Attachment A

To Pegasus Communications Corporation's Petition To Deny

Affidavit and Report of Daniel L. Rubinfeld

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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

AFFIDAVIT OF DANIEL L. RUBINFELD

STATE OF CALIFORNIA)
) SS:
COUNTY OF ALAMEDA)

DANIEL L. RUBINFELD, being duly sworn, deposes and says:

1. I have been asked by Pegasus Communications Corporation ("Pegasus") to examine the proposed merger between EchoStar and DirecTV and to address various arguments asserted by the transfer applicants in this proceeding as to why the pending transfer of control will not be anticompetitive and indeed will create merger-specific benefits and efficiencies.

2. In my opinion, EchoStar's acquisition of DirecTV and the transfer of the licenses is likely to be harmful to consumers. The attached report contains my analysis and the

bases for my conclusion. As explained in my report, this merger, along with the fact that near-term entry by any significant competitor is unlikely, is likely to adversely affect competition in the MVPD ("Multi-Channel Video Distribution") market and, in particular, will reduce the MVPD choices available to rural consumers. Furthermore, the potential benefits and efficiencies claimed by the applicants are not merger-specific, and consequently should not be used to counter any of the likely anticompetitive effects.

3. I declare under penalty of perjury that the foregoing statements are true and correct.

Daniel L. Rubinfeld

Subscribed and sworn before me
this First day of February 2002.

Notary Public

NANCY P. ADAMS
COMM. #1322489
NOTARY PUBLIC-CALIFORNIA
ALAMEDA COUNTY
My Comm. Exp. Sept. 28, 2005

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	)	
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Transferee,	)	
	)	
For Authority to Transfer Control.	)	

REPORT OF DANIEL L. RUBINFELD

I. Qualifications

1. I am the Robert L. Bridges Professor of Law and Professor of Economics at the University of California, Berkeley. I served as Deputy Assistant Attorney General at the Antitrust Division of the U.S. Department of Justice from June 1997 through December 1998. In that position I was responsible for supervising a staff of approximately 70 Ph.D. economists, financial analysts, and research assistants in regard to a wide range of civil matters, many of which related to intellectual property as well as antitrust.

2. I received my A.B. degree in mathematics from Princeton in 1967 and my Ph.D. in economics from M.I.T. in 1972. I have previously taught at the University of Michigan and have been a visiting professor at the law schools of Stanford University, the University of Geneva, and most recently, N.Y.U. I am the author of two textbooks, *Microeconomics*, and *Econometric Models and Economic Forecasts*

(both with Robert Pindyck). I have received fellowships from the National Bureau of Economic Research, the John M. Guggenheim Foundation, and the Center for Advanced Studies in the Behavioral Sciences. I recently became a member of the American Academy of Arts and Sciences. I previously served as Associate Dean of the School of Law (as Chair of the U.C. Berkeley Program in Jurisprudence and Social Policy) and as Chair of the Law School's Program in Law, Economics, and Institutions. I also serve as co-editor of the *International Review of Law and Economics*.

3. My research interests span a broad range of subject matters, including the economics of legal rules and institutions, law and statistics, industrial organization and competition policy, and public economics. I have published or edited five books and over 100 articles. I have consulted and testified extensively in cases involving antitrust, intellectual property, public regulation, and damages, for private parties and for the U.S. Department of Justice, the Federal Trade Commission, the U.S. Treasury, and the California Attorney General's Office.

4. My teaching interests include antitrust, the economics of legal rules and institutions, economics and public policy, and law and statistics. I have frequently served as a lecturer for the Federal Judicial Center concerning the use of statistical methods by the courts. A copy of my curriculum vitae is attached hereto as **Exhibit 1**.

5. During the period in which I served as Deputy Assistant Attorney General, I was involved in the proposed acquisition of certain DBS ("Direct Broadcast Satellite") assets by Primestar, a joint venture that included a number of cable entities. My views concerning certain public aspects of that proposed acquisition and of the MVPD market is contained in my Review of Industrial Organization article, "The Primestar Acquisition of the News Corp./MCI Direct Broadcast Satellite Assets."[1]

II. Overview

6. I have been asked by Pegasus to address the effects of the proposed merger between EchoStar and DirecTV on competition and on consumers. In doing so, I have also been asked to respond to Professor Robert Willig's Declaration that the proposed merger is beneficial to consumers.

7. In analyzing the proposed merger, I have relied on my background and experience, on publicly available information,[2] on interviews with technical and marketing executives,[3] and on the affidavit of Mr. Roger J. Rusch, president of TelAstra, Inc.[4]

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[1] Rubinfeld, Daniel L., "The Primestar Acquisition of the News Corp./MCI Direct Broadcast Satellite Assets," *Review of Industrial Organization*, 16: 193-209, 2000.

[2] The publicly available information include, but are not limited to, FCC reports and documents, the license transfer application and related documents, comments to FCC, journal articles, trade journal articles, news clips, technical publications, the U.S. DOJ/FTC

Footnote continued on next page

8. In my opinion, the relevant product market for analyzing the proposed merger is the Multichannel Video Programming Distribution ("MVPD") market. The relevant geographic markets are individual designated market areas ("DMAs").[5] DMA's typically include groups of counties whose largest viewing share is represented by stations of that same market.

9. In those concentrated DMAs that are urban in character there are typically three competitors, one cable operator and two DBS service providers.[6] In rural areas not currently reached by cable, there are typically only two DBS competitors. Yet other rural areas have only two DBS service providers and an unsophisticated analog cable system.

10. Each of the two current DBS service providers is each other's closest substitute. I expect competition between the two DBS providers to intensify in the future as DBS's share of the MVPD market grows over time.

11. Post-merger, the number of competitors will be reduced to two in most DMAs and to a single monopoly in rural areas. In those post-merger duopolies, it is likely (compared to the pre-merger alternative) that the post-merger competitors will raise prices to consumers, lower the quality of programming and service, and/or delay the introduction of innovative and advanced services. In many (primarily rural) DMAs, where digital cable service is unlikely to be available, the merger will create a

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Horizontal Merger Guidelines, and legal documents including the Complaint filed by the Antitrust Division of the United States Department of Justice and EchoStar's complaint against DirecTV.

[3] These include Pegasus employees: Ted Lodge, President and Chief Operating Officer; John DiDio, Senior Vice President of Sales and Sales Marketing; Anita Dorf, Satellite Television Marketing Director; and John Hane, Senior Vice President of Business Development.

[4] Affidavit and Report of Roger J. Rusch, FCC CS Docket No. 01-348. ("Rusch Aff.")

[5] A Designated Market Area is a television viewing market, which A C Nielsen Company updates annually, based on historical television viewing patterns. Each of the 210 DMAs is made up of a group of surrounding counties or split counties in which commercial television stations in metropolitan central area achieve the largest audience share. According to the Nielsen web site, "A DMA consists of all counties whose largest viewing share is given to stations of that same market area. Non-overlapping DMAs cover all of the continental United States, Hawaii and parts of Alaska." See "http://www.nielsenmedia.com/FAQ/dma_satellite%20service.htm#What is a DMA and how do you determine this?"

[6] Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eighth Annual Report, FCC, CS Docket No. 01-129, January 14, 2002, p. 55 (hereinafter "FCC's Eighth Annual Report").

monopoly, and allow, if anything, even greater price increases (and/or reductions in promotions) by the merged entity.

12. No new effective entrant is likely in the MVPD market in the foreseeable future.

13. The proposed merger does not offer significant merger-specific efficiencies.

III. Competition in the Relevant Market

A. Product Market Definition and Competition

14. To understand the competitive issues that arise out of the proposed merger between EchoStar and DirecTV, some background on the nature of DBS television and the MVPD market is essential. The services offered by firms in the MVPD market are different and distinct from traditional public broadcast television services. MVPD services are characterized by multiple video programs, a mix of options that include both basic service (e.g., ESPN, CNN, USA) and premium services (HBO, Showtime) not available over the air, and a monthly subscription fee.

15. The relevant product markets for analysis of this merger are the markets for multichannel video programming distribution (MVPD). As I will explain later, the two DBS operators are the closest competitors within those markets.

16. In most franchised market areas, there are typically three MVPD providers that compete and offer similar services – one cable company and two DBS providers.[7] Each offers multiple channels (more than 35) and premium programming, and each one charges a monthly subscription fee.[8] In contrast, broadcast television, which I exclude from the relevant market, offers many fewer channels of free programming supported by advertising and does not offer premium programming.

17. Although cable and DBS are in the same relevant product markets, they often use different technologies and their services are differentiated. With respect to technology, cable uses coaxial cable to deliver programming signals, while DBS uses high-power satellite transmission to provide complete coverage over the continental United States (CONUS). Although many cable operators have upgraded their networks to offer digital cable, a substantial percentage continue to offer analog cable service, which has a limited number of channels, and lower quality signals. In addition, analog cable systems cannot offer many interactive and advanced services that are available from DBS providers.

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[7] "Thus, homes are generally passed by only one wireline cable operator and the two major DBS providers, DirecTV and EchoStar." See FCC's Eighth Annual Report, p. 55.

[8] Daniel Rubinfeld, "The Primestar Acquisition of the News Corp./MCI Direct Broadcast Satellite Assets," *Review of Industrial Organization*, 16: 193-209, 2000.

18. DBS requires higher initial equipment and installment costs than cable. Moreover, cable installation is easier than DBS installation, and the cable operator typically leases and updates the equipment.

19. DBS providers currently offer more programming (up to 300 channels) than is available in a typical analog cable system, but may offer fewer channels compared to a full-digital cable system. As a result, DBS providers typically offer more extensive selections of pay-per-view movies, sports and special events than analog cable operators. However, DBS offers less retransmission of local television broadcasts, especially in smaller markets.[9] DBS also offers DVD-quality video and CD-quality sound in comparison to the analog cable service.[10] Finally, DBS has additional features not available with analog cable, such as parental locks, interactive programming guides, and music channels.

20. DBS service is relatively new, with Primestar having launched the first medium-powered Ku band service in 1991, DirecTV offering the first high-powered DBS service in 1994, and EchoStar entering the high-powered DBS market in 1996. It is not surprising therefore, that the new DBS entrants initially focused substantial attention towards taking away business from incumbent cable operators.

21. However, EchoStar's entry led to direct competition with DirecTV. For example, EchoStar introduced aggressive equipment subsidies after its entry in the MVPD market, which drove down initial costs for DBS customers. In 1996 only a short time

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[9] The Satellite Home Viewer Improvement Act of 1999 "permits satellite companies to provide local broadcast TV signals to all subscribers who reside in the local TV station's market," also known as Designated Market Areas (DMAs). However, DBS firms are not required to provide this local-into-local service. Also, "beginning January 1, 2002, …a satellite company that has chosen to provide local-into-local service will be required to provide subscribers with all of the local broadcast TV signals that are assigned to that DMA and that have asked to be carried on the satellite's system." See, FCC Consumer Facts on The Satellite Home Viewer Improvement Act of 1999.

[10] "DIRECTV has created a programming service specifically driven to offer customers more choice and value for their entertainment dollar. DIRECTV combines America's favorite network channels, other popular networks not available from many cable services, a pay per view movie service with up to 55 choices of movies and special events a day, local channels in many markets, and an unprecedented sports subscription lineup. No other system offers as many quality program options."

"Using the most advanced satellite technology, we deliver more than 225 channels of programming to homes and businesses that have DIRECTV receiving equipment, which features a small satellite dish, a digital set-top receiver and a remote control. DirecTV offers an incredible selection of entertainment for every member of the family -- all in the 100% digital-quality picture and sound that DirecTV is known for." See, DirecTV web site at http://www.directv.com/yourservice/yourservicepages/0,1125,380.00.html.

after it entered the market, EchoStar began a substantial equipment subsidy program that lowered the retail equipment price from $599 to $199 to lure subscribers away from both cable and DirecTV. DirecTV had to and did respond.[11] The resulting direct competition benefited customers, who received equipment and installation promotions at very low cost if they were willing to commit to a year of service. When DirecTV acquired Primestar, EchoStar similarly strove to attract Primestar's customers away from DirecTV.[12]

22. Since 1999, when DBS operators were allowed to retransmit local programming, competition between the two has stimulated the provision of such local programming.[13]

23. MVPD markets are in a state of change, with DBS providers rapidly increasing their subscriber bases. Overall, a large proportion of the television population subscribes

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[11] "The biggest name in the business, DirecTV, will announce this month a plan that will let customers buy the basic equipment - an 18-inch dish and a receiver - for $199, according to industry sources. The suggested retail price for basic equipment is $599, although it can be had at some retailers for $450…. DirecTV's strategy is a direct response to upstart rival EchoStar, which operates the Dish Network. EchoStar had been running a test-marketing campaign in several markets, offering the equipment for $199 when customers pay about $300 for a year's worth of programming. The promotion was a hit, company officials say. Last week, EchoStar announced that it was taking the program nationwide." See Kirkpatrick, John, "BUSINESS IS BEAMING Satellite TV rivals prepare for price battle," *Dallas Morning News*, August 8, 1996.

[12] "But while EchoStar publicly maintained that cable TV represents the 'real' competition, EchoStar launched a campaign to undermine DirecTV. Putting a bounty on all Primestar customers, EchoStar established a special promotion for any Primestar customer willing to switch to EchoStar's Dish Network before the close of DirecTV's deal." See Caulk, Steve, "Dish Wars Satellite TV Companies Compete With Each Other But Say Their Real Enemy Is Cable," *Denver Rocky Mountain News*, November 5, 2000.

[13] "While EchoStar intends to push for permission to rebroadcast local stations via satellite, DirecTV Inc. [GMH] President Eddy Hartenstein said the most sensible approach to the issue is to encourage customers to use an antenna in conjunction with their satellite dish to receive broadcast signals. 'The antenna is the right way to go,' Hartenstein said. 'We have an obligation to our shareholders to become profitable, and adding infrastructure costs' to deliver local stations could negatively affect DirecTV's bottom line. To back up that message, DirecTV displayed several products at the show designed to seamlessly integrate off-air and satellite antenna technology." See "EchoStar Plans Launch of Spot Beam Birds to Offer Local Signals," *Satellite News*, Apr. 12, 1999.

Faced with Echostar's commitment, DirecTV moved to offer local signals in many of the same markets. See Breznick, Alan, "DIRECTV to Offer Local Broadcast Signals by Year's End," *Cable World*, May 10, 1999.

to an MVPD service, but because of the local nature of the distribution market, concentration varies significantly across local markets. Approximately 86.4%, or over 88.3 million, of all television households in the U.S. utilize some form of MVPD service. The local cable companies are still the dominant MVPD providers, accounting for 78% of all MVPD services, although DBS is growing rapidly as noted below.[14]

24. Both the number of DBS subscribers and the number of cable subscribers have been growing over time. However, DBS subscriptions are growing faster than cable subscriptions, so that DBS market share has grown at the expense of cable. Overall, the number of MVPD households increased 2.7% from June 2000 to June 2001, while cable subscribers increased 1.9% during the same period.[15] In contrast to cable, subscribers to DirecTV have increased nearly 15% from June 2000 to June 2001, while subscribers to EchoStar have increased 40% during the same period.[16] The result has been an increase in DBS's market share from 15% to 18.2%.[17] According to Paul Kagan Associates' predictions, DBS subscriber base, which according to FCC currently is 16 million, would increase to 26 million by 2005 at a compound annual growth rate of 7.1%.[18] If the relative difference in the current rates of growth in DBS and cable subscribers, the DBS penetration rate could be much higher by 2005.[19]

25. Because of the local nature of the cable business, MVPD concentrations vary substantially from market to market. Overall DBS penetration, as measured by DBS share of all MVPD households, was 18.2% as of June 2001.[20] At the individual state level, DBS penetration ranges from less than 2% in Hawaii to nearly 42% in Vermont,[21] with 30 states having more than 20% penetration.[22]

26. While DBS does compete with cable, the two high-powered DBS service providers compete most directly and most effectively with each other. Both EchoStar and

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[14] FCC's Eighth Annual Report, p. 4.

[15] FCC's Eighth Annual Report, p. 4.

[16] FCC's Eighth Annual Report, p. 30.

[17] The FCC's Seventh Annual Report states that the penetration rate for DBS subscribers is 15.4% (p. 4). According to the Eighth Annual report, DBS penetration has increased to 18.2% (p. 4).

[18] FCC's Eighth Annual Report, p. 4 and p. 29.

[19] Assuming that current growth rates for cable and DBS continue, the DBS penetration rate will be over 30% in 2005.

[20] FCC's Eighth Annual Report, p. 4.

[21] Sachs, Robert, Prepared Witness Testimony, The Committee on Energy and Commerce, December 4, 2001.

[22] FCC's Eighth Annual Report, p. 30.

