

## **Exhibit 3**

**Declaration of Dennis Carlton,  
Allan Champine, and Hal Sider**

# DECLARATION OF DENNIS CARLTON, ALLAN SHAMPINE AND HAL SIDER

June 13, 2008

## I. QUALIFICATIONS

### *Dennis W. Carlton*

1. I, Dennis W. Carlton, am Professor of Economics at the Graduate School of Business of The University of Chicago. I received my A.B. in Applied Mathematics and Economics from Harvard University and my M.S. in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology.

2. I specialize in the economics of industrial organization, which is the study of individual markets and includes the study of antitrust and regulatory issues. I am co-author of the book Modern Industrial Organization, a leading text in the field of industrial organization, and I also have published numerous articles in academic journals and books. In addition, I am Co-Editor of the Journal of Law and Economics, a leading journal that publishes research applying economic analysis to industrial organization and legal matters, Co-Editor of Competition Policy International and on the Advisory Board of the Journal of Competition Law and Economics. I have served as an Associate Editor of the International Journal of Industrial Organization and Regional Science and Urban Studies, and have served on the Editorial Board of Intellectual Property Fraud Reporter.

3. In addition to my academic experience, I am a Senior Managing Director of Compass Lexecon, a consulting firm that specializes in the application of economics to legal and regulatory issues. From October 2006 through January 2008, I served as Deputy Assistant

Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice. I also served as a Commissioner of the Antitrust Modernization Commission, created by Congress to evaluate U.S. antitrust laws. I have provided expert testimony before various U.S., state and federal courts, the U.S. Congress, a variety of state and federal regulatory agencies and foreign tribunals. I have served as a consultant to the Department of Justice and the Federal Trade Commission on the Horizontal Merger Guidelines of the Department of Justice and Federal Trade Commission, as a general consultant to the Department of Justice and Federal Trade Commission on antitrust matters, and as an advisor to the Bureau of the Census on the collection and interpretation of economic data. A copy of my curriculum vita is attached as Exhibit 1 to this report.

***Allan L. Shampine***

4. I, Allan L. Shampine, am a Vice-President of Compass Lexecon. I received a B.S. in Economics and Systems Analysis (Summa Cum Laude) from Southern Methodist University in 1991, an M.A. in Economics from the University of Chicago in 1993, and a Ph.D. in Economics from the University of Chicago in 1996. I have been with Compass Lexecon (previously Lexecon) since 1996. I specialize in applied microeconomic analysis and have done extensive analysis of network industries, including telecommunications and payment systems. I am the editor of the book Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, and I have also published a variety of articles on the economics of telecommunications and network industries. In addition, I have previously provided economic testimony on telecommunications issues on a variety of matters before the FCC and state public utility commissions. A copy of my curriculum vita is attached as Appendix 1 to this report.

***Hal S. Sider***

5. I, Hal S. Sider, am a Senior Vice-President of Compass Lexecon. I received a B.A. in Economics from the University of Illinois in 1976 and a Ph.D. in Economics from the University of Wisconsin (Madison) in 1980. I have been with Compass Lexecon (previously Lexecon) since 1985, having previously worked in several government positions. I specialize in applied microeconomic analysis and have performed a wide variety of economic and econometric studies relating to industrial organization, antitrust and merger analysis. I have published a number of articles in professional economics journals on a variety of economic topics and have testified as an economic expert on matters relating to industrial organization, antitrust, labor economics and damages. In addition, I have provided economic testimony on telecommunications issues on a variety of matters before the FCC and state public utility commissions. A copy of my curriculum vita is attached as Appendix 1 to this report.

**II. INTRODUCTION AND OVERVIEW**

**A. TASK**

6. We have been asked by Verizon Wireless and ALLTEL Holdings LLC (“ALLTEL”) to address the likely impact of the proposed merger of Verizon Wireless and ALLTEL on competition. This declaration presents our preliminary assessment of this issue based on our analysis to date. Our analysis is based on our familiarity with the developments in the telecommunications industry, our review of publicly available data, information obtained from the merging parties and discussions with executives at Verizon Wireless.

7. We will continue to review and analyze additional data and documents from the parties and public sources that become available during the course of this proceeding. We expect to use this information to respond to issues that arise during these proceedings and to supplement the analyses presented below to the extent necessary and appropriate.

## **B. INTRODUCTION AND OVERVIEW**

8. Verizon Wireless is a joint venture of Verizon Communications and Vodafone and provides wireless voice and data services using CDMA technology to 67 million subscribers in every state except Alaska. In addition to retail services, Verizon Wireless also provides services to other carriers including roaming services that enable customers of carriers which do not have facilities in certain areas served by Verizon Wireless to make and receive calls in those areas. Verizon Wireless has a variety of roaming agreements with other carriers, most of which provide for Verizon Wireless both obtaining and providing roaming service. Verizon Wireless also provides wholesale services to a variety of resellers and Mobile Virtual Network Operators (MVNOs).

9. ALLTEL provides wireless voice and data services using CMDA technology to roughly 13 million subscribers in the United States in 34 states. Most of ALLTEL's subscribers are in the Southeast, Southwest and upper Midwest. Like Verizon Wireless, ALLTEL provides roaming services to other carriers as well as services to resellers and MVNOs. ALLTEL also provides roaming services using GSM technology in certain geographic areas.

10. Based on our analysis to date, we conclude that the proposed transaction is likely to result in significant benefits to consumers. While we have not to date analyzed competition in particular geographic areas, we conclude that the characteristics of the wireless industry as a whole and competitive factors that affect all geographic areas imply that the proposed transaction is unlikely to have a significant adverse effect on competition. More specifically, we conclude:

- The proposed transaction will expand the availability of Verizon Wireless' high-quality wireless voice and data services to customers in areas currently served by ALLTEL but not Verizon Wireless. For example, the proposed transaction will expand the geographic coverage of Verizon Wireless' high bandwidth (EV-DO

Revision A) wireless data network, which permits data transfer speeds much higher than those provided by ALLTEL.

- The transaction will enable ALLTEL customers to obtain discounted rates for purchasing bundles of wireless voice and data services. In addition, ALLTEL customers will gain access to a wider variety of handsets and, due to Verizon Wireless' Open Development Initiative, handsets (and related software) developed by third parties that are approved for use on the Verizon Wireless network.
- The transaction will increase the number of in-network calls between wireless subscribers of the combined firm. Current subscribers to both Verizon Wireless and ALLTEL will benefit from the expansion of "free" calls to other in-network subscribers because such calls do not count against minutes of use available under subscribers' plans.
- By integrating the operations of Verizon Wireless and ALLTEL, the transaction is expected to result in net cost savings with a present value of more than \$9 billion. These cost reductions provide incentives for reducing rates and expanding output. For example:
  - By expanding the geographic scope of the merged firm's network, the transaction will reduce the merged firm's reliance on third parties for roaming services. This reduces variable costs faced by the merged firm and, all else equal, provides an incentive for the merged firm to reduce price and increase output.
  - The transaction will reduce equipment costs faced by the merged firm by enabling it to take advantage of increased volume discounts. Cost

savings such as these reduce the cost of expanding and upgrading the merged firm's network and thus benefit consumers by increasing incentives for the merged firm to increase output.

- The proposed transaction enables Verizon Wireless to realize additional efficiencies by expanding the geographic scope of its network. In recent years, firms with more extensive geographic networks have grown more rapidly than regional firms. At the same time, there has been a dramatic growth in the number of wireless subscribers and a dramatic decline in the average prices paid by wireless consumers.
- Verizon Wireless has increasingly priced its services on a national basis and now offers regional discounts and promotions on only a limited basis. This suggests that the forces influencing price for wireless services today in any one geographic area are broader than the factors in that one relatively small geographic area that the FCC has focused on in the past.
- Following the proposed merger, Verizon Wireless will continue to face competition from three other national carriers as well as a variety of regional service providers. Available data also indicate that ALLTEL and Verizon Wireless are not next best substitutes in the areas served by both networks.
- The merged firm also faces potential competition from firms planning to offer services using new spectrum the FCC has made available for mobile telecommunications services in recent years, including 700 MHz, AWS-1, BRS/EBS and other spectrum bands.<sup>1</sup>

---

1. FCC, 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008, Table 8 (¶ 77).

**III. THE PROPOSED TRANSACTION IS EXPECTED TO RESULT IN SIGNIFICANT BENEFITS TO CONSUMERS.**

11. The Verizon Wireless / ALLTEL transaction is likely to bring significant benefits to consumers, including access to a wider variety of services and handsets, improved service speeds, and lower prices.

**A. THE PROPOSED TRANSACTION WILL EXPAND THE AVAILABILITY OF VERIZON WIRELESS' SERVICES TO AREAS IT DOES NOT CURRENTLY SERVE.**

12. As discussed above, Verizon Wireless' network is not fully national in scope, covering roughly 90 percent of potential wireless subscribers nationwide.<sup>2</sup> ALLTEL's network includes part or all of 54 CMAs where Verizon Wireless has no PCS or cellular licenses. Many of these potential subscribers are in smaller cities and rural areas. Following the merger, ALLTEL's network in these areas will be integrated with Verizon Wireless' network, expanding the geographic scope of the Verizon Wireless network and the range of available services offered in areas not currently served by Verizon Wireless.

**1. The transaction will accelerate deployment of high quality mobile broadband services based on EV-DO Revision A technology.**

13. Both ALLTEL and Verizon Wireless provide wireless high speed data services, including wireless Internet access, using EV-DO technology. Verizon Wireless has upgraded its entire EV-DO data network to EV-DO Revision A which now covers more than 240 million people. This network provides "downstream speeds to 600 kbps-1.4 Mbps and significantly improves average uplink speeds to 350-800 kbps."<sup>3</sup> However, we understand that in most areas

---

2. Verizon Wireless Press Kit, May 30, 2008, p. 3 (Verizon Wireless' network "reaches more than 265 million Americans"); and U.S. Census Bureau, 2005 population estimate of 296 million people (<http://www.census.gov/popest/states/NST-ann-est2005.html>).

3. FCC, 12<sup>th</sup> CMRS Competition Report, p. 8. See also ¶ 134 ("In June 2007, Verizon Wireless announced that it had upgraded all of this EV-DO network footprint with EV-DO Rev. A technology.") Verizon Wireless Press Kit, May 30, 2008, p. 3 ("Network reaches more than 265 million Americans. ... As of June 2007, Rev. A technology was available throughout the entire EV-DO network and at the end of the first quarter 2008, covered more than 240

ALLTEL uses the older Revision 0 version of the EV-DO technology which has typical downstream data transfer speeds of 400-800 kbps and, in some areas, ALLTEL continues to provide 1xRTT, a wireless data technology which has even lower data transfer speeds than EV-DO Revision 0.<sup>4</sup> We understand that ALLTEL has deployed EV-DO Revision A in a limited number of areas but does not yet offer commercial service based on this technology.

14. The proposed transaction will enable Verizon Wireless to expand deployment of its EV-DO Revision A network to areas served by ALLTEL but not Verizon Wireless that do not currently have access to EV-DO Revision A, and is likely to accelerate the ability of consumers in these areas to gain access to advanced wireless broadband data services.

**2. The proposed transaction will extend coverage of Verizon Wireless' high quality voice service.**

15. Similarly, the proposed transaction and expansion of Verizon Wireless' network will benefit potential subscribers in areas served by ALLTEL (but not Verizon Wireless) by expanding Verizon Wireless' voice network. Verizon Wireless has received numerous awards for its service quality and customer loyalty. For example, Verizon Wireless has the lowest churn rate among wireless carriers.<sup>5</sup> In addition, Verizon Wireless has received awards for service quality from Wireless Week magazine (which has named it "Carrier of the Year" for the last three years), J.D. Power and Associates, Vocal Laboratories, POPAI, the National Retail Federation Foundation, and the Customer Respect Group.<sup>6</sup>

---

(...continued)

million people.”).

4. FCC, 12<sup>th</sup> CMRS Competition Report, p. 8 (“During 2006 and 2007, wireless providers have continued to deploy mobile broadband networks, such as CDMA EV-DO and WCDMA/HSDPA, which allow typical downstream data transfer speeds of 400-800 kbps.”). See also ¶ 136 (“At the end of 2006, ALLTEL had deployed EV-DO to 56 percent of its POPs, or approximately 44 million people, and 1xRTT to 94 percent of its POPs, or approximately 74 million people.”).

5. Merrill Lynch, “US Wireless Matrix 4Q07,” April 14, 2008, Table 8.

6. See <http://aboutus.vzw.com/awards.html>.

**3. The transaction will lower the price to ALLTEL customers of obtaining data services offered by Verizon Wireless.**

16. The economics of providing bundled services typically result in the consumer who buys the bundle receiving a savings compared to purchasing products or services separately. All else equal, the merger will allow ALLTEL customers to benefit from bundled pricing offered by Verizon Wireless. For example, Verizon Wireless offers discounts on certain of its data services to customers who also purchase voice service.<sup>7</sup> We understand that these discounts would become available to existing ALLTEL customers following the firms' merger, reducing the cost to current ALLTEL customers of purchasing Verizon Wireless' wireless data services using EV-DO Revision A technology. In addition, ALLTEL customers that wish to obtain Verizon Wireless' EV-DO Revision A-based data services will benefit from the convenience of dealing with a single supplier. The FCC has previously recognized the value to consumers of one-stop shopping.<sup>8</sup>

**4. ALLTEL subscribers will gain access to a larger array of phones and "smart" phones.**

17. The Verizon Wireless / ALLTEL transaction will provide ALLTEL customers with access to a larger array of phones and "smart" phones. For example, ALLTEL currently offers 15 phones and 9 "smart" phones (which enable subscribers to obtain both voice and data services) while Verizon Wireless offers over 30 phones and 13 "smart" phones.<sup>9</sup>

---

7. See, for example, <http://b2b.vzw.com/productsservices/wirelessemail/voicedatacallingplans.html>, offering a \$5 per month discount when purchasing a corporate or personal e-mail account as an add-on to an existing voice plan.

8. See, for example, FCC, AT&T Cingular Order, FCC 04-255, October 26, 2004, Section V.A.4 (Public Interest Benefits); FCC, Verizon MCI Order, FCC 05-184, November 17, 2005, ¶ 203.

9. See [www.ALLTEL.com](http://www.ALLTEL.com) and [www.verizonwireless.com](http://www.verizonwireless.com).

18. In addition, the proposed transaction will expand the number of potential subscribers that are able to utilize handsets and related application provided by third party providers. Verizon Wireless has an “Open Development Initiative” which enables customers to use any handset that meets basic technical standards established by Verizon Wireless and to place any applications on those handsets that the customer wishes.<sup>10</sup> We understand that ALLTEL has not participated in any similar type of effort to date. For example, ALLTEL is not a member of the Open Handset Alliance, a group of wireless service providers (including T-Mobile and Sprint), equipment manufacturers and software providers committed to establishing networks that enable subscribers to utilize handsets and software provided by third parties.<sup>11</sup> Thus, the merger will increase the number of wireless subscribers that are able to utilize handsets and related applications provided by third parties.

**B. THE PROPOSED TRANSACTION WILL RESULT IN SYNERGIES THAT BENEFIT CONSUMERS.**

19. Verizon Wireless has estimated that the proposed transaction will result in more than \$9 billion in net cost savings (on a net present value basis). These cost savings are likely to bring significant benefits to consumers. In particular, the proposed transaction will enable Verizon Wireless and ALLTEL to reduce significantly a variety of variable costs, which will provide an incentive for the merged firm to lower price, as well as fixed costs.

**1. The transaction will result in reduced roaming fees paid by Verizon Wireless.**

20. Due to the increased geographic scope of its network, the merged firm will face reduced reliance on third party carriers for roaming services. We understand that Sprint Nextel currently carries much of ALLTEL’s roaming traffic and US Cellular carries a large volume of Verizon Wireless’ roaming traffic. After the merger, much of the ALLTEL-generated roaming

---

10. See [www.verizonwireless.com/opendevelopment](http://www.verizonwireless.com/opendevelopment).

11. See [http://www.openhandsetalliance.com/oha\\_members.html](http://www.openhandsetalliance.com/oha_members.html).

traffic in Verizon Wireless' service area can be shifted to Verizon Wireless and much of the Verizon Wireless roaming traffic in ALLTEL's service areas not served by Verizon Wireless) area can be shifted to ALLTEL. Verizon Wireless estimates that the transaction will result in significant roaming cost savings.

21. We understand that roaming services are typically priced on a usage (cents per minute) basis at a price in excess of the incremental cost of providing such service. Thus, by avoiding these charges, the transaction reduces the costs of providing additional minutes of service and provides an incentive for the merged firm to reduce prices and increase output. The FCC has recognized the significance of reduced roaming charges in previous transactions.<sup>12</sup>

**2. The transaction will result in other reductions in variable costs.**

22. The proposed transaction will also enable Verizon Wireless and ALLTEL to share "best practices" in a variety of areas including customer service and information technology utilization that we understand are directly related to the cost of serving additional subscribers. For example, Verizon Wireless estimates that its call center employees can serve more subscribers than ALLTEL's. Overall, use of best practices will enable it to reduce employee-related call center expenses by a significant amount. Verizon Wireless also estimates that related IT expenses that are directly related to the number of customers served also will be reduced by a significant amount as a result of expanding these best practices. Because these costs are directly related to the number of subscribers served, the reduction in these costs create an incentive for the merged firm to lower price.

---

12. See, for example, FCC, ALLTEL / Western Wireless Order, FCC 05-138, July 19, 2005, ¶ 151. ("ALLTEL's merger with WWC would reduce its roaming costs in geographic markets where ALLTEL and WWC's service areas do not overlap, and the elimination of roaming agreements in these markets would directly benefit those of its customers who would no longer be charged to roam in those areas.")

**3. The transaction will expand the scope of “free” in-network calling.**

23. Both firms offer “free” calls to other in-network subscribers.<sup>13</sup> (That is, these calls do not count against allowances of minutes under service plans.) The proposed transaction expands the scope of in-network calling and thus benefits both Verizon Wireless and ALLTEL subscribers by expanding their ability to take advantage of calls to other in-network subscribers which do not count against minutes allotted in service plans.

**4. Reductions in fixed costs resulting from the proposed transaction also are likely to benefit consumers.**

24. The proposed transaction will result in a variety of additional cost reductions that, while not directly related to output, will benefit consumers by reducing the cost of upgrading the network and offering new services. In total, the proposed transaction is expected to result in significant net savings in capital expenditures. For example, Verizon Wireless estimates that the transaction will reduce equipment acquisition costs by enabling the merged company to take advantage of larger volume discounts. This cost reduction provides the merged firm an incentive to more quickly deploy new equipment and services.

25. In a dynamic industry such as wireless telecommunications, reductions in fixed costs become reductions in investment costs when new decisions are being made. Thus, these reductions in fixed costs can benefit consumers by lowering the cost to firms of expanding output. In recent years, a variety of observers have stressed the importance to consumers of reductions in fixed costs. For example, the Report and Recommendations of the Antitrust Modernization Commission notes:

The [antitrust enforcement] agencies should account for the value of fixed-cost efficiencies in assessing the likely competitive effects of a merger. ... Failure to take account of and give proper weight to such fixed costs in evaluating a merger

---

13. See <http://www.verizonwireless.com/b2c/splash/innetwork.jsp> and [www.alltel.com](http://www.alltel.com).

could deprive consumers and the U.S. economy of significant benefits from a pro-competitive merger.<sup>14</sup>

26. Similarly, in prior published work, Carlton has stressed that government agencies should consider both reductions in fixed as well as variable costs in evaluating mergers:

[M]any high tech industries have high fixed costs and low marginal costs – and although they develop new products rapidly, their new product cycle is often more than [the window that antitrust authorities are commonly assumed to consider in evaluating mergers]. Gains that lead to lower fixed costs today can encourage research and development, new products and plants in the future. However, by focusing only on efficiencies that influence price over a shorter period, a government antitrust agency risks failing to credit the future efficiencies that will benefit consumers in the long run. To put it another way, the fixed-cost savings of today are the variable cost savings in the future for new products.<sup>15</sup>

27. Senior Department of Justice economists have also written about how consumers can benefit from reductions in fixed costs. For example, Ken Heyer, currently the Acting Assistant Attorney General for Economics in the Antitrust Division of the Justice Department notes: “[i]mportantly, however, unlike in the case of pure money transfers, fixed cost savings have significant efficiency implications for the economy as a whole.” Dr. Heyer also notes that, by freeing up resources for use elsewhere in the economy, fixed cost savings enhance an economy’s total welfare:

These [fixed cost savings] would all be net benefits to the economy – an increase in total welfare. The fact that they do not involve a reduction in the merged firm’s marginal cost – and thus do not result in any pass-through to the merged firm’s consumers – does not change the fact that the merger is welfare enhancing.<sup>16</sup>

---

14. Report and Recommendations of the Antitrust Modernization Commission, April 2007, p. 58.

15. Dennis W. Carlton, “Does Antitrust Need to be Modernized?” 21 *Journal of Economic Perspectives* 155 (2007). Also see Separate Statement of Dennis W. Carlton, Report and Recommendations of the Antitrust Modernization Commission, April 2007, p. 401.

16. Ken Heyer, “Welfare Standards and Merger Analysis: Why Not the Best?” *Competition Policy International*, Autumn 2006, p. 40.

**IV. THE TRANSACTION IS UNLIKELY TO HARM COMPETITION IN THE PROVISION OF WIRELESS VOICE AND DATA SERVICES.**

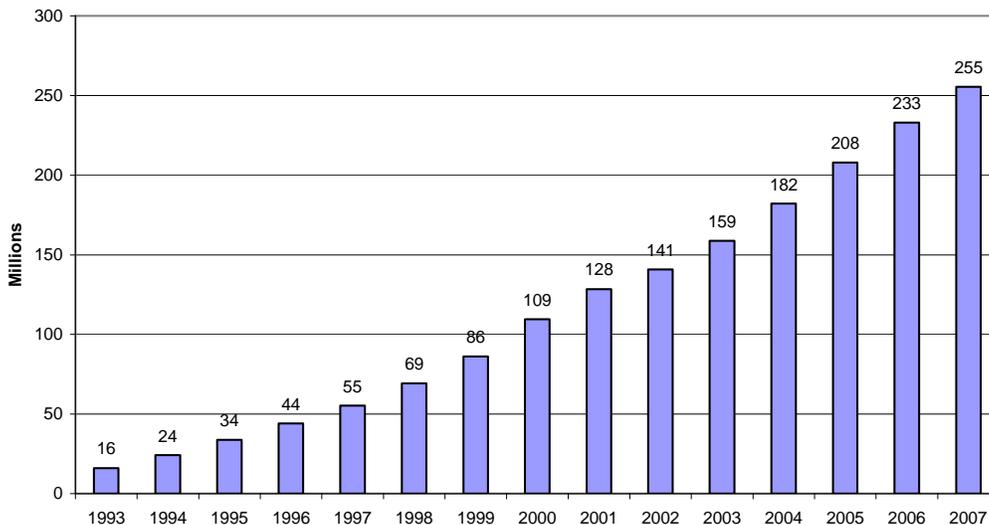
**A. BACKGROUND**

28. The competitive impact of the proposed transaction needs to be evaluated in the context of the highly dynamic and rapidly evolving wireless telecommunications industry. Since cellular networks were introduced roughly 20 years ago, there has been enormous and continuous growth in the number of subscribers to wireless voice services and even more rapid increase in their utilization. In addition, the industry has transitioned from analog to digital technology and has greatly expanded the range of wireless data services offered.

29. To put this in perspective, the number of wireless voice subscribers grew from 16 million in 1993 to more than 255 million at the end of 2007. This reflects an average annual growth rate of 22 percent.

**Figure 1**

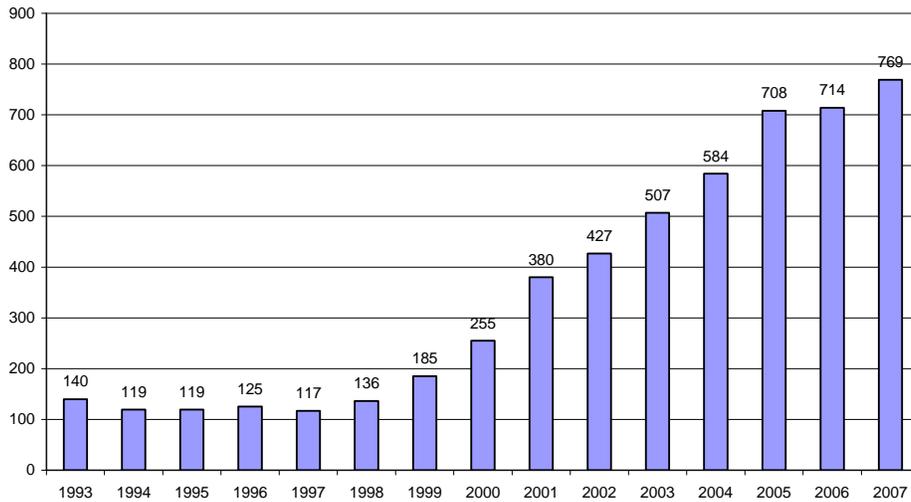
**Wireless Voice Subscribers in U.S.  
1993 - 2007**



Source: CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008, Table 11.  
Data reflect year-end figures.

30. The average monthly usage of wireless services by subscribers has also grown dramatically over this period, increasing from 140 minutes per subscriber per month in 1993 to 769 minutes per subscriber per month in 2007, an annual increase of 13 percent.

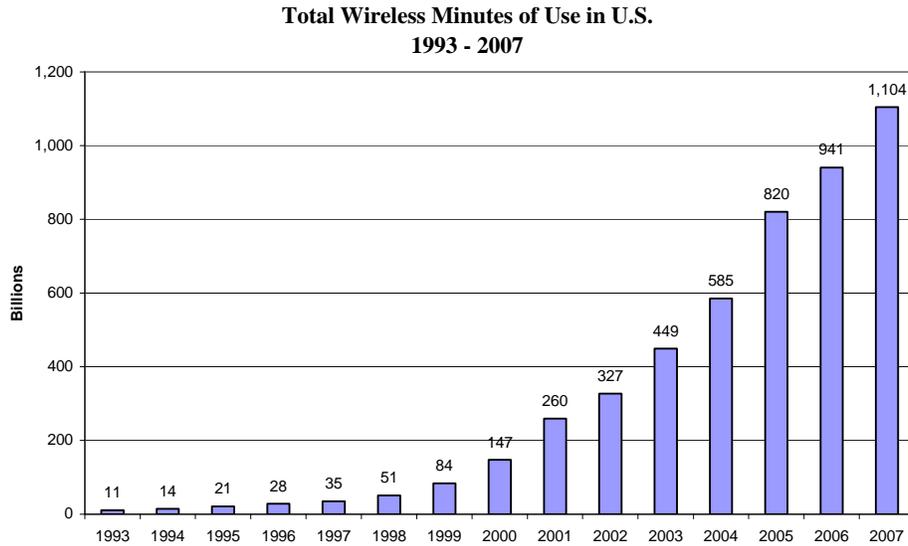
**Figure 2** Monthly Wireless Minutes of Use per Subscriber in U.S. 1993-2007



Source: CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008, Table 86.  
Data reflect year-end figures.

31. Together, the increases in the number of wireless subscribers and usage resulted in an increase in total minutes of wireless use from 11 billion to 1.1 trillion between 1993 and 2007. This is roughly a 10,000 percent increase, which reflects an average annual increase in total minutes of wireless use of 39 percent over this period.

**Figure 3**

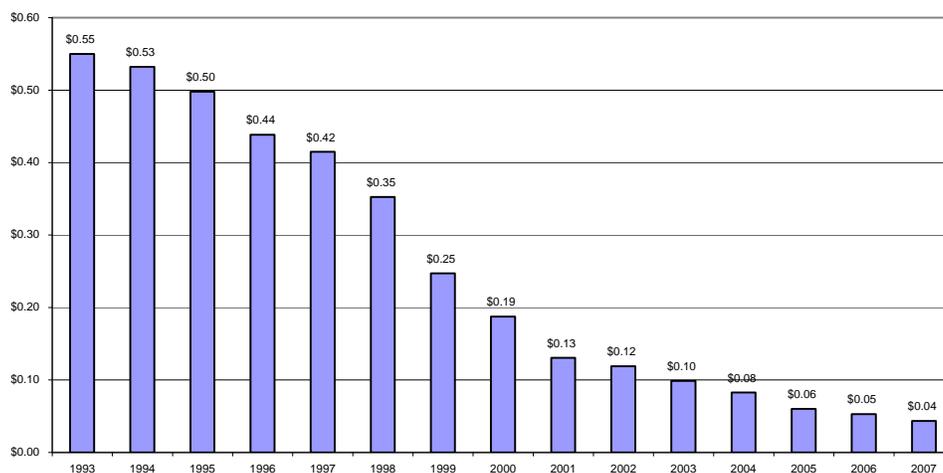


Source: CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008, Table 86.  
Data reflect totals for July-Dec. of relevant year.

32. The growth in output has been driven in part by a dramatic decline in the price of wireless services. As shown in Figure 4, the average rate per minute paid by wireless voice subscribers has fallen from \$0.55 in 1993 to \$0.04 in 2007. This reflects a decline (in nominal terms) of 92 percent over the past 14 years, or an average annual decline of roughly 17 percent. The inflation-adjusted annual decline is roughly 19 percent over this period.

**Figure 4**

**Average Voice Revenue per Minute in U.S.  
1993 - 2007**



Source: CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008, Tables 44, 86, Chart 25.

Note: The Voice Revenues are calculated as Service Revenues minus Data Revenues. The Data Revenues are not reported before 2000 and are assumed to be 0. The Average Voice Revenue per Minute is calculated as Total Voice Revenues divided by Total MOUs. Data reflect average for July-Dec. of relevant year.

33. In recent years, wireless data services have also started to attract a significant number of subscribers. The FCC estimates that the number of subscribers to high-speed Internet access services using mobile wireless technology increased from 3.1 million at the beginning of 2006 to 21.9 million at the end of 2007.<sup>17</sup> CTIA reports that wireless data revenues increased from less than \$1 billion per year in 2002 to over \$23 billion in 2007.<sup>18</sup> These trends are expected to continue. For example, Jefferies & Company forecasts that “mobile data growth will rapidly outpace voice in [the] next few years.”<sup>19</sup>

34. The dramatic increases in output and reductions in price of the wireless telecommunications industry observed in recent years have been achieved as carriers merged and expanded to developed nationwide networks from their origins as regional service providers. Today, there are four carriers with (near) national footprints (Verizon Wireless, AT&T, Sprint

17. FCC, 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008, ¶ 215.

18. CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008, Chart 25.

19. Romeo A. Reyes, et al., “Special Situations: 700MHz Auctions – A Prime Area of Wireless Spectrum” Jefferies & Company, Inc., January 22, 2008, p. 7.

and T-Mobile) and these firms have succeeded in attracting subscribers at a more rapid rate than firms with regional footprints. For example, between 2000 and 2006, the number of wireless subscribers in the U.S. grew at an average annual rate of 15 percent. The growth rate among regional carriers was substantially lower. For example, the number of ALLTEL subscribers grew at an average annual rate of 6 percent over this period; U.S. Cellular grew at an average annual rate of 11 percent and Cincinnati Bell grew at an average annual rate of 8 percent.<sup>20</sup>

35. As these data indicate, firms with more extensive geographic networks have achieved more rapid growth than regional firms, presumably a reflection of their ability to better realize efficiencies and to provide higher quality services. The proposed merger of ALLTEL and Verizon Wireless reflects another step in the realization of the efficiencies and the ability to provide higher quality services resulting from operating wireless networks on a national scale.

**B. PRICING OF WIRELESS VOICE SERVICES HAS BECOME INCREASINGLY NATIONAL IN SCOPE.**

36. The growth in carriers with near national networks in recent years indicates that competition in the wireless industry has become increasing national in scope. While the FCC has considered national trends in evaluating wireless mergers, it has focused its analysis of mergers in the wireless industry on evaluating the impact of competition in highly localized geographic markets. More specifically, the FCC has concluded that geographic markets for wireless services are highly regional. In approving AT&T's acquisition of Dobson Communication in November 2007, the FCC concluded:

---

20. ALLTEL merged with Western Wireless, CenturyTel and Midwest Wireless during this period. The calculated growth rate is based on data for the combined entities in both periods. The growth rates are calculated using Table 4 from the FCC's 7<sup>th</sup> CMRS Competition Report, FCC 02-179, July 3, 2002; Table A-4 from the FCC's 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008; and total national wireless subscriber estimates from Table 11 of the CTIA's Wireless Industry Indices, Year-End 2007 Results, May 2008.

For this transaction, we continue to find that the most appropriate geographic level for market analysis is comprised of CMAs and CEAs. For the proposed transaction at issue here, we determine that the geographic market is the area within which a consumer is most likely to shop for mobile telephony service. For most individuals, this will be a local area, as opposed to a larger regional or nationwide area. [...] Accordingly, we will use the same geographic market definition in this analysis as the Commission has used in its recent wireless merger orders discussed above.<sup>21, 22</sup>

37. On-going changes in the wireless industry suggest that the economic forces affecting price are likely to reflect factors beyond those in a geographic area that is limited to a single CEA or CMA. We understand that Verizon Wireless (and other wireless carriers) has increasingly priced wireless services on a national basis and has reduced the extent to which discounts are offered on a local basis. More specifically, Verizon Wireless reports that roughly 90 percent of current Verizon Wireless subscribers have service plans based on national pricing and that close to 100 percent of new subscribers are enrolled in national pricing plans. These plans offer customers in all areas the same rate and do not include roaming charges. In addition, Verizon Wireless sets handset pricing and subsidies on a national basis. While there may be minor regional differences in loyalty bonuses for renewing customers (e.g., awards of “free minutes”) as well as occasional local handset promotions, we understand that such regional differences are rare and small in magnitude.

38. We understand that Verizon Wireless historically established separate pricing schedules by geographic area and region. Today, as mentioned above, there is virtually no regional variation in the pricing of these plans. Verizon Wireless’ move to national pricing is motivated in part due to the simplicity in billing and customer service resulting from national

---

21. FCC, Memorandum Opinion and Order, AT&T / Dobson, FCC 07-196, November 19, 2007, ¶25.

22. CMAs (Cellular Market Areas) are the geographic areas in which cellular licenses were initially issued; Component Economic Areas (CEAs) are areas defined based on commuting and recreational travel patterns.

pricing plans, as well as the reduction in consumer confusion resulting from regional pricing disparities and roaming fees.

39. As noted above, we do not in this Declaration address competitive issues specific to individual CMA or CEA areas. We do note, however, that in any such analysis it is important to consider the effect that vigorous competition at the national level has in constraining the behavior of the merged firm in particular geographic areas. The remainder of this declaration shows that the characteristics of the wireless industry and competitive factors that affect all geographic areas imply that the proposed transaction is unlikely to have a significant adverse affect on competition.

**C. VERIZON WIRELESS WILL CONTINUE TO FACE SIGNIFICANT COMPETITION FOLLOWING THE PROPOSED MERGER.**

40. As noted above, the transaction takes place in the context of a highly dynamic industry that continues to experience rapid growth in output and declines in price. In its recent annual report on competitive conditions in the wireless industry, the FCC concluded:

U.S. consumers continue to reap significant benefits – including low prices, new technologies, improved service quality and choice among providers – from competition in the Commercial Mobile Radio Services (“CMRS”) marketplace... The metrics below indicate that there is effective competition in the CMRS market and demonstrate the increasingly significant role that wireless services play in the lives of American consumers.<sup>23</sup>

41. The proposed transaction combines the second and fifth largest wireless carriers in the United States, in terms of total subscribers. Verizon Wireless and ALLTEL respectively account for 25 and 5 percent of wireless voice subscribers in the U.S.<sup>24</sup> As discussed above, while the number of ALLTEL subscribers has grown substantially over time, its share of subscribers in the U.S. has fallen from 7 percent in 2000 to 5 percent in 2006.

---

23. FCC, 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008, p. 5, ¶ 1.

24. Ibid., Table A-4; and total national wireless subscribers from Table 11 of the CTIA’s Wireless Industry Indices, Year-End 2007 Results, May 2008

42. The merged firm will continue to face competition from three other wireless carriers with near national network coverage including AT&T (26 percent of mobile voice subscribers nationally in 2006), Sprint (22 percent) and T-Mobile (11 percent).<sup>25</sup> The merged firm also will continue to face competition from a variety of regional suppliers, including US Cellular, Leap (Cricket), Clearwire and Metro PCS in various areas. In addition, as discussed in more detail below, there are a wide range of large and sophisticated firms that have acquired spectrum with broad coverage of the U.S. population that are in the process of deploying, or planning to deploy, new wireless services throughout the U.S.

**D. AVAILABLE EVIDENCE INDICATES THAT ALLTEL AND VERIZON WIRELESS ARE NOT NEXT BEST SUBSTITUTES IN THE PROVISION OF WIRELESS SERVICES.**

43. Available local number portability data from Verizon Wireless suggest that Verizon Wireless and ALLTEL are not next best substitutes in the provision of wireless services in the areas in which both firms provide service. For 2008 (through April) in 33 areas served by both ALLTEL and Verizon Wireless for which share data are available, less than 20 percent of new Verizon Wireless subscribers are drawn from ALLTEL and less than 20 percent of subscribers leaving Verizon Wireless go to ALLTEL. If flows into and from Verizon Wireless occurred prorata based on market shares alone in these overlap areas, roughly 22 percent of such churn would involve ALLTEL.<sup>26</sup> These data indicate that new customers moving to or from Verizon Wireless from ALLTEL do so less often than would be suggested based on ALLTEL's overall share of subscribers.

---

25. Ibid.

26. The results reported in Table 1 are based on a broad measure of customer inflows and outflows which include "winbacks" (of customers lost to other carriers) and "rollbacks" (of customers gained from other carriers in measured flows. Results based on a more narrow measure of customer flows yield qualitatively similar results.

**Table 1**

**Wireless Subscribers Switching Between ALLTEL  
and Verizon Wireless In Overlap Areas [1]  
Jan-Apr 2008**

<b>Category</b>	<b>ALLTEL Share</b>
Inflows to Verizon Wireless <sup>2</sup>	17.9%
Outflows from Verizon Wireless <sup>3</sup>	19.0%
Expected Based on Relative Subscriber Share <sup>4</sup>	22.4%

1. Based on 33 overlap areas for which Nielsen / Telephia data are available.
2. Inflows reflect "port ins" and "winbacks" from ALLTEL to Verizon Wireless.
3. Outflows reflect "port outs" and "rollbacks" to ALLTEL from Verizon Wireless.
4. Reflects weighted average of subscriber shares of ALLTEL (excluding Verizon Wireless) based on Nielsen / Telephia data.

Source: Verizon Wireless Local Number Portability data; Nielsen / Telephia share data.

**E. THE HIGHLY DYNAMIC NATURE OF THE WIRELESS INDUSTRY  
REDUCES CONCERNS ABOUT THE ADVERSE AFFECT OF THE  
PROPOSED TRANSACTION ON COMPETITION.**

44. Analysis of the competitive impact of the proposed transaction requires consideration of future as well as current competitive conditions in the wireless industry. As the Merger Guidelines recognize:

Market concentration and market share data of necessity are based on historical evidence. However, recent or ongoing changes in the market may indicate that the current market share of a particular firm either understates or overstates the firm's future competitive significance.<sup>27</sup>

45. In prior reviews of wireless mergers, the FCC has focused on service providers utilizing the cellular, PCS and Enhanced Specialized Mobile Radio (ESMR) spectrum, which together account for roughly 200 MHz of spectrum. In its recent decision approving AT&T's

---

27. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, Section 1.521.

acquisition of Dobson Communications, the FCC also included the “700 MHz spectrum” band, which includes 80 MHz of spectrum that can be used for mobile telephony. As the FCC noted:

We conclude that the commercial spectrum in the 700 MHz band is suitable for the provision of mobile telephony service [...] and should be considered a component of the input market for spectrum when evaluating this transaction. The 700 MHz spectrum not only is technically capable of supporting mobile services, but also is in many respects ideally suited for the provision of these services.<sup>28</sup>

46. While the FCC did not include other spectrum as components of the input market, recent events indicate that a wide variety of firms have acquired spectrum that provides access to a large share of the U.S. population. For example, SpectrumCo – a consortium of cable companies – recently acquired AWS spectrum that covers approximate 275 million people. Similarly, Qualcomm assembled spectrum licenses in the 700 MHz band that provides them a near national footprint. Other carriers, including Leap, MetroPCS, and Cincinnati Bell acquired licenses that expanded their regional footprint. Overall, there are now 12 different companies that hold terrestrial wireless licenses that cover more than 1 million square miles of the United States and can be used to provide CMRS.<sup>29</sup>

47. Based on these auction results, the FCC concluded that access to spectrum does not reflect a barrier to entry into the provision of mobile telecommunications services in the U.S.:

The demonstrated ability of new entrants to acquire nationwide or near-nationwide spectrum footprints in these auctions, as well as the ability of incumbent regional service providers to expand their spectrum footprints, undermines claims that the Commission’s auction design enables the leading nationwide carriers to prevent entry of another nationwide player. More generally, these auction outcomes support the notion that spectrum allocation and assignment policies do not create an effective barrier to entry into the U.S. mobile telecommunications market.<sup>30</sup>

---

28. FCC, WT Docket no. 07-153, Memorandum Opinion and Order, November 19, 2007, ¶ 31.

29. FCC, 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008, p. 9, Tables 6 and 7.

30. FCC, 12<sup>th</sup> CMRS Competition Report, FCC 08-28, February 4, 2008, ¶ 76.

48. As these developments suggest, the wireless industry is highly dynamic with firms competing to develop and offer new types of services. For example, Clearwire, together with Sprint, Google, Comcast, Time Warner Cable and Brighthouse Networks, have recently launched a joint venture to offer next generation wireless broadband services throughout the U.S. The service makes use of BRS spectrum to create a new mobile broadband company. The combined company expects to add coverage of 60-80 million subscribers by the end of 2009 and 120-140 million by the end of 2010.<sup>31</sup> In addition, Cablevision intends to build its own broadband wireless network over the next two years,<sup>32</sup> as does DISH network, which analysts expect to deploy a mobile TV product.<sup>33</sup>

49. Overall, these developments indicate that the wireless telecommunications includes a broad range of firms competing to develop new technologies and services. These firms already own key inputs such as spectrum and include a variety of highly sophisticated technology companies. Under these circumstances, it is highly unlikely that the proposed merger of Verizon Wireless and ALLTEL will adversely affect the competition and the development of new wireless technologies and services.

---

31. Clayton Moran, et al., "Wireless/Tower Industry Outlook," Stanford Institutional Research, May 27, 2008, p. 9. See also Ben Stretch, "US Wireless Towers: WiMAX set to move in," Macquarie Research Equities (USA), May 8, 2008, p. 1 ("In our view, the announcement and the scale of the coordinated effort on the part of these seven companies is truly significant, with the JV targeting a network deployment covering between 120-140m people in the United States by the end of 2010.").

32. Anthony Klarman II, et al., "High Yield Telecom, Cable & Satellite Weekly," Deutsche Bank, May 16, 2008, p. 14.

33. Tom Watts, et al., "Telecom, Cable, and Satellite TV," Cowen and Company, April 16, 2008, p. 8.

**E. A VARIETY OF OTHER INDUSTRY CHARACTERISTICS REDUCE COMPETITIVE CONCERNS ARISING FROM THE PROPOSED TRANSACTION.**

50. There are a variety of other dimensions to competition in the wireless telecommunications industry that further reduce concerns that the proposed transaction will adversely affect competition. The multidimensional nature of competition in the industry reduces the risk of coordinated interaction in the industry.

51. For example, wireless carriers compete along a variety of dimensions in addition to price. Firms vary with respect to the range and quality of services offered. For example, as mentioned above, Verizon Wireless offers high bandwidth wireless data services based on EV-DO Rev. A technology while ALLTEL and other carriers do not. Similarly, carriers compete with respect to service quality, with Verizon Wireless offering what is generally recognized as high quality services.

52. Similarly, wireless carriers compete with respect to the type of equipment offered to subscribers. For example, carriers often offer handsets on a subsidized basis to new subscribers and compete by providing differentiated equipment. For example, AT&T has been the only carrier that has offered Apple's iPhone. Analysts expect that Verizon Wireless' own initiative to open its network to third party devices and applications will significantly increase Verizon Wireless' sales.<sup>34</sup>

---

34. See, for example, Timothy Horan, et al., "Communications Services," Oppenheimer, April 7, 2008, pp. 1-2 ("Management plans to take advantage of this by opening its network to other device and application developers (ODI initiative), which presumably through increased innovation will expand the overall market much more than the company can do on its own. ... Open Development Initiative (ODI) – tens of billion [revenue] opportunity for industry (video and advertising), will coexist with VZ Retail.").

## **CONCLUSION**

53. The proposed merger reflects an attempt to further realize efficiencies resulting from operating wireless networks on a national instead of regional scale. While we have not analyzed the impact of the transaction in specific geographic areas, we conclude that the characteristics of the wireless industry as a whole and competitive factors that affect all geographic areas imply that the proposed transaction is unlikely to have a significant adverse effect on competition.

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

Dennis W Carlton

Dennis W. Carlton

Executed June 13, 2008

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

\_\_\_\_\_  
Allan L. Champine

Executed June \_\_, 2008

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

\_\_\_\_\_  
Hal S. Sider

Executed June \_\_, 2008

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

---

Dennis W. Carlton

Executed June \_\_, 2008

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



Allan L. Shampine

Executed June 13, 2008

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



Hal S. Sider

Executed June 13, 2008

**EXHIBIT 1**



FIELDS OF SPECIALIZATION

Theoretical and Applied Microeconomics  
Industrial Organization

ACADEMIC HONORS AND FELLOWSHIPS

Recipient of Inaugural Robert F. Lanzilotti Prize, awarded by the International Industrial Organization Society for Best Paper in Antitrust Economics, 2008  
Keynote Address to Israel Antitrust Conference, 2008  
Lewis Bernstein Memorial Antitrust Lecture, Washington, D.C., 2006  
Distinguished Visitor, University of Melbourne, April 2005  
Milton Handler Lecture, New York, 2004  
Keynote Address to the International Competition Network, Mexico, 2004  
Alexander Brody Distinguished Lecture, Yeshiva University, 2000  
Ph.D. Thesis chosen to appear in the Garland Series of Outstanding Dissertations in Economics  
Recipient of the 1977 P.W.S. Andrews Memorial Prize Essay, best essay in the field of Industrial Organization by a scholar under the age of thirty  
National Science Foundation Grant, 1977 - 1985  
Recipient of Post-doctoral Grant from the Lincoln Foundation, 1975  
National Science Foundation Fellowship, 1972 - 1975  
Phi Beta Kappa, 1971  
John Harvard Award, 1970  
Detur Book Prize, 1969  
Edwards Whitacker Award, 1969  
M.I.T., National Scholar Award, 1968

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Co-editor, Journal of Law and Economics, 1980 - present  
Visiting Committee, MIT, Department of Economics, 1995 - present  
Member, Advisory Board, Economics Research Network, 1996 - present  
Member, Advisory Board of Antitrust and Regulation Abstracts, Social Science Research Network, 1998 - present  
Advisory Board, Massachusetts Institute of Technology, Department of Economics, 1999 - present  
Co-Editor, Competition Policy International (CPI), 2004 – present  
Advisory Board, Journal of Competition Law and Economics 2004- present  
Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice, 2006 - 2008  
Presidential Appointment to the Antitrust Modernization Commission, March 17, 2004 - 2007  
Invited Panelist at Public Hearing on the Retail Banking Sector Inquiry: Payment Cards, before the European Commission in Brussels, Belgium, July 17, 2006.  
Consultant on Merger Guidelines to the FTC, 2003  
Professor, George Mason Institute for Judges, October 2001  
Chairman, FTC Round Table on Empirical Industrial Organization (September 11, 2001)  
Participant in the Round Table on the Economics of Mergers Between Large ILECS before the Federal Communications Commission, February 5, 1999  
Member, Steering Committee, Social Science Research Council, Program in Applied Economics, 1997 - 1999

Participant in roundtable discussions on "The Role of Classical Market Power in Joint Venture Analysis," before the Federal Trade Commission, November 19, 1997 and March 17, 1998.  
Participant in meetings with Committee of the Federal Reserve on Payment Systems, June 5, 1997  
Associate Editor, *Regional Science and Urban Economics*, 1987 - 1997  
Resident Scholar, Board of Governors of the Federal Reserve System, Summer, 1995  
Accreditation Committee, Graduate School of Business, Stanford University, 1995  
Associate Editor, *The International Journal of Industrial Organization*, 1991 - 1995  
Editorial Board, *Intellectual Property Fraud Reporter*, 1990 - 1995  
Consultant on Merger Guidelines to the U.S. Department of Justice, 1991 - 1992  
Member, Advisory Committee to the Bureau of the Census, 1987 - 1990  
National Bureau of Economic Research, Research Associate  
Member, American Economics Association, Econometrics Society

### BOOKS

Market Behavior Under Uncertainty, Ph.D. Thesis, Massachusetts Institute of Technology (September 1975); Garland Publishing (1984).

Modern Industrial Organization, Scott, Foresman & Co., co-authored with Jeffrey Perloff, first edition (1990), second edition (1994), translated into Chinese, French, Hungarian and Italian; Addison Wesley Longman, third edition (2000), fourth edition (2005).

### RESEARCH PAPERS

"The Equilibrium Analysis of Alternative Housing Allowance Payments," (with Joseph Ferreira) Chapter 6 of Analysis of a Direct Housing Allowance Program, The Joint Center for Urban Studies of M.I.T. and Harvard University, (July 1975).

"Theories of Vertical Integration," presented at Fourth Annual Telecommunications Conference. Appears in a volume of Proceedings of the Fourth Annual Telecommunications Conference, Office of Telecommunications Policy, (April 1976).

"Uncertainty, Production Lags, and Pricing," American Economic Review, (February 1977).

"Selecting Subsidy Strategies for Housing Allowance Programs," (with Joseph Ferreira) Journal of Urban Economics, (July 1977).

"Peak Load Pricing With Stochastic Demand," American Economic Review, (December 1977). (Reprinted in Economic Regulation edited by P.L. Joskow, Edward Elgar Publishing Limited, 1998 and Reprinted in The Economics of Public Utilities edited by Ray Rees, Professor of Economics at the University of Munich, Germany, 2005.)

"The Distribution of Permanent Income," Income Distribution and Economic Inequality, edited by Zvi Griliches, et al. (Halsted Press, 1978).

"Vertical Integration--An Overview," in Congressional Record Hearings on the Communications Act of 1978. Bill H.R. 13105, (August 3, 1978).

"Market Behavior with Demand Uncertainty and Price Inflexibility," American Economic Review, (September 1978).

- "Vertical Integration in Competitive Markets Under Uncertainty," Journal of Industrial Economics, (March 1979). Awarded the P.W.S. Memorial Prize for the best essay in the field of Industrial Organization by a scholar under the age of thirty.
- "Valuing Market Benefits and Costs in Related Output and Input Markets," American Economic Review, (September 1979).
- "Contracts, Price Rigidity and Market Equilibrium," Journal of Political Economy, (October 1979).
- "Why New Firms Locate Where They Do: An Econometric Model," in Studies in Regional Economics, edited by W. Wheaton, (Urban Institute, 1980).
- "Benefits and Costs of Airline Mergers: A Case Study," (with W. Landes and R. Posner) Bell Journal of Economics, (Spring 1980). (Reprinted in "Air Transport" in Classics In Transport Analysis series, edited by Kenneth Button and Peter Nijkamp, 2001.)
- "The Limitations of Pigouvian Taxes as a Long Run Remedy for Externalities," (with G. Loury) Quarterly Journal of Economics, (November 1980).
- "The Law and Economics of Rights in Valuable Information: A Comment," Journal of Legal Studies, (December 1980).
- "Price Discrimination: Vertical Integration and Divestiture in Natural Resources Markets," (with J. Perloff) Resources and Energy, (March 1981).
- "The Spatial Effects of a Tax on Housing and Land," Regional Science and Urban Economics, (November 1981).
- "Comments on Weicher," Journal of Law and Economics, (December 1981).
- Comment, in Sherwin Rosen ed. Studies in Labor Markets, University of Chicago Press, (1981).
- "Planning and Market Structure," in The Economics of Information and Uncertainty, edited by J.J. McCall, University of Chicago Press, (1982).
- "The Disruptive Effect of Inflation on the Organization of Markets," in Robert Hall, ed. The Economics of Inflation, University of Chicago Press, (1982).
- "The Need for Coordination Among Firms With Special Reference to Network Industries," (with J. M. Klammer) University of Chicago Law Review, (Spring 1983).
- "A Reexamination of Delivered Pricing," Journal of Law and Economics, (April 1983).
- "Futures Trading, Market Interrelationships, and Industry Structure," American Journal of Agricultural Economics, (May 1983).
- "The Regulation of Insider Trading," (with D. Fischel), Stanford Law Review, (May 1983), reprinted in J. Macey ed., Classics in Corporate Law and Economics, Edward Elgar Publishing (forthcoming).

- "The Location and Employment Choices of New Firms: An Econometric Model with Discrete and Continuous Endogenous Variables," The Review of Economics and Statistics, (August 1983).
- "Economic Goals and Remedies of the AT&T Modified Final Judgment," (with W. Lavey), Georgetown Law Review, (August 1983).
- "Equilibrium Fluctuations When Price and Delivery Lags Clear the Market," Bell Journal of Economics, (Autumn 1983).
- "Energy and Location," Energy Costs, Urban Development, and Housing, Brookings Institution, (1984).
- "Futures Markets: Their Purpose, Their History, Their Growth, Their Successes and Failures," Journal of Futures Markets, (September 1984). (Reprinted in Futures Markets edited by A.G. Malliaris and W.F. Mullady, Edward Elgar Publishing Limited, 1995; and in Classic Futures: Lessons from the Past for the Electronics Age, edited by Lester Telser, Risