Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Applications for Consent to the	)	
Transfer of Control of Licenses	)	
	)	
MediaOne Group, Inc.,	)	CS Docket No. 99-251
Transferor,	)	
	)	
To	)	
	)	
AT&T Corp.,	)	
Transferee.	)	

DECLARATION OF

DANIEL L. RUBINFELD AND J. GREGORY SIDAK

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INTRODUCTION

1. We have been asked by Bell Atlantic Corporation and GTE Corporation to evaluate the effect on consumers of AT&T's planned acquisition of MediaOne. Because it aggregates a significant share of all broadband customers within a single firm and because of the exclusive arrangement between AT&T and its chosen Internet provider, the merger increases foreclosure in a number of markets vertically related to the transaction.

2. We begin by defining the relevant product market as residential broadband Internet access and explain why that service represents a distinct market from narrowband access. We explain why neither DSL nor satellite-based broadband systems can be relied on over the relevant time horizon to provide price discipline in the broadband Internet access market. We next examine how the merger would allow AT&T to exercise market power in vertically related broadband services markets. Finally, we conclude that the expected harm to consumers if AT&T is allowed to monopolize broadband Internet access markets outweighs the costs associated with the implementation of open access and its putative reduction in investment by AT&T. Open access would alleviate only some of the anticompetitive concerns raised by the merger, but would leave unchecked potential anticompetitive threats in other product markets, such as traditional video programming. Thus, open access would be a necessary, but not sufficient, condition of any Commission order permitting this merger to proceed.

QUALIFICATIONS

3. Our professional qualifications for submitting this expert affidavit are as follows.

4. My name is Daniel L. Rubinfeld. I am the Robert L. Bridges Professor of Law and Professor of Economics at the University of California, Berkeley. I regularly teach courses on law and economics, law and statistics, antitrust, and the economics of public policy.

5. I currently serve as a consultant to the Antitrust Division of the U.S. Department of Justice, having completed an 18-month term as Deputy Assistant Attorney General for Economics at the first of this year. I have consulted extensively in cases involving public regulation and antitrust for private parties, and for the U.S. Department of Justice, the U.S. Treasury, and the California Attorney General's Office. My private consulting experience and my government work have often concerned competition policy in telecommunications and other network industries.

6. I received my A.B. degree in mathematics from Princeton University in 1967 and my Ph.D. in economics from the Massachusetts Institute of Technology in 1972. I have previously taught at the University of Michigan and have been a visiting professor at Stanford University, the University of Geneva, and New York University. 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 served as Chair of the U.C. Berkeley Program in Jurisprudence and Social Policy, and as Chair of the Program in Law, Economics, and Institutions. I am currently Associate Dean of the School of Law at Berkeley and serve as co-editor of the *International Review of Law and Economics.*

7. I am the author of two leading textbooks, *Microeconomics*, and *Econometric Models and Economic Forecasts* (both with Robert Pindyck), both of which are currently in their fourth editions. My research interests have spanned a broad range of subjects, including the po-

litical economy of federalism, law and statistics, and industrial organization and competition policy. I have authored or edited five books and have written over eighty articles.

8. My name is J. Gregory Sidak. I am the F. K. Weyerhaeuser Fellow in Law and Economics at the American Enterprise Institute for Public Policy Research (AEI) in Washington, D.C., where I direct AEI's Studies in Telecommunications Deregulation. I am also a senior lecturer at the Yale School of Management, where I teach a course on telecommunications regulation and strategy with Professor Paul W. MacAvoy.

9. I have worked in the federal government on three occasions. From 1987 to 1989, I was deputy general counsel of the FCC. From 1986 to 1987, I was senior counsel and economist to the Council of Economic Advisers in the Executive Office of the President. From 1981 to 1982, I served as a law clerk to Chief Judge Richard A. Posner during his first term on the U.S. Court of Appeals for the Seventh Circuit. In addition to having worked in government, I have previously worked, as an attorney in private practice, on numerous antitrust cases and federal administrative, legislative, and appellate matters concerning competition policy in telecommunications and other network industries.

10. My academic research concerns regulation and strategy in telecommunications and other network industries, antitrust policy, and constitutional law issues concerning economic regulation. I am the author or co-author of five books concerning pricing, costing, competition, and investment in regulated network industries,[1] and of more than thirty scholarly articles in law reviews

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1. J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES (Cambridge University Press 1997); J. GREGORY SIDAK & WILLIAM J. BAUMOL, TOWARD COMPETITION IN LOCAL TELEPHONY (MIT Press & AEI Press 1994); J. GREGORY SIDAK & WILLIAM J. BAUMOL, 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

and economics journals. I am the editor of three other books on telecommunication competition and deregulation.[2] I have testified before the U.S. Senate and House of Representatives. My writings have been cited by the Supreme Court, by the lower federal and state supreme courts, and by state and federal regulatory commissions.

11. I have been a consultant on regulatory and antitrust matters to the Antitrust Division of the U.S. Department of Justice, to the Canadian Competition Bureau, and to more than thirty companies in the telecommunications, electric power, natural gas, mail and parcel delivery, broadcasting, newspaper publishing, and computer software industries in North America, Europe, Asia, and Australia.

12. From Stanford University, I earned A.B. (1977) and A.M. (1981) degrees in economics and a J.D. (1981) in law. I was a member of the *Stanford Law Review*.

13. We file this affidavit in our individual capacities and not on behalf of the University of California, Berkeley, the American Enterprise Institute, or the Yale School of Management.

SUMMARY OF CONCLUSIONS

14. In Part I of this affidavit, we explain that one of the important relevant product markets that will be affected by AT&T's acquisition of MediaOne is broadband Internet access.[3] The relevant geographic market is local in the sense that broadband Internet access is purchased

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AMERICAN TELECOMMUNICATIONS (University of Chicago Press 1997).

2. J. GREGORY SIDAK, IS THE TELECOMMUNICATIONS ACT OF 1996 BROKEN? IF SO, HOW CAN WE FIX IT? (AEI Press 1999); J. GREGORY SIDAK, COMPETITION IN INTERNATIONAL TELECOMMUNICATIONS (AEI Press forthcoming 1999); and J. GREGORY SIDAK, TELECOMMUNICATIONS DEREGULATION IN GERMANY AND THE UNITED STATES (AEI Press forthcoming 1999).

3. Henceforth, the relevant market will be referred to as the broadband Internet access market.

in one's local geographic area. Recent Federal Communication Commission opinions support the view that broadband Internet access is a distinct antitrust market.

15. We offer several reasons why, for the purposes of competitive analysis, the broadband Internet access market should be distinguished from the narrowband market. First, the pricing of broadband and narrowband products is significantly different. Second, broadband and narrowband products are targeted to two different user groups. Third, many of the services supported by broadband connections are not (and cannot be) available through narrowband connections, creating products that increasingly will meet different consumer needs, such as television and telephones. Fourth, the idea that broadband Internet service represents a separate market is corroborated by empirical estimates of the cross-price elasticities of demand for broadband and narrowband services in separate studies by Professor Jerry Hausman of MIT and Professor Hal Varian of the University of California, Berkeley.[4]

16. In Part II, we demonstrate why other mediums of broadband Internet access, such as digital subscriber lines (DSL) and satellite connections, cannot be relied on to impose price discipline in the broadband Internet access market over the two-year time horizon relevant under the *Merger Guidelines* and FCC merger policy. We believe that DSL cannot effectively compete against cable over the next two years for at least three reasons. First, digital subscriber lines face technological limitations in deployment due to the use of "new" loops for a significant portion of

4. Professors Hausman and Varian independently find that narrowband (low-speed) pricing cannot explain the movements of broadband (high-speed) prices. Those findings suggest that a hypothetical monopoly supplier of broadband services in a given geographic market would not need to control the supply of narrowband products to exercise market power. *See* Hal R. Varian, *Estimating the Demand for Bandwidth*, University of California at Berkeley Working Paper (revised Aug. 11, 1999), at 2 (available at http://www.sims.berkeley.edu/~hal/people/); Declaration of Professor Jerry A. Hausman , at ¶¶ 4-10, attached to Comments of America Online, Inc., Joint Applications of AT&T Corp. and Tele-Communications, Inc. for Control to AT&T of Licenses and Authorizations Held by TCI

the geographic markets in the United States. Second, even for that portion of an ILEC's territory that uses "old" loops, DSL cannot serve areas located several miles from the central office. Third, the RBOCs face significant regulatory burdens that impede their ability to compete effectively.

17. We also believe that satellite connections to the Internet will not impose price discipline over the relevant time horizon, for at least two reasons. First, satellite broadband connections will continue to be only one-way until at least 2002. Second, satellite Internet services entail higher up-front and monthly service prices for consumers. We also conclude that wireless and electric utilities cannot be relied upon to instill price discipline in the broadband markets over the relevant time horizon.

18. In Part III, we show how the concentrated control of the broadband Internet access market will enable AT&T to extend its economic influence into vertically related markets such as portals, streaming video, streaming video software, and e-commerce. The academic literature on tying, when viewed in conjunction with AT&T's recent attempts to influence those downstream markets, suggests that the acquisition will likely result in substantial losses of consumer welfare. For example, based on the expected high growth in e-commerce, the high elasticity of demand for e-commerce, and the propensity for broadband customers to purchase goods on-line, we expect that AT&T broadband consumers could lose millions of dollars per year as the result of higher advertising prices imposed by AT&T on unaffiliated e-commerce providers.