DirecTV use similar technologies to deliver video programming. Their antenna dishes and in-house wiring are interchangeable. Consequently, a switch from one DBS provider to another could be achieved simply by swapping out set-top boxes, and possibly reaiming the antenna dish. Both EchoStar and DirecTV offer comparable service quality and similar product offerings. There is some differentiation in their programming, however;[23] EchoStar offers over 235 national programming channels and DirecTV about 179.[24] Both companies also offer local programming in a select number of metropolitan areas; with EchoStar local programming is available in 36 metropolitan areas, while DirecTV services 41. I understand that their local programming overlaps in 35 metropolitan areas.[25]

27. "According to DirecTV, its subscribers are distributed across the continental United States, with approximately 50 percent residing in urban counties and 50 percent living in smaller, rural counties. As compared to cable customers, DirecTV subscribers are more likely to live in rural areas and are more likely to live in single-family homes."[26]

28. Competition in the MVPD market is multidimensional, with MVPD providers competing with program quality, broadcast quality, monthly subscription charges, installation charges, equipment costs, and feature sets.[27]

29. DirecTV and DISH Network, EchoStar's DBS service network, are each other's closest competitors, and indeed the two closest competitors in every MVPD market.[28]

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[23] For example, both EchoStar and DirecTV offer foreign language programs and sports programs, but EchoStar offers a more extensive set of foreign language programs under various packages, whereas DirecTV offers a more extensive set of sports channels and packages that leverage its exclusives on certain sports programs.

[24] *EchoStar Communications Corporation, General Motors Corporation, Hughes Electronics Corporation, Transferors, and EchoStar Communications Corporation, Transferee* Consolidated Application for Authority to Transfer Control ("EchoStar Application"), FCC, CS Docket No. 01-348, Attachment B, p. 9.

[25] EchoStar Application, Attachment B, p. 9.

[26] FCC's Eighth Annual Report, p. 30.

[27] In addition to these competitive reasons, there are many reasons why customers may be locked in with a particular MVPD provider. In some areas cable service may not be available. Since DBS service requires a line-of-sight, subscribers may have difficult getting the signal in areas with tall trees or buildings. Also, multiple dwelling units typically do not have a choice of alternative MVPD technology.

[28] Some municipalities have allowed "overbuilders" or a competing cable network in the franchised area. This effectively allows the two cable operators that will provide the closest substitutes to compete in the local market. According to the FCC's Eighth Annual Report, "A relatively small percentage of consumers have a second wireline alternative, such as an OVS or overbuild cable system." (p.55)

I note that in its lawsuit against DirecTV, EchoStar stated, "A significant number of DBS subscribers view DIRECTV and EchoStar as a significantly closer substitutes than alternative sources of programming, including cable television … EchoStar is DIRECTV's closest competitor."[29]

B. Response to Professor Willig: Relevant Markets

30. Professor Willig contends that DBS firms focus on cable pricing, but do not react to the other DBS firm's pricing.[30] I agree with Professor Willig that DBS firms are competing with cable, but, as I just noted, EchoStar and DirecTV are each other's closest competitors. Indeed, their competition has had a profound effect on the MVPD market. I also note that EchoStar itself appears to disagree with Professor Willig. In its legal filings against DirecTV, EchoStar states, "DirecTV and EchoStar react primarily to each other when setting equipment and service prices."[31]

31. Professor Willig also states that there are many MVPD participants, including cable operators, DBS service providers, overbuilders, C-band providers, and others, and that the list may expand to include digital subscriber line (DSL) providers, incumbent phone companies, and cellular phone providers.[32] As discussed earlier, with the exception of few areas where overbuilders are present,[33] DBS currently is the most successful alternative to cable within the MVPD market, while others' ability to compete with cable is limited. C-band and MMDS are virtually obsolete and likely to continue to decline. The C-band segment of the market continues to face declining number of subscribers. Between June 2000 and June 2001, four C-band programming distributors lost on average 1,306 subscribers a day.[34] Similarly, there are about 700,000 subscribers out of about 36 million homes that are capable of receiving MMDS signals.[35] The FCC report states, "Generally, M[M]DS providers are focusing on data transmission rather than video service."[36]

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[29] Memorandum of Law in Support of Request for Rule 56 Continuance to Respond to DirecTV Defendants' Motion for Summary Judgment, p. 12, November 6, 2000.

[30] Willig, ¶11, p. 6.

[31] Memorandum of Law in Support of Request for Rule 56 Continuance to Respond to DirecTV Defendants' Motion for Summary Judgment, p. 12, November 6, 2000.

[32] Willig, ¶18, p. 11.

[33] The FCC's Eighth Annual Report noted that "[h]istorically, overbuilding incumbent cable systems has been economically difficult." (Id. at ¶107, p. 54.) That report shows that many overbuilders have sold their systems or exited the market. FCC's Eighth Annual Report, ¶102, p. 48.

[34] FCC's Eighth Annual Report, ¶67, p. 34.

[35] FCC's Eighth Annual Report, ¶71, p. 35.

[36] FCC's Eighth Annual Report, ¶71, p. 36.

32. To include DSL providers and other phone companies in the market at this point in time would be speculative because DSL (or any other services offered by telephone providers) do not have the transmission capacity needed for MVPD. "Because of the lower capacity, video over ADSL [asymmetric digital subscriber line service] involves an IP-based video-on-demand service, rather than full-fledged multichannel video."[37] In my opinion, consumers typically have the choice of one cable operator that has been granted a local (cable) monopoly and two DBS providers that control the three orbital slots that can be used to provide high-power DBS service to the entire continental U.S.[38]

C. <u>Relevant Geographic Market</u>

33. Viewed from the supply side, the video programming market involves the distribution of programming to households. The relevant geographic market is local because cable operators distribute video programming through their locally franchised systems.[39] Both cable and DBS compete for households in these markets by offering regional promotions; indeed DBS service providers have the ability to set different regional rates.

34. DBS service providers compete effectively with cable providers by offering geographically targeted promotions. Cable operators run special promotions based on geographical areas, and DBS providers can match these promotions using local retailers to run special regional promotions. Consider the following examples. In 1996, DISH conducted a regional trial promotion on $199 equipment fee (when the retail prices were in the $599 range) before taking it nationally.[40] "[B]oth firms, in fact, have offered temporary local promotions on equipment and installation in the past."[41] These promotions result in different "effective" prices for the subscribers in particular localities, even though DBS providers may be offering nationally priced programming packages.

35. DBS providers currently offer different regional rates on a limited basis,[42] and after the merger the new entity will be able to price differently in each locality. Even

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[37] FCC's Eighth Annual Report, ¶103, p. 49.

[38] Of the orbits that the FCC has designated for DBS service, three orbital slots at 101°WL, 110°WL, and 119°WL are the most desirable because they are capable of providing DBS service to the entire continental United States. See Rusch Aff., ¶ 5.

[39] Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eighth Annual Report, FCC, CS Docket No. 01-129, January 14, 2002, p.54-55.

[40] Caulk, Steve, August 8, 1996.

[41] Willig, fn. 25.

[42] Both DBS firms currently assess an additional $5 to $6 fee for local programming.

though they are not currently charging different basic fees in each DMA, they have the ability to do so now, and I see nothing that would prevent the merged firm from doing so post-merger.[43] Ultimately, this means that the merged firm will have the ability to price discriminate by raising prices in markets where they face little or no competition.

D. Reponse to Professor Willig: Relevant Geographic Market

36. Professor Willig concludes that a national-level geographic analysis is the most appropriate one, since both EchoStar and DirecTV use national pricing for monthly subscription and programming fees.[44] I disagree. As I explained previously, competition for the distribution of video programming occurs at the DMA level. DBS service providers compete with cable by using regional promotions to set different effective prices on a regional basis.

IV. Competitive Effects

A. Overview

37. In a highly concentrated market with only three effective competitors, a further consolidation is likely to allow the remaining firms to increase effective prices to consumers, lower service quality, reduce competition in new and advanced services, and/or increase the possibility of parallel pricing in the market. In the MVPD market, the merger of the two DBS providers would allow the lone cable company and the lone DBS service provider the ability to profitably raise post-merger prices and the merger will reduce the incentive for the firms to compete vigorously. There is likely to be immediate harm to consumers because the high-powered DBS services are the closest substitutes for each other. I note in that regard that in most cases subscribers discontinuing the DBS service typically start a subscription with the DBS competitor.[45]

38. I expect post-merger price increases for the merged entity to be profitable, since most of the subscribers who made the switch from cable to DBS are likely to stay with the

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[43] The competition between EchoStar and DirecTV makes it difficult for these firms to charge different regional rates. A DBS service provider raising the subscription price in a region without the other DBS provider matching would quickly lose market share to the other DBS provider. The merged firm, however, would be able to raise prices in a rural area because their subscribers would not have an alternative.

[44] Willig, ¶19, p. 11.

[45] Once a customer switches from an analog cable system to a digital high-powered DBS service, there is a very low probability that the household will switch back to the analog cable service. So, in areas where the cable system is analog, competition between the two DBS providers constrain the prices and promote both programming and quality competition.

