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

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
GTE CORPORATION, Transferor)
And)
BELL ATLANTIC CORPORATION, Transferee)
For Consent to Transfer of Control)

CC Docket No. 98-184

DECLARATION OF ROBERT H. GERTNER AND JOHN P. GOULD
ON BEHALF OF
GTE CORPORATION AND BELL ATLANTIC CORPORATION

DECEMBER 22, 1998

DECLARATION OF ROBERT H. GERTNER AND JOHN P. GOULD

I. INTRODUCTION

A. Summary of Conclusions

1. We have been asked by counsel for the Bell Atlantic Corporation ("Bell Atlantic") and the GTE Corporation ("GTE") to address claims made by various parties ("respondents") that have filed comments with the Federal Communications Commission ("the Commission") in opposition to the proposed Bell Atlantic/GTE merger. In particular, we have been asked to review respondents' claims that the proposed merger likely will harm competition in the provision of local telephone services by removing an important "potential competitor" in particular local areas, specifically certain areas in Pennsylvania and Virginia, where Bell Atlantic and GTE's local service territories share a common border. The respondents claim that there are two characteristics of GTE and Bell Atlantic that uniquely position those two firms as potential competitors in each other's territories: (1) they are incumbent local exchange carriers ("ILECs"); and (2) they are geographically contiguous in some areas of Pennsylvania and Virginia.

2. As we explain in this declaration, we find that neither element – being an ILEC nor contiguity – in combination or separately makes these two companies more effective potential competitors than numerous other firms. First, the evidence is inconsistent with respondents' claim that Bell Atlantic or GTE's experience as an ILEC provides either firm with important advantages as compared to non-ILEC potential entrants. Indeed, we find that the evidence suggests Bell Atlantic and GTE face some disadvantages as potential entrants relative to some non-ILECs. Second, respondents' claim that Bell Atlantic and GTE are especially important potential entrants into each other's territories in Pennsylvania and Virginia because of the geographic proximity of each other's service territories also is inconsistent with the evidence. In particular, AT&T claims that Bell Atlantic and GTE are the most likely potential

competitors in each other's territory because each of them can serve the other's customers within a 125-mile radius of each of their switches. We have analyzed this claim and determined that if it is correct, then there are a substantial number of other potential competitors among ILECs and competitive local exchange carriers ("CLECs") that also can serve customers in Bell Atlantic and GTE's service areas. This result holds even if we reduce the radius to 40 miles (approximately the operating radius of CLEC switches). Finally, economic theory suggests that respondents exaggerate the importance of removing one potential entrant on competition.

B. Qualifications

3. I, Robert H. Gertner, am Professor of Economics and Strategy at the Graduate School of Business of The University of Chicago. I received an A.B., summa cum laude, from Princeton University in 1981, where I majored in Economics, and a Ph.D. from the Massachusetts Institute of Technology in 1986, also in Economics. I am a Research Fellow at the National Bureau of Economic Research. In 1990-1991 I was a John Olin Fellow in Law and Economics at The University of Chicago's Law School. I specialize in the economics of industrial organization (the study of individual markets which includes the study of antitrust, regulation, and business strategy), game theory (the formal study of strategic interdependence), law and economics, and corporate finance. I am co-author of *Game Theory and the Law*, a book that applies the modern tools of game theory and information economics to legal issues. I have published numerous articles in academic journals including the *Journal of Law and Economics*, the *Rand Journal of Economics*, the *Quarterly Journal of Economics*, and the *Journal of Finance*. I am Co-Editor of the *Journal of Business*, a leading journal that publishes academic research applying economics to business problems, and Associate Editor of the *Journal of Industrial Economics*. I have taught courses at The University of Chicago in competitive strategy, industrial organization, financial economics, corporate law, and antitrust

law. A copy of my curriculum vitae that includes a list of my publications during the preceding ten years is attached as Exhibit 1.

4. In addition to my academic experience, I am Principal and Vice President of Lexecon Inc., an economics consulting firm that specializes in the application of economic analysis to legal and regulatory matters. I have worked as a consultant on antitrust and other litigation issues as well as business strategy problems with major telecommunications firms.

5. I, John P. Gould, am the Steven G. Rothmeier Professor and Distinguished Service Professor of Economics at the University of Chicago Graduate School of Business, where I have been a member of the faculty since 1965 and where I have taught courses or workshops in economics, quantitative methods and econometrics, financial economics, and business strategy. I am also Principal and Executive Vice President of Lexecon Inc., an economics consulting firm located in Chicago, London and Brussels. For ten years, from July 1983 to June 1993, I served as Dean of the University of Chicago Graduate School of Business. From 1988 to 1991, I also served as Vice President for Planning for the University of Chicago. In 1978, I was Visiting Professor at the Graduate Institute of Economics at National Taiwan University. I received my S.B. degree with highest distinction from Northwestern University and my M.B.A. and Ph.D. in economics from the University of Chicago Graduate School of Business.

6. I have served as editor of the *Journal of Business* and associate editor of the *Journal of Financial Economics* and the *Journal of Accounting and Economics*, and I am a member of the American Economics Association and the Econometrics Society. I have published numerous articles in scholarly journals, including the *American Economic Review*, the *Journal of Political Economy*, the *Journal of Law and Economics* and the *Journal of Business*, and I am co-author of *Microeconomic Theory*, a textbook that covers all major areas of microeconomics. Microeconomics is that part of economics that deals with businesses, markets and industries, among other topics.

7. In addition to my academic and administrative experience, I served in Washington, D.C. as Special Assistant for Economic Affairs for then Secretary of Labor George P. Shultz and in a similar capacity at the Office of Management and Budget.

8. I am currently on the boards of Dimensional Fund Advisors, the Pegasus Funds (where I currently serve as chairman), Harbor Capital Advisors and Milwaukee Mutual Insurance Company. I have also been a Director of Vulcan Materials Company and Argonne-Chicago Corporation. I have testified in antitrust and other cases in U.S. Federal Courts, before the Federal Trade Commission and before the Canadian Competition Tribunal. My curriculum vitae is attached as Exhibit 2.

C. Organization of the Declaration

9. The remainder of our declaration is organized as follows. In section II, we discuss the role of "potential competition" in local telecommunications markets. In section III, we show that the evidence is inconsistent with respondents' claim that ILEC experience in other areas provides important advantages to potential entrants into the local telephone business. In section IV, we show that Bell Atlantic and GTE's geographic proximity to each other in certain areas of Pennsylvania and Virginia does not provide either firm with a substantial advantage over other potential competitors in each firm's local service areas. In section V, we explain why, as a matter of economic theory, respondents' arguments exaggerate the importance of one potential entrant on competition. Finally, we summarize our conclusions in section VI.

II. THE ROLE OF "POTENTIAL COMPETITION" IN LOCAL TELECOMMUNICATIONS MARKETS

10. Respondents claim that Bell Atlantic and GTE are important "potential competitors" into each other's local service areas in Pennsylvania and Virginia. For example, one of the sections of the Petition of AT&T Corp. to Deny Application ("AT&T") is entitled "The

Proposed Merger Would Eliminate One Of the Most Significant Potential Entrants in Each Applicant's Territory."¹ Similarly, one of the sections of the Petition to Deny of Sprint Communications Company L.P. ("Sprint") is entitled "Bell Atlantic and GTE Are Among The Most Likely Potential Entrants Into Other Service Areas, Including Each Other's."²

11. Economists recognize in a large number of cases the usefulness of analyzing actual and potential competition in determining market performance.³ However, there are important differences in actual and potential competition that imply different competitive concerns and antitrust scrutiny when a merger results in the elimination of an actual competitor rather than elimination of a potential competitor. Fundamentally, actual competitors differ from potential competitors because actual competitors have proven themselves in a marketplace – they have succeeded in bringing a good or service to market that consumers are willing to buy. Actual competitors have invested resources that are often sunk, making it more likely that they will have competitive significance than a potential entrant especially where the potential entrant must sink significant resources to enter the market. The actions of such competitors (e.g., setting prices; developing new products) thus are an important constraint on the behavior of their rivals. In contrast, a potential competitor may not ever choose to make the needed investment to enter into a market; even if it does make the necessary investment, it may not succeed in developing, producing and distributing a product that consumers value. For this reason, the impact of potential competitors is difficult to identify *ex ante* even if they exert a constraining effect on the ability of incumbent firms to raise prices or restrict output.

