880	176
Zanesville, OH	80.7%	19.3%	12.0%	7.3%	6,708	6,884	175
St. Joseph, MO	80.8%	19.2%	11.9%	7.2%	6,728	6,901	173
Wheeling, WV-Steubenville, OH	80.9%	19.1%	11.9%	7.2%	6,738	6,909	172
Waco-Temple-Bryan, TX	80.9%	19.1%	11.9%	7.2%	6,740	6,911	171
Lake Charles, LA	80.9%	19.1%	11.9%	7.2%	6,742	6,913	171
North Platte, NE	81.0%	19.0%	11.8%	7.2%	6,747	6,917	170
Victoria, TX	81.0%	19.0%	11.8%	7.2%	6,754	6,924	169
Green Bay-Appleton, WI	81.0%	19.0%	11.8%	7.2%	6,755	6,924	169
Grand Rapids-Kalamazoo-Battle Creek, MI	81.1%	18.9%	11.7%	7.1%	6,770	6,937	168
Phoenix, AZ	81.2%	18.8%	11.7%	7.1%	6,778	6,944	166
Madison, WI	81.2%	18.8%	11.7%	7.1%	6,780	6,947	166
Wilmington, NC	81.4%	18.6%	11.6%	7.0%	6,803	6,966	163
Charlotte, NC	81.4%	18.6%	11.6%	7.0%	6,806	6,969	163
Topeka, KS	81.4%	18.6%	11.6%	7.0%	6,807	6,970	163
Savannah, GA	81.5%	18.5%	11.5%	7.0%	6,820	6,981	161
Dayton, OH	81.6%	18.4%	11.4%	6.9%	6,841	7,000	159
Birmingham (Anniston and Tuscaloosa), AL	81.7%	18.3%	11.4%	6.9%	6,852	7,009	158
Tucson (Sierra Vista), AZ	81.8%	18.2%	11.3%	6.9%	6,872	7,027	155
Kansas City, MO	82.0%	18.0%	11.2%	6.8%	6,889	7,042	153
Minneapolis-St. Paul, MN	82.0%	18.0%	11.2%	6.8%	6,897	7,049	152
Colorado Springs-Pueblo, CO	82.0%	18.0%	11.2%	6.8%	6,902	7,054	152
Montgomery (Selma), AL	82.2%	17.8%	11.1%	6.7%	6,931	7,079	148
Rochester, NY	82.2%	17.8%	11.0%	6.7%	6,932	7,080	148
Champaign & Springfield-Decatur, IL	82.3%	17.7%	11.0%	6.7%	6,936	7,084	148
Binghamton, NY	82.3%	17.7%	11.0%	6.7%	6,939	7,086	147
Erie, PA	82.8%	17.2%	10.7%	6.5%	7,007	7,147	140
Parkersburg, WV	82.9%	17.1%	10.6%	6.4%	7,033	7,170	137

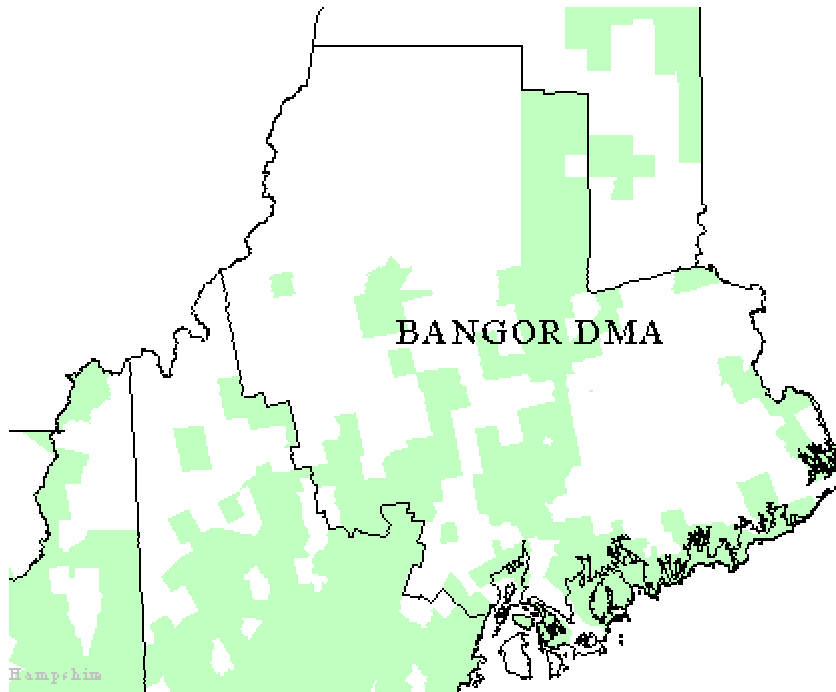
DMA Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
San Antonio, TX	83.2%	16.8%	10.5%	6.4%	7,066	7,200	133
Davenport, IA-Rock Island-Moline, IL	83.2%	16.8%	10.4%	6.3%	7,073	7,206	133
Wichita-Hutchinson, KS Plus	83.3%	16.7%	10.4%	6.3%	7,079	7,211	132
Charleston, SC	83.3%	16.7%	10.4%	6.3%	7,090	7,221	131
Sacramento-Stockton-Modesto, CA	83.4%	16.6%	10.3%	6.3%	7,102	7,231	130
Augusta, GA	83.6%	16.4%	10.2%	6.2%	7,128	7,255	127
Mankato, MN	83.6%	16.4%	10.2%	6.2%	7,138	7,264	126
Cedar Rapids-Waterloo-Iowa City & Dubuque, IA	83.6%	16.4%	10.2%	6.2%	7,138	7,264	126
Salisbury, MD	83.7%	16.3%	10.1%	6.2%	7,147	7,272	125
Portland, OR	83.7%	16.3%	10.1%	6.1%	7,150	7,274	125
Lansing, MI	83.8%	16.2%	10.1%	6.1%	7,155	7,279	124
San Angelo, TX	83.9%	16.1%	10.0%	6.1%	7,176	7,298	122
Juneau, AK	83.9%	16.1%	10.0%	6.1%	7,178	7,300	122
Austin, TX	84.1%	15.9%	9.9%	6.0%	7,208	7,326	119
Monterey-Salinas, CA	84.2%	15.8%	9.8%	6.0%	7,221	7,339	117
Odessa-Midland, TX	84.2%	15.8%	9.8%	6.0%	7,227	7,344	117
Cheyenne, WY-Scottsbluff, NE	84.3%	15.7%	9.8%	5.9%	7,240	7,355	116
Los Angeles, CA	84.4%	15.6%	9.7%	5.9%	7,249	7,364	115
Oklahoma City, OK	84.4%	15.6%	9.7%	5.9%	7,251	7,366	115
Flint-Saginaw-Bay City, MI	84.4%	15.6%	9.7%	5.9%	7,255	7,369	114
Toledo, OH	84.5%	15.5%	9.6%	5.8%	7,270	7,383	113
Mobile, AL-Pensacola (Ft. Walton Beach), FL	84.5%	15.5%	9.6%	5.8%	7,271	7,384	113
Greenwood-Greenville, MS	84.6%	15.4%	9.6%	5.8%	7,282	7,394	112
Lafayette, LA	84.6%	15.4%	9.6%	5.8%	7,283	7,394	111
Cincinnati, OH	84.7%	15.3%	9.5%	5.8%	7,299	7,409	110
Atlanta, GA	84.8%	15.2%	9.5%	5.8%	7,307	7,416	109
Denver, CO	84.8%	15.2%	9.5%	5.7%	7,311	7,420	109
Biloxi-Gulfport, MS	84.9%	15.1%	9.4%	5.7%	7,324	7,431	108
Lafayette, IN	84.9%	15.1%	9.4%	5.7%	7,327	7,435	107
Glendive, MT	85.2%	14.8%	9.2%	5.6%	7,371	7,474	103
Jacksonville, FL	85.2%	14.8%	9.2%	5.6%	7,381	7,483	102
Reno, NV	85.4%	14.6%	9.1%	5.5%	7,400	7,501	101
Santa Barbara-Santa Maria-San Luis Obispo, CA	85.9%	14.1%	8.8%	5.3%	7,481	7,574	94
Utica, NY	85.9%	14.1%	8.8%	5.3%	7,483	7,577	94
Washington, DC (Hagerstown, MD)	86.0%	14.0%	8.7%	5.3%	7,496	7,589	92
El Paso, TX	86.0%	14.0%	8.7%	5.3%	7,501	7,593	92
Columbus, GA	86.1%	13.9%	8.7%	5.3%	7,515	7,606	91
Corpus Christi, TX	86.2%	13.8%	8.6%	5.2%	7,527	7,617	90
Peoria-Bloomington, IL	86.3%	13.7%	8.5%	5.2%	7,546	7,634	88
Ft. Myers-Naples, FL	86.3%	13.7%	8.5%	5.2%	7,548	7,637	88
Orlando-Daytona Beach-Melbourne, FL	86.4%	13.6%	8.5%	5.1%	7,560	7,647	87
Portland-Auburn, ME	86.7%	13.3%	8.3%	5.0%	7,603	7,687	84
Bakersfield, CA	86.7%	13.3%	8.3%	5.0%	7,606	7,689	84
Fairbanks, AK	86.8%	13.2%	8.2%	5.0%	7,623	7,705	82

DMA Name	Cable Share	DBS Share	DirecTV Share	EchoStar Share	Pre-Merger HHI	Post-Merger HHI	Increase in HHI
Rochester, MN-Mason City, IA-Austin, MN	87.1%	12.9%	8.0%	4.9%	7,677	7,755	78
Johnstown-Altoona, PA	87.2%	12.8%	8.0%	4.8%	7,693	7,770	77
Eureka, CA	87.2%	12.8%	8.0%	4.8%	7,694	7,770	77
Columbus, OH	87.3%	12.7%	7.9%	4.8%	7,703	7,779	76
Omaha, NE	87.3%	12.7%	7.9%	4.8%	7,709	7,785	76
Youngstown, OH	87.5%	12.5%	7.8%	4.7%	7,732	7,806	74
Seattle-Tacoma, WA	87.8%	12.2%	7.6%	4.6%	7,790	7,860	70
Milwaukee, WI	87.9%	12.1%	7.5%	4.6%	7,810	7,878	68
Baton Rouge, LA	88.0%	12.0%	7.4%	4.5%	7,827	7,894	67
Buffalo, NY	88.3%	11.7%	7.3%	4.4%	7,869	7,933	64
Tampa-St. Petersburg (Sarasota), FL	88.4%	11.6%	7.2%	4.4%	7,879	7,943	64
Wilkes Barre-Scranton, PA	88.4%	11.6%	7.2%	4.4%	7,888	7,951	63
Syracuse, NY	89.4%	10.6%	6.6%	4.0%	8,048	8,101	53
Cleveland-Akron (Canton), OH	89.5%	10.5%	6.6%	4.0%	8,061	8,113	52
Norfolk-Portsmouth-Newport News, VA	89.5%	10.5%	6.6%	4.0%	8,063	8,115	52
Albany-Schenectady-Troy, NY	89.6%	10.4%	6.5%	3.9%	8,088	8,139	51
Las Vegas, NV	90.0%	10.0%	6.2%	3.8%	8,154	8,201	47
Detroit, MI	90.1%	9.9%	6.2%	3.8%	8,165	8,211	46
Laredo, TX	90.5%	9.5%	5.9%	3.6%	8,235	8,278	43
Harrisburg-Lancaster-Lebanon-York, PA	91.1%	8.9%	5.5%	3.3%	8,348	8,385	37
Pittsburgh, PA	91.3%	8.7%	5.4%	3.3%	8,372	8,408	36
West Palm Beach-Ft. Pierce, FL	91.4%	8.6%	5.3%	3.2%	8,397	8,432	35
Lima, OH	91.5%	8.5%	5.3%	3.2%	8,405	8,439	34
Palm Springs, CA	91.6%	8.4%	5.2%	3.2%	8,426	8,459	33
New Orleans, LA	91.8%	8.2%	5.1%	3.1%	8,457	8,489	32
Baltimore, MD	92.4%	7.6%	4.7%	2.9%	8,563	8,590	27
San Francisco-Oakland-San Jose, CA	92.5%	7.5%	4.7%	2.8%	8,590	8,616	26
Chicago, IL	92.5%	7.5%	4.6%	2.8%	8,592	8,618	26
Anchorage, AK	93.0%	7.0%	4.4%	2.6%	8,674	8,697	23
Miami-Ft. Lauderdale, FL	93.4%	6.6%	4.1%	2.5%	8,740	8,761	21
Springfield-Holyoke, MA	93.5%	6.5%	4.0%	2.5%	8,764	8,784	20
Providence, RI-New Bedford, MA	93.6%	6.4%	4.0%	2.4%	8,790	8,809	19
New York, NY	93.9%	6.1%	3.8%	2.3%	8,842	8,859	17
San Diego, CA	94.2%	5.8%	3.6%	2.2%	8,884	8,900	16
Boston, MA (Manchester, NH)	94.6%	5.4%	3.4%	2.1%	8,957	8,971	14
Philadelphia, PA	94.6%	5.4%	3.4%	2.1%	8,957	8,971	14
Hartford & New Haven, CT	97.0%	3.0%	1.8%	1.1%	9,423	9,427	4
Honolulu, HI	99.1%	0.9%	0.6%	0.4%	9,812	9,812	0

**APPENDIX 2: MAPS OF THE TWENTY DMAS THAT WOULD BE MOST SERIOUSLY HARMED BY
THE PROPOSED MERGER**

Bangor, ME DMA

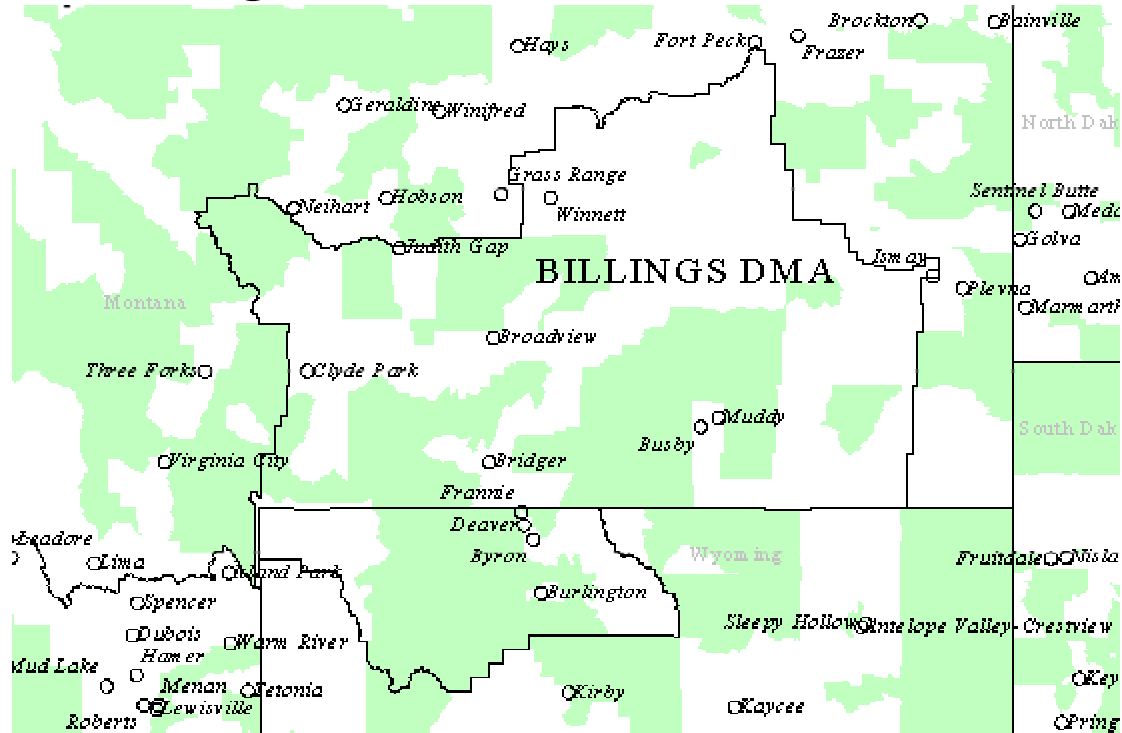
Post-Merger HHI 5,596—Delta HHI 516



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Billings, MT DMA

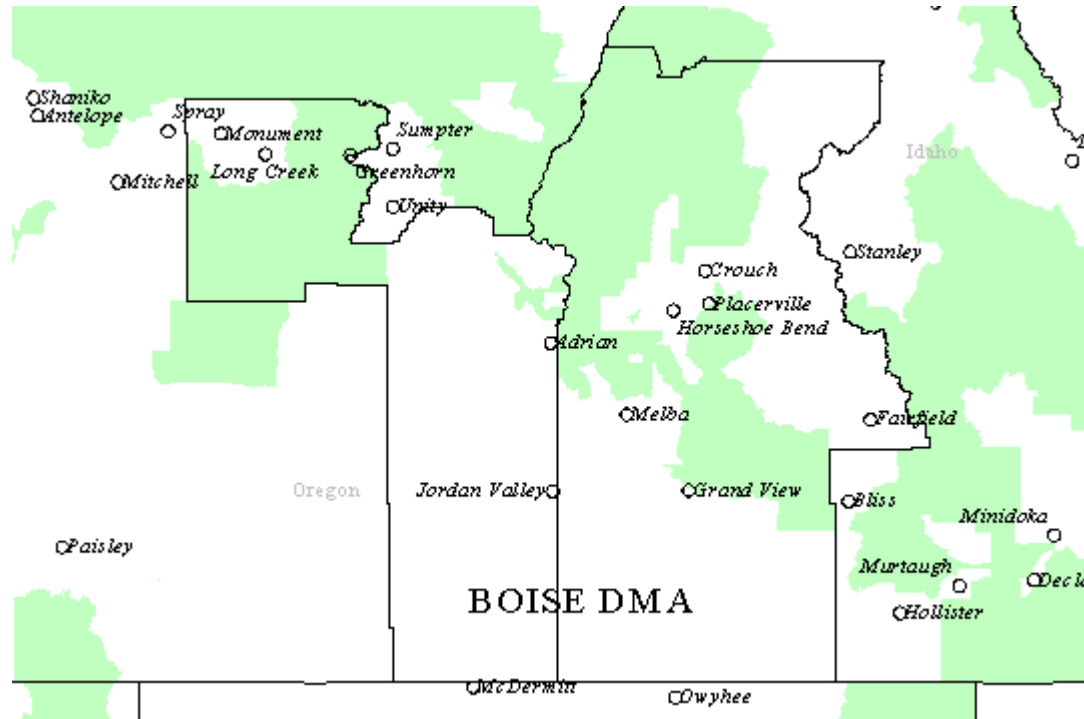
Post-Merger HHI 5,835—Delta HHI 411



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Boise, ID DMA

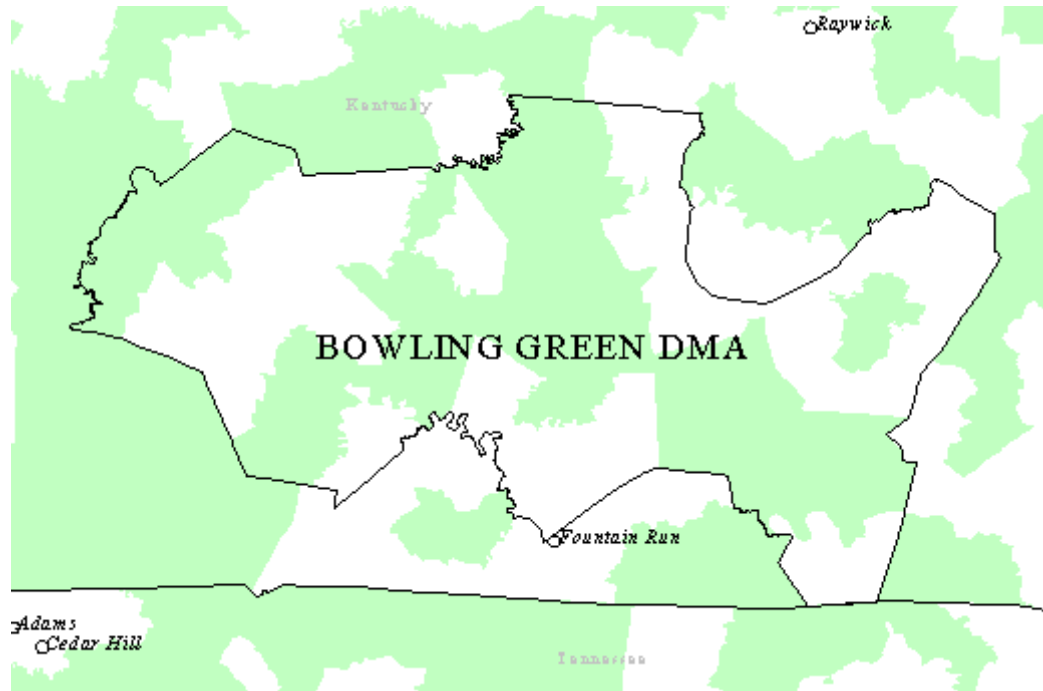
Post-Merger HHI 5,882—Delta HHI 395



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Bowling Green, KY DMA

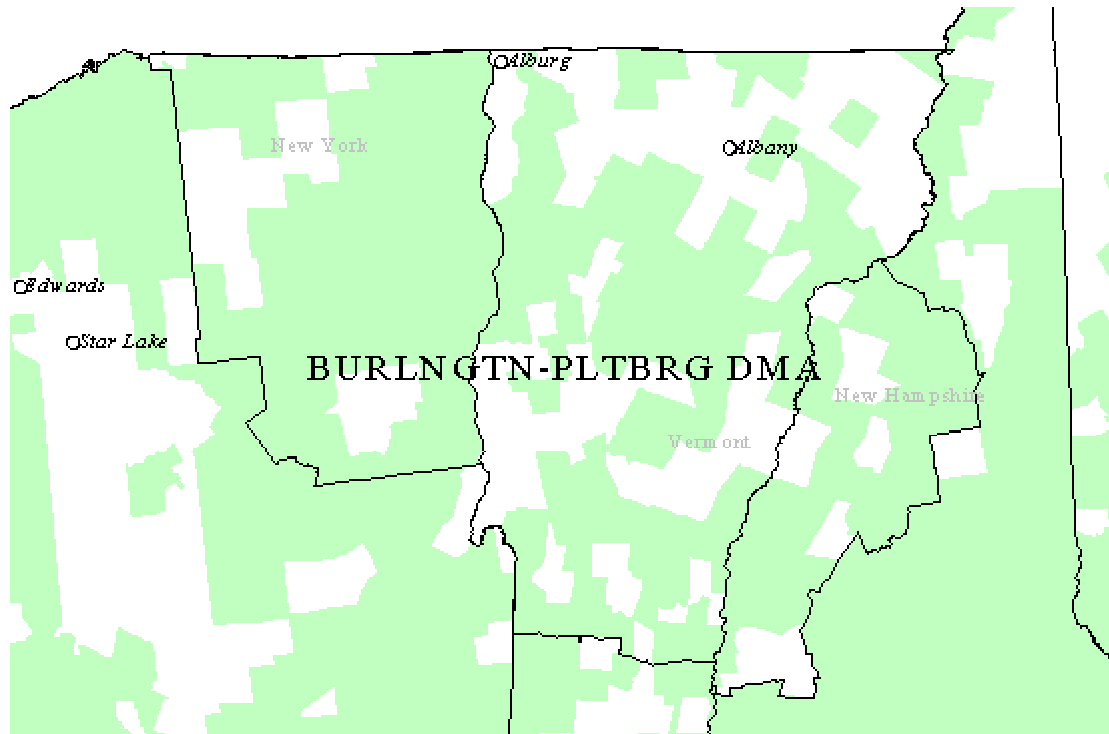
Post-Merger HHI 5,351—Delta HHI 635








- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Burlington, VT DMA

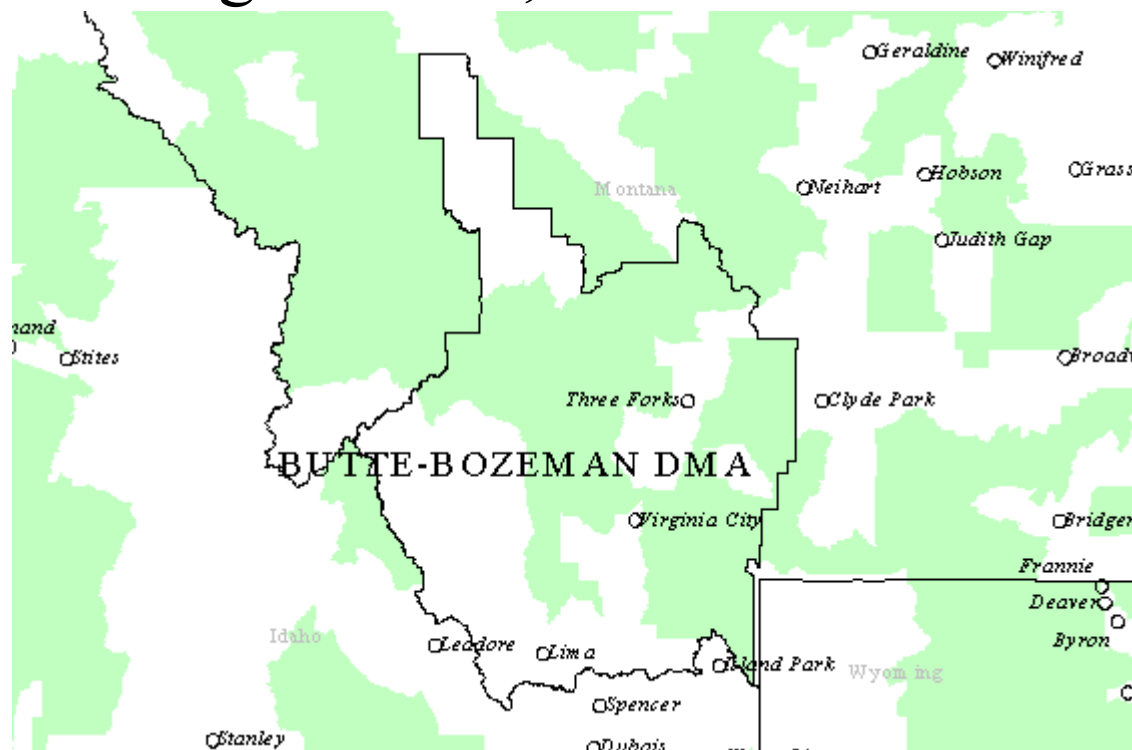
Post-Merger HHI 5,720—Delta HHI 453



-  Census Block Groups passed by cable systems
-  Census Block Groups not passed by cable systems
-  Census Place not passed by cable systems, or with portions not passed by cable systems
-  State Boundary Line
-  Designated Market Area Boundary Line

Butte-Bozeman, MT DMA

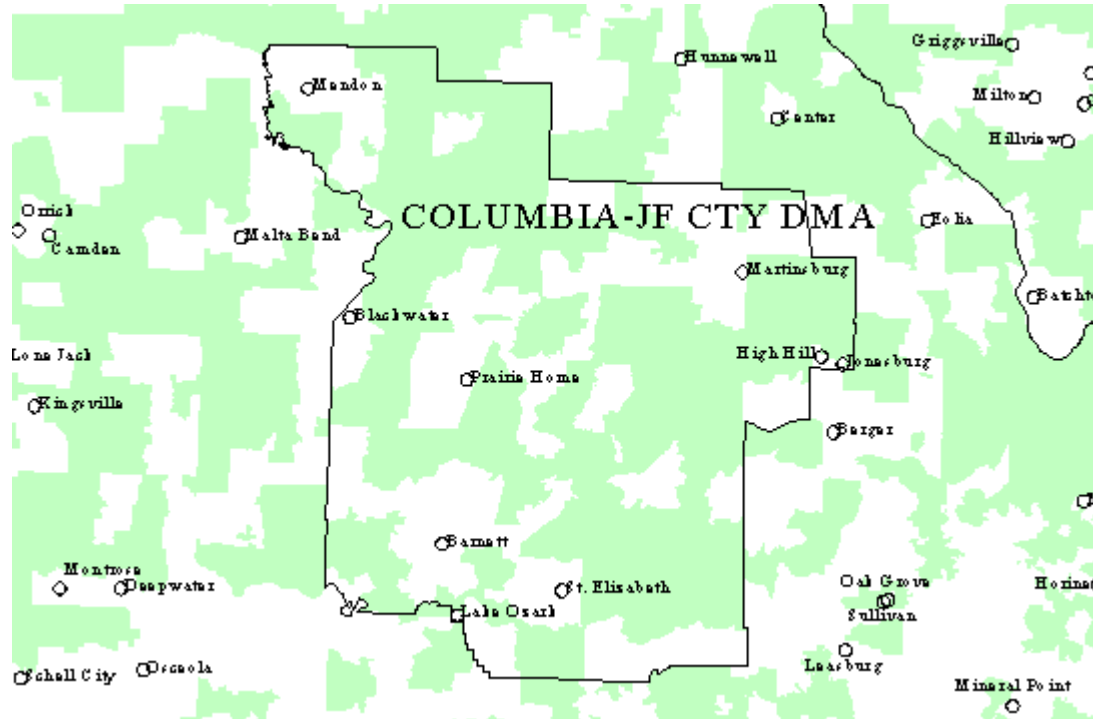
Post-Merger HHI 5,774—Delta HHI 433



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Columbia, MO DMA

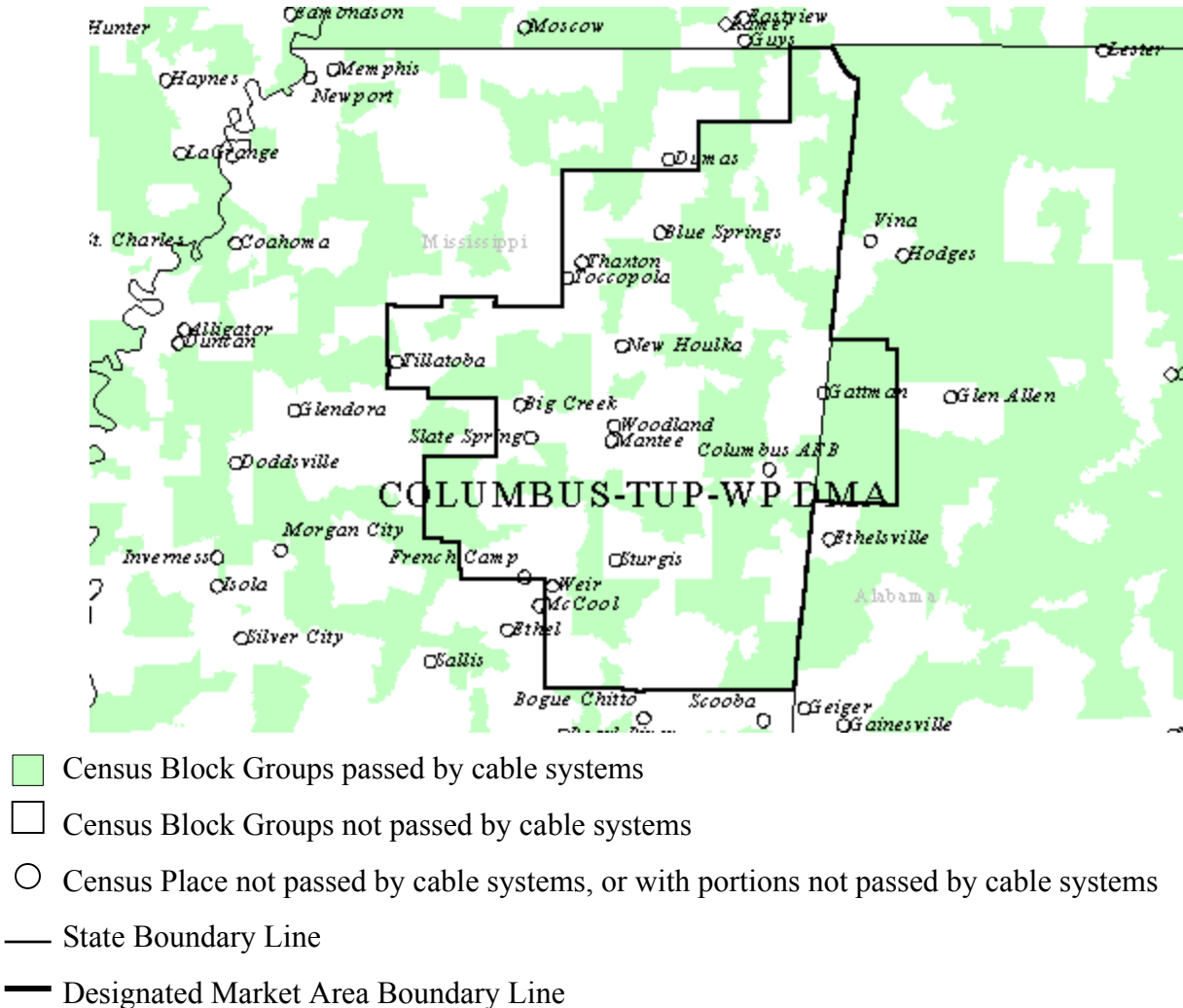
Post-Merger HHI 5,751—Delta HHI 441



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

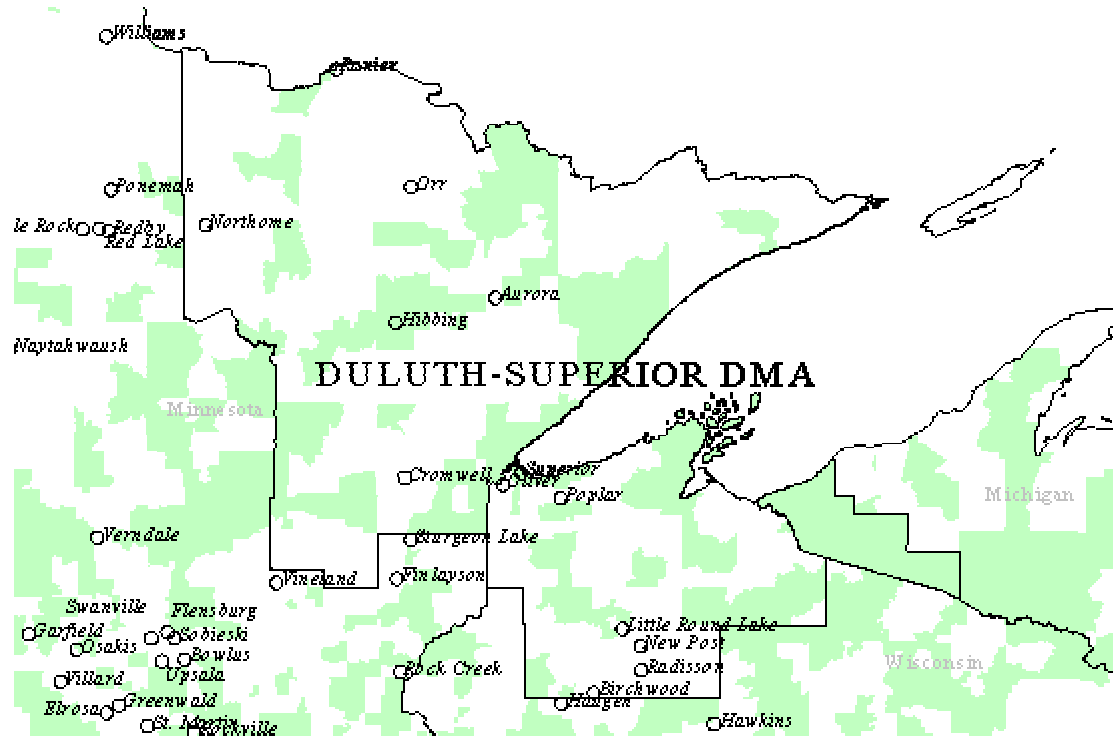
Columbus-Tupelo, MS DMA

Post-Merger HHI 5,651—Delta HHI 480



Duluth, MN DMA

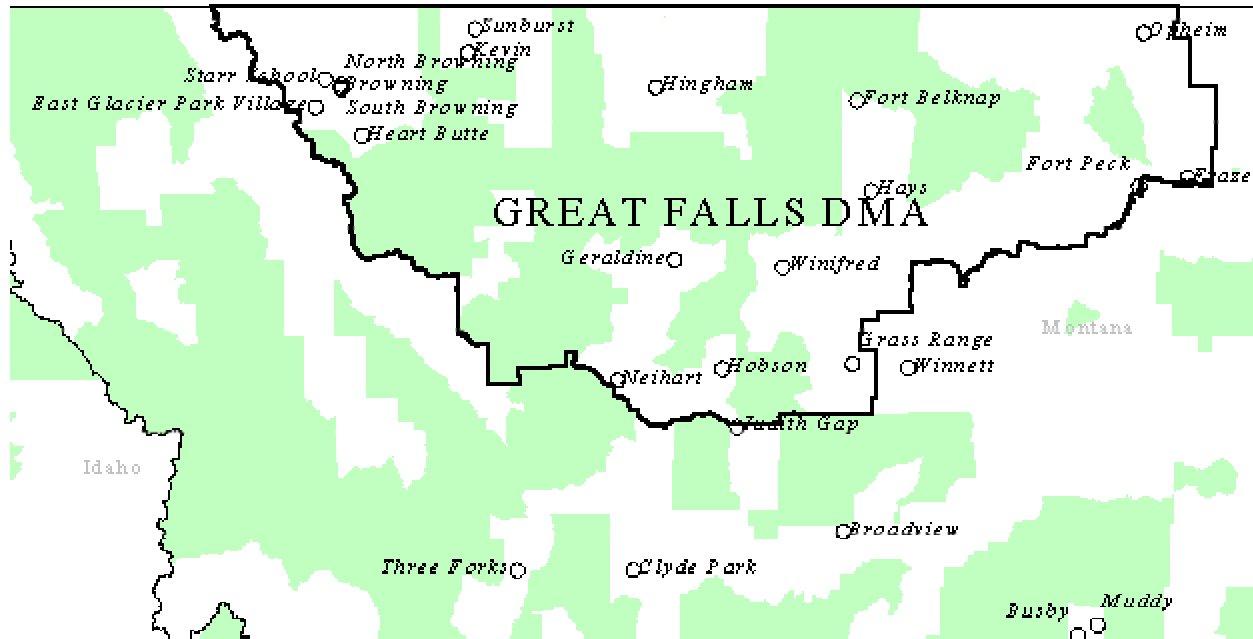
Post-Merger HHI 5,635—Delta HHI 487



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Great Falls, MT DMA

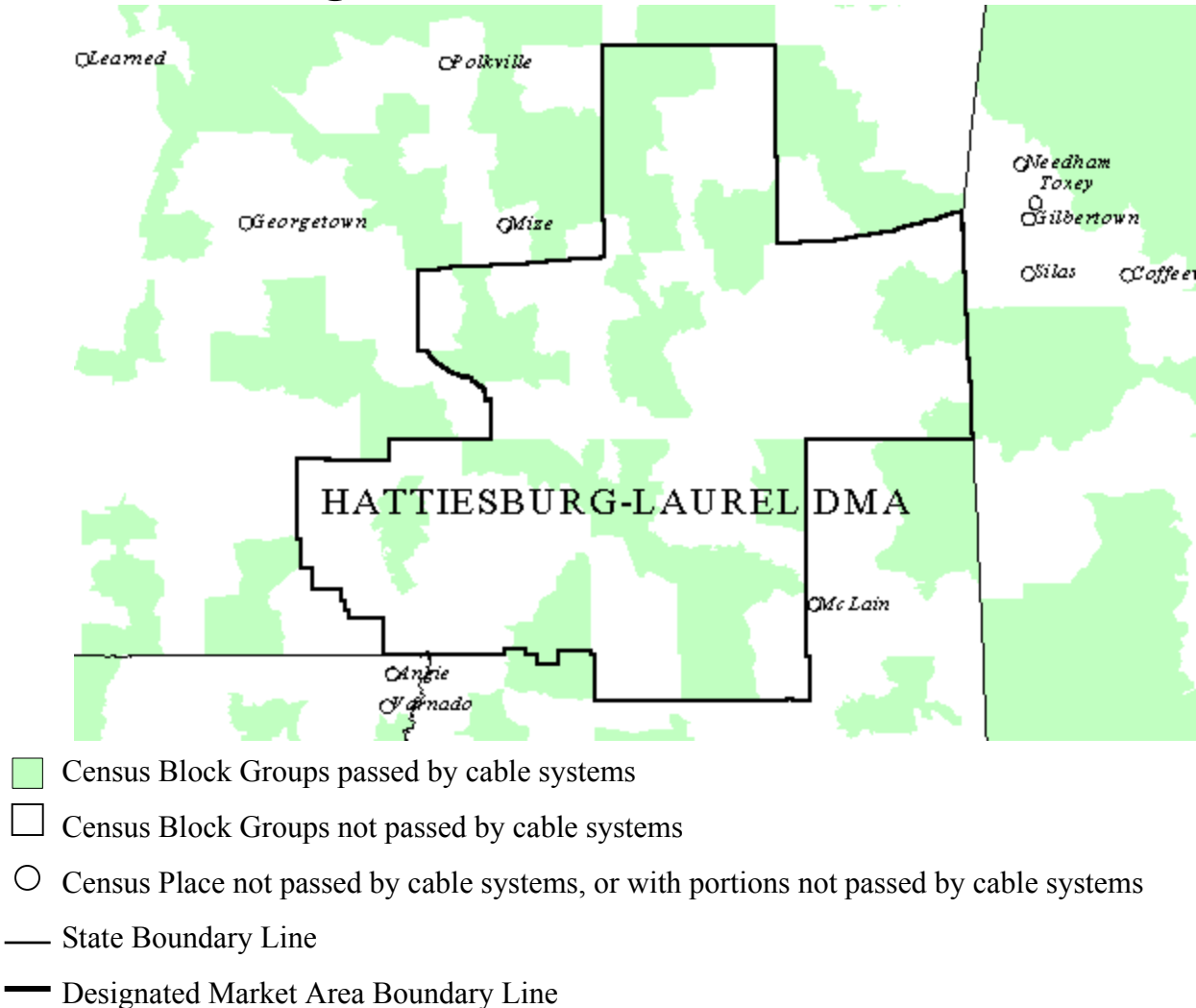
Post-Merger HHI 5,496—Delta HHI 552



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

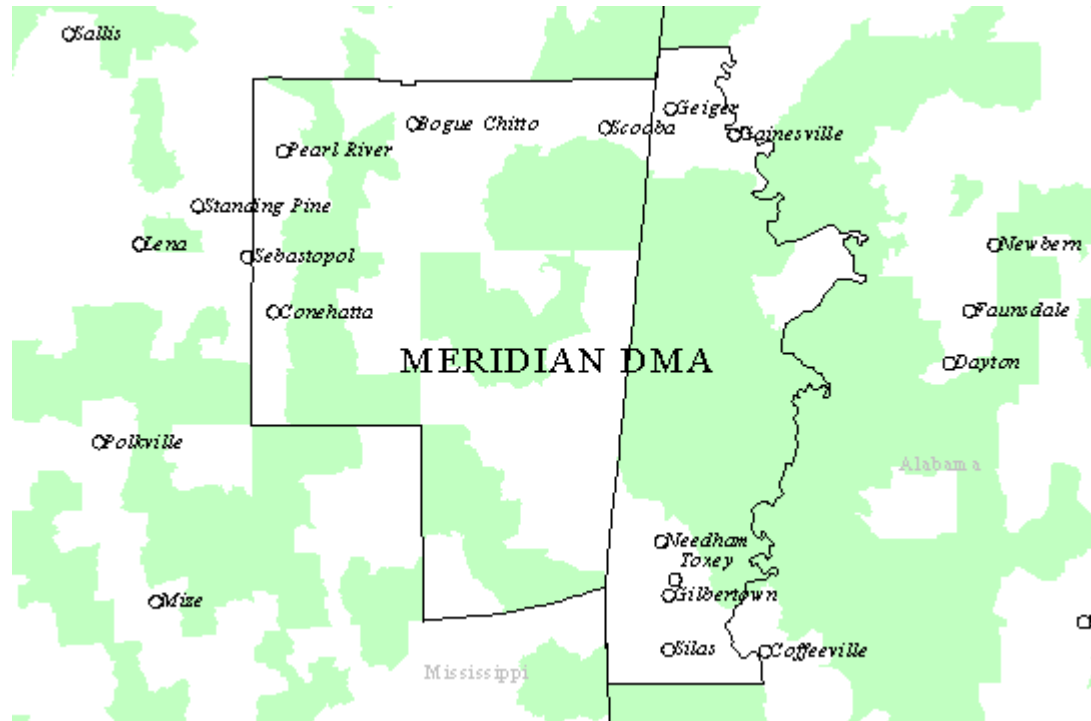
Hattiesburg-Laurel, MS DMA

Post-Merger HHI 5,411—Delta HHI 598



Meridian, MS DMA

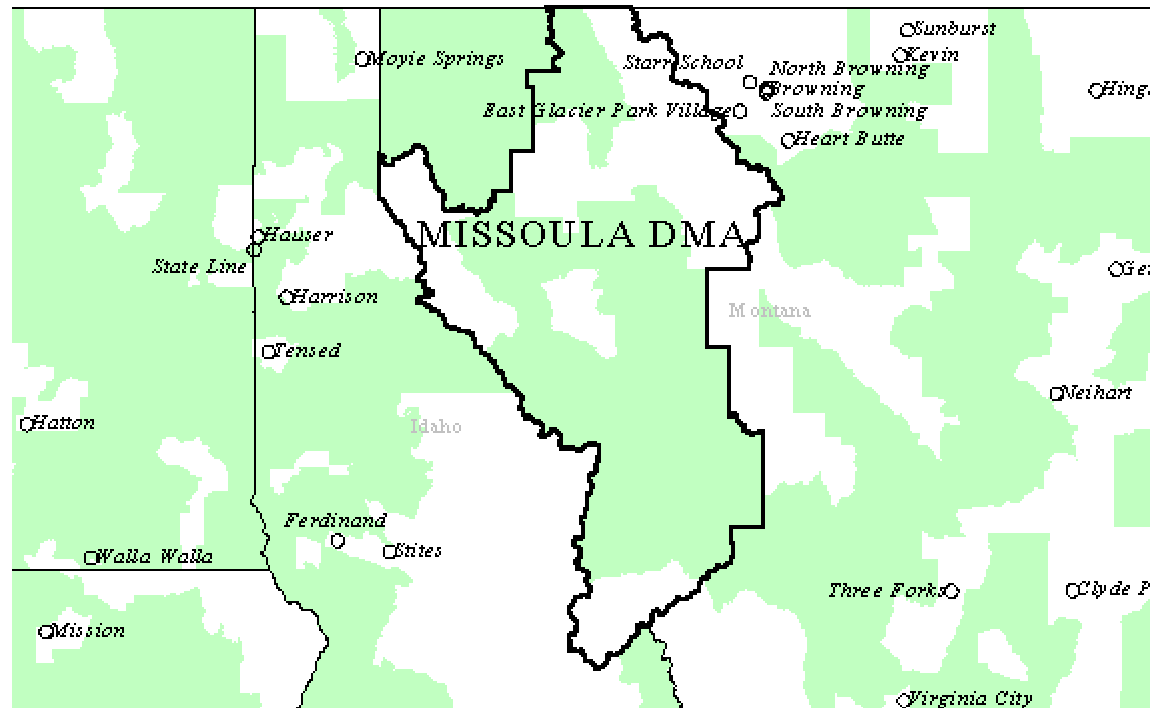
Post-Merger HHI 5,478—Delta HHI 561



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Missoula, MT DMA

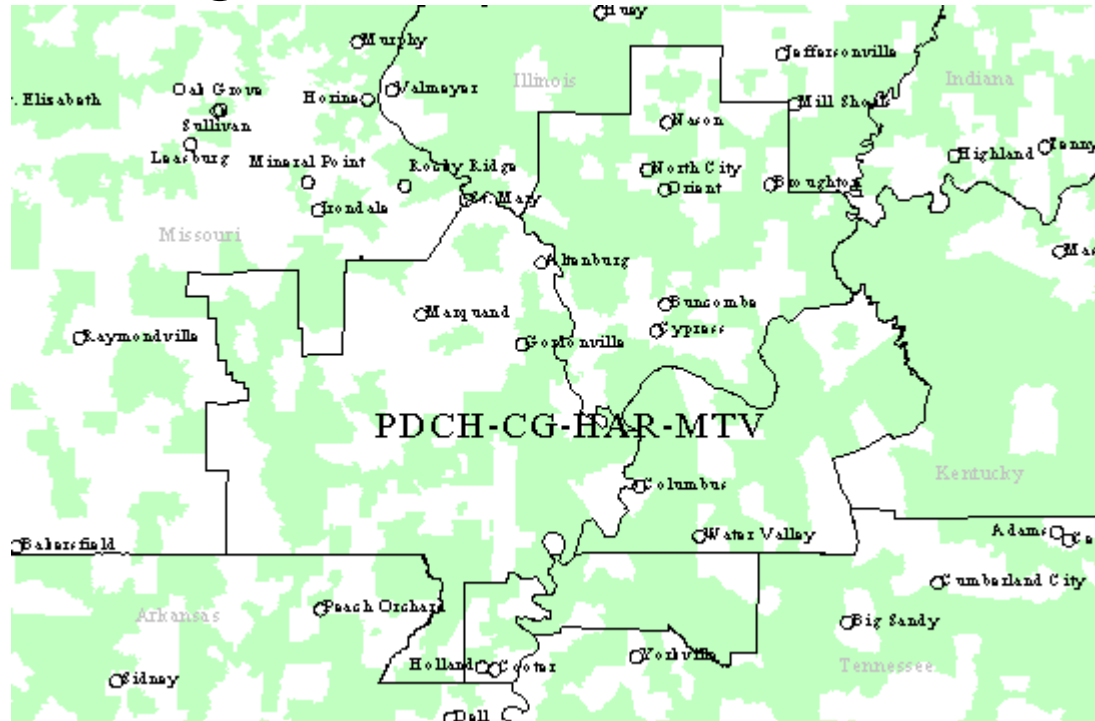
Post-Merger HHI 5,582—Delta HHI 510



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Paducah, KY DMA

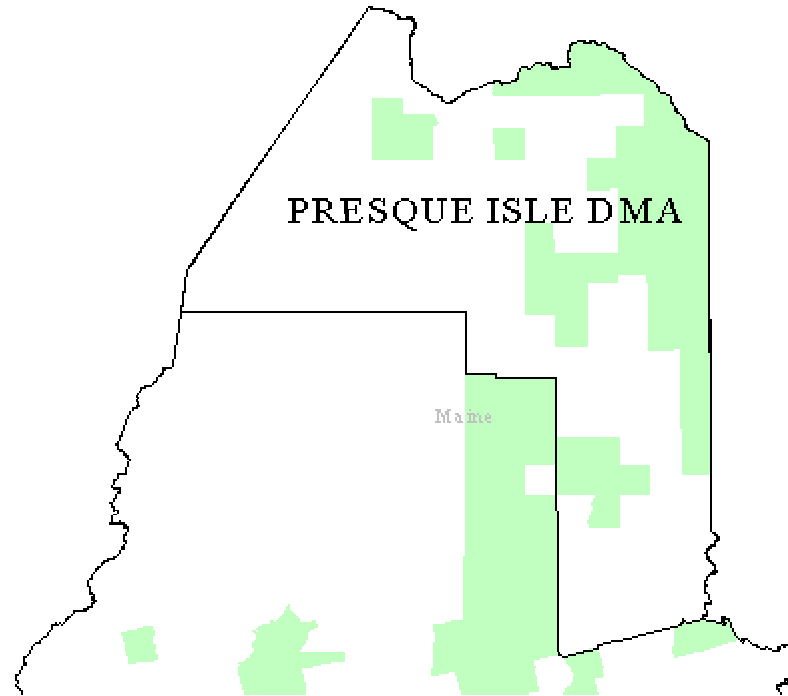
Post-Merger HHI 5,702—Delta HHI 459



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Presque Isle, ME DMA

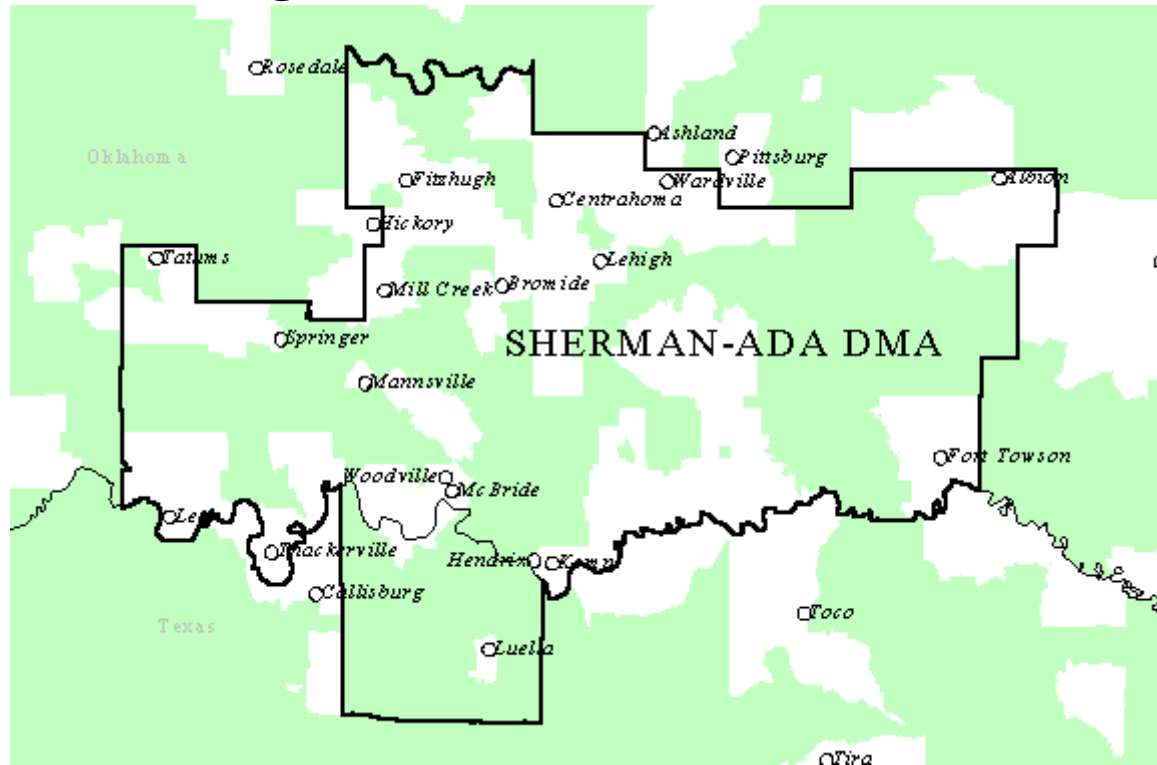
Post-Merger HHI 5,494—Delta HHI 552



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Sherman, TX DMA

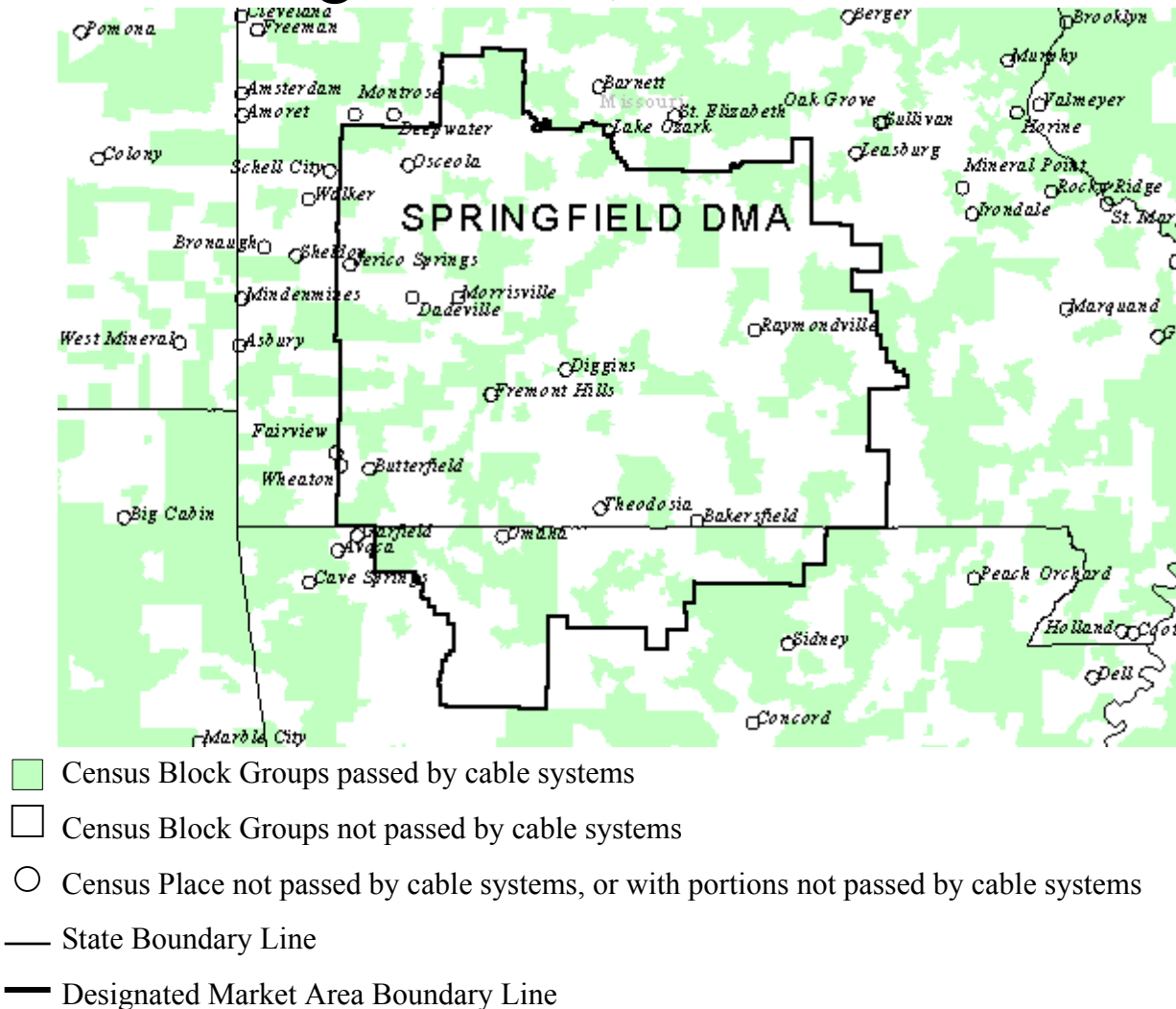
Post-Merger HHI 5,803—Delta HHI 422



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Springfield, MO DMA

Post-Merger HHI 5,333—Delta HHI 647

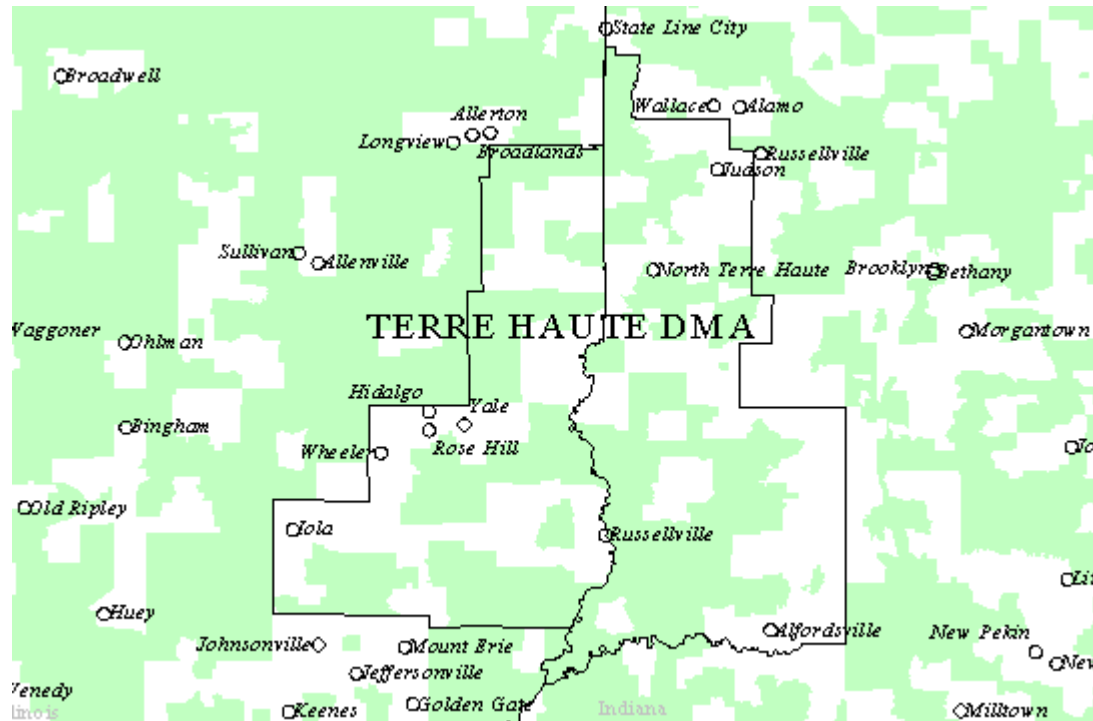


- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Sources: MediaPrints, Warren Communications News and the Janus Group; Geolytics, Inc.; Geographic Data Technology; U.S. Census Bureau, Census 2000.

Terre Haute, IN DMA

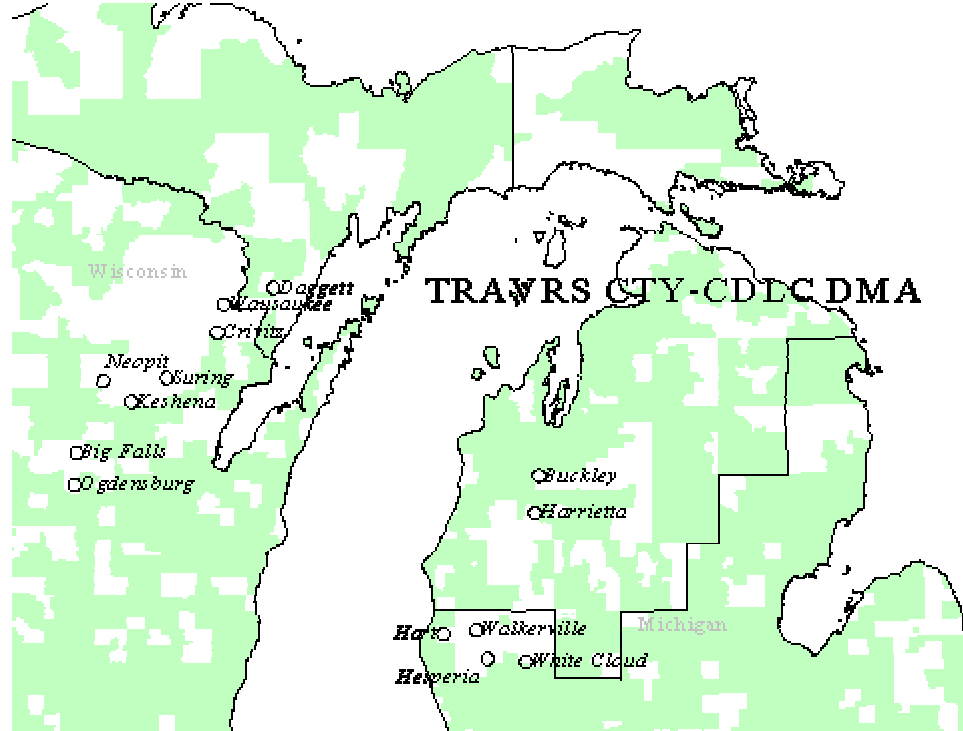
Post-Merger HHI 5,712—Delta HHI 455








- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

Traverse City, MI DMA

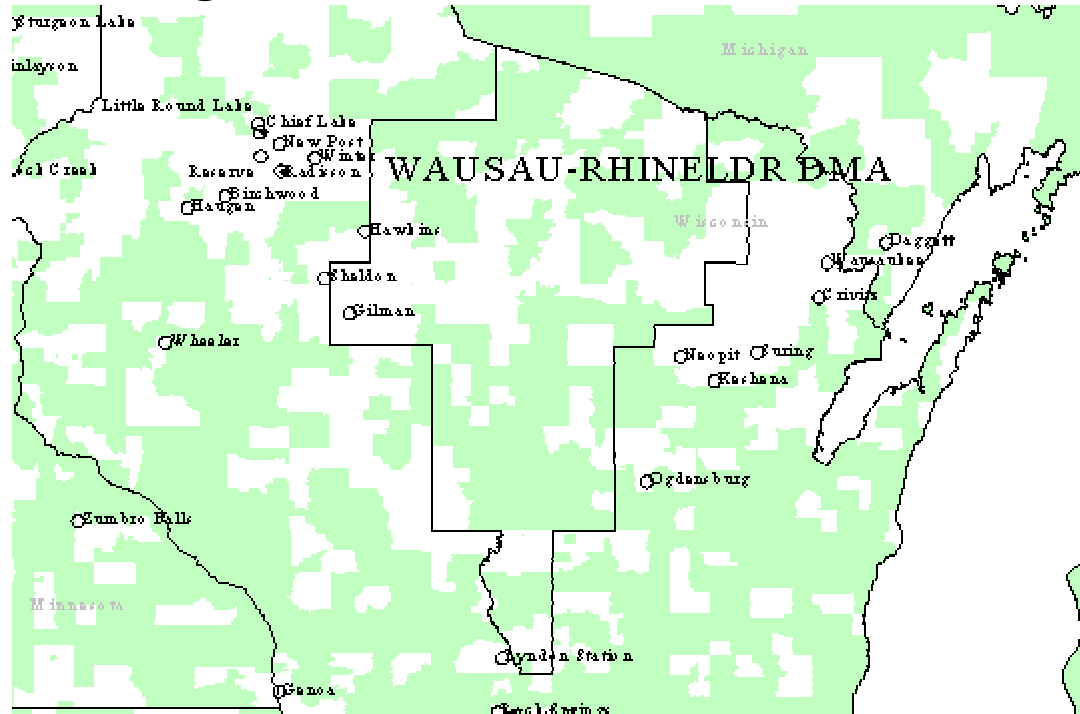
Post-Merger HHI 5,724—Delta HHI 451



-  Census Block Groups passed by cable systems
-  Census Block Groups not passed by cable systems
-  Census Place not passed by cable systems, or with portions not passed by cable systems
-  State Boundary Line
-  Designated Market Area Boundary Line

Wausau, WI DMA

Post-Merger HHI 5,748—Delta HHI 442



- Census Block Groups passed by cable systems
- Census Block Groups not passed by cable systems
- Census Place not passed by cable systems, or with portions not passed by cable systems
- State Boundary Line
- Designated Market Area Boundary Line

APPENDIX 3: ANECDOTES OF PRICE COMPETITION BETWEEN DIRECTV AND ECHOSTAR

103. Vigorous price competition between EchoStar and DirecTV has caused DBS prices to fall sharply in recent years.¹²⁷ Price competition between EchoStar and DirecTV include special offers on programming packages, installation and equipment prices in the forms of price reductions, coupons, and rebates. Because of this competition, EchoStar regularly advertises itself as the pricing maverick that “made satellite television affordable.”¹²⁸ For example,

- On June 6, 1996 EchoStar announced that its system would be available for just \$199 with the purchase of an annual programming package—a drastic price reduction.¹²⁹ DirecTV responded on August 26, 1996, offering a comparable package “in response to [the] offer by rival EchoStar Communications Corp.”¹³⁰
- In May 1997, EchoStar announced it would no longer require a consumer to buy a year’s subscription upfront. Subscribers could agree to pay month-to-month for programming with the purchase of a receiver. EchoStar’s CEO, Charles Ergen said “[w]e fully expect that, once again, this price point will force the rest of the DBS industry to reevaluate their current offers in response to EchoStar’s lead.”¹³¹ Less than a month later, DirecTV matched the offer, stating it would “eliminate the \$360 annual prepaid programming commitment, resulting in a lower upfront cost for consumers.”¹³²
- For the 1997 holiday season, DirecTV offered a price promotion consisting of \$100 off professional installation or a free installation kit worth \$50 with the

127. *Eighth Annual Report*, *supra* note 6, at ¶ 9 (“cable prices rose 4.24 percent compared to a 3.25 percent increase in the Consumer Price Index”).

128. EchoStar Press Release, *EchoStar Unveils a New Generation of Digital Satellite Receivers* (July 23, 1998) (“EchoStar, the company that made satellite television affordable. . .”).

129. EchoStar Press Release, *EchoStar Announces Special Promotion in Select Cable Rate Increase Markets* (June 6, 1996).

130. Ken Kusmer, *Thomson DirecTV, U.S.S.B. Offering Seasonal Incentives on Dish Systems*, AP Wire (Aug. 26, 1996).

131. EchoStar Press Release, *DISH Network Does It Again: More TV, Less Money! EchoStar Continues to Lead the DBS Industry with the Best Value in Satellite Television* (May 28, 1997).

132. DirecTV Press Release, *DIRECTV To Introduce New Retail Offer: Annual Prepaid Programming Commitment Eliminated* (June 9, 1997).

purchase of a DirecTV system and programming package.¹³³ Eleven days later, EchoStar offered \$50 off professional installation or a free self-installation kit during the holiday season.¹³⁴ DirecTV then countered that it would add \$50 worth of programming certifications with activation of a programming package in addition to its installation offer.¹³⁵

- In November 1999, DirecTV announced that it would offer a local channel package, including a national PBS feed, for \$5.99 per month.¹³⁶ Just days later, EchoStar announced it too would offer local channel packages in 13 cities for \$4.99 a month, and a national PBS feed for an additional \$1.00 per month.¹³⁷
- In February 2000, EchoStar announced that it would offer free basic installation (\$199 value) to new customers purchasing a DISHPlayer 500.¹³⁸ The next day, DirecTV offered free standard professional installation (\$200 value) to customers.¹³⁹
- In April 2000, after a self-imposed price freeze (from November 1998 to March 2000) lapsed, EchoStar announced it would increase the price of “American Hits 100” by \$1.00. At that time DirecTV also announced it would raise its price by \$2.00 per month for new subscribers only.¹⁴⁰
- On July 30, 2001, DirecTV announced a fall promotion by which consumers could purchase \$300 worth of free programming and free installation.¹⁴¹ One day later, EchoStar announced a fall promotion by which customers could get 118 channels for only \$9 a month when they purchase an EchoStar system.¹⁴²
- In December 2001, DirecTV announced that numerous additional local channels, including UPN, WB and PBS affiliates, independent channels and Spanish-

133. DirecTV Press Release, *DirecTV Offers \$100 Off Installation For New Subscribers* (Oct. 23, 1997) at <<http://web.archive.org/web/19980202153800/www.directv.com/news/100off.html>>.

134. EchoStar Web site, *EchoStar Announces 1997 Holiday Promotion* (Nov. 3, 1997) Business Wire.

135. DirecTV Web site, *DirecTV, Inc. Announces Holiday Promotion for New Subscribers* (Dec. 4, 1997) at <<http://web.archive.org/web/1998020215148/www.directv.com/news/holiday.html>>.

136. DirecTV Press Release, *DIRECTV Applauds Passage of Satellite Home Viewer Act* (Nov. 19, 1999).

137. EchoStar Press Release, *DISH Network Launches Local Channels to 33 Percent of U.S. Households* (Nov. 24, 1999) at <<http://web.archive.org/web/20000302010622/www.dishnetwork.com/programming/local/dc.HTM>>.

138. EchoStar Press Release, *Revolutionary DISH Network Satellite Television Receiver With WebTV Digital Video Recording, Internet Features Now Available With \$199 Rebate—DISHPlayer 500 New Offered With DISH Network’s Popular One-Rate Plan, Including a FREE Installation!* (Feb. 23, 2000).

139. DirecTV Press Release *DirecTV Offers New Customers Free Professional Installation* (Feb. 24, 2000).

140. Multichannel News, *DBS Adds More Programming Packages* (Apr. 3, 2000).

141. DirecTV Press Release, *DIRECTV Unveils Fall National Promotion and Advertising Campaign*, (July 30, 2001).

142. EchoStar Press Release, *DISH Network Announces New ‘I Like 9’ Promotion: Over 100 Channels of Satellite Television for Only \$9 a Month* (July 31, 2001).

language channels, to its local-to-local offerings in 41 markets, with no price increase.¹⁴³ That same day, EchoStar announced that as of January 2002, it too would add the same channels to its local-to-local packages, also with no price increase.¹⁴⁴

143. DirecTV Press Release, *More Than 200 Additional Local Channels Now Available to DirecTV Customers in 41 Markets—New Local Channels At No Extra Charge* (Dec. 27, 2001).

144. EchoStar Press Release, *EchoStar's DISH Network To Offer Additional Local TV Channels in 36 Markets* (Dec. 27, 2001).