DBS service. The merged firm's ability to raise prices is even greater in rural areas where digital cable is not readily available.[46]

39. While the merger will reduce the number of competitors from three to two in most markets,[47] I am particularly concerned about the impact in rural areas. In those areas, the proposed merger would create a monopoly by combining the only two viable MVPD service providers in markets where cable service is not available or where only low-capacity, analog cable service is available. Moreover, many rural cable systems are expected to go dark over the next 5 years. Indeed, in many rural areas where subscriber density is sufficiently low, cable operators cannot justify upgrading to a digital system. A report by Credit Suisse-First Boston published in October 2001 concludes, "We estimate that approximately 8,270 cable systems serving roughly 8.2 million subscribers, located primarily in rural territories, could become extinct over the next five to eight years, owing to a steady deteriorating competitive position versus DBS."[48] The report also states that "upgrading to digital cable and cable modem would be unlikely for 8,899 cable systems … serving 13.57 million customers...."[49] In these territories, the merger would create an effective monopoly for MVPD services. The merged firm would have an incentive to price discriminate in these markets where cable is not a viable competitor.

40. I believe that the merger of EchoStar and DirecTV is likely to result in significant unilateral competitive effects in all markets. However, as I explain in more detail below, this effect will be most pronounced in rural areas where cable upgrade to digital service is highly unlikely.

B. Competition in Rural Markets

41. In my opinion, the proposed merger would likely create a monopoly in rural areas where cable is unavailable or where digital cable service is unavailable and unlikely to be introduced. The merged firm would have the ability and the incentive to profitably raise prices in these areas.

42. As noted above, the merged firm would have the ability to institute geographic variation in its effective prices, even if it maintained nominal national pricing. The

[46] Also rural markets are where it is likely to be uneconomical to upgrade from the analog cable system. See Carmichael Jr., Ty P. and Alison Birch, *Natural Selection DBS Should Thrive as the Fittest to Serve Rural America,* Credit Suisse/First Boston Report, 12 October 2001, p. 11.

[47] In some designated market areas, municipalities have allowed overbuilders to enter, essentially allowing two cable companies to compete. In some other markets other wireless MVPD providers may provide additional distribution services.

[48] Carmichael and Birch, p. 3.

[49] Carmichael and Birch, p. 14.

merged firm may find that subscriber density does not justify the expense of adding the requisite infrastructure for local programming in rural markets. Accordingly, at some point the merged firm would either have to abandon extending local programming or begin charging higher fees in such markets. The two DBS competitors have the ability to charge different regional prices now; I see nothing to prevent them from doing it in the future when there is no constraint imposed on the merged firm by another DBS service provider.

43. Alternatively, the merged firm can restructure its programming packages to identify and design packages that would be attractive to subscribers in certain regions.[50] Although these additional packages could be offered nationally with national pricing, the prices for program packages preferred in regions, such as rural areas, where competition is less fierce could be higher than the prices for program packages preferred in regions where digital cable is available. Furthermore, the merged firm has the option to increase its monthly subscription fees nationally, and then to target subscription-fee promotions that would effectively lower the monthly fees in more competitive markets.

44. Again, existing cable operators would not be able to constrain the merged firm from raising its prices in markets where the cable systems are not upgraded to a digital network, due to the stark differences between rural analog cable and DBS product offerings. As stated by EchoStar in its antitrust lawsuit against DirecTV: "Millions of potential DBS and/or High Power DBS customers live in areas that do not have access to cable such that, if there is no competition between DirecTV and EchoStar, there is no competition at all."[51]

45. In my opinion, burgeoning competition for advanced services such as satellite broadband offered by DBS providers will be eliminated in the rural areas if the proposed merger is allowed to proceed. The cable industry has effectively bundled broadband access with video programming. Over time, such bundling is likely to be a requirement for entrance into either the broadband market or the video programming market. Having market power in rural MVPD markets would allow the merged firm to extend that market power to satellite broadband services in markets where DSL or digital cable is not available. Any competitor or a potential competitor in broadband services in these areas would not be able to compete with the merged firm without offering a bundle of broadband and video programming. Thus, the DBS monopoly in

[50] Both EchoStar and DirecTV currently use programming to price discriminate against subscriber demographics and preference by offering additional programming services for an additional fee or a higher rate. For example, EchoStar offers Spanish packages, movie packages, and local packages, and DirecTV offers Family Pack, Sports Pack, Phoenix TV, and Movie Pack. Nothing stops the merged company from extending this price discrimination to geographic areas.

[51] EchoStar v. DirecTV, Complaint, February 1, 2000, p. 31.

rural areas would be able to extend that market power to other advanced service that could only be provided by DBS providers or digital cable operators.

C. Unilateral Effects

46. In a market where there are three effective competitors offering differentiated products, an elimination of one competitor would generally result in higher prices. This merger between the two closest competitors increases the likelihood and the magnitude of a possible price increase.

47. To briefly summarize my earlier commentary, the merging firms have been each other's closest competitors and have constrained each other's ability to raise prices.[52] Consumers benefit from this competition between DirecTV and EchoStar, which I expect to intensify as their market shares increase.[53] Prior to the merger, a DBS service provider would consider three possible effects of raising its prices. Higher prices could induce some subscribers to drop out of the MVPD market, others to switch back to cable (or to be less likely to switch from cable to DBS), and still others to switch to the alternative DBS service provider. After the merger, the merged firm will determine its profit-maximizing price by considering only the number of subscribers who leave the MVPD market, and the number of subscribers who switch back to cable. The result is that the merged firm would be able to raise prices profitably because consumers who made the initial investment in DBS will be unlikely to switch to another MVPD provider.[54]

48. I believe that the proposed merger, if allowed, can result in significant consumer harm by raising its effective prices. This might come as the result of a reduction in promotions used to acquire new subscribers,[55] which in turn will lower subscriber acquisition costs.[56] Interestingly, DirecTV and EchoStar have claimed they will

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[52] "EchoStar and DirecTV downplay the competition with each other because they have nothing to gain by making it public, Blum said. 'They both know they're in the same boat in terms of public perception,' he said, 'so they can't do anything that makes the other seem less reliable because it will reflect poorly back on them. But once it (competition) is out of public view, they can just hammer on each other.'" See Caulk, November 5, 2000.

[53] This is a long-run outcome as opposed to Professor Willig's short-run analysis which focuses on DBS firms targeting cable.

[54] U.S. DOJ Primestar Complaint, p. 27.

[55] These promotions serve as an inducement for the existing cable subscribers to switch to DBS, as an inducement for the subscribers of the competing DBS service provider to switch, and as an inducement for potential subscribers who do not currently participate in the MVPD market to subscribe to DBS.

[56] "EchoStar's subscriber acquisition cost (SAC) was reported at $551 overall, or $392 if capitalized costs of equipment are excluded. …. DirecTV's SAC now is listed at $555/gross subscriber." See "Upgrading to digital TV," *Jewish World Review*, Sept. 5, 2001.

reduce subscriber acquisition costs by over $900 million.[57] I note, however, that a significant portion of this acquisition cost is not an efficiency gain; rather it is likely to come directly from the pockets of consumers. New subscribers currently receive a substantial subsidy in equipment prices, installation fees, and subscription fees. Once the competition between EchoStar and DirecTV disappears, subscribers who would have received a lower net price by switching from one DBS provider to the other would no longer have such an option. Even potential new customers will find that promotions tend to be targeted in areas where DBS penetration is low or in areas where digital cable service is available.[58] If the merged firm were to reduce these types of subscriber acquisition costs by one half, for example, consumers will suffer substantial anticompetitive harm.[59]

49. The merged firm would clearly eliminate promotions to entice subscribers away from each other.[60] This would be a direct harm to consumers.

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[57] GM/Hughes Spin-off and Subsequent Hughes/EchoStar Merger, Analyst Webcast Slides, "http://216.167.43.201/EchoStar-Hughes-.PDF". ("Hughes' Webcast.")

[58] The gains from running the promotions are higher in markets where DBS has a lower share. As a result, the merged firm could selectively target markets where the marginal benefit from the promotion would be greater than the marginal cost of the promotion.

[59] Consider the following hypothetical example. Suppose that equipment and program discounts and rebates to the consumers are in the $400 range. Assume also that these subsidies are reduced to $200 per new subscriber. Based on more than three million new DBS subscribers from June 2000 to June 2001, the merged firm would effectively increase its profit by more than $600 million, which translates to a direct consumer harm of more than $600 million.

Two additional factors should be considered. First, this example is likely to underestimate the actual harm, because I have not accounted for subscribers who switch from one DBS firm to the other. Second, this example does not take into account the relative demands of DBS and cable. Fewer or less attractive promotions may reduce overall switching behavior. For example, if DBS's own price elasticity of demand is (negative) one, the consumer harm would be approximately $400 million plus the harm to subscribers who would have switched between the two DBS service providers. Assume further that the effective price for a year's subscription is approximately $1000, which includes an annual contract of $600 (at $50 per month for 12 months) and other fees covered by the subscriber acquisition cost. The $200 reduction in subscriber acquisition cost translates to a 33% increase in the price and 33% fewer new subscribers. As a result, the harm to the consumer is $600 million times 67%, which equals $400 million plus the harm to those subscribers who would have switched from one DBS provider to the other DBS provider.

[60] "DirecTV subscribers can provide a DISH Network retailer with their DirecTV equipment and a recent bill (or credit card statement that verifies DirecTV subscription) and receive a DishPVR 501 system for $199 and 12 monthly credits of $21.99 (a $263.88 value) by subscribing to AT100/DISH Latino Dos or AT150 for 12 consecutive months. The new

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50. The merged firm can also offer special promotions through large retailers, which tend to be located in urban areas, such as Circuit City and Best Buys. In rural areas, the merged firm can stop or reduce subsidies for installation and equipment. I conclude that, by using selective promotions, the merged firm would be able to raise effective prices in less competitive markets, despite the parties' claim of national pricing.

51. The merger is likely to reduce competition on quality of programming and quality of service in rural areas. Improvements in the existing services and new products introduced by one DBS provider have been generally matched by the competing DBS service provider. By eliminating this rivalry, the merged firm no longer would be compelled to offer highest quality service or compete on new product innovations. The effect could well be increased quality-adjusted prices to subscribers.

52. To summarize, rivalry between DirecTV and EchoStar has increased the degree of competition in MVPD by making DBS service more substitutable to cable. Indeed, as noted earlier, EchoStar initiated and DirecTV followed a program of reduced initial charges to new subscribers to make the upfront cost of DBS more comparable to that of cable. This competition encouraged local-in-local programming and as a result made DBS more substitutable with cable in markets where local programming is offered. I am concerned that the merger of EchoStar and DirecTV will eliminate this rivalry and thus reduce the incentive of the new entity to introduce features and innovations that would make DBS compete even more effectively with cable.

D. Professor Willig's Claims: Competitive Effects

53. Professor Willig gives two reasons why unilateral price increases would be unlikely post-merger. First, he states that a price increase by a DBS firm would result in a larger proportion of subscribers switching to cable rather than to the other DBS firm.[61] Second, he contends that the reduction in marginal cost that could result from the merger may lower prices.[62]

54. Professor Willig argues further that the merged firm could better compete with digital cable service by offering bundled and improved services.[63] According to Professor Willig, high fixed costs and low marginal costs would provide the merged firm with a

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customer can also purchase a second receiver at the price of $99 for a 2800 or $149 for a DishPro 301. A free professional installation of both one and two receiver systems is included." RETAILER BUSINESS RULES TRADE UP To DISH. EchoStar Advertisement.

[61] Willig, ¶32, p. 21.

[62] Willig, ¶33, p. 22.

[63] Willig, ¶34, p. 22.

strong incentive to increase its subscriber base, especially before digital cable becomes further entrenched.[64]

55. Professor Willig also argues that rural customers would not be harmed because: (1) nearly all households with television are passed by cable and those not passed by cable are geographically diverse;[65] (2) rural customers could obtain alternative services from other MVPD providers such as C-Band Satellite service providers;[66] and (3) the merged firm is committed to its national pricing plan.[67] He goes even further by suggesting that the merger would benefit rural customers.[68]

E. Response to Professor Willig

56. I disagree with Professor Willig's analysis of competitive effects. As I discussed previously, I believe that there are likely to be significant unilateral competitive effects in markets in which cable operates, and more significant and substantial significant effects in rural areas.

57. Professor Willig claims that the merged firm would be unlikely to raise prices because the existing DBS firms set national monthly subscription fees, which would be maintained by the merged firm.[69] I explained previously that the DBS firms already use targeted regional promotions and limited regional pricing that alter the effective total annual prices to subscribers, and there is nothing to stop the merged firm from charging different regional prices, selectively raising prices in areas with less competition.

58. Of the four additional reasons that Professor Willig offers in support of his view that the merged firm would have no incentive to raise prices, only one has merit in my opinion.[70] If those areas that are not served by cable are dispersed and hard to

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[64] Willig, ¶35, p. 23.

[65] Willig, ¶37, p. 24.

[66] Willig, ¶38, p. 25.

[67] Willig, ¶39, p. 25.

[68] Willig, ¶41, p. 26.

[69] Willig, ¶29, pp. 19-20.

[70] Professor Willig claims that the proposed merger is unlikely to result in a price increase because both DBS firms set their monthly subscription and other programming fees on a national basis (Willig, ¶29, pp. 19-20). According to Professor Willig, no regional or local pricing would be possible because of (a) difficulty in segmenting geographically dispersed customers; (b) the need to modify the billing system, retrain the sales force, and change advertising practices; (c) the possibility of causing customer confusion and dissatisfaction; and (d) New EchoStar's commitment to maintaining national programming pricing

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segment, then it might be more difficult to price discriminate on a regional basis. However, there are many rural areas that do not have digital cable service, and these areas would be relatively easy to segment for regional pricing.

59. Professor Willig argues that a unilateral increase in DBS prices after the merger would be unlikely because if an existing DBS service provider raises its price, more customers would return to cable than switch to the other DBS provider.[71] However, the U.S. Department of Justice has found that a cable customer who switched to DBS service would be unlikely to return to cable service,[72] particularly to analog cable. Only about 50 percent of new DBS subscribers are former cable subscribers[73] who tend not to switch back to cable. With "bounty programs," digital cable operators have reacquired once lost cable customers. However, my understanding from Pegasus' marketing executives is that there is a greater likelihood that DBS subscribers would switch to the competing DBS service. This is especially true in the rural areas served by Pegasus.[74] Even EchoStar contradicts this contention, "EchoStar is DIRECTV's closest competitor.… Many, if not most, consumers who would switch away from EchoStar if it raised its prices relative to all other subscription programming services would turn to DIRECTV"[75]

60. Professor Willig states that DirecTV's lack of response to "I Like 9" pricing strategy as evidence of DBS firms not responding to each other's pricing.[76] I believe that both firms already compete effectively by offering comparable subsidies and that EchoStar was simply shifting its subsidy from equipment to programming, which was eventually matched by Pegasus's "Give Me 5" promotion.[77] DISH Network's "I Like

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(Willig, ¶29, pp. 19-20). He argues that local promotions target cable customers and are "not in response to activity by the other DBS provider." (Willig, Footnote 25, p. 19).

[71] Willig, ¶32, p. 21.

[72] U.S. DOJ Primestar Complaint, p. 27.

[73] The FCC's Eighth Annual Report, p. 56.

[74] An interview with Pegasus Marketing Executives: John DiDio and Anita Dorf.

[75] Memorandum of Law in Support of Request for Rule 56 Continuance to Respond to DirecTV Defendants' Motion For Summary Judgment, p. 12, November 6, 2000.

[76] Willig, ¶11, p. 6.

[77] "With the Gimme 5 Plan℠, you'll receive Select Choice® programming with over 45 channels of sports, news, movies, music and more, all in 100% digital-quality picture and sound. Plus, you'll get access to 55 pay per view choices per day. All of this for just $5.00 a month for one full year. And if you sign up now you'll receive six months of our premium SHOWTIME® package FREE!" This plan requires the subscriber to purchase a $199 system and receive a free installation. See Pegasus Web Site at "http://www.pegastv.com/sales/set_gimmie_five.html".

9" promotion basically offers a subsidy of $263.88 for a year of programming on a plan that costs $30.99 per month or $371.88 a year, but requires the customer to pay $199 to $399 for selected models of receiver-dish combination. Essentially, the program shifts the subsidy from equipment to programming. DirecTV offers numerous promotions with a comparable total subsidy. For example, DirecTV offers a free two-room system with a year subscription and six months of free Showtime. The total savings are over $400. Consumers benefit from this competition between DirecTV and EchoStar, which would only intensify as their market shares increase.[78]

61. Professor Willig also states that rural customers would not be harmed because cable passes nearly all households with television, C-Band Satellite service provides competition to DBS, and national pricing would pass on the benefits of competition to rural areas.[79] I believe that only digital cable service will be able to compete successfully with DBS, so even if analog cable passed 100% of the TV households, it would not provide adequate competition to the merged firm.[80] The merged firm will enjoy a monopoly in most rural areas where it would be uneconomic for cable networks to upgrade to digital. The number of C-Band subscribers has been steadily declining and C-band will not provide sufficient competition to constrain the merged DBS firm's ability to raise prices. As discussed previously, I believe that the merged firm will have the ability and the incentive to charge different regional rates and it would most likely increase rates in rural areas where it faces less competition.

62. Professor Willig also claims that the merged firm can better compete with digital cable by offering bundled and improved services.[81] In his view, the combination of high fixed costs and low marginal costs would provide the merged firm with a strong incentive to increase its subscriber base before digital cable becomes entrenched. While the fixed costs of offering such bundled services can be high, Professor Willig has offered no convincing reason to believe that: (i) the market cannot support three viable competitors, each operating at minimum viable scale; and/or (ii) that there are capital market impediments to firms achieving minimum scale.