19. In Part IV, we employ a standard decision-theoretic framework to discuss whether the Commission should impose open-access on AT&T's sole effective pipeline to residential

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and Its Affiliates or Subsidiaries, Federal Communications Commission, CS Dkt. No. 98-178 (filed Oct. 29, 1998)

broadband connections. We suggest that the Commission should, as a condition of approving the merger, impose open access if the potential to harm consumers and advertisers in broadband Internet access and vertically related markets exceeds the potential decrease in consumer welfare should AT&T reduce its investment in broadband infrastructure plus the cost of implementing an open-access regime. We conclude that the expected harm to consumers if AT&T is allowed to monopolize broadband Internet access markets outweighs the costs associated with the implementation of open access and its putative reduction in investment by AT&T.

I. THE PRIMARY RELEVANT MARKET IS BROADBAND INTERNET ACCESS

A. The Market Must Be Defined in Both Product and Geographic Dimensions

20. One of the important product markets affected by the AT&T-MediaOne merger is broadband Internet access for residential users.[5] The merger will also enable AT&T to exercise market power in other vertically related markets, such as the portals and streaming video markets. From a consumer's perspective, the relevant geographic market is local because one can purchase broadband Internet access only from a local residence. Stated another way, a hypothetical monopoly supplier of broadband Internet access in a given geographic market could exercise market power without controlling the provision of broadband access in neighboring geographic markets.

[hereinafter *Hausman Declaration*].

5. Throughout the rest of the affidavit, we use the phrase "broadband Internet access" to mean broadband Internet access for residential users.

B. Recent Federal Communication Commission Decisions Support the View that High-Speed Internet Services Are an Antitrust Market

21. The Commission's own examination of the high-speed Internet industry suggests that the broadband Internet access market should be treated as a separate product market from narrowband Internet access. In particular, the Commission has designated 200 kbps (upstream and downstream) as the point at which "broadband" services begin, because that speed "is enough to provide the most popular forms of broadband—to change web pages as fast as one can flip through the pages of a book and to transmit full-motion video."[6] Moreover, the Commission's Office of Plans and Policies noted that analog modem bandwidth "is largely insufficient" to support real-time video transmissions over the Internet."[7] To couch the issue in the language of antitrust, narrowband connections are viewed by the Commission as technically incapable of supporting services that are considered substitutes for broadband applications.

C. The Broadband Internet Access Market Is Distinct from the Narrowband Market

22. There are several reasons why the broadband Internet access market is distinct from the narrowband market. First, the demographic profiles of the typical broadband and narrowband users indicate two distinct user groups. In July 1999, the Strategis Group surveyed current narrowband Internet users as to their willingness to purchase broadband Internet access.[8] The results of that survey paint strikingly different portraits of what may become the typical broadband user and the typical narrowband user. Narrowband Internet users interested in

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6. Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, FCC-99-5, CC Dkt. No. 98-146, at ¶ 20 (rel. Feb. 2, 1999).

7. KEVIN WERBACH, DIGITAL TORNADO: THE INTERNET AND TELECOMMUNICATIONS POLICY 41 (Federal Communications Commission, OPP Working Paper No. 29, Mar. 1997) (available at http://www.fcc.gov/opp/workingp.html).

8. STRATEGIS GROUP, HIGH-SPEED INTERNET 1998-1999 (Dec. 1998) [hereinafter STRATEGIS GROUP].

broadband are more likely to be male, younger, less wealthy, and spend more time on-line than those who are not. Table 1 compares the demographic characteristics of narrowband users interested in broadband connections at $40 per month with the demographic characteristics of those who are not.

TABLE 1: COMPARISON OF DEMOGRAPHIC PROFILES OF AVERAGE NARROWBAND USERS INTERESTED AND NOT INTERESTED IN BROADBAND CONNECTIONS AT $40 PER MONTH

Demographic Characteristic	Average of Narrowband Users Not Interested in Broadband at $40	Average of Narrowband Users Interested in Broadband at $40
Gender (percent male)	33.3	66.7
Age (years)	51.1	33.2
Annual Household Income (thousands $)	61.5	53.7
Total Weekly Hours of Internet Use (hours)	6.2	9.5
Length of Internet Usage (years)	2.4	2.7

Source: Strategis Group Survey, at 31.
Note: Weighted averages computed by assuming median value of the range for each grouping.

As Table 1 shows, there is a sharp distinction between a consumer who fits the broadband profile and one who fits the narrowband profile. According to the Strategis Group, of all the factors included in its survey, total usage is the most influential determinant of demand for residential broadband Internet access.[9]

23. Second, many of the services supported by broadband connections are not available through narrowband connections. The demand for applications that can be supported only by high-bandwidth connections also suggests that the product markets for narrowband and broadband are distinct. Functionalities that are only supported by broadband connections include

9. *Id*. at 30.

real time video programming,[10] on-demand video,[11] customized music and video libraries,[12] home networking, real-time radio programming,[13] interactive multi-player gaming,[14] high-speed telecommuting,[15] and interactive advertising and e-commerce.[16] In a recent ZDNet survey, the demand for broadband connections was explained in particular by a desire to download music, video, and games.[17] Respondents who showed an interest in broadband connections were asked which on-line activities they would consume in larger quantities as a result of faster connections. The results indicate that 63 percent of respondents were motivated by a desire to download more audio, video, or game files, while 54 percent were motivated by a desire to enjoy streaming audio or video.[18] In contrast, the demand for narrowband connection is driven by a completely different set of applications, including email, research, headline news, entertainment, shopping, chat, general surfing, financial news, sporting news, travel services, and banking.[19]

24. Although some information-intensive applications are supported through narrow-band connections, the quality of use is often significantly sacrificed. For example, to the extent that immediacy is important for some users, any delay in interactive applications would diminish the Internet experience. This observation suggests that the consumer's decision to choose

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10. Jim Hu, *Music Festival in Tune With Net Space*, CNET NEWS.COM, July 22, 1999 <www. news.com/News>.

11. Carol Wilson, *Broadband: Get Ready for the Gale*, ZDNN, June 26, 1999 <www.zdnet. com/filters>.

12. Gary Arlen, *Swing and Sway with Big Bandwidth*, MULTICHANNEL NEWS ONLINE, Mar. 29, 1999 <204.243.31.23/cgi-win/csearch.exe/vsrchtip>.

13. *See* Randall Rothenberg, *Rob Glaser, Moving Target*, WIRED, Aug. 1999, at 131

14. William O.Neal, *Frag the Lag! Broadband Access: The Gamer's Edge*, GAMECENTER, Apr. 14, 1999 < www.gamecenter.com/Features/Exclusives/Broadband>.

15. Carol Wilson, *Broadband: Get Ready for the Gale*, ZDNN, June 26, 1999 <www.zdnet. com/filters>.

16. Fred Dawson, *Excite@Home Gets Rolling On Broadband-Enhanced Ads*, MULTICHANNEL NEWS ONLINE, June 14, 1999 <204.243.31.23/cgi-win/ csearch.exe/vsrchtip>.

17. *ZDNet Study Suggests Broadband Adoption Will Be Driven by Increasing Demand for Access to Music, Video, and Games*, PR NEWSWIRE, June 29, 1999, at *1. ZDNet InternetTrak is a quarterly survey-based study on Internet and computing trends.

18. *Id.*

19. STRATEGIS GROUP, *supra* note 8, at 2.

broadband over narrowband will depend on more than the price differential and download speeds alone. For example, interactive applications and live events are vastly superior when experienced with broadband connections.

25. Third, the prices for broadband and narrowband Internet access are substantially different. In the Washington, D.C. area, the price of broadband Internet access via cable modems is at least twice as high as narrowband access. For example, Erols, a local ISP, charges its customers $11 per month for narrowband access while Comcast@Home charges existing cable customers $40.[20] This price differential alone suggests that the two products may be in distinctly different antitrust markets. Combined with the expanded functionalities only available through broadband connections explained earlier, there is sufficient evidence to make a *prima facie* case that broadband Internet access represents a separate product market from narrowband access.

26. Fourth, our belief that broadband Internet access represents a separate product market is corroborated by an empirical study by Professor Jerry Hausman of MIT.[21] Professor Hausman compared prices for narrowband and broadband services in markets where both are offered. If the price of broadband were shown to be a function of narrowband services, then one could not reject the hypothesis that broadband providers incorporate narrowband prices in their pricing decisions. In that case, narrowband would impose pricing discipline on broadband. To the contrary, Professor Hausman's findings suggest that "the price of narrowband Internet service does not effect the demand for broadband Internet service," and thus "broadband data trans-

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20. The price of Comcast@Home's cable Internet service was downloaded from the company web site on August 1, 1999 (http://www.comcast.com). Because Internet service *and* transport are included in the broadband monthly charge, a more appropriate comparison may be the price of a narrowband ISP plus the price of a second telephone line versus the price of a broadband connection.

21. *Hausman Declaration*, *supra* note 4, at ¶¶ 4-10.

port is not in the same antitrust market as last mile narrowband data transport."[22] Similarly, in an experimental setting, Professor Varian of the University of California, Berkeley shows that the prices of "high-speed" Internet access do not depend on the prices of "low-speed" Internet access.[23]

II. NEITHER DIGITAL SUBSCRIBER LINE NOR SATELLITE INTERNET SERVICES CAN OFFER PRICING DISCIPLINE IN THE HIGH-SPEED INTERNET MARKET OVER THE RELEVANT TIME HORIZON

27. When comparing the alternatives for high-speed Internet services, an analyst at Salomon Smith Barney concludes that "[n]o one can match the cable industry for speed and ease of use."[24] Despite the emergence of DSL and satellite-based broadband services, analysts believe that cable systems will dominate the market for high-speed Internet services over the next several years. The Strategis Group points to cable's widespread availability, customer relationships, coaxial infrastructure, and first-mover advantage as the sources of potential cable domination of the broadband Internet access market.[25]

A. The *Merger Guidelines* Require an Evaluation of the Competitive Impacts Over a Two-Year Time Horizon

28. It is quite possible that at some point in the future new technologies will emerge, or existing technologies will be refined, in such a way that they will compete effectively with cable-based Internet services. In the antitrust setting, however, such speculation about new com-

22. *Id*. at ¶¶ 10, 15.

23. Varian, *supra* note 4, at 3.

24. Peter Elstrom, *Whose Cables Are They?: Court Rulings on Internet Access Have Set Off a Storm of Debate*, BUS. WK., July 5, 1999, at 24 (quoting Spencer Grimes).

25. STRATEGIS GROUP, *supra* note 8, at 4. Cable's only disadvantage is its shared network architecture. According to the Strategis Group, however, cable operators are "engineering node size to address this potential problem and should be able to provide services in the 300-400 Kbps range even with rising population." *Id*. at 5.

petition that may ameliorate a current concentration problem over an extended period has not been treated as sufficient reason to ignore the current problem. Thus, the *Merger Guidelines* specify the use of a two-year time horizon for evaluating the effects of a merger.[26] When AT&T's acquisition of MediaOne is analyzed in that framework, it becomes clear that after the merger AT&T would have the ability to exercise market power over end users in the broadband Internet access market. In the sections that follow, we explain that, within the relevant time horizon of two years, neither digital subscriber lines (DSL) nor satellite-based Internet service will be able to offer close substitutes for cable-based Internet service. Hence, neither will be able to provide the price-disciplining constraint needed to protect consumer welfare.

B. Digital Subscriber Lines Will Not Provide Price Discipline Over the Relevant Time Horizon

1. DSL Deployment Has Lagged Behind Cable-Based Systems

29. The slow deployment of DSL to date has limited its ability to discipline any price increase by a cable-based provider of broadband Internet access. To demonstrate the lack of availability of DSL relative to cable-based Internet access in the Washington, D.C. area, we entered zip codes (and telephone numbers, where appropriate) into the web sites of Bell Atlantic and cable providers that serve the Virginia suburbs. The results of our web searches by zip code are showed in tables and maps in Appendix 1 and 2, respectively. As of August 1999, cable-based providers already served 92 percent of the Virginia suburbs, while Bell Atlantic served only 46 percent.[27] We also provide maps that summarize these results. Although the results of an

26. *See Merger Guidelines*, § 3.2.

27. Our DSL count overestimates the actual coverage because we assume that if any ten-digit phone number within a zip code is covered, then the *entire* zip code is covered.

analysis of a single metropolitan area are not definitive, the large differential in deployment between cable and DSL likely corresponds to broader trends in the marketplace.

2. Technological Impediments Will Raise the Cost of DSL Deployment

30. Beginning in the 1970s, local exchange carriers began using a new type of loop—a digital loop carrier (DLC)—to reduce the cost of building new central offices to service growing suburbs and more densely populated urban areas.[28] DLCs force digital transmission between the local loop and the central office. Unfortunately, DSL service cannot be supported by DLCs because DSL requires transceiver-to-transceiver signal consistency. To provide DSL over DLCs, the carrier must install digital subscriber line access multiplier ("DSLAM") termination at the DLC. That additional investment may impede DSL's ability to compete with cable-based broadband Internet access:

> Although there are other solutions to the DLC problem besides RAM deployment, additional capital expenditures to overcome this problem cannot yet be avoided. This raises the cost of DSL deployment, and consequently, DSL service. The problem is exacerbated by the fact that DLCs have their greatest penetration in newer suburban subdivisions. These households are likely to be potential high-speed Internet users.[29]

DLCs could limit DSL deployment in regions where DLCs have been used extensively, such as the Southeast and Midwest.[30] For example, almost 40 percent of BellSouth customers are connected through DLCs.[31]

31. Even in geographic markets where customers are connected with "old" loop technology, DSL deployment is constrained by different technical impediments. DSL is sensitive to

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28. For a discussion of the difference between "old" and "new" loops, see STRATEGIS GROUP, *supra* note 8, at 46.

29. *Id*. at 49.

30. *Id.* at 4.

31. *Id.* at 50. Strategis reports that 15 percent of Bell Atlantic's customers are connections through DLCs,

the distance that transmissions must travel between the home and central office. According to a study commissioned by the Competitive Broadband Coalition, DSL in its current form faces "an absolute limit of 18,000 feet for the copper segment."[32] That impediment will severely limit DSL's ability to impose price discipline on cable-based providers of Internet access in areas located several miles from the central office. According to the GTE, nearly 35 percent of its telephone connections (and hence potential broadband customers) are beyond 18,000 feet of a central office.[33]

3. Asymmetric Regulatory Treatment Will Further Impede DSL Progress

32. Even if DSL providers were to overcome their technological limitations, significant regulatory barriers prevent them from competing effectively against the cable broadband providers. The regional Bell Operating Companies (RBOCs), which are the primary providers of DSL, operate within an entirely different regulatory environment than their cable competitors. First, the RBOCs are excluded entirely from the core backbone market. Given the high congestion of backbones, telephone companies must accept terms from backbone providers that may be worse than the stand-alone costs of backbone self-provision. Second, RBOCs may distribute, but not manufacture, equipment used on customer premises.[34] Therefore, unlike cable providers such as AT&T, the RBOCs cannot collaborate with equipment vendors. Third, RBOCs face separate-subsidiary requirements that may make it more expensive to provide Internet search engines or

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while 30 of GTE's customers rely on "new" loops.

32. LEE L. SELWYN, PATRICIA D. KRAVTIN & SCOTT A. COLEMAN, BUILDING A BROADBAND AMERICA: THE COMPETITIVE KEYS TO THE FUTURE OF THE INTERNET 61 (May 1999) (prepared for the Competitive Broadband Coalition).

33. Declaration of Dale E. Veeneman and Evertt H. Williams on behalf of GTE Corp., Applications for Consent to the Transfer of Control of Licenses MediaOne Group, Inc., CS Docket No. 99-251, at ¶ 10 (filed Aug. 23, 1999) [hereinafter *Venneman & Williams Declaration*].

34. 47 U.S.C. § 273 (a).

content of any kind.[35] Again, unlike cable firms that may completely integrate portals such as Yahoo! or Excite, RBOCs must set up fully separate subsidiaries for that purpose. Fourth, the Telecommunications Act requires RBOCs to unbundle their network services[36] at rates that have so far been based on the long-run incremental costs of providing them.[37] The FCC is considering extending unbundling requirements to high-speed Internet services[38] and has contemplated whether RBOCs (and GTE) should unbundle the "spectrum" within existing local loops.[39] Fifth, the RBOCs are currently barred from providing interLATA (local access and transport area) services,[40] which means they are prevented from creating "regional centered points of presence that would allow them to take advantage of economies of scale in data service."[41] The asymmetric regulatory treatment of the RBOCs with respect to cable providers prevents DSL from being an effective competitor in the broadband Internet access market.

C. Satellite Internet Services Will Not Provide Price Discipline over the Relevant Time Horizon

33. Opponents of the recent local push to require open access point to the AOL-Hughes alliance to develop satellite Internet services as a means of providing sufficient protections against the exercise of market power by cable providers.[42] For example, Brian Roberts,

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35. *Id*. § 274 (a).
36. *Id*. § 251 (c)(3).
37. *Id*. § 252 (d)(1)(A)(i).
38. *See* Deployment of Wireline Services Offering Advanced Telecommunications Capability, Memorandum, Opinion, and Order, and Notice of Proposed Rulemaking, CC Dkt. No. 98-147, at ¶ 11 (rel. Aug. 7, 1998).
39. *Id*. at ¶ 162.
40. 47 U.S.C. § 271 (a). It should be noted that, unlike the RBOCs, GTE is free from section 271 restrictions. The increased efficiency of GTE's DSL operation relative to other RBOCs' DSL operations is a good indicator of the regulatory costs imposed on the other RBOCs by section 271. For information on how GTE uses frame relay to increase efficiency, see *Veeneman & Williams Declaration*, *supra* note 33, at ¶¶ 6-7.
41. STRATEGIS GROUP, *supra* note 8, at 201.
42. As part of the arrangement, AOL will invest $1.5 billion in General Motors (GM) equity security. GM will immediately invest the money in a security of Hughes, where the funds will be employed to implement the strategic alliance between AOL and Hughes. In return, Hughes will make a commitment to market AOL TV and AOL-Plus and accelerate the growth of DirectTV and DirectPC. *See, e.g.*, *AOL to Invest $1.5 billion in Hughes Electronics –*

president of Comcast, recently argued that "AOL's investment [in DirectTV] undercuts the notion that there won't be true competition for broadband Internet access and undercuts the need for government involvement."[43] Although the AOL-Hughes alliance will certainly accelerate the development of satellite-based services, those services are not likely to provide the price-disciplining constraint on cable-based systems over the relevant time horizon.[44] Current subscribers to the AOL-Plus broadband access over DirectTV's satellite network must upload information over standard (narrowband) telephone lines at maximum speeds of 56.6 Kbps.[45]

34. When asked to compare cable with satellite-based broadband systems, Rupert Murdoch, chairman of Fox Networks, remarked "there is nothing satellite can do at the moment cable can't do a lot better."[46] In the following subsections, we give context to Murdoch's assessment, and thereby demonstrate why satellite-based services cannot be relied upon to provide a price-disciplining effect over cable-based systems over the relevant time horizon.

1. Broadband Communication over Satellite Is Expected to Be Only One-way Until at Least 2002

35. Satellite-based high-speed Internet service is not currently a close substitute to cable-based Internet access because, unlike cable systems, it provides high-speed connection in only one direction, from the satellite to the user's computer. Hughes, the owner of DirectTV, is developing a new satellite system, Spaceway, that could provide high-speed connections both

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Deal to Combine Internet Services with Digital TV Systems – High Technology, BALT. SUN, June 22, 1999, at 1D.

43. Elstrom, *supra* note 24, at 25.

44. Jan Howells, *Intel and Hughes Collaborate on Digital Satellite Set-Top Boxes*, NEWSWIRE, June 22, 1999, at *1.

45. *GM: AOL and Hughes Electronics Form Alliance to Market Digital Entertainment and Internet Services*, M2 PRESSWIRE, June 22, 1999, at *1.

46. John Durie, *The Battle for Broadband Control*, AUSTRALIAN FIN. REV., June 22, 1999 (emphasis added).

ways. Unfortunately, this closer substitute for cable-based Internet service will not be available until at least 2002.[47]

36. Even the one-way *high-speed* capability of satellite-based service is inferior with respect to customer connection to the Internet. Unlike the high-speed services offered by cable and telephone companies, AOL-Plus subscribers using DirectPC will not be connected continuously to the Internet.[48] The inconvenience to the consumer of having to dial-in each time to establish a connection will certainly influence the decision-making process of potential customers.[49]

2. Satellite Internet Services Entail Higher Up-front and Monthly Service Prices Than Cable Internet Providers

37. Surprisingly, DirectPC will not even have an advantage with respect to existing DirectTV subscribers, since customers wanting to add high-speed Internet to their package must purchase a separate dish.[50] As of June 1999, roughly 40,000 customers had subscribed to DirectPC.[51] The costs of the DirectPC dish are about $200. Unlike the monthly fee charged by cable providers, DirectPC is priced on an hourly basis.[52] For example, high-volume users can expect to pay as much as $129.99 per month for the service.[53] Compared to cable-based Internet

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47. *AOL to Invest $1.5 billion in Hughes Electronics – Deal to Combine Internet Services with Digital TV Systems – High Technology*, BALT. SUN, June 22, 1999, at 1D.

48. Jon Healey, *Leading High-Tech Companies Pledge to Expand Wireless Internet Service*, SAN JOSE MERCURY NEWS, June 22, 1999, at *1.

49. STRATEGIS GROUP, *supra* note 8, at 76.

50. Healey, *supra* note 48, at *1.

51. Les Freed & Frank J. Derfler, Jr., *Satellite*, PC MAGAZINE, Mar. 31, 1999 (downloaded from web site at www.zdnet.com/ products/stories/reviews on Aug. 15, 1999).

52. *Id.*

53. *Id.* ("The company offers three levels of service: $29.99 per month for 25 hours, $49.99 for 100 hours per month, and $129.99 for 200 hours per month. If you go over your monthly time limit, you pay $1.99 for each additional hour.").

providers, the combination of the up-front investment and the monthly price is substantially more expensive.[54]

D. The High-Speed Internet Services Market Is Highly Concentrated

1. Standard Antitrust Analysis Demonstrates that the High-Speed Internet Services Market Is Highly Concentrated

38. Even under the generous assumption that DSL and satellite have the same "future competitive significance" as cable-based broadband service,[55] the broadband Internet access market is extremely concentrated. In any given local market, there is typically only one cable-based Internet provider.[56] Moreover, over the relevant time horizon, there will be only a few DSL and satellite providers. Furthermore, a concentration index based on the current number of subscribers potentially overstates the competitive significance of non-cable broadband providers, because it ignores the large first-mover advantages of cable firms.

39. As we described earlier, high-speed Internet services markets are local in nature. Measures of concentration at a local level are not readily available, however, because carriers only provide information on subscribers at the national level in their quarterly financial filings. It is only possible to draw inferences about the *average* local level of concentration based on a nationwide measure of concentration.

40. The Herfindahl-Hirschman Index (HHI) represents a standard antitrust tool used to assess the measure of concentration in any market.[57] To compute the HHI at the national level, we examined the most recent SEC Form 10-Q filings supplied by high-speed Internet providers.

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54. SELWYN, KRAVTIN & COLEMAN, *supra* note 32, at 77.

55. *See Merger Guidelines*, § 1.411. The Guidelines recommend that one use the best proxy for "future competitive significance" when analyzing market concentration.

56. Except, of course, in the limited overbuild situations that exist, such as Thousand Oaks, California.

57. *See, e.g.*, DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 344

Although DSL and satellite services do not represent a close substitute for the reasons outline above, to be conservative, we included DSL and satellite subscriber levels in our HHI analysis as market "participants."[58]

TABLE 2: HHI ANALYSIS OF AVERAGE LOCAL BROADBAND INTERNET ACCESS MARKET, AUGUST 1999

Carrier	Subscribers	Share	Share Squared x 10,000
Cable[(1)]	800,000	83.6%	7,000
DSL[(2)]	116,180	12.2%	148
Satellite[(3)]	40,000	4.2%	17
TOTAL	1,208,180	100%	7,165

Sources: (1) Kinetic Strategies, *Cable Modem Customer Count Tops 1 Million*, CABLE DATACOM NEWS, August 1999, at 2 (downloaded from www.CableDatacomNews.com on Aug. 1, 1999); (2) *Deployment—Updated* (downloaded from www.xdsl.com on Aug. 18, 1999); (3) Jon Healey, *Leading High-Tech Companies Pledge to Expand Wireless Internet Service*, SAN JOSE MERCURY NEWS, June 22, 1999, at *1.

As Table 2 shows, the HHI for the average residential broadband Internet access is over 7,000. According to the *Merger Guidelines*, the average local market for high-speed Internet services is "highly concentrated."[59] Our share calculations are consistent with recent reports by telecommunications analysts.[60]

2. High Startup Costs Constrain Fringe Participants' Ability to Impose Price Discipline in the Broadband Internet Access Markets over the Relevant Time Horizon

41. Some commentators include wireless and electric utilities as "viable technologies and service providers in the broadband race."[61] In accordance with the *Merger Guidelines*, we assess the likelihood that those "uncommitted" entrants would "enter rapidly into production or sale of a market product in the market's area, without incurring significant sunk costs of entry

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(HarperCollins, 2d ed. 1994).

58. *See Merger Guidelines*, § 1.0.

59. The *Merger Guidelines* describe markets with an HHI above 1800 as "highly concentrated." *See Merger Guidelines*, at § 1.5.

60. *See, e.g.*, *The Battle for the Last Mile*, ECONOMIST, May 1, 1999, at 59 (showing that cable controls 80 percent of the high-speed Internet services market).

and exit."[62] Based on our analysis of the state of development of electric utilities and wireless providers of broadband, we do not believe that those technologies can be relied upon to instill price discipline in the broadband market.

42. With respect to electric utilities, no potential entrants will be positioned to instill price discipline over the next two years. For example, Electric Lightwave, an aggressive entrant in the broadband market, will only reach 7,500 route miles by the end of 2000.[63] As recently as last year, ten international companies, including Norweb Communications and Nortel, were still negotiating the agreements on how to proceed with deployment of an electricity distribution network to provide telecommunications services.[64] Thus, the electric utilities' impact on the market for broadband services will not be realized for several years. According to one industry analyst, the potential market of the United States is "being investigated," with nothing but preliminary tests planned for the summer of 1999.[65]

43. Wireless entrants in the broadband residential Internet market likewise will not compete effectively with cable-based broadband services for years to come. The prices of the first wireless local loop (WLL) providers in the United States are substantially higher—and the speeds lower—than cable alternatives. For example, Clearwire Technologies offers a near-line-of-sight, point-to-multipoint, symmetrical WLL service with speeds of up to 640Kbits/sec

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61. *See* Remarks of Commissioner Michael K. Powell before the Federal Communications Bar Association (Chicago Chapter), June 15, 1999, at 5 (downloaded from FCC web site at www.fcc.gov/speeches/Powell/spmko 902.html).

62. *See Merger Guidelines*, at § 1.0.

63. *See* Philip Carden, *Meet the New-Age Carriers*, NETWORK COMPUTING, July 12, 1999, at 40.

64. Rodger Bradley**,** *Quest for the holy grail The ability to move data across an electricity supply network is within our grasp*, ELECTRICAL REV., Apr. 27, 1999, at 18.

65. *Id*.

(symmetrical).[66] Clearwire's Internet service is priced between $95 to $495 per month. In April 1999, Clearwire rolled out its *first* commercial deployment of the service in Dallas.[67] Other WLL products include WavePath's MMDS-based iSpeed wireless Internet access service (priced between $150 per month and $400 per month),[68] and Wireless One's Warp One (priced between $150 and $890 per month).[69]

44. Wireless local loop providers face several obstacles to compete effectively in broadband markets. First, wireless carriers face high costs of infrastructure components—some broadband wireless local-loop contracts sell for $600 to $900 per line.[70] Second, WLL faces speed and distance limitations.[71] Third, wireless deployment lacks a cohesive set of standards governing the technology.[72] Fourth, WLL is threatened by security concerns, as signals are sometimes intercepted.[73] Fifth, if there are too many users on a channel, congestion may arise.[74] As one analyst suggests, WLL cannot be relied upon to instill price discipline in the broadband Internet marketplace over the relevant time horizon: "While wireless technology could eventually provide an effective solution for local-loop access, its relatively slow adoption rate has cast some doubt as to whether it will be a viable alternative *in the near future*."[75] According to the Strategis Group, wireless providers are not expected to have a serious impact on the broadband market until 2003.[76]

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66. Information downloaded from company web site www.clearwire.com on Aug. 18, 1999.
67. Elizabeth Clark, *Special Report: Wireless*, NETWORK MAGAZINE, June 1, 1999, at 37.
68. Information downloaded from company web site at www.wavepath.com on Aug. 18, 1999.
69. Information downloaded from company web site at www.warp one.com on Aug. 18, 1999.
70. *Id.*
71. Clark, *supra* note 67, at 37.
72. *Id.*
73. *Id.*
74. *Id.*
75. *Id.* (emphasis added).
76. STRATEGIS GROUP, *supra* note 8, at 7.

E. The High Degree of Concentration in the Broadband Internet Access Market Can Be Expected to Continue over the Relevant Time Horizon

45. Several telecommunications research firms have estimated the number of broadband subscribers by medium over the relevant time horizon. The general consensus supports the view that cable is positioned to dominate the market for broadband Internet access over the relevant time horizon. Table 3 summarizes the predictions of three such firms.

Table 3: Broadband Internet Projections in 2002, by Consultancy

Consultancy	Ratio of Cable Customers to DSL Customers
Forward Concepts[1]	5.1
Forrester Research[2]	4.0
Strategis Group[3]	3.2
AVERAGE	4.1

Sources: (1) *Forward Concepts Figures from Mark LaPedus, Non-DSL is Alive and Kicking*, ELECTRONIC BUYERS NEWS, May 18, 1999, at 40; (2) Sam Howe Verhovek, *AT&T Fights for Control in Struggle Over Internet Access*, N.Y. TIMES, Feb. 15, 1999, at *1 (quoting Forrester projections); (3) Strategis Reports, High-Speed Internet 1998 – 1999, Dec. 1998, at 229.

As Table 3 shows, those telecommunications analysts agree that cable providers will control between 75 and 83 percent of the residential broadband Internet market in 2002. Moreover, those analysts project, at best, less than two percent of the total market going to satellite technology.[77]

III. THE MONOPOLIZATION OF THE HIGH-SPEED INTERNET SERVICES MARKET WILL ALSO EXPAND AT&T'S CONTROL IN VERTICALLY-RELATED MARKETS AS HIGH-SPEED INTERNET USERS MIGRATE TO AT&T'S NETWORK

46. The AT&T-MediaOne merger threatens to lessen competition in various markets associated with broadband services. Within the group of cable firms, the dominant providers of broadband services, almost all service is provided by Excite@Home (in which AT&T has a 58

77. *See, e.g.*, *Cable Telephony to Penetrate Over 10% of Homes Passed by 2005*, Strategis Group Press Release (July 22, 1999), available at http://www.strategisgroup.com/press/pubs/ctrends.html.

percent voting interest) and Roadrunner (in which MediaOne has a 50 percent voting interest).[78] Of the 800,000 total U.S. cable-based Internet subscribers at the end of the first quarter of this year, Excite@Home and Roadrunner had 395,000 customers (49 percent) and 325,000 customers (41 percent), respectively.[79] The AT&T-MediaOne Merger thus places 90 percent of all cable-based Internet customers under the control of one firm. The substantial share of broadband customers controlled by a single firm *in connection with* the exclusive arrangements between AT&T and its ISPs raises serious vertical foreclosure issues. In particular, the merger will allow AT&T to extend its leverage into vertically related markets.

47. A growing body of theoretical literature explains how a monopolist in a given market can extend its power into vertically related markets through tying. For example, Professor Michael Whinston demonstrates that tying can increase profitability given economies of scale and imperfect competition *in the tied market.*[80] Professors Dennis Carlton and Michael Waldman of the University of Chicago extend Whinston's work to investigate how the tying of complementary products can be used to preserve monopoly positions *in the primary market*.[81] The authors use dynamic models that point to the monopolist's ability to deter entry of efficient firms into the monopolist's primary market and related markets. Professors Carlton and Waldman find that tying will preserve monopoly power in the primary market whenever the alternative producer in the tied market faces entry costs or the demand for the complementary good is charac-

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78. For Road Runner's subscribers, see *TCI Ventures Group Reports Third Quarter Results*, PR NEWSWIRE, Nov. 20, 1999. For @Home's subscribers, see *@Home Network Reports First Quarter Results*, Excite@Home Corp. Press Release (Apr. 13, 1999), available at http://www.home.net/news/pr_990413_01.html.

79. *Id.*

80. Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990).

81. Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, Working Paper #145, George J. Stigler Center for the Study of the Economy and the State, University of Chicago, July 1999.

terized by network effects. With respect to policy implications, Professors Carlton and Waldman suggest that any efficiencies from tying should be weighed against potential consumer harm, and that "efficiencies achieved through physical integration … should receive greater weight than efficiencies achieved through contract."[82] Another recent paper by Professor Choi of Columbia University analyzes the effects of tying arrangements on research and development (R&D) incentives.[83]

48. Applied to the present case, the merger will enhance AT&T's current strategy of tying ISP services such as Internet access with last-mile broadband transmission services, and thus increase its power in vertically-related markets.[84] The effects of tying on competitive ISPs have been devastating. For example, 66 percent of AOL subscribers who use @Home canceled their AOL accounts.[85] Even AT&T's own cable and broadband services president has questioned whether AT&T should be so closely tied to a single source of Internet content.[86] In the following

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82. *Id*. at 38.

83. Jay Pil Choi, *Tying and Innovation: A Dynamic Analysis of Tying Arrangements***,** Columbia University Economics Disc. Paper No. 9798-15, August 1998. Professor Choi shows that tying is a means through which an *established firm* can commit to more aggressive R&D investment in the tied goods market. Moreover, Professor Choi is able to demonstrate that tying has the strategic effect of reducing a *rival's* incentives to invest in R&D.

84. IBM's practice in the 1930s of requiring purchasers of its tabulating machines also to purchase tabulating cards from IBM is the classic example of "tying through contracting." In the 1970s, IBM's central processing unit was alleged to be incompatible with the plug-in components of rivals. That practice has become the classic example of "tying through product design." For these and similar tying cases, Chicago School antitrust scholars provided efficiency explanations for the practices in question (such as economic price discrimination, quality control, risk sharing, evasion of price regulation on the tied product, and so forth) that did not depend upon the firm's monopolization of the market for the tied product. *See* ROBERT H. BORK, THE ANTITRUST PARADOX (Basic Books 1978); RICHARD A. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE (University of Chicago Press 1976); J. Gregory Sidak, *Debunking Predatory Innovation,* 83 COLUM. L. REV. 1121 (1983); Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 307-09 (1981). We do not see such efficiency justifications present in this case. Of course, some scholars *outside* the Chicago School—most notably, two who have subsequently defended AT&T's cable acquisition of TCI—argued in the early 1980s that even the IBM peripheral cases raised a serious risk of "predatory innovation." *See* Janusz A. Ordover & Robert D. Willig, *An Economic Definition of Predation: Pricing and Product Innovation*, 91 YALE L.J. 8 (1981).

85. *@Home Trumps AOL*, Bloomberg News, Apr. 26, 1999.

86. *Id*. (reporting comments of Leo Hindery).

sections, we examine the threat to consumers and advertisers in the broadband Internet content, software, and e-commerce markets.

A. The MediaOne Acquisition Will Expand AT&T's Control Over Broadband Content

1. AT&T Will Be Able to Direct Broadband Content Away from Competing Providers and Thereby Significantly Influence How Internet Content Is Presented to Customers

49. The portals market provides the first screen to the Internet for subscribers of broadband transport. Current participants in the national portals market include AOL, Yahoo!, and Lycos. Portals create value by aggregating content and gathering customer-specific information for use in targeted advertising.[87] Compared with narrowband portals, broadband portals should be able to offer consumers a completely different Internet experience, including new services such as real-time video transmission, video-email, interactive advertising, and video conferencing.[88] To expand its control of broadband Internet content, @Home acquired Excite.com, one of the most popular portals on the Internet, in June 1999.[89]

50. AT&T will be able to direct broadband content over its network in several ways. First, AT&T will be positioned to prevent customers from accessing web sites outside of Excite@Home and thereby control how broadband content is presented to customers.[90] The Director of Business Development for Broadband Data Services for GTE Media Ventures describes AT&T's closed systems as follows:

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87. *See, e.g.*, M. Beer, *Portals Web Sites Help Break Shoppers' Impulse Barrier*, STAR TRIB., Jan. 31, 1999, at 6D.

88. *See* A. Davis, *Cable Modems: A High-Bandwidth Solution to Internet Access*, NETWORKED MULTIMEDIA FOR BUS., Jan./Feb. 1998.

89. Saul Hansel, Excite@Home *Is Often at Odds With Its Cable Parents*, N.Y. TIMES, June 9, 1999, at 1.

90. *See* Declaration of Albert Parisian on behalf of GTE Corp., at ¶¶ 3-10, Applications for Consent to the Transfer of Control of Licenses MediaOne Group, Inc., CS Dkt. No. 99-251 (filed Aug. 23, 1999) [hereinafter *Parisian Declaration*].

> In closed systems, the cable modem customers do not need to access the public Internet to reach content supplied directly by their cable provider's affiliated ISP. Content from outside ISPs (like AOL), portals (like Yahoo!) and content providers (like Broadcast.com), on the other hand, can only be reached by sending and receiving data through the affiliated ISP's backbone and over the public Internet connection maintained by that ISP. Because the system is closed, when cable customers turn on their modem service, they have no choice but to enable a hard-wired connection to their cable provider's ISP.[91]

Thus it is possible for AT&T to "hard-wire" its system to quickly consolidate a position in vertically-related broadband industries.

51. Second, AT&T will have an incentive to establish proprietary network management and software protocols that could significantly reduce the usefulness of competing software and content. Once these proprietary protocols are established, software and content providers would have a strong incentive to write for AT&T's system first.

52. Third, AT&T could use the bargaining power generated by its large captive customer base to negotiate exclusive arrangements with leading software and content providers. For example, in January 1999, AT&T entered into an agreement with RealNetworks that precludes AT&T from using other streaming video software.[92] It is estimated that 85 percent of streaming media broadcasts use RealNetwork's software.[93] If AT&T were to enter into a two-way exclusive arrangement with RealNetworks for the *next* version of its software, AT&T could preclude rival broadband providers from developing content to play on the upgrade.

53. Finally, by establishing a position of dominance early in the competition for broadband customers, AT&T could capture critical first-mover advantages. First-mover advantages appear to be highly durable in Internet industries. For example, Yahoo! established itself as

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91. *Id*. at ¶¶ 9-10.

92. *@Home, RealNetworks Team Up on Broadband Streaming Media Delivery Platform*, EDP WEEKLY'S MONITOR, Jan . 18, 1999, at 1.

the first-mover in the narrowband portal market and today maintains a "powerful first-comer brand" that keeps it the market leader.[94] According to its chief executive officer, @Home's goal is to lock up all potential broadband customers before the exclusive contracts with AT&T expire: "By this point, Excite's service will be so popular that the cable system will want to offer it."[95]

54. The cumulative effect of those anti-competitive acts would be to limit future broadband competitors' ability to challenge ATT-MediaOne's hegemony in the broadband markets. Moreover, AT&T will have raised the switching costs so high that consumers will not be able to substitute away from cable to another technology once it has become an effective competitor.

2. AT&T Could Extract Larger Economic Rents from Companies Wishing to Advertise on Its Own Portal

55. Once it captured a sufficiently large share of broadband content and customers, AT&T could extract larger economic rents from companies wishing to advertise on the Excite@Home portal. The opportunity to advertise on narrowband portals would not constrain AT&T's ability to raise advertising prices, because advertisers do not view narrowband advertisement as a close substitute. In the future, broadband and narrowband services are likely to be as dissimilar as radio and television are today. For example, advertising over broadband connections "allow[s] for so-called rich media ads capable of various interactive features and, coupled with specific targeted demographics, allow[s] high-speed service providers to charge higher

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93. Randall Rothenberg, *Rob Glaser, Moving Target*, WIRED, Aug. 1999, at 129, 131.

94 Jim Hu, *AT&T Moves Good for Excite, Exec Says*, CNET NEWS, May 12, 1999 (downloaded from web site at www.cnetnews.com on Aug. 1, 1999).

95. Saul Hansell, *A Hitch to Marital Bliss: Excite@Home Is Often at Odds with its Cable Partners*, N.Y. TIMES, June 9, 1999, at 1(quoting Thomas A. Jermoluk).

rates."[96] One study finds that the quality levels made possible by broadband advertising generate 18 times the recall rate of dial-up advertising.[97] Moreover, as we explained earlier in this affidavit, the profile of the typical broadband customer is sufficiently different from that of a narrowband user. Hence access to *broadband* customers alone ensures that narrowband advertising cannot constrain AT&T's pricing of broadband advertising.

56. There is evidence that AT&T is currently exercising market power in the broadband advertising market. According to an industry report, Excite@Home already charges "significantly more for ads than its competitors."[98] Those higher rates will likely be passed onto broadband customers in the form of higher e-commerce prices. In the next section, we estimate the extent of consumer welfare loss resulting from higher e-commerce prices.

B. The MediaOne Acquisition Will Expand AT&T's Control Over E-Commerce

57. E-commerce is expected to generate $29 billion in transactions by 2002.[99] According to William Myers, chief executive of the United States Internet Council, the combination of AT&T and MediaOne would be "a crippling blow to the growth of online commerce."[100] By channeling all broadband customers and content through its own portal, AT&T will be able to raise prices charged to broadband advertisers. It is helpful to view the advertising price increase by AT&T as a tax on sellers of e-commerce, which may or may not be passed onto consumers of e-commerce.

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96. Corey Grice, *Road Runner Beefs Up Advertising Push*, CNET NEWS.COM, Aug. 4, 1999.

97. Fred Dawson, *Excite@Home Gets Rolling On Broadband-Enhanced Ads*, MULTICHANNEL NEWS ONLINE, June 14, 1999 ("Researchers are finding that advertising offered at quality levels made possible by access speeds four times or better above dial-up generate 18 times the recall levels of GIF [graphic interface format] banners," according to Macromedia Inc. spokeswoman Andrea Coffey).

98. Grice, *supra* note 96, at *1.

99. John Borland, *Living Up to the Broadband Future*, CNET NEWS, July 28, 1999 (downloaded from www.cnetnews.com on Aug. 1, 1999).

100. Clint Sweet, *Fortunes Are at Stake as Cable, Internet Access Merge*, SACRAMENTO BEE, June 24, 1999,

58. To determine the magnitude of the consumer welfare impact of a price increase of e-commerce goods, one needs an estimate of the demand elasticity for e-commerce. Professor Austan Goolsbee of the University of Chicago uses new data on the purchase decisions of approximately 25,000 online users to examine the effects that local sales taxes have on Internet commerce.[101] He finds that a 5 percent increase in Internet taxes would decrease the number of e-commerce customers by roughly 18 percent (equal to the product of a -3.6 percent elasticity and a 5 percent tax).[102]

59. To determine the associated welfare loss, one would need estimates of the number of customers subscribing to AT&T's broadband service and the average amount of annual e-commerce spending per AT&T broadband customer. The loss in consumer welfare resulting from a five-percent increase in e-commerce prices could then be decomposed into two parts. First, for customers who continue to purchase online after the price increase, the welfare loss would be the product of the difference in e-commerce prices and the number of remaining customers. Second, the price increase will drive away some broadband customers that would have purchased online in the alternative. That loss in welfare would be computed as the area beneath the demand curve bounded by the old and new prices. Based on the expected high growth in e-commerce, the high elasticity of demand for e-commerce, and the potentially large propensity for broadband customers to purchase goods on-line, we expect the combined effect of the two sources to be millions of dollars per year.

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at *1.

101. Austan Goolsbee, *In a World Without Borders: The Impact of Taxes on Internet Commerce*, Conference Paper at American Enterprise Institute, Mar. 19, 1999.

102. *Id*. at 16.

C. AT&T Would Have a Greater Incentive, Relative to That of an Independent Streaming Video Provider, to Slow Innovation in Streaming Video in an Effort to Avoid Cannibalizing AT&T's Existing, Traditional Cable Video Programming

60. For some customers of broadband content, streaming video and cable television may be substitutes.[103] According to Microsoft's chief technology officer, with high bandwidth and fast chips, "PC video will also be higher quality than anything on TV."[104] When streaming video and cable television begin to compete for the same customers, AT&T will likely view its streaming video services as cannibalizing its cable video offerings. To avoid losing cable customers and their associated large margins, AT&T will then have an incentive to slow innovations in streaming video.

61. There is already some evidence that AT&T recognizes the threat of cannibalization. For example, AT&T's contract with @Home stipulates that @Home is required to restrict individual streaming sessions of "broadcast-quality video" to ten minutes.[105] Indeed, AT&T could find it advantageous to exert its market power in the streaming video market through incompatible designs and exclusive contracts.

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103. *See, e.g., Neil Gross & Steven V. Brull, The Net's Next Battle Royal—Video: The technology isn't there, but the competition is,* BUS. WK., June 28, 1999, at 108.

104. *Id*. (quoting Nathan P. Myhrvold).

105. *See* Fred Dawson, *RealNetworks, @Home Team Up on Streaming*, MULTICHANNEL NEWS ONLINE, Jan. 18, 1999, at *1.

IV. THE GAINS FROM IMPOSING OPEN ACCESS ON AT&T'S CABLE SYSTEM OUTWEIGH THE LOSSES FROM ALLOWING AT&T TO EXERCISE MARKET POWER IN BROADBAND INTERNET ACCESS AND VERTICALLY RELATED MARKETS

A. The Commission's Decision to Mandate Open Access Can Be Cast in a Standard Decision-Theoretic Framework

62. In our opinion, the Commission should, as a condition of approving the merger, impose open access of AT&T's cable system if the potential harm to consumers and advertisers in broadband Internet access and vertically related markets without open access outweighs the sum of the incremental cost of implementing an open-access regime and the expected cost to consumers of a diminished level of broadband investment by AT&T and its competitors with open access.[106]

B. The Expected Social Costs Associated With Not Imposing Open Access Are Substantial

63. We have explained why the acquisition of MediaOne by AT&T will increase AT&T's incentive and ability to exercise market power in the broadband Internet access market and other vertically related markets. We expect the likelihood of harm to be high during the relevant time horizon of two years, because neither DSL nor satellite-based providers will have sufficient ability to discipline AT&T's exercise of market power. Indeed, in some local markets, DSL providers may *never* have the ability to compete effectively.

64. The associated consumer welfare loss in the event of an exercise of market power will be substantial. According to the Strategis Group, there will be roughly 9.1 million house-

106. This principle is simply a variant on the argument, familiar in antitrust policy, that a liability rule should minimize the combined costs of false positives (Type I errors), false negatives (Type II errors), and administrative costs. *See* Paul L. Joskow & Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 YALE L.J. 213, 223 (1979); Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 318–19 (1981); Richard C. Schmalensee, *On the Use of Economic Models in Antitrust: The* ReaLemon *Case*, 127 U. PA. L. REV. 994, 1018–19 n.98 (1979); J. Gregory Sidak, *Debunking Predatory Innovation*, 83 COLUM. L. REV. 1121, 1144–45 (1983); Daniel L. Rubinfeld & David E. M. Sappington, *Efficient Awards and Standards of Proof in*

holds subscribing to broadband Internet by 2003.[107] If broadband Internet service prices after the MediaOne acquisition were five percent above what would otherwise exist, existing subscribers would lose several million dollars per month. Customers who no longer find it economical to chose broadband service as a result of higher prices would also be harmed. In addition, consumers and advertisers in vertically related markets such as streaming video and portals would incur substantial welfare losses.

C. The Expected Social Costs Associated With Open Access Are Insubstantial

65. Because we are focusing solely on the issue of whether to open AT&T's networks, we do not need to consider, for example, the operational efficiencies or increased competition in local voice services claimed by AT&T and MediaOne as a beneficial event associated with imposing open access.[108] Other benefits of the merger claimed by AT&T may be affected by enforcing an open-access regime. For example, AT&T claims that an open-access regime may alter its incentives to invest in cable-based facilities at the margin and hence potentially lower consumers' access to broadband in some areas. In response to the U.S. District Court's decision in June 1999 to allow open access as a condition of municipal approval of the transfer of TCI's franchise in Portland, Oregon, an AT&T vice president said that "the real losers are likely to be the citizens of Portland and Multnomah County. This decision can only have the potential to delay and reduce the new services that companies like AT&T will be able to offer them."[109]

Judicial Proceedings, 18 RAND J. ECON. 308 (1987).

107. STRATEGIS GROUP, *supra* note 8, at 11.

108. In the Matter of Applications for Consent to the Transfer of Control of Licenses, MediaOne Group, Inc., Transferor, to AT&T Corp., Transferee, Applications and Public Interest Statement, Federal Communications Commission, CS Dkt. No. 99-251, at 20-30 (filed July 7, 1999) [hereinafter *AT&T Public Interest Statement*]. For example, AT&T claims that the merger will produce benefits in the provision of telephone, Internet, and cable services.

109. *AT&T reaction to U.S. District Court decision*, AT&T Corp. Press Release, June 4, 1999 (remarks of Mark Rosenblum). Available at http://www.att.com/press/item/0,1193,502,00.html.

Moreover, AT&T claims that a decrease in its own investment may undermine the intensity of broadband competition.[110] For example, in its recent public interest statement submitted to the Commission, AT&T argued that recent Internet upgrades for it cable systems will "spur investment by competitors."[111] Below we examine several reasons why AT&T's threat of decreased broadband investment is incorrect.

1. AT&T's Annual Income-to-Investment Ratio for Cable Internet and Voice Service Vastly Exceeds Its Weighted-Average Costs of Capital

66. To examine the extent to which an open-access regime would blunt AT&T's incentives to invest in cable-system Internet upgrades, we estimated the expected cash flows that AT&T can earn on each cable customer and the firm's weighted-average cost of capital. A basic decision rule in investment theory is that a firm will invest in a project if and only if the "project's return," defined as the ratio of expected annual income to investment, exceeds the firm's weighted-average costs of capital.[112] The decision rule is stated algebraically below:

$$\frac{Annual\ Income}{Investment}\ must\ exceed\ r_D(1-T_c)\frac{D}{V}+r_E\frac{E}{V},$$

where r_D is the firm's current borrowing rate, T_c is the marginal corporate income tax rate, D is the market value of the current debt, E is the market value of the current equity, r_E is the expected rate of return on the firm's stock, and V is the total market value of the firm.

67. Detailed calculations of weighted-average cost of capital and AT&T's expected annual returns per cable customer are provided in the Appendices 3 and 4, respectively. If a par-

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110. AT&T similarly argued before San Francisco's Board of Supervisors that open access would undermine the company's incentive to invest. *See, e.g.*, John Schwartz, *Open Access Fight Escalates*, WASH. POST, July 28, 1999, at E01.

111. *AT&T Public Interest Statement*, *supra* note 108, at 29.

112. RICHARD A. BREALEY & STEWART C. MYERS, PRINCIPLES OF CORPORATE FINANCE 466 (McGraw-Hill

ticular open-access regime pushed the project's return below AT&T's weighted-average cost of capital, then one might expect AT&T to decrease its investment, on the margin. Table 4 shows a breakdown on the margin currently enjoyed by AT&T.

TABLE 4: AT&T'S EXPECTED RETURNS ON CABLE HOUSEHOLDS

Upgrades Per Cable Customer[1]		Expected Annual Revenues Per Cable Customer[2]	
Internet-ready Upgrades	$150	Expected Internet Customer*	$92
Voice-ready Upgrades	$500	Expected Local Voice Customer*	$26
INVESTMENT	$650	AVERAGE ANNUAL INCOME**	$118

Notes: * For any point in the future, expected revenues are calculated as the product of Internet (voice) revenues at that time and the percentage of cable customers who subscribe to Internet (voice) service at that time. Average annual income is the average of the expected income over a 20-year horizon. After the year 2007, we assume five-percent growth in the adoption rate of both cable and Internet service. ** The estimated revenues per cable customer do not include Internet advertising or e-commerce revenues.
Sources: (1) Testimony of Tod A. Jacobs, Sanford C. Bernstein & Company, Presentation to the Committee on the Judiciary, Re: H.R. 1685 & H.R. 1686, submitted June 20, 1999. (2) Lehman Brothers, Inc. Investext Analyst Report, *Telecom Services: ADSL Versus Cable Modems* (June, 2, 1999).

AT&T's current ratio of annual income to investment under a closed architecture regime is $118 divided by $650, or 18.1 percent.[113] An analysis of AT&T's income statements reveals that its weighted-average cost of capital for 1999 is 12.0 percent.[114] Therefore, AT&T currently has a *strong* incentive to undertake the necessary upgrades to provide voice and Internet service to its cable customers, because its project return vastly exceeds its weighted-average costs of capital. If, for example, an open-access regime were to lower prices by 10 percent on broadband Internet access, AT&T's average annual project margin would only fall to 16 percent—still in excess of its weighted-average costs of capital. Even under an extreme assumption that broadband prices were to fall by 20 percent, the new project margin of 12.1 percent would encourage AT&T to continue upgrading its cable system. It is important to note that our estimate of expected revenue per cable customer is conservative because it does not include Internet advertising or e-

4th ed. 1991).

113. The numerator of that ratio does not include expected revenues from Internet advertising or e-commerce.

commerce revenues, which currently represents as much as 60 percent of Excite@Home's stream of revenues.[115] It is therefore unlikely that AT&T would discontinue its cable Internet strategy should the Commission impose an open-access regime.[116]

2. AT&T's Position on Investment Depends on Whose Network Is the Subject of Open Access

68. AT&T argues that open access would result in immediate losses owing to the fact that it overpaid for its cable customers.[117] But that argument rests on the assumption that AT&T never incorporated the possibility of an open-access regime into its cable-valuation models. To the contrary, AT&T purchased cable subscribers knowing that it was already subject to several forms of open-access regulation. One such form of regulation is leased access, which the Commission—*at the urging of AT&T's joint venturer, Time Warner*—determined in March 1996 should be priced according to the efficient component-pricing rule (ECPR).[118] A second form of open-access regulation is "must carry," the constitutionality of which was sustained in the Supreme Court's two decisions in *Turner Broadcasting System, Inc. v. FCC*.[119] In fact, any firm

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114. AT&T CORP., SEC FORM 10-K/A, Results of Operations (filed July 12, 1999).

115. Dick Satran, *Excite@Home Denies Merger, But Sees Deals*, REUTERS, Aug. 3, 1999.

116. The same conclusion is reached under a slightly different investment rule known as positive net present value. The initial outlays for upgrades to ISP and voice are still $650 per customer. The present value of cash flows discounted at AT&T's weighted-average costs of capital are $827, which far exceeds the upgrade costs. A 10 percent reduction in the price of ISP service resulting from open access reduces AT&T's present discounted value of cash flows to $761, which still exceeds AT&T's initial outlays.

117. *See, e.g.*, Declaration of Janusz A. Ordover & Robert D. Willig on behalf of AT&T Corp, at 21) (emphasis in original), attached to Joint Applications of AT&T Corp. and Tele-Communications, Inc. for Transfer of Control to AT&T of Licenses and Authorization Held by TCI and Its Affiliates or Subsidiaries, CS Dkt. No. 98-178 (filed Nov. 13, 1998) [hereinafter *Ordover-Willig Declaration*].

118. Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation Leased Commercial Access, Order on Reconsideration of the First Report and Order and Further Notice of Proposed Rulemaking, Federal Communications Commission, MM Dkt. No. 92-266, CS Dkt. No. 96-60, 11 F.C.C. Rcd. 16,933, 16,958–59 ¶ 61 (1996) (quoting Time Warner comments).

119. Turner Broadcasting System, Inc. v. FCC, 512 U.S. 622 (1994) (*Turner I*); Turner Broadcasting System, Inc. v. FCC, 117 S. Ct. 1174 (1997) (*Turner II*); *see also* Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1187, 1240-47 (1999).

subject to the jurisdiction of the FCC knows that investment in the cable television industry has been subject to a cycle of regulation, deregulation, reregulation, rederegulation, and so on.[120]

69. To determine whether AT&T contemplated the possibility of open access of its *own* cable systems at the time that it initiated the TCI and MediaOne acquisitions, it is illuminating to examine what AT&T was saying about open access of its *competitors*' systems. For example, near the time that it announced its intention to purchase MediaOne, AT&T was advocating open access of the ILECs' narrowband networks.[121] Three years earlier, AT&T was on notice of, and did not challenge, the Commission's decision to mandate efficient component pricing for LEC provision of broadband capacity over open video systems (OVS),[122] pursuant to newly added section 653 of the Communications Act.[123] Moreover, in a June 1999 affidavit submitted to the Commission during the *Local Competition Second Further Notice of Proposed Rulemaking*, AT&T's experts scoffed at the view that open access would undermine an ILEC's incentive to invest in its network:

> The incumbent LECs' economists invoke much argument and rhetoric in an attempt to convince the Commission that TELRIC based pricing will "destroy" the incentive for incumbent LECs to innovate. More precisely, the economists assert that incumbent LECs will not undertake costly research and development to bring to the market new services and products if they are required to give competitors access to the underlying facilities at cost-based rates. . . . These arguments amount to nothing more in the present context than misplaced drama.[124]

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120. *See* THOMAS W. HAZLETT & MATTHEW L. SPITZER, PUBLIC POLICY TOWARD CABLE TELEVISION: THE ECONOMICS OF RATE CONTROLS (MIT Press & AEI Press 1997); ROBERT W. CRANDALL & HAROLD FURCHGOTT-ROTH, CABLE TV: REGULATION OR COMPETITION? (Brookings Institution 1996).

121. Affidavit of R. Glenn Hubbard, William H. Lehr, Janusz A. Ordover & Robert D. Willig on behalf of AT&T Corp., at 7, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Federal Communications Commission, CC Dkt. No. 96-98 (filed June 10, 1999) [hereinafter *Hubbard-Lehr-Ordover-Willig Affidavit*].

122. Implementation of Section 302 of the Telecommunications Act of 1996; Open Video Systems, Second Report and Order, CS Dkt. No. 96-46, 11 F.C.C. Rcd. 18,223 (1996).

123. *Id.* at 18,226 ¶ 1.

124. *Hubbard-Lehr-Ordover-Willig Affidavit, supra* note 121, at 31.

If an ILEC's incentives were not dampened by mandatory unbundling at TELRIC-based prices, AT&T's experts argued, then the Commission could focus narrowly on the gains to consumers resulting from increased competition in local voice services.

70. But, when the focus of open access shifted to AT&T's own cable networks, AT&T and its experts reversed their opinion. In a November 1998 filing in support of AT&T's transfer application to acquire TCI, AT&T's experts argued that open access would blunt AT&T's incentives to upgrade its cable systems for Internet usage:

> Forced unbundling with its attendant regulatory uncertainty would likely slow down the investment in the development of broadband last mile data transport. Investing under the shadow of uncertain regulatory rules in an *innovative* service only exacerbates the already substantial risks associated with that investment. When an investor can be subjected to unanticipated regulatory constraints on its pricing or be required to sell its services at rates that do not reflect proper economic costs, the incentives to invest are potentially undermined. TCI and other cable companies did not sink hundreds of millions of dollars into upgrading their networks on the assumption that they will be forced to "unbundle" transport *if it is not in their private economic interest to do so*.[125]

That opposite view on the impact of open access on investment was later confirmed by AT&T's management. After the July 1999 hearings on open access of AT&T's systems before the San Francisco city supervisors, AT&T's general counsel argued that competitors such as AOL should not be allowed to "sit on the sidelines and let someone else spend hundreds of billions of dollars and then reap the gains with no investment cost. . . . Our response is if AOL wants a cable network, it can go invest in one itself."[126]

71. We believe that incentives for investment must be treated consistently. AT&T has not explained why incentives can be ignored with respect to a competitor's investment but are

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125. *Ordover-Willig Declaration, supra* note 117, at 21.

126. Michael Warren, *AT&T-AOL battle over cable access could shape Internet's future*, ASSOCIATED PRESS NEWSWIRES, July 25, 1999, at *1 (quoting James Cicconi, General Counsel, AT&T).

crucial when it comes to AT&T's own investment. If incentives *do not* matter, as AT&T argues when the focus is a competitor's network, then the Commission can narrowly focus on the consumer welfare benefits resulting from increased competition in broadband Internet access and vertically related markets. If incentives *do* matter, as AT&T argues when the focus is AT&T's own network, then AT&T necessarily would have incorporated the possibility of open access into its willingness to pay when it purchased cable subscribers from TCI and MediaOne. AT&T surely understood the regulatory risk of aggregating so much market share and thus discounted its offer to MediaOne to reflect the best—not the most optimistic—estimate of the value per subscriber in an environment that might include some version of open access.

72. Moreover, AT&T's own actions disprove its assertion that it faces a disincentive to "invest." In less than one year, AT&T has spent or committed to spend upwards of $100 billion to acquire the majority of the nation's existing cable infrastructure. When mapping a strategy for the delivery of residential broadband services, AT&T faced a make-or-buy decision. It chose to buy. Economic reasoning does not support AT&T's claim to have been deterred from "investing" in broadband infrastructure simply because it willingly decided to buy existing plant rather than devote equivalent billions of dollars to build a competing broadband network from the ground up.

73. The associated costs of imposing open access appear small as well. Even if AT&T were to discontinue investment in response to the Commission's decision to order open access, many consumers could choose DSL or satellite-based broadband connections (albeit at higher prices). AT&T argues that its cable investment has "spurred investment by competitors," and takes credit for ILECs that "have lowered prices and expanded coverage areas only in response

to the entry of substantial competitors."[127] The claim that DSL deployment is somehow *dependent* on cable deployment, however, has no theoretical or empirical basis. Evidence of AT&T and ILEC investment at the same time is not proof that one investment "caused" another. Moreover, even if it were established that AT&T's investment spurred the ILECs into action, the proposition that an ILEC would reverse deployment in response to an AT&T slowdown is an entirely separate matter.[128]

D. Because the Expected Social Costs Associated With Not Imposing Open Access Exceed the Expected Social Costs Associated With Open Access by More than the Incremental Costs of Implementing an Open-Access Regime, the Commission Should Impose Open Access

74. We believe that the Commission should impose open access on AT&T's cable systems as a condition of approving the MediaOne acquisition. An access regime that required AT&T to offer the same interconnection terms to affiliated and unaffiliated ISPs should not impose substantial administrative costs. Although we have not personally considered the incremental technical and administrative costs of establishing an open-access regime, we understand from reviewing the accompanying declaration of Albert Parisian that the technical costs of such requirements are small.[129] Assuming that the incremental administrative costs of implementing an open-access regime are manageable, we believe the high social costs associated with AT&T's monopolization of the broadband Internet access and vertically related markets justify an open-access policy.

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127. *AT&T Public Interest Statement*, *supra* note 108, at 29.

128. The basic decision rule in economics to shut down operations in the short run—that is, shut down if total revenue is less than total short run variable costs—is different from the decision to begin operations. *See, e.g.*, WILLIAM J. BAUMOL & ALAN S. BLINDER, MICROECONOMICS: PRINCIPLES AND POLICIES 216 (Dryden Press 7th ed. 1997).

CONCLUSION

75. AT&T's acquisition of MediaOne threatens to monopolize the market for broadband Internet access for residential customers. For purposes of competitive analysis, the broadband Internet access market should be distinguished from the narrowband market for several reasons. First, the pricing of broadband significantly differs from the pricing of narrowband. Second, broadband and narrowband products target different user groups. Third, many of the services supported by broadband connections are not (and cannot be) available through narrowband connections. Fourth, recent empirical evidence supports the conclusion that broadband Internet access represents a separate product market.

76. With respect to participants in any local broadband market, we identify only the cable provider as an effective competitor. Other mediums of broadband Internet access, such as digital subscriber lines and satellite connections, cannot be relied upon to impose price discipline in the broadband Internet access market over the two-year time horizon relevant under the *Merger Guidelines* and FCC merger policy.

77. AT&T's concentrated control of the broadband Internet access market following the merger will enable the combined entity to extend its economic influence into vertically related markets such as portals, streaming video, streaming video software, and e-commerce. The academic literature on tying, when viewed in conjunction with AT&T's recent attempts to influence those downstream markets, suggests that the MediaOne acquisition will substantially reduce consumer welfare. For example, we believe that in the e-commerce market consumers could lose

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129. *Parisian Declaration*, *supra* note 90, at ¶30.

millions of dollars per year as the result of a price squeeze by AT&T of unaffiliated Internet service providers.

78. A standard decision-theoretic framework counsels the Commission to reject AT&T's acquisition of MediaOne unless AT&T consents to offer open-access to its monopoly control over the sole effective pipeline for residential broadband connections. The expected harm to consumers if AT&T were allowed to monopolize broadband Internet access markets out-weighs the transaction costs associated with the implementation of open access and its putative reduction in investment by AT&T. However, because AT&T's acquisition of MediaOne raises anticompetitive concerns beyond those addressed in this affidavit, the imposition of open access would, by itself, be a necessary, but not sufficient, condition for the Commission to find that this merger would be in the public interest.