¹ AT&T, at 22.

² Sprint, at 11.

³ The Commission has analyzed "precluded entry" by firms that would have entered markets but for exclusionary regulations. (See Bell Atlantic/NYNEX Order and MCI WorldCom Order). Precluded entry analysis suggests that certain firms would have been actual competitors rather than potential competitors in the absence of regulation. However, our analysis of potential competition still applies because Bell Atlantic and GTE are only two of a large number of supposedly previously precluded entrants from each other's markets, and many of these supposedly precluded entrants actually have entered those markets.

12. Assessing the competitive significance of a specific potential entrant into today's telecommunications markets is particularly difficult because of the characteristics of this industry. Telecommunications is an industry that is growing rapidly, undergoing substantial deregulation, and facing substantial uncertainty, including uncertainty about the development of future technologies and about what "product" consumers likely will demand in the future. The respondents' arguments focus on brand name, geographical proximity and current switching facilities as the key factors in determining the success of an entrant in local service. But in such a dynamic market it is difficult to predict accurately the identity of successful potential entrants. These difficulties in assessing the competitive significance of a potential entrant in these circumstances means that the elimination of a particular potential entrant by merger raises substantially less antitrust concern than a merger that eliminates an actual competitor.⁴

13. An analogous situation arises in other high-tech markets such as computers. In the 1980s it was impossible to identify *ex ante* IBM's potential competitors in the computer hardware (or software) business. Nevertheless, from the perspective of 1998 we can determine which potential competitors became actual competitors and exerted a substantial competitive constraint on IBM. Another example is the company Amazon.com which did not exist just a few years ago and now has had a notable impact on competitors by exploiting the Internet. Similarly, in telecommunications markets the sources of competition that have emerged were not easily identifiable a few years ago. Either the potential competitors did not exist or they were engaged in other lines of business at that time.

14. The substantial uncertainty faced by telecommunications providers is reflected in market evidence. Specifically, entrants into the local telephone business have adopted diverse entry strategies. For example, some firms – such as respondent AT&T – have made substantial investments in cable TV assets, with the intention of offering cable telephony services in

⁴ Indeed, a merger of a potential entrant with an incumbent firm can lead to lower prices for consumers if there are efficiencies from that merger.

competition with ILECs. Other firms have invested substantially in wireless assets (e.g., Sprint, Winstar and Teligent). Industry observers also suggest that Internet telephony may become an important form of competition for the current ILECs.⁵ Wireless telephony also may become an important rival to current ILECs.⁶ Indeed, AT&T intends to compete directly with GTE's ILEC operation in Plano, Texas, where AT&T is offering its digital wireless service in a package designed to attract customers seeking second lines for their businesses or homes. By offering a \$40 monthly package of unlimited local calling bundled with various services such as voice mail, caller ID and call waiting, AT&T's prices are competitive today with GTE's wireline service in Plano.

15. Furthermore, substantial uncertainty remains about which products consumers will value in the future. Currently, most residential customers (and to a lesser extent, business customers) purchase local telephone and long-distance service from different providers. However, many telecommunications providers expect to provide "bundled" services in the near future on a national basis. For example, MCI WorldCom and AT&T have already begun to bundle long-distance and local toll services for residential and business customers.⁷ This change in the type of products desired by consumers is reflected in the substantial consolidation activity in the industry over the last few years. For example, WorldCom acquired MCI (Internet backbone, local and long distance), following its acquisitions of UUNET (an Internet provider), MFS and Brooks Fiber (local providers). Similarly, AT&T has acquired McCaw and Vanguard (wireless companies), TCG (a local provider), and is in the process of buying TCI (a cable company).

⁵ See, for example, *Fall Internet World Review*, October 16, 1998 which discusses AT&T's recent initiative in Internet Protocol Telephone technology for data and voice transport.

⁶ See, for example, the Statement of Reed E. Hundt, FCC, before the U.S. House of Representatives Telecommunications and Finance Subcommittee, June 19, 1995. Hundt stated, "There are predictions that 40 percent of the population will be wireless users in ten years and that wireless will challenge the traditional wired network for basic phone service."

16. Other firms may adopt different strategies to enter local markets. Competition among them will select the winners and losers. Allowing firms to put their resources at risk in whatever way they choose generally enhances the public interest, while regulatory attempts to predict effective competitive strategies are likely to be much less successful.⁸ Thus the public interest is best served by not interfering with private competitive decisions absent tangible competitive harm. This is especially true in a case of a merger between an incumbent and a firm that has not entered the market in such a dynamic and uncertain environment.

III. THE EVIDENCE IS INCONSISTENT WITH RESPONDENTS' CLAIM THAT EXPERIENCE AS AN ILEC PROVIDES IMPORTANT ADVANTAGES TO POTENTIAL ENTRANTS

17. Respondents argue that experience as an ILEC gives potential competitors into another ILEC's service territory a substantial advantage over non-ILEC entrants. For example, Sprint claims that Bell Atlantic and GTE "have advantages in entering local markets that are unavailable to virtually all other potential entrants. These advantages include experience in providing local services, particularly expertise in established complex systems to handle administrative capabilities (billing, order taking, customer care, etc.) not enjoyed by other possible entrants such as cable companies or [competitive access providers]."⁹

18. However, our review shows that ILEC experience provides no special advantage to a potential entrant (i.e., to an ILEC attempting to offer "out-of-region" local telephone service).

⁷ MCI Press Release, *Local Toll Revolution: MCI Offers Millions of Dollars in Savings to Consumers in 40 States*, June 2, 1997. AT&T, *Now AT&T Puts Even More Within Your Reach*, <http://www.att.com/localtoll/consumer>.

⁸ There are numerous instances when the *ex post* sources of competition were not obvious or even known *ex ante*, especially when there is rapidly changing technology and deregulation. Examples include Microsoft in computer operating systems, Dell in the personal computer retailing and Walmart in mass merchandise retailing.

⁹ Sprint, at 11. Similarly, AT&T argues that "the provision of exchange services to a broad base of residential and business customers requires an extensive array of complex "back office" order taking, customer care, billing, fulfillment, and related systems that no [interexchange carrier] or cable company has today, for they are unique to the local exchange business" (AT&T, at 23).

Indeed, in certain circumstances, a firm's ILEC assets may be of little use when it attempts to compete for customers outside of its service area. For example, Sprint recently sold its Chicago-area ILEC operations to Ameritech before entering the area as a CLEC.

A. The Technology and Knowledge Needed to Provide Local Exchange Services is Widely Available

19. We understand that the technology ILECs use (e.g., switches, software) is comparable, and sometimes less flexible, to that used by many non-ILEC CLECs. In particular, we understand that Bell Atlantic and GTE largely rely on "legacy" systems for "back office" (e.g., billing) and other Operations Support Systems ("OSS") functions that may not be as robust in handling bundled services as the systems utilized by newer CLECs. For example, we understand that new billing systems and OSS can be installed in roughly six months, but that upgrading "legacy" systems can take more than two years.¹⁰ We understand that GTE chose to invest in new back office systems for its CLEC subsidiary instead of relying on its legacy systems.

20. We understand that such systems are available from dozens of vendors. Several of these vendors are well-established in the business, and have supplied billing systems to such telecommunications providers as AT&T, Sprint, Unitel and Frontier.¹¹ In addition to billing systems, much of the equipment needed to offer local exchange services is available on a "turnkey" system from major vendors such as Lucent and Nortel.

21. Moreover, any special knowledge about running a local exchange business not available from vendors also is readily available. Fundamentally, such knowledge is "human

¹⁰ The Yankee Group, "The Billing and Customer Care Software Industry: A Comparison of Competitive Vendors," Consumer Communications, July 1998, at 9.

¹¹ Suk Declaration, ¶ 7, Application of Bell Atlantic Corporation and NYNEX Corporation for Consent to Transfer Control of Licenses and Authorizations.

capital" that resides in individuals. Individuals with ILEC experience can – and often do – take jobs working for CLECs.¹²

22. Such "specialized" knowledge also can be acquired by purchasing an ILEC. There are hundreds of independent ILECS in the United States, including 17 in Pennsylvania and 16 in Virginia. Furthermore, as we have discussed, major telecommunications firms like AT&T and MCI WorldCom have recently demonstrated their willingness and ability to purchase telecommunications firms that already are, or soon will be, in the local exchange business.