V. Entry Issues

63. The MVPD market is characterized by considerable barriers to entry.[82] The FCC report concludes, "These barriers may include: (a) strategic behavior by an

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[78] This is a long-run outcome, in contrast to Professor Willig's short-run analysis.

[79] Willig, ¶37, p. 24; ¶38, p. 25; ¶39, p. 25.

[80] In addition, his claim that cable passes nearly all households has been disputed by the National Rural Telecommunications Cooperative. There is data to suggest that the percentage of TV households passed by cable could be as low as 81%. See FCC's Eighth Annual Report, ¶17, p. 12.

[81] Willig, ¶34, p. 22.

[82] FCC's Eighth Annual Report, ¶118, p. 55.

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 entrant 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."[83]

64. If the merger is allowed, there is no likely entrant in the DBS market and no economically viable entry using any other spectrum. An entrant would require a full CONUS slot to compete effectively, but lack of spectrum prevents effective entry. I note that in its Primestar complaint, the Antitrust Division of the United States Department of Justice (DOJ) has alleged, "Ownership of the 110° slot authorization is vital to the prospects for future competition in local MVPD market nationwide." DOJ further alleged, "No new DBS entry or expansion by existing DBS firms is likely without use of the 110° slot. New entry using a partial-CONUS slot is unlikely because the high capital costs of DBS could only be spread across a smaller base of potential customers."[84] Furthermore, new entry is unlikely at medium-power because that would require larger dishes.[85] Since EchoStar acquired the licenses for the 110°-orbital location, there are now two entrenched high-power DBS providers with brand-name recognition controlling all three full-CONUS slots. A new entry now would not be possible since there are no full-CONUS slots available. After the merger, it would be even more difficult to compete against a DBS monopoly that controls all three full-CONUS slots.

65. I believe it is highly unlikely that any other wireless MVPD provider would be a viable entrant in the near future to successfully compete with the merged firm.

66. Professor Willig also claims that the merger allows the merged firm to enjoy scale economies in bandwidth to compete with the cable companies and their ability to compete without the merger is limited.[86] If EchoStar and DirecTV cannot compete effectively with the cable companies unless they merge, a new entrant with an inferior technology and numerous disadvantages with no subscriber base would face even greater obstacles to compete with either the cable operators or the merged firm. The incumbent DBS providers currently have all the full-CONUS slots under their control and maintain a substantial subscriber base, national distribution channels, and brand-name recognition. If these firms cannot compete with the cable operators because they lack spectrum or a sufficiently large subscriber base, an entrant without a full-CONUS slot and a large subscriber base would be unable to compete effectively. I note that EchoStar appears to agree with this view. According to EchoStar, "A High

[83] FCC's Eighth Annual Report, ¶118, p. 55.

[84] U.S. Department of Justice Complaint (Primestar case), ¶84, p. 27.

[85] U.S. Department of Justice Complaint (Primestar case), ¶84, p. 27.

[86] Willig, ¶7, pp. 3-4 and ¶¶21-25, pp. 12-17.

Power DBS provider without a substantial customer base will not be able to effectively compete in the long term."[87]

VI. Efficiencies

A. Merger Specific Efficiencies?

67. Efficiencies generated through mergers can allow the merged firm to compete more effectively. In considering a merger, efficiencies claimed must be merger-specific,[88] that is, the claimed efficiencies must be unlikely to be achieved absent the merger. If similar efficiencies can be realized by practical alternatives to the merger, the claimed efficiencies should not be taken into account. Further, to the extent that the merger speeds up the timing of the realization of the efficiencies, then only the timing advantage should be considered merger-specific.[89]

68. The likelihood and magnitude of the claimed efficiencies must be verifiable by reasonable means; they must not arise out of anticompetitive effects. Moreover, they should be measured only after netting out the costs produced by the merger or the costs associated with realizing the efficiencies. Furthermore, the DOJ/FTC Horizontal Merger Guidelines state that "Efficiencies almost never justify a merger to monopoly or near monopoly." [90]

B. Professor Willig's Claim

69. Many of Professor Willig's efficiency opinions are based on the reduction of redundant use of spectrum.[91] Because two firms currently make full use of their respective spectrum and because they use the spectrum for essentially the same programming, Professor Willig suggests that by merging the firms would make better

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[87] EchoStar v. DirecTV Complaint, p. 9, February 1, 2001.

[88] "The Commission has in the past made clear that merger-generated efficiencies can offset unilateral effects to the extent that they enhance the merged firm's ability and incentive to compete and, therefore, result in lower prices, improved quality, and enhanced or new products. Claimed efficiencies, however, 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." See *In re Application of GTE Corp., Transferor, and Bell Atlantic Corp., 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, 15 FCC Rcd. 14,032 (2000), ¶¶ 240, 241.

[89] Horizontal Merger Guidelines, revised 1997.

[90] Horizontal Merger Guidelines, revised 1997.

[91] Willig, ¶22, pp. 12-13.

use of the spectrum.[92] Professor Willig also relies on the parties to conclude that both DBS firms are fully using available spectrum to provide existing programs.[93] According to Professor Willig, "Future spectrum efficiency improvements must therefore reflect the elimination of redundant DBS spectrum use or some technological advance that is not currently anticipated by the DBS industry."[94] The merged firm can broadcast the identical programming currently provided by both EchoStar and DirecTV with "roughly half of the current spectrum."[95] The merged firm can use the "freed up" spectrum to facilitate improved and expanded programming choices: more local channels to more metropolitan areas; more HDTV channels; and more diverse programming.[96]

70. Professor Willig also concludes that merged firm would benefit from scale economies. He believes that having a larger subscriber base would spur innovations to improve existing services and provide new services by spreading out the cost of development to larger subscriber base.[97] Moreover, according to Professor Willig, having a larger subscriber base would result in lower programming costs because the merged firm can obtain larger volume discounts, which cannot be achieved without the merger.[98]

71. Finally, he concludes that the merger will result in lower operational costs by producing significant savings in backhaul and uplink expenditures.[99] By standardizing the set-top boxes, he believes that the merger will result in lower manufacturing cost through volume purchases, and the merger would reduce administrative costs.[100]

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[92] Willig, ¶21, p. 22.

[93] Willig, ¶21, p. 12.

[94] Willig, ¶22, p. 13.

[95] Willig, ¶22, pp. 12-13.

[96] Willig, ¶24, p.13-15.

[97] He also argues that spectrum scarcity limits expanding existing services and offering new services. These services are competitive broadband services, interactive offerings, and video-on-demand using personal video recording devices. Although these services are currently being provided, "the spectrum constraints limit their ability to expand the services to include more choices and more features." Willig, ¶25, p 17.

[98] Willig, ¶26, pp. 17-18.

[99] Willig, ¶27, p. 18.

[100] Willig, ¶27, p. 18.

C. Response to Professor Willig

72. As I noted earlier, efficiency claims are valid only if they can be shown to be merger-specific and verifiable as to their likelihood and magnitude. I have no personal expertise concerning the technological issues raised by some of Professor Willig's arguments. However, I have reviewed public documents, articles, FCC filings, and the affidavit of Mr. Roger J. Rusch, and interviewed Pegasus's technical executives, and I comment on that basis on whether the claimed efficiencies are merger-specific.

73. Most claims for efficiency are derived from the elimination of redundant use of spectrum. According to the application, EchoStar has capacity for 500 channels and DirecTV has capacity for 460 channels using the 10 channels per transponder. Currently, each firm has duplicative national programming on 150 channels and duplicative local programming in about 140 to 175 channels.[101] The merger would effectively free up 290 to 325 channels to be used for additional programming and expanded and improved services. According the application, freed-up channels would be used to expand local programming to 100 DMAs while the additional 150 channels would be used for more HDTV programming, better service to Alaska and Hawaii, more diverse national programming, enhanced near video-on-demand capabilities.[102]

74. In my opinion, these claimed efficiencies with respect to spectrum are not merger-specific and should not be considered in evaluation this merger. For merger specificity to be the case, the merging entity must show that each firm cannot provide these enhancements without the merger in appropriate the time frame.[103] I understand that they can. For example, if technological advances improve the bandwidth usage, such improvement would obviate the need for the merger to gain spectrum efficiency.[104] In fact, existing technologies, such as turbo coding, 8 Phase Shift

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[101] Joint Engineering Statement, p. 9. The calculation of the channels used for local programming is not clear. As stated in the statement, there are 35 overlapping metropolitan areas each with 4 to 5 local channels. The range is calculated as 35x4=140 to 35x5=175 channels.

[102] Joint Engineering Statement, pp. 9-11.

[103] This is about the same time frame needed to realize spectrum efficiency from the merger. To capture the full merger-specific efficiencies, a transition to a common set-top box has to be made. See Willig, footnote 18, p. 13.

[104] Professor Willig states, "Therefore, improving the efficiency with which the DBS sector uses its spectrum is the only viable way for additional spectrum-intensive services to be provided to DBS customers." (Willig, ¶21, p. 12) He relies on the claims of both EchoStar and DirecTV to conclude that "the potential for additional improvements in spectrum efficiency by each firm individually is minimal. Future spectrum efficiency improvements must therefore reflect the elimination of redundant DBS spectrum use or some technological advance that is not currently anticipated by the DBS industry." (Willig, ¶21, p.12) What is

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Keying (8PSK) modulation, and improved compression, can be deployed to free up significant amount of bandwidth. Turbo coding can by itself increase the channel capacity as much as a factor of two, which will effectively double the channel capacity.[105] This alone would realize all spectrum efficiency claimed by the merger and preserve competition in the market.[106] Additionally, shifting from Quaternary Phase Shift Keying (QPSK) modulation to 8PSK modulation, which has been used on satellites for 20 years, would improve the efficiency by another 35%.[107] Finally, converting from MPEG-2 compression to MPEG-4 can provide reduction in data rate by a factor of two or three.[108]

75. Even without the implementation of these technologies, I believe that the claimed efficiencies can be realized by using a third-party provider to broadcast any redundant programming.[109] For example, until recently, Capital Broadcasting Co.'s Local TV on Satellite was trying to provide 1,600 local TV stations in the United States by building a system of spot-beam satellites using the Ka band. In early 2000, "EchoStar signaled that it may be a part of the [Local TV's] $1 billion project."[110] EchoStar believed that Local TV's system would be useful in offering local programs to its customers.[111] However, the proposed merger eliminated this possibility. By the end of 2001, "'Both [satellite-TV] providers have advised us that they cannot consider our advance discussions while they await the closing of their proposed merger,' Hutchinson [executive vice president and chief operating officer] said."[112] This

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not clear is the technological advance that is currently anticipated. The expected gain in spectrum performance is about a half of what would be available to the merged firm. This suggests that using the current technology to move to a common set-top box would allow the merged firm to realize doubling of available bandwidth.

[105] Rusch Aff., ¶35.

[106] Professor Willig states that the efficiency from moving to a common set-top box and reducing the redundant programming would be equivalent to doubling of available bandwidth. Implementing turbo coding (which will require new set-top boxes) would double the available capacity. This shows that a technological adoption would allow the existing DBS firms to realize the expected efficiency game from the merger.

[107] Rusch Aff., ¶ 37.

[108] Rusch Aff., ¶ 39.

[109] This could be done by each firm donating spectrum to create a common pool or by using spectrum provided by the third party.

[110] Donohue, Steve, "Local TV Birds May Fly," Multichannel News, February 21, 2000.

[111] Donohue, Steve, "Local TV Birds May Fly," Multichannel News, February 21, 2000.

[112] Albiniak, Paige, "Local TV on Satellite to Shut," Broadcasting & Cable, December 20, 2001.

alternative would have freed up bandwidth for both DirecTV and EchoStar and still allowed both to offer local programming in the U.S. without merging the firms. A similar approach could be used if the DBS providers wanted to gain efficiencies in the transmission of other common programming.

76. Any incompatibilities between the two systems can be worked out by using a common set-top box using a different encryption for common programs and proprietary programs[113] or by developing a technology that can provide dual-encryption streaming. Local TV faced this issue when it endeavored to provide local programming to both EchoStar and DirecTV subscribers. Ultimately it was able to find a technical solution. "An early concern was that LTVS wouldn't be able to send signals to both DirecTV and EchoStar because they use different encryption standards. But Hutchinson said the company designed around the problem by designing dual-encryption streams, adding that it's now a 'nonissue.'"[114] In many instances, the use of common standard setting, as done in other industries, or other collaboration may be sufficient to overcome incompatibility.

77. I understand that a more efficient use of the bandwidth currently allocated for local programming combined with the use of spot beams would allow each of the two DBS firms to expand local programming for 100 DMAs claimed by Professor Willig, and possibly for all 210 DMAs.[115] I note in this regard that the Antitrust Division of the United States Department of Justice believed that allowing EchoStar to acquire additional capacity from MCI would provide it with sufficient capacity to provide local programming "on a widespread basis."[116]

78. The second claim of Professor Willig is based on his view that the merged entity will generate economies of scale with respect to the subscriber base. He suggests that having a larger subscriber base would result in lower programming costs, which would allow the merged firm to fund development.[117] Similarly, he states, "Because

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[113] Any efficiency that would result from having a common set-top box could be achieved by creating a joint standard setting committee for set-top boxes.

[114] Donohue, Steve, "Local TV Birds May Fly," Multichannel News, February 21, 2000.

[115] Rusch Aff., ¶20.

[116] In its January 14, 1999, comment to the FCC in the matter of the application of MCI Telecommunications Corporation and EchoStar 110 Corporation, the United States Department of Justice argued, "Allowing EchoStar to use 28 channels at 110 with its 21 channels at 119 would, for the first time, give a DBS operator sufficient capacity to deliver local signals on a widespread basis."

[117] Taken to its logical conclusion, the merging parties' argument regarding scale economies in bandwidth and subscriber base suggests that MVPD service is a natural monopoly and therefore that only one monopolist should survive. I have seen no evidence to support that conclusion.

of its broader base of DBS subscribers, however, the combined entity would be in a better position to develop a satellite-based broadband system that achieves sufficient economies of scale to compete with cable modem and DSL services."[118]

79. There are two difficulties with these arguments. First, the claimed benefits lack specificity, and it is difficult to determine how likely these efficiencies are to be realized or how large they would be. As DBS firms gain a larger market share of the MVPD market, it is likely that each DBS firm would have a sufficiently large subscriber base to compete effectively. Even now, DirecTV is the third largest MVPD provider while EchoStar is the sixth largest MVPD provider.[119] As market shares of the DBS providers grow, they will be in a position to realize even greater scale economies, if those economies have not been exhausted. Allowing the merger at this point would in effect grant a DBS monopoly, and would be likely to prevent any entry in the future. Second, any scale-related benefit is unlikely to outweigh the cost of integrating the two firms and the anticompetitive harm.

[118] Willig, ¶25, p.16.

[119] Hughes' Webcast.

Exhibit 1

Curriculum Vitae

November, 2001

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ACADEMIC STUDIES: Princeton, Mathematics, B.A., June 1967

M.I.T., Economics, M.S., September 1968,

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TEACHING EXPERIENCE:

Suffolk University, Boston, Massachusetts

Full-time Economics Instructor, 1968-70

Wellesley College, Wellesley, Massachusetts

Full-time Economics Instructor, 1970-71

University of Michigan, Ann Arbor, Michigan

Assistant Professor of Economics, 1972-77

Associate Professor of Economics and Law, 1977-82

Professor of Economics and Law, 1982-83

Research Associate, Institute of Public Policy Studies, 1972-82

Stanford University

Visiting Professor of Law, Spring 1989

University of Geneva

Visiting Professor, Spring 1991

New York University

Visiting Professor of Law, Spring 1999, Fall 2000

OTHER POSITIONS HELD:

Research Assistant, William G. Bowen, 1966-67

Economist, Staff of President's Council of Economic Advisers, Summer 1969

Research Assistant, Paul A. Samuelson, 1971

Consultant, M.I.T.- Harvard, Joint Center for Urban Studies, Spring and Summer, 1972

Member, Ann Arbor Rent Control Study Commission, 1973

Consultant, Urban Institute, 1973

Consultant, National Academy of Sciences, Committee on the Costs of Automobile Emission Control, Summer 1974

Consultant, National Academy of Sciences, Panel on Statistical Assessments as Evidence in the Courts, 1984.

Consultant, U.S. Treasury, Program in State and Local Finance, 1984-85

Consultant, National Academy of Sciences, Panel on Taxpayer Compliance, 1985-86

Chair, Program in Law, Economics, & Institutions, U.C. Berkeley, 1986-1997

Member, National Academy of Sciences, Working Panel on Field Experimentation in Criminal Justice, 1986-87

Consultant, U.S. Consumer Product Safety Commission, The Safety of All-Terrain Vehicles, 1987-88

Chair, Program in Jurisprudence and Social Policy, University of California, Berkeley, 1987-1990, 1998-1999

Consultant and Lecturer, Federal Judicial Center, 1993-97, The Use of Regression Analysis by the Courts

Lecturer, Economic Analysis of Law, Swiss National Bank, Gerzensee, Switzerland, 1995-1997, 1999

Consultant, World Bank (South Africa Mission), 1996-1997

Vice Chair, ABA Section on Antitrust, Committee on Economics, 1997-1999

Deputy Assistant Attorney General, Antitrust Division, U.S. Department of Justice, June 1997-December 1998

Consultant, Antitrust Division, 1999 (U.S. v. Microsoft)

Lecturer, Law and Statistics, U. of Hamburg, May 1999

ACTIVITIES AND HONORS:

Princeton University, 1967, Magna Cum Laude, Phi Beta Kappa

Woodrow Wilson Fellow, 1967

N.S.F. Fellowship, 1968-69

N.S.F. Dissertation Fellowship, 1971-72

Winner, National Tax Association, Outstanding Doctoral Dissertation Award Contest, 1972

Research Fellow, National Bureau of Economic Research, Cambridge, Massachusetts, 1975-76

Editorial Board, Public Finance Quarterly, 1980-

Editorial Board, Law and Society Review, 1982-1985, 1989-1999

Advisory Panel, NSF, Program in Law and Social Science, 1982-84

Editorial Board, Evaluation Review, 1985-1987

Faculty Advisory Board, U.C. Berkeley, Center for Real Estate and Urban Economics, 1983-1997, 2000-

Co-Editor, International Review of Law and Economics, 1987-

Lecturer, California Continuing Judicial Studies Program, 1988-1989

Oversight Panel, NSF Program in Law & Social Science, 1988

Board of Directors, LECG, 1995-1997

Board of Directors, Atlas Assets, Inc., 1989-1997, 1999-

Member, Correspondent Committee, Interuniversity Consortium for Political and Social Research, 1991-

Editorial Board, Law and Social Inquiry, 1992-1999

Fellow, Center for Advanced Study in the Behavioral Sciences, 1992-1993.

Ida Beam Distinguished Lecturer in Law and Economics, University of Iowa, Spring, 1995.

John Simon Guggenheim Fellowship, 1995.

Faculty Advisory Board, U.C. Berkeley, Burch Center for Tax Policy and Public Finance, 1994-1997, 1999-

Member, American Academy of Arts and Sciences, 2001-

PUBLICATIONS:

Books

1. STATISTICAL ANALYSIS OF ECONOMIC AND FINANCIAL DATA, Dynamics Associates, Cambridge, 1971. Revised Edition, 1974.

2. ECONOMETRIC MODELS AND ECONOMIC FORECASTS (with Robert S. Pindyck), McGraw-Hill, January 1976. Second Edition, 1981. Spanish, Japanese, and Chinese versions available. Third edition, 1990, Fourth edition, 1998.

3. ESSAYS ON THE LAW AND ECONOMICS OF LOCAL GOVERNMENTS (Editor) COUPE Papers on Public Economics, Urban Institute, December 1979.

4. AMERICAN DOMESTIC PRIORITIES: AN ECONOMIC APPRAISAL (Co-editor with John M. Quigley), University of California Press, 1985.

5. MICROECONOMICS (with Robert S. Pindyck), MacMillan, 1989, Second Edition, 1992, Italian, Spanish, and Russian editions available, Third Edition, 1995, Portuguese editions available; Fourth edition, 1998, Chinese edition available; Fifth edition, 2000.

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5. "Hedonic Housing Prices and the Demand for Clean Air" (with David Harrison, Jr.), Journal of Environmental Economics and Management, March 1978, pp. 81-102.

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7. "On the Measurement of Benefits in an Urban Context: Some General Equilibrium Issues" (with Paul N. Courant), Journal of Urban Economics, June 1978, pp. 346-356.

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9. “The Distribution of Benefits from Improvements in Urban Air Quality” (with David Harrison, Jr.), Journal of Environmental Economics and Management, December 1978, pp. 313-332.

10. “Tax Limitation and the Demand for Public Services in Michigan” (with Paul N. Courant and Edward M. Gramlich), National Tax Journal, Supplement, June 1979, pp. 147-157.

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28. "Tiebout Bias and the Demand for Local Public Schooling" (with Perry Shapiro and Judith Roberts), Review of Economics and Statistics, August 1987, pp. 426-437.

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8. “Reforming the New Discovery Rules” (with Robert Cooter), Georgetown Law Journal, Vol. 84, No. 1, November 1995, pp. 61-89.

9. “Making Sense of the Antitrust State Action Doctrine: Balancing Political Participation and Economics Efficiency in Regulatory Federalism” (with Robert Inman), Texas Law Review, Vol. 75, May 1997, pp. 1203-1299.

10. “On Federalism and Economic Development”, Virginia Law Review, Vol. 83, No. 7, October 1997, pp. 1581-1592.

11. “Open Access to Broadband Networks: A Case Study of the AOL-Time Warner Merger” (with Hal J. Singer), Berkeley Technology Law Journal, Vol. 16, No. 2, Spring 2001, pp. 631-675.

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1. “Credit Ratings, Bond Defaults, and Municipal Borrowing Costs: A New England Study,” 1972 PROCEEDINGS OF THE SIXTY-FIFTH ANNUAL CONFERENCE ON TAXATION, National Tax Association, 1972, pp. 331-350.

2. “Property Taxation, Full Valuation, and the Reform of Educational Finance in Massachusetts,” in PROPERTY TAXATION AND THE FINANCE OF EDUCATION, Committee on Taxation, Resources and Economic Development (University of Wisconsin Press), 1974, pp. l89-20l.

3. “Property Values and the Benefits of Environmental Improvements: Theory and Measurement” (with A. Mitchell Polinsky), in Wingo and Evans, eds., PUBLIC POLICY AND THE QUALITY OF LIFE IN CITIES (Johns Hopkins Press for Resources for the Future), 1977, pp. l54-l80.

4. “Market Approaches to the Measurement of the Benefits of Air Pollution Abatement,” in Ann Friedlaender, ed., APPROACHES TO CONTROLLING AIR POLLUTION (M.I.T. Press), 1978, pp. 240-279.

5. “Judicial Approaches to Local Public-Sector Equity: An Economic Analysis,” in Peter Mieszkowski and Mahlon Straszheim, eds., CURRENT ISSUES IN URBAN ECONOMICS (Johns Hopkins Press), 1979, pp. 542-576.

6. “The Stimulative Effects of Intergovernmental Grants: Or Why Money Sticks Where it Hits” (with Paul N. Courant and Edward M. Gramlich), in Peter Miezkowski and William Oakland, eds., FISCAL FEDERALISM AND GRANTS-IN-AID, COUPE Papers on Public Economics, Urban Institute, 1979, pp. 5-21.

7. “On Super-rationality and the School Voting Process,” in Clifford Russell, ed., COLLECTIVE DECISION-MAKING (Johns Hopkins Press), 1979, pp. 75-82.

8. “Property Tax Reduction in Michigan” (with Robert Vishny) in H. Brazer and D. Laren, eds., MICHIGAN’S FISCAL AND ECONOMIC STRUCTURE (University of Michigan Press), 1982, pp. 530-560.

9. “Tax Assignment and Revenue Sharing in the United States,” in R. Mathews and C. McLure, eds., TAX ASSIGNMENT IN FEDERAL COUNTRIES, (Australian National University Press), 1983, pp. 205-33.

10. “Residential Choice and the Demand for Public Education: Estimation Using Survey Data” (with Perry Shapiro and Judith Roberts), in H. Timmermans and R. Golledge, eds., BEHAVIOR MODELLING APPROACHES IN GEOGRAPHY AND PLANNING, (Croom Helm), 1986, pp. 179-197.

11. “Local Public Economics: A Methodological Review,” in A. Auerbach and M. Feldstein, eds., HANDBOOK OF PUBLIC ECONOMICS, Volume II, 1987, pp. 87-161.

12. “Settlements in Private Antitrust Litigation” (with Jeffrey Perloff) in L. White (ed.), PRIVATE ANTITRUST LITIGATION, M.I.T. Press, 1988, pp. 149-184.

13. “A Federalist Fiscal Constitution for an Imperfect World: Lessons from the United States,” in H. N. Scheiber (ed.) FEDERALISM, STUDIES IN HISTORY, LAW, AND POLICY, Institute of Governmental Studies, U. C. Berkeley, 1988, pp. 76-92.

14. “Public Choices in Public Higher Education,” (with John Quigley) in Charles Clotfelter and Michael Rothschild, eds. THE ECONOMICS OF HIGHER EDUCATION, National Bureau of Economic Research, 1993, pp. 243-283.

15. “European Labor Markets: The Eastern Dimension” (with Jasminka Sohinger) in W. Dickens, B. Eichengreen, and L. Ulman (eds.) LABOR RESPONSES TO EUROPEAN INTEGRATION, Brookings Institution, 1993, pp. 271-286.

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17. “California Fiscal Federalism: A School Finance Perspective,” in B. Cain and R. Noll (eds.), CONSTITUTIONAL REFORM IN CALIFORNIA, Institute of Governmental Studies, UC Berkeley, 1995, pp. 431-453.

18. “The Political Economy of Federalism,” (with Robert Inman), in D. Mueller (ed.), PERSPECTIVES ON PUBLIC CHOICE, Cambridge University Press, New York, 1997, pp. 73-105.

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