23. Finally, a substantial amount of ILEC-specific information becomes known to competitors through interconnection negotiations and the regulatory process. For example, in New York there have been well over two years of regulatory proceedings on Bell Atlantic's 271 application involving evidentiary hearings and pleadings containing details of Bell Atlantic's operations, including OSS, power supply arrangements, loops and switches and the like.

B. Market Evidence Confirms that ILEC Experience Provides No Special Advantages to CLECs

24. Our review of the market evidence is consistent with our understanding that experience as an ILEC provides no special advantage to a firm that competes for local telephone business outside of its service area.

25. For example, Sprint recently announced plans to enter seven large cities as a CLEC.¹³ In three of the cities (Denver, Atlanta and Chicago) Sprint does not have ILEC operations in the metropolitan area and has only minimal presence in two others (New York and Houston). Only in Kansas City, where Sprint is headquartered, (and to a lesser extent in Dallas) does it have a substantial presence. In fact, last year the company sold its Chicago-area ILEC

¹² We understand that certain key Bell Atlantic employees have left to work for competitors, including two interconnection product managers – one went to TCG (now part of AT&T) and the other went to Pathnet.

operations to Ameritech even though Chicago is on its list of target markets. This evidence suggests that Sprint's long-distance assets, rather than its local exchange operations, form the basis for its CLEC operations.

26. As we have discussed, the purported specialized knowledge associated with ILEC experience could be acquired by buying one or more of the hundreds of independent ILECs in the United States, but AT&T, MCI WorldCom and others have not done so. Two major respondents that have entered the local telephone business have spent tens of billions of dollars to acquire CLECs or cable companies with no ILEC experience. During the last two years, MCI WorldCom purchased MFS (a CLEC with facilities in 23 states) for \$14 billion and Brooks Fiber (a CLEC with facilities in 13 states) for \$2.9 billion. Similarly, AT&T purchased TCG (with facilities in 30 states) for \$11.3 billion, and AT&T is in the process of buying TCI, one of the country's largest cable companies, for \$48 billion. In contrast, we understand that neither firm has purchased any independent ILECs. Thus, these respondents' actions are inconsistent with their claims that ILEC experience provides a substantial unique advantage for potential entrants into the local telephone business.

IV. BELL ATLANTIC AND GTE'S GEOGRAPHIC PROXIMITY TO EACH OTHER IS NOT AN ADVANTAGE IN PENNSYLVANIA AND VIRGINIA

27. In addition to the claim that ILECs generally have an advantage in entering the local exchange market, respondent AT&T further claims that adjacent ILECs are the most likely and effective entrant into each other's market area.¹⁴

28. According to AT&T, the advantage of proximate ILEC assets has two aspects. First, AT&T claims that each company's existing facilities, including switches and "back office"

¹³ Atlanta, Chicago, Dallas, Houston, Kansas City, Denver and New York. "Sprint Wins Access Agreements with Four Incumbent LECs for New Network," *Communications Daily*, June 18, 1998; "Sprint Shows Its Hand," *Internet Week*, June 15, 1998, at 7.

¹⁴ AT&T, at 23.

facilities have sufficient excess capacity to serve adjacent areas with little additional investment. Second, AT&T's claim is that proximity provides each firm with brand-name recognition in the other's territory, giving that firm an advantage over other potential entrants. Each of these claims is seriously flawed. GTE's existing switches are no better positioned geographically to serve Bell Atlantic's customers in Virginia and Pennsylvania than a number of other ILECs and CLECs, including Alltel, Sprint and AT&T. Similarly, Bell Atlantic does not enjoy an advantage on the basis of proximity over other ILECs and CLECs in serving GTE's customers. Moreover, market evidence indicates that Bell Atlantic and GTE do not have greater brand-name recognition than a number of other competitors or potential competitors.

A. Bell Atlantic and GTE's ILEC Businesses in Virginia and Pennsylvania

29. Bell Atlantic's customer base in Virginia and Pennsylvania is concentrated in urban areas. In Virginia, Bell Atlantic's service area is concentrated in the densely populated areas in eastern Virginia around Washington, Richmond and Norfolk. In addition, Bell Atlantic serves the areas around Roanoke and the area along the Kentucky border. In Pennsylvania, Bell Atlantic's service areas are concentrated around Pittsburgh, Philadelphia, Allentown, Harrisburg and Scranton.

30. In contrast to Bell Atlantic, GTE operates as an ILEC primarily in rural areas in Virginia and Pennsylvania. In Virginia, GTE services a small area of Northern Virginia, part of Norfolk, and the less densely populated areas along the Western shore of the Chesapeake Bay, south of Richmond, around Harrisonburg and Lynchburg, and along the West Virginia border in the Western part of the state. The total population of these areas is 885,369 with a density of 89 people per square mile, as compared to the total population of Bell Atlantic's Virginia service areas of 4,370,720 with a density of 284 people per square mile. Similarly, in Pennsylvania, GTE's service areas cover less densely populated areas around Erie, Greensburg, York, Lebanon and Lewisburg. The total population of GTE's service areas in Pennsylvania is

1,030,084 with a density of 190 people per square mile, as compared to the total population of 8,771,251 and a density of 487 people per square mile in Bell Atlantic's Pennsylvania service areas. We understand that the rural, dispersed, primarily residential nature of GTE's service areas in Pennsylvania and Virginia make these relatively unattractive targets for potential entrants.¹⁵

B. There is No Evidence that Bell Atlantic and GTE's Proximity Makes Either a Uniquely Effective Potential Rival for the Other

31. AT&T claims that the unique ability of Bell Atlantic and GTE to serve each other's customers derives from their ability to use remote digital loop carriers to extend their ILEC facilities to serve out-of-region end users.¹⁶ According to AT&T, this technology allows an ILEC or CLEC to serve customers within a 125-mile radius of its existing switches. If AT&T's claim is correct, Bell Atlantic can enter GTE service territories using pre-existing Bell Atlantic switches; similarly, GTE can enter Bell Atlantic service territories using pre-existing GTE switches. However, even if this is true, a large number of other ILECs and CLECs in Pennsylvania, Virginia and adjoining states also have switches within 125 miles of Bell Atlantic and GTE ILEC customers and could extend their facilities in the same way that AT&T claims it would be possible for GTE and Bell Atlantic to do so.

32. We found that 100 percent of the population in GTE service area that is within 125 miles of a Bell Atlantic switch also is within 125 miles of at least ten other firms' switches.¹⁷ We also found that 100 percent of the population in Bell Atlantic service areas that is within 125 miles of a GTE switch also is within 125 miles of at least ten other firms' switches.

¹⁵ For example, Bell Atlantic witnesses Stallard and Whelan have testified that Bell Atlantic does not have a compelling reason to attack GTE's customer base in Pennsylvania and Virginia and that such entry would be a distraction from Bell Atlantic's goal to grow on a nationwide scale.

¹⁶ AT&T, at 24.

¹⁷ Our findings are conservative because they exclude all potential entrants that do not have a switch within 125 miles of these areas. The analysis was performed under our direction by Telecom Policy and Analysis: a Kellogg, Huber Consulting Group. See Appendix 1 for a detailed explanation of the methodology and data used in this analysis.

33. The analyses summarized above are based on AT&T's contention that it is economically feasible to supply local telephone service up to 125 miles from a switch. We understand that, in general, the extent to which it is economically feasible to provide local service large distances from a switch depend on a variety of factors, including population density in the area near the switch. However, even assuming a much smaller geographic service capability of 40 miles – a distance we understand many CLECS use in urban areas – there is still no unique competitive advantage conferred by proximate ILEC switches. Tables 1 and 2 repeat the analysis using a 40-mile radius around each switch. The results indicate that virtually all of the population in Bell Atlantic and GTE service areas in Pennsylvania and Virginia have at least one other independent ILEC or CLEC with a switch within 40 miles. Indeed, over 82 percent of the population in Bell Atlantic's service areas is within 40 miles of six or more independent ILECs or CLECs. The comparable figure for GTE is 60 percent.

34. The analysis treats each switch within 125 (or 40) miles as equally capable of serving additional customers. However, this likely overstates the competitive significance of Bell Atlantic and GTE as potential competitors in each other's service areas because each likely is relatively capacity-constrained compared to relatively new CLECs. Specifically, Bell Atlantic and GTE, as long-established ILECs, have been serving a relatively stable number of customers over time, and thus do not have substantial excess capacity on their switches. We understand that Bell Atlantic's switch capacity utilization in Virginia and Pennsylvania for voice lines is over 85 percent.¹⁸ The capacity utilization figures for GTE are 82.5 percent in Virginia and 88.9 percent in Pennsylvania.¹⁹ In contrast, as a matter of economics, new CLECs, which anticipate gaining substantial new customers, likely have relatively low levels of capacity utilization. For example, AT&T reportedly has 135 switches running at 50 percent capacity.²⁰

¹⁸ Bell Atlantic Network Data.

¹⁹ Letter from Gerald W. Shannon of GTE to Gerald Masoudi of Kirkland & Ellis, December 15, 1998.

²⁰ Morgan Stanley, Dean Witter Report on AT&T, January 5, 1998.

C. Bell Atlantic and GTE's Proximity Does Not Give Them Any Greater Advantages In Each Other's Service Areas Than Other Potential Entrants

35. Bell Atlantic and GTE have no advantages over many potential entrants and actually would have disadvantages relative to a number of others were they to enter each other's territories. We understand that other actual entrants, including major respondents AT&T, MCI Worldcom and Sprint, are companies with better known national brand names and established customer relations in Bell Atlantic and GTE's service areas. In fact, the IXC's such as AT&T, MCI WorldCom and Sprint have existing long-distance customers and facilities in Bell Atlantic and GTE's service areas while neither Bell Atlantic nor GTE have customers in each other's services areas. Likewise, cable TV and wireless companies already serve customers in Bell Atlantic's and GTE's service areas. The high marketing expenditures of residential long-distance providers implies that there is a significant value to relationships with existing customers that may be much more valuable than brand awareness by itself.

36. In addition, while brand often plays an important role in a customer's choice of providers, market evidence suggests that existing brand names do not always provide substantial advantages in a dynamic market like telecommunications where consumers more readily accept products with formerly unknown brand names. Thus, new telecommunications products and companies have succeeded even though they did not start out with well-established brand names. Examples include Sprint, MCI, Cellular One, Airfone and America Online. Furthermore, firms with established brand names have elected to create new brand names. For example, in 1994, Pacific Telesis spun off its cellular business under a completely new name, AirTouch. That previously unheard of company tripled its subscriber base in the three years after divestiture.²¹ Another example is Southwestern Bell changing its name to SBC.

²¹ Paul Kagan Associates, *Wireless Telecom Financial Databook 1998*, August 1998, at 208.

V. RESPONDENTS EXAGGERATE THE IMPORTANCE OF ONE POTENTIAL ENTRANT ON COMPETITION IN A MARKET

37. Respondents argue that in portions of Pennsylvania and Virginia, one of the merging parties is an especially well-positioned potential entrant and a likely entrant in the other merging party's local markets. As we have explained, these claims are without merit. However, even if respondents' claims were valid (and they are not), economic theory implies that such a finding is insufficient to show that the merger is contrary to the public interest in those markets – it does not follow that the elimination of a potential entrant or even a likely entrant inevitably leads to higher prices or any other harm to the public interest. The failure of respondents to consider the market implications of the elimination of a potential competitor leads to an exaggeration of the impact of the importance of a single potential competitor on market performance.

38. Basic economic theory provides a useful framework for analyzing the potential effects to competition from the removal of a potential competitor. In particular, economic theory can be used to analyze the effect of eliminating a potential competitor on the number of firms in the market and the distribution of these firms' characteristics (e.g., efficiency, scale, product quality, and any other differentiating factors).²² The determination of whether a potential competitor chooses to enter a market depends on how its cost compares to the anticipated post-entry market price, which in turn depends on the incumbent firms' cost structures. If the anticipated price is below the potential competitor's long-run average cost, it is unlikely to enter.

39. In some circumstances the elimination of a potential competitor will have no effect on market outcomes. For example, if there are more potential competitors than can profitably enter the market, and each has the same cost structure, then the elimination of any

²² For the purposes of our discussion, we will assume that the only differentiating factor among firms is cost; our conclusions do not depend on this simplifying assumption.

one of these potential competitors will have no impact on market outcomes – the eliminated competitor will be replaced with an identically situated company.

40. Even if the merging potential competitor has lower costs than other potential competitors, it does not follow that competition declines and prices rise. The number of firms that enter the market may be unaffected by the elimination of a potential competitor. If fixed costs are high, the number of firms that can compete profitably in the market is low. If there are more potential entrants than the number of competitors the market can sustain, the elimination of one potential competitor is unlikely to affect the number of firms that will enter.

41. A merger between an incumbent and a potential entrant will not have a significant negative effect on the competitive performance of the market unless the merging firm has a significant cost advantage over the marginal post-merger potential entrant. This is true even if the merging firm would have entered but for the merger. If the number of firms competing in the market is unaffected by a merger of a low-cost potential competitor and an incumbent, the effect of the merger on prices depends on the distribution of costs and position of the competing firms.²³ If there are efficiencies from the merger, the incumbent's costs will decline leading to a potential price reduction in the marketplace. Even if the marginal entrant has higher costs than the merging potential entrant, the merger can lead to a reduction in market price if the cost difference is small relative to the cost savings from the merger.

42. Respondents conclude that the merger will lead to higher prices in some markets because they believe that one of the merging firms is a likely entrant. However, as we have explained, they fail to demonstrate that conditions in these markets are such that the elimination of a potential competitor is likely to lead to a substantial (or even any) reduction in competition. Because our analysis indicates that the number of potential entrants is large and that GTE is not an especially well-positioned entrant in Bell Atlantic's service areas (and Bell Atlantic is not an

²³ For example, in the Cournot model of competition with varying costs, the equilibrium price depends on the unweighted average of the incumbent firms' marginal costs.

especially well-positioned entrant in GTE's service areas), the elimination of GTE and Bell Atlantic as potential competitors is unlikely to have a negative impact on market prices, even if either would be an entrant in some of these regions absent the merger.

VI. SUMMARY OF CONCLUSIONS

43. Respondents claim that the proposed merger of Bell Atlantic and GTE raises competitive concerns in Pennsylvania and Virginia because, as contiguous ILECs, the two companies currently are the most likely entrants into each other's service areas. Our review of the evidence indicates that the respondents' claim is unfounded. First, there is no special entry advantage resulting from being an ILEC. Second, Bell Atlantic and GTE enjoy no special entry advantages resulting from proximity to each other's service areas in Pennsylvania and Virginia. Moreover, even if we accept the premise that entry is likely to come from nearby ILECs or CLECs, there are numerous firms besides Bell Atlantic and GTE that meet that criterion. Therefore, the respondents' claim provides no economic basis for opposing the proposed merger in Pennsylvania and Virginia.

44. We declare under penalty of perjury that the foregoing is true and correct.

Executed on December 22, 1998.


Robert H. Gertner


John P. Gould

APPENDIX 1: METHODODOLOGY OF ILEC/CLEC RADIUS ANALYSIS

The following steps were performed to determine the number of non-Bell Atlantic, non-GTE ILECs and CLECs operating within a given radius (125 miles and 40 miles) of Bell Atlantic's and GTE's service areas in Pennsylvania and Virginia. First, carrier switch information from the November 1998 Bellcore Local Exchange Routing Guide ("LERG") was used to plot all ILEC and CLEC switches within 125 miles of Bell Atlantic's Pennsylvania and Virginia service areas, including switches in neighboring states. The source of local exchange company service areas is Geographic Data Technology, Inc.

The next step was to select all zip codes whose centroid (approximate geographic center) is within 125 miles of any of the identified switches. The zip code data comes from MapInfo Corporation. Then the list of carriers owning switches was cross-referenced to the selected zip code areas to generate a list of all zip code areas within 125 miles of a GTE switch and also within 125 miles of a given number of non-Bell Atlantic, non-GTE switches. Finally, the population from the 1990 U.S. Census, provided by Wessex Inc., was used to derive the population in the selected zip code areas.

The analysis is repeated using a 40-mile radius. The above procedure was then used to calculate figures for switch coverage in GTE's service areas.

Table 1

**Percentage of Bell Atlantic Service Area Population
in Pennsylvania and Virginia Within 40 Miles of a GTE
Switch and a Given Number of Other Independent ILECs or CLECs**

Number of Non-GTE, Non Bell Atlantic ILECs or CLECs	Percentage Within 40 Miles of the Given Number or More of Additional ILECs or CLECs	
	Total Population	Urban Population
1	99.7%	100%
2	99.7	100
3	98	99
4	95	97
5	84	84
6	82	82

Source: Carrier switch information is from the November 1998 Bellcore Local Exchange Routing Guide (LERG). Zip codes are from MapInfo Corporation. Local exchange company service areas are from Geographic Data Technology Inc. Population is from the 1990 U.S. Census and Wessex Inc.

Table 2

**Percentage of GTE Service Area Population
in Pennsylvania and Virginia Within 40 Miles of a Bell Atlantic
Switch and a Given Number of Other Independent ILECs or CLECs**

Number of Non-GTE, Non Bell Atlantic ILECs or CLECs	Percentage Within 40 Miles of the Given Number or More of Additional ILECs or CLECs	
	Total Population	Urban Population
1	99%	100%
2	96	100
3	93	98
4	88	95
5	73	75
6	60	66

Source: Carrier switch information is from the November 1998 Bellcore Local Exchange Routing Guide (LERG). Zip codes are from MapInfo Corporation. Local exchange company service areas are from Geographic Data Technology Inc. Population is from the 1990 U.S. Census and Wessex Inc.

EXHIBIT 1

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Principal and Vice President

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EDUCATION

Massachusetts Institute of Technology, Ph.D., September, 1986. Thesis Title: "Essays in Theoretical Industrial Organization."

Princeton University, A.B., summa cum laude, June, 1981, major in Economics.

EMPLOYMENT

Professor of Economics and Strategy, Graduate School of Business, The University of Chicago, September 1995 - present.

Research Fellow, National Bureau of Economic Research, October 1994 - present.

Associate Professor of Economics and Strategy, Graduate School of Business, The University of Chicago, April 1995 - August 1995.

Associate Professor of Business Economics, Graduate School of Business, The University of Chicago, September 1990 - April 1995.

Visiting Associate Professor of Management and Strategy, J. L. Kellogg Graduate School of Management, Northwestern University, September 1994 - March 1995.

Assistant Professor of Business Economics, Graduate School of Business, The University of Chicago, September 1986 - August 1990.

Full-time Consultant, American Telephone and Telegraph Company, Microeconomic Analysis Group, September 1981 - July 1982.

OTHER POSITIONS

Editor, *Journal of Business*, July 1995 - present.

Associate Editor, *Journal of Industrial Economics*, August 1995 - present.

FELLOWSHIPS AND GRANTS

John M. Olin Visiting Fellow in Law and Economics, The Law School, University of Chicago, 1990 - 1991.

IBM Corporation Scholar, University of Chicago, Graduate School of Business 1989 - 1990.

National Science Foundation Research Grant, "Bankruptcy and the Costs of Financial Distress," 1989 - 1991.

Visiting Scholar, CEPREMAP, Paris, France, April 1988.

Alfred P. Sloan Foundation Doctoral Dissertation Fellowship, 1985 - 1986.

National Science Foundation Graduate Fellowship, 1982 - 1985.

ACADEMIC PUBLICATIONS

BOOK:

Game Theory and the Law, (with Douglas Baird and Randal Picker), Harvard University Press, November 1994.

PUBLISHED AND FORTHCOMING PAPERS

"Agreement Under Section 1 of the Sherman Act," (with Andrew Rosenfield), November, 1997 (*forthcoming The New Palgrave Dictionary of Economics and the Law*).

"Unravelling and Disclosure Laws," August 1997 (*forthcoming The New Palgrave Dictionary of Economics and the Law*).

"Communication Among Competitors: Game Theory and Antitrust," (with Dennis Carlton and Andrew Rosenfield), Spring, 1997 *George Mason Law Review*, vol. 5.

"Multimarket Contact and Tacit Collusion with Imperfect Monitoring," (with Barbara

- McCutcheon), December, 1992, revised, September, 1993, (under review, *Rand Journal of Economics*).
- "Settlement Escrows," (with Geoffrey Miller), *Journal of Legal Studies*, 24 January, 1995, 87-122.
- "Internal versus External Capital Markets," (with David S. Scharfstein and Jeremy C. Stein), *Quarterly Journal of Economics*, 109, November, 1994, 1211-1230.
- "Anatomy of Financial Distress: An Examination of Junk-Bond Issuers," (with Paul Asquith and David Scharfstein), *Quarterly Journal of Economics*, 109, August 1994, 625-658.
- "Asymmetric Information, Uncertainty, and Selection Bias In Litigation," 1993, *The University of Chicago Law School Roundtable*, Vol. 1993 (inaugural edition), 75-94.
- "Game Shows and Economic Behavior: Risk Taking on 'Card Sharks'," *Quarterly Journal of Economics*, 108, May, 1993, 507-521.
- "Search With Learning from Prices: Does Increased Inflationary Uncertainty Lead to Higher Markups?" (with Roland Benabou), *Review of Economic Studies*, 60, January, 1993, 69-94.
- "Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules," (with Ian Ayres), 101, *Yale Law Journal*, January, 1992, 729-773.
- "A Theory of Workouts and the Effects of Reorganization Law," (with David Scharfstein, *Journal of Finance*, 46, September, 1991, 1189-1221.
- "Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules," (with Ian Ayres), *Yale Law Journal*, 99, November, 1989, 87-130. Excerpts appear in, Richard Craswell and Alan Schwartz, editors, *Foundations of Contract Law*, Oxford University Press, 1994.
- "Market Power and Mergers in Durable Goods Industries," (with Dennis Carlton), *Journal of Law and Economics*, 32, October 1989, S203-S226.
- "Simultaneous Signaling to the Capital and Product Markets," (with Robert Gibbons and David Scharfstein, *Rand Journal of Economics*, 19, Summer 1988, 173-190.

WORKING PAPERS

- "Tacit Collusion with Immediate Responses: The Role of Asymmetries," April, 1993, revised, December, 1994 (under review, *Journal of Political Economy*).
- "Internal Capital Markets: The Enforcement and Efficiency of Exclusive Capital Supply Contracts," December, 1994, formerly, "The Organization of Capital Market Transactions: Exclusive Contracts and Vertical Integration Under Asymmetric Information," June, 1986.
- "Externalities, Delay, and Coalition Formation in Multilateral Bargaining," August, 1994, originally titled, "Inefficiency in Three-Person Bargaining," June 1989.

"Bankruptcy, Information Transmission and the Allocation of Control," (with Randal Picker), February, 1992, revised, April, 1994.

"Capital Structure Signalling in Distressed Debt Workouts," November 1990, revised, September, 1993.

"Internal Capital Markets," March, 1995.

"Revenue and Efficiency Differences Between Sequential and Simultaneous Auctions with Limited Information," October, 1995.

"Coordination, Dispute Resolution, and the Scope of the Firm," April, 1996.

"Price Fixing Under the Sherman Act: The New Learning from Game Theory," with Andrew Rosenfield), May, 1996.

"The Value-Maximizing Board," (with Steven Kaplan), December, 1996.

CASE STUDIES

"The Feature Animation Industry in 1995: Challenging Disney's Supremacy," (with Stacey Roth), March, 1995, revised, September, 1995.

"Selling the Radio Spectrum: The 30 MHz MTA PCS Auction," April 1995.

TEACHING EXPERIENCE

Microeconomics (M.B.A.)

Applied Microeconomics (M.B.A./Ph.D.)

Industrial Organization (Ph.D.)

Financial Markets and Institutions (M.B.A.)

Competitive Strategy (M.B.A.)

Corporation Law (J.D.)

Business Policy (M.B.A.)

Management of Organizations (M.B.A. Kellogg)

Seminar on Advanced Antitrust (J.D.)

Advanced Competitive Strategy: Game Theory in Practice (M.B.A.)

ADDITIONAL EXPERIENCE

Analysis of antitrust and strategic issues in mergers, joint ventures, and monopolization litigation with Lexecon Inc.

Consultant of a variety of strategic management issues including incentive compensation, supplier relationships, and acquisitions.

Auction design and bidding adviser to WirelessCo. (joint venture of Sprint, TCI, Cox Cable, and Comcast) and AirLink L.L.C. in FCC spectrum auctions.

Lost profit and valuation analysis in corporate litigation.

Testimony before the Federal Trade Commission on Consumer Protection and Antitrust in Cyberspace.

CASES IN WHICH I PROVIDED DEPOSITIONS OR TRIAL TESTIMONY:

Stratosphere Corporation, and Stratosphere Gaming Corp., United States Bankruptcy Court, District of Nevada, CN BK-S 97-20554-GWZ and BK-S 97-20555-GWZ, Deposition and trial testimony, in a case where the central economic issue was the structure of a credit enhancement to a loan agreement, February 1998.

Trio Holdings et. al. v. Columbus Investment et. al. Cook County Circuit Court, Deposition and trial testimony on economic incentives in partnership and damages from self-dealing, for defendant, November 1997.

Ellen Steffen et. al. v. Playmobil USA, Inc., United States District Court, Eastern District of New York, CV 95 2896, CV 96 3937, CV 96 3938, Deposition on economic issues in a vertical price fixing case, for defendant, May, 1997.

Hi-Lite Products v. American Home Products, United States District Court, Northern District of Illinois, Case 92 C 0384, Deposition and trial testimony on damages a contract breach case, for plaintiff, January 1996.

EXHIBIT 2

BIOGRAPHICAL SKETCHES

Who's Who in America

Who's Who in Economics, 1700-1980, edited by Blaug and Sturges, MIT Press

AWARDS AND FELLOWSHIPS

Beta Gamma Sigma, 1959

American Marketing Association Award, 1960

Wall Street Journal Award, 1960

Earhart Fellow, University of Chicago, 1962-1964

National Science Foundation Grants, 1972-1976

Mobil Foundation Faculty Research Grant, 1976

PROFESSIONAL AFFILIATIONS

Member, Commercial Club of Chicago

Member, Economic Club of Chicago

Member, American Economic Association

Member, Econometric Society

Member, Academic Council, World Economic Forum, Davos, Switzerland, 1990-91

Referee for several academic journals, including *American Economic Review*, *Bell Journal of Economics*, *Canadian Journal of Economics*, *Econometrica*, *Economic Inquiry*, *Journal of Economic Theory*, *Journal of Business*, *Journal of Finance*, *Journal of Financial Economics*, *Journal of the American Statistical Association*, *Journal of Political Economy*, *International Economic Review*, *Management Science*, *Quarterly Journal of Economics*, and *Review of Economic Studies*

Appearances on programs of the Econometric Society, 1965-1980

Director of Seminar on the Economics of Regulated Public Utilities, University of Chicago, 1971-1976

Reviewer of research projects for the National Science Foundation

OTHER PROFESSIONAL ACTIVITIES

Trustee, Pegasus Funds, 1996-present (Chairman 1997-present)

Trustee, First Prairie Funds, 1985-1996

Trustee, Harbor Funds, 1993-present

Director, United Way/Crusade of Mercy, 1986-1991

Director, Argonne-Chicago Development Corporation, 1986-1993

Director, DFA Investment Dimensions Group, 1986-present

Director, Milwaukee Mutual Insurance Company, 1997-present
Director, Vulcan Materials Company, 1988-1993
Director, Beta Gamma Sigma, 1992-1995
Director, Lookingglass Theatre Company, 1993-1996

EDITORIAL POSITIONS

Editor, *Journal of Business*, 1976-1983
Associate Editor, *Journal of Financial Economics*, 1976-1983
Associate Editor, *Journal of Accounting and Economics*, 1978-1981

TESTIMONIAL EXPERIENCE AND STATEMENTS

- Verified Statement of John P. Gould, William M. Landes and Robert S. Stillman on Behalf of Norfolk and Western Railroad Company and Chessie System Railroad (February 22, 1982).
- Joint Affidavit of John P. Gould and Gustavo E. Bamberger in Re: In the Matters of Review of the Pioneer's Preference Rules and Amendment of the Commission's Rules to Establish New Personal Communications Services. Proceedings before the Federal Communications Commission, ET Docket 93-266, Gen. Docket 90-314 (July 26, 1994).
- Joint Reply Affidavit of John P. Gould and Gustavo E. Bamberger in Re: In the Matters of Review of the Pioneer's Preference Rules and Amendment of the Commission's Rules to Establish New Personal Communications Services. Proceedings before the Federal Communications Commission, ET Docket 93-266, Gen. Docket 90-314 (August 8, 1994).
- Affidavit and Report of John P. Gould and Andrew M. Rosenfield in the matter of an application by the Director of Investigation and Research under section 79 of the Competition Act, R.S.C. 1985, C. C-34; and in the matter of certain practices by A.C. Nielsen Company of Canada Limited Between: The Director of Investigation and Research and The D&B Companies of Canada Ltd. and Information Resources, Inc. (September 20, 1994).
- Response Affidavit and Report John P. Gould and Andrew M. Rosenfield in the matter of an application by the Director of Investigation and Research under section 79 of the Competition Act, R.S.C. 1985, C. C-34; and in the matter of certain practices by A.C. Nielsen Company of Canada Limited Between: The Director of Investigation and Research and The D&B Companies of Canada Ltd. and Information Resources, Inc. (October 4, 1994).
- Testimony of John P. Gould John P. Gould and Andrew M. Rosenfield in the matter of an application by the Director of Investigation and Research under section 79 of the Competition Act, R.S.C. 1985, C. C-34; and in the matter of certain practices by A.C. Nielsen Company of Canada Limited Between: The Director of Investigation and Research and The D&B Companies of Canada Ltd. and Information Resources, Inc. (November 1, 1994).

Statement of Professor John P. Gould, Distinguished Service Professor of Economics, University of Chicago Graduate School of Business and Dr. Gustavo E. Bamberger, Vice President and Senior Economist, Lexecon Inc. on Implementing Legislation for the Uruguay Round of GATT (S. 2467) (Pioneer Preference Provisions) Before the Senate Commerce Commission (November 14, 1994). Reprinted (S. 2467, GATT Implementing Legislation) Hearings Before the Committee on Commerce, Science, and Transportation, United States Senate, One hundred Third Congress, Second Session, U.S. Government Printing Office (1994).

Report of John P. Gould in Re: Manville Corporation and Schuller International, Inc. v. Beazer East, Inc., f/k/a Koppers Company, Inc., Civil Action No. 93 CV 0025 in the District Court, City and County of Denver, State of Colorado (1995).

Deposition of John P. Gould in Re: Manville Corporation and Schuller International, Inc. v. Beazer East, Inc., f/k/a Koppers Company, Inc., Civil Action No. 93 CV 0025 in the District Court, City and County of Denver, State of Colorado (April 4 and 5, 1995).

Affidavit of John P. Gould in Re: Industrial Diamond Antitrust Litigation, Master File No. MDL-948 (WCC) M21-64, in the United States District Court, Southern District of New York (May 23, 1995).

Expert Report of John P. Gould in Re: Potash Antitrust Litigation, MDL No. 981, No. 3-93-197, in the United States District Court, District of Minnesota, Third Division (September 18, 1995).

Deposition of John P. Gould in Re: Potash Antitrust Litigation, MDL No. 981, No. 3-93-197, in the United States District Court, District of Minnesota, Third Division (October 5 and 6, 1995).

Report of John P. Gould on Behalf of Zeneca, Inc., Case No. 94-897, MDL 997, in the United States District Court, Northern District of Illinois Eastern Division (November 1995).

Expert Report of John P. Gould on the Pillsbury Company's Tontino's Hearty Pockets Product Strategy in Re: Chef America, Inc. v. Schwan's Sales Enterprises, Inc. and the Pillsbury Company, Civil Action Nos. 94-M-2611 and 95-M-397 in the United States District Court, District of Colorado (February 15, 1996).

Expert Report of John P. Gould on the Schwan's Sales Enterprises, Inc.'s Red Baron Premium Pockets and Tony's Pizza Pockets Product Strategies in Re: Chef America, Inc. v. Schwan's Sales Enterprises, Inc. and the Pillsbury Company, Civil Action Nos. 94-M-2611 and 95-M-397 in the United States District Court, District of Colorado (February 15, 1996).

Affidavit of John P. Gould in Re: High Fructose Corn Syrup Antitrust Litigation, MDL No. 1087 and Master File No. 95 1477, in the United States District Court, Central District of Illinois, Peoria Division (April 18, 1996).

Supplemental Affidavit of John P. Gould in Re: High Fructose Corn Syrup Antitrust Litigation, MDL No. 1087 and Master File No. 95 1477, in the United States District Court, Central District of Illinois, Peoria Division (May 7, 1996).

- Declaration of John P. Gould, Ph.D. and Bradley N. Reiff, Ph.D. in Re: Promofone, Inc., MovieFone Inc., The Teleticketing Company, L.P., and The Falconwood Corporation v. Pacer Cats Corporation, American Arbitration Association Case No. 13-181-00952-94 (May 2, 1996).
- Preliminary Reports of John P. Gould in Re: Litton Systems, Inc. v. Honeywell, Inc., Case No. 90-0093MRP (Ex) in the United States District Court, Central District of California, Western Division (February 7 and March 7, 1997).
- Declaration of John P. Gould in Re: Federal Trade Commission v. Staples, Inc. and Office Depot, Inc., Case No. 1:97CV701 (TFH) in the United States District Court, District of Columbia (May 12, 1997).
- Supplemental Declaration of John P. Gould in Re: Federal Trade Commission v. Staples, Inc. and Office Depot, Inc., Case No. 1:97CV701 (TFH) in the United States District Court, District of Columbia (May 16, 1997).
- Deposition of John P. Gould in Re: Federal Trade Commission v. Staples, Inc. and Office Depot, Inc., Case No. 1:97CV701 (TFH) in the United States District Court, District of Columbia (May 14, 1997).
- Declaration of John P. Gould in Re: Texarkana Memorial Hospital, Inc. d/b/a Wadley Regional Medical Center v. General Electric Company, Civil Action No. 5:96 CV 319 in the United States District Court for the Eastern District of Texas, Texarkana Division (July 21, 1997).
- Expert Report of John P. Gould in Re: The State of Texas v. The American Tobacco Company, et al., Civil Action No. 5:96CV91 (August 15, 1997).
- Deposition of John P. Gould in Re: The State of Texas v. The American Tobacco Company, et al., Civil Action No. 5:96CV91 (August 27, 1997).
- Affidavit of John P. Gould in Support of the Motion of RJR Nabisco, Inc. for Summary Judgment Against Plaintiffs in Re: William Barnes, et al. v. The American Tobacco Company, et al., Civil Action No. 96-5903-CN in the United States District Court for the Eastern District of Pennsylvania (September 25, 1997).
- Supplemental Affidavit of John P. Gould in Re: William Barnes, et al. v. The American Tobacco Company, et al., Civil Action No. 96-5903-CN in the United States District Court for the Eastern District of Pennsylvania (October 13, 1997).
- Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco, Inc. and RJR Nabisco Holdings Corp. on Motion to Dismiss For Lack of Personal Jurisdiction in Re: State of Nevada v. Philip Morris, Inc. et al., Case No. CV97-03279 in the Second Judicial District Court of the State of Nevada in and for Washoe County (February 25, 1998).
- Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco, Inc. on Motion to Dismiss For Lack of Personal Jurisdiction in Re: The State of Utah, ex rel., Jan Graham, in her capacity as Attorney General of the State of Utah v. R.J. Reynolds Tobacco Company, et al., Case No. 2:96CV0829B in the United States District Court for the District of Utah Central Division (March 24, 1998).

Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco Inc. on Motion to Dismiss for Lack of Personal Jurisdiction in Re: State of Hawaii, by Margery S. Bronster, Attorney General v. Brown & Williamson Tobacco Corporation, et al., Civil No. 97-0441-01 in the Circuit Court of the First Circuit State of Hawaii (April 14, 1998).

Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco, Inc. and RJR Nabisco Holdings Corp. on Motion to Dismiss For Lack of Personal Jurisdiction in Re: State of Indiana ex rel., Jeffrey A Modisett, Attorney General of Indiana v. Philip Morris Incorporated, et al., Cause No. 49D097-9702-CT-0236 in the Marion Superior Court, State of Indiana (April 21, 1998).

Affidavit of John P. Gould in Re: Iron Workers Local Union No. 17, et al. v. Philip Morris, Inc., et al., Case No. 1:97CV1422, in the United States District Court for the Northern District of Ohio (April 21, 1998).

Expert Report of John P. Gould in Re: Federal Trade Commission v. Cardinal Health, Inc., Case No. 98 CV 595, and FTC v. McKesson Corp., Case No. 98 CV 596 (April 28, 1998).

Deposition of John P. Gould in Re: Rolite, Inc., v. Wheelabrator Environmental Systems, Inc. and WMX Technologies, Case No. 94-CV-5854 (May 5, 1998).

Deposition of John P. Gould in Re: FTC v. Cardinal Health/Bergen Brunswig; FTC v. McKesson Corp./Amerisource Corp., Civil Nos. 98 00595/98 00596 in the United States District Court for the District of Columbia (May 18 and 19, 1998).

Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco Inc. and RJR Nabisco Holdings Corp. on Motion to Dismiss for Lack of Personal Jurisdiction in Re: The State of Oregon v. Philip Morris, Incorporated; R.J. Reynolds Tobacco Co.; et al., No. 9706 00457, in the Circuit Court of the State of Oregon for the County of Multnomah (May 26, 1998).

Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco Inc. and RJR Nabisco Holdings Corp. on Motion to Dismiss for Lack of Personal Jurisdiction in Re: State of Idaho by and through Alan G. Lance, Attorney General v. Philip Morris, Inc., RJR Nabisco Holdings Corp., et al., Case No. CV OC 9703239D, in the District Court of the Fourth Judicial District of the State of Idaho, In and For the County of Ada (May 28, 1998).

Testimony of John P. Gould in Re: Federal Trade Commission v. Bergen Brunswig Corp. and Cardinal Health, Inc., Docket No. CA 98-595 and Federal Trade Commission v. Amerisource Health and McKesson Corp., Docket No. CA 98-596 in the United States District Court for the District of Columbia (July 14, 1998).

Affidavit of John P. Gould in Support of Reply Memorandum of RJR Nabisco Inc. on Motion to Dismiss for Lack of Personal Jurisdiction in Re: State of Rhode Island Provident, SC, State of Rhode Island, by and through Jeffrey B. Pine, Attorney General v. Brown & Williamson Tobacco Corporation, et al., Docket No. C.A. No.: 97-3058 in the Superior Court (July 23, 1998).

PUBLISHED ARTICLES

- "Market Value and the Theory of Investment of the Firm," *American Economic Review* (September 1967), pp. 910-913.
- "Adjustment Costs in the Theory of Investment of the Firm," *Review of Economic Studies* (January 1968), pp. 47-55. Also available as reprint #106, Center for Mathematical Studies in Business and Economics, Department of Economics and Graduate School of Business, University of Chicago.
- "The Substitution Effects of Transportation Costs" (with Joel Segall), *Journal of Political Economy*, 77 (1969), pp. 130-137. Also available as reprint #148, for Mathematical Studies in Business and Economics, Department of Economics and Graduate School of Business, University of Chicago.
- "The Expected Utility Hypothesis and the Selection of Optimal Deductibles for a Given Insurance Policy," *Journal of Business* (April 1969), pp. 143-151. Available at Center for Mathematical Studies as reprint #155.
- "The Use of Endogenous Variables in Dynamic Models of Investment," *Quarterly Journal of Economics* (November 1969), pp. 580-599. Reprints available from CMSBE.
- "Diffusion Processes and Optimal Advertising Policy," in *Micro-Economic Foundations of Employment and Inflation Theory*, E. Phelps, editor (1970), W.W. Norton Co. Published in Great Britain (1971) by Macmillan and Co., Ltd. Paperback edition (1973), W.W. Norton Co.
- "The Micro-Economic Approach to the Demand for Physical Capital," abstract in *Econometrica Supplementary Issue* (1966). Available as Center report #6633.
- "The Neoclassical Model of Investment Behavior: Another View" (with R. Waud), *International Economic Review* (February 1973).
- "The Economics of Conflicts," *The Journal of Legal Studies* (June 1973).
- "Risk, Stochastic Preference and the Value of Information," *Journal of Economic Theory* (May 1974).
- "Transactions Costs and the Relationship Between Put and Call Prices" (with D. Galai), *Journal of Financial Economics* (1, 1974).
- "The Stochastic Structure of the Velocity of Money" (with C. Nelson), *American Economic Review* (June 1974).
- "Inventories and Stochastic Demand: Equilibrium Models of the Firm and Industry," *Journal of Business* (January 1978).
- "The Stochastic Properties of Velocity and the Quality Theory of Money" (with M. Miller, C. Nelson, and C. Upton), *Journal of Monetary Economics* (April 1978).
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"The Economics of Markets: A Simple Model of the Market-Making Process," in *Interfaces Between Marketing and Economics*, a supplement to the *Journal of Business* (July 1980).

"Privacy and the Economics of Information," *Journal of Legal Studies* (December 1980).

"Price Theory," in *Encyclopedia of Economics*, D. Greenwald, editor, McGraw-Hill (1982).

"The Information Content of Specialist Pricing" (with R. Verrecchia), *Journal of Political Economic*, (February 1985).

BOOKS AND MONOGRAPHS

Davis-Bacon Act--The Economics of Prevailing Wage Laws. American Enterprise Institute (November 1971). Reprinted in "Improved Technology and Removal of Prevailing Wage Requirements in Federally Assisted Housing," hearings before the Subcommittee on Housing and Urban Affairs, 92nd Congress (June 20-23, 1972).

Ferguson and Gould, *Microeconomic Theory* (4th Edition), Richard D. Irwin (March 1975). The Japanese translation of the above book was published by Nihon Hyoron Sha Ltd. (Japan) in 1977. *Teoria Microeconomica*, Fondo De Cultura Economica (Mexico, 1978) (which is the Spanish translation of this book).

Gould and Ferguson, *Microeconomic Theory* (5th Edition), Richard D. Irwin (March 1980). Solution manuals for 4th and 5th editions of the above book were published by Richard D. Irwin in 1975 and 1981 respectively.

The Economics of the Davis-Bacon Act: An Analysis of Prevailing Wage Laws (with George Bittlingmayer), American Enterprise Institute (1980). This is an updated and expanded version of the above Davis-Bacon monograph.

Microeconomic Theory, 6th Edition, with Edward Lazear. Homewood, Illinois: Richard D. Irwin, 1989.

EDITED VOLUMES

Editor with D. Horsky, A. Madansky, and S. Sen of *Interfaces Between Marketing and Economics*, proceedings of a 1978 conference at the University of Rochester. Published as a supplementary volume of the *Journal of Business* (July 1980).

Editor with S. Sen of *Pricing Strategy*, proceedings of a 1982 conference at the University of Rochester. Published as a supplementary volume of the *Journal of Business* (January 1984).

WORKING PAPERS AND UNPUBLISHED MANUSCRIPTS

"A Model of Consumer Search — Wage and Income Effects" (March 1972).

"Information and Consumer Behavior: Aspects of Optimal Sequential Searching Policies" (August 1972).

"Rational Expectations and the Theory of the Firm Under Certainty" (July 1976).

"Toward a Positive Theory of Public Debt" (with M. Jensen), May 1977. Presented at 1977 Seminar on Analysis and Ideology, Interlaken, Switzerland.

"Market Institutions and the Free Rider Problem" (with A. Rosenfield and A. Wallner). Presented at an invited session of the Western Economic Association in Los Angeles (July 1982). Revision in progress.

BOOK REVIEWS, NOTES, COMMENTS

Review of Dewey, *Modern Capital Theory*, *Journal of Business* (January 1967).

Review of Shubik, ed., *Essays in Mathematical Economics in Honor of Oscar Morgenstern*, *Journal of Political Economy* (July 1968).

Review of Cross, *The Economics of Bargaining*, *Monthly Labor Review* (September 1970).

Comments on McKean's "Property Rights, Regulation of Chemicals, and Information Production" (Brookings Conference on Consumer Affairs, June 1972).

Review of Galbraith, "Economics and the Public Purpose," *Chicago Tribune* (November 8, 1973).

"The Rule of 69" (with R. Weil), *Journal of Business* (July 1974).

Comments on Timothy W. McGuire's "Controls and Expectations," Conference on Wage and Price Controls, University of Rochester, in *The Economics of Price and Wage Controls*, supplement to the *Journal of Monetary Economics* (1976).

Comments on V.L. Broussalian's "Risk Measurement and Safety Standards in Consumer Products," *NBER Conference Volume on Income and Wealth*, vol. 40 (1976).

"Some Comments on the Positive Theory of Municipal Accounting" (comment on J. Zimmerman's "The Municipal Accounting Maze"), *Journal of Accounting Research*, vol. 15 (supplement) (July 1977).

Discussion of Robert Verrecchia's "The Use of Mathematical Models in Financial Accounting" at 1982 Annual Accounting Research Conference, University of Chicago. *Journal of Accounting Research* (April 1982).

Discussion of Michael Katz's "Firm-Specific Differentiation and Competition Among Multiproduct Firms" at Pricing Strategy Conference, University of Rochester. *Journal of Business* supplement (1983).

RELATED RESEARCH ACTIVITIES AND PUBLICATIONS

"Chairman of task force that prepared the report "Impact of Longshore Strikes on the National Economy," U.S. Department of Labor, Washington, DC, (January 1970).

"Manpower and Economic Policy," Chapter 1 of the *Manpower Report of the President* (March 1970).

"The Labor Component in the Cost of Housing," *Housing in the 70's*, U.S. Department of Housing and Urban Development, Washington, DC (1976).

"National Economic Policy in the 1970's," Selected Paper #48, Graduate School of Business, University of Chicago (June 1976).

"Large Scale Organizations and the Economic System," prepared for the Seminar on Free Enterprise Systems at the University of Illinois at Chicago (January 1978).

"The Business Lobby and the Davis-Bacon Act," University of Chicago XP Club Newsletter (February 1980).

"Econometric Analysis of an Alleged Price-Fixing Conspiracy." Paper presented at Lexecon Antitrust Seminar (October 1981) and appearing in conference volume *Antitrust Economics* (1981), Lexecon Inc.

SELECTED SPEECHES, CONSULTING AND RELATED ACTIVITIES

Consultant to Chemetron Corporation, 1971-1978.

Program Leader on Economics of Information at General Electric Foundation Program on Recent Developments in Applied Economics, University of Chicago, 1975-1982.

Lecturer, Liberty Fund Seminar Series, University of Rochester, July 10-22, 1977.

"Economic Policy and the Common Wisdom," a speech delivered at the University of Dayton Distinguished Economists Lecture Series, March 14, 1978.

Expert Witness in antitrust cases and related cases before the U.S. Federal Court and the Federal Trade Commission, 1978-1981.

Chairman, *Ad Hoc* Committee to Review Extension, The University of Chicago, 1980-1981.

Guest commentator, Public Broadcasting Service, "The Nightly Business Report," 1991.

"Teaching Business Leadership to Help the U.S. Remain Competitive in the Global Market-Place," a speech delivered to the Chicago Council on Foreign Relations Committee for Young Professionals, Chicago, Illinois, February 12, 1991.

Speaker at The World Trade Institute of the Illinois World Trade Center Association conference on "Winning Strategies for Quality Improvement," Chicago, Illinois, October 18, 1991.

"Practical Strategies for Image Growth," a speech delivered to the Conference Board's Corporate Image Conference, New York, New York, January 28, 1992.

Speaker, U.S.-Japan Young Executives, Chicago, Illinois, May 29, 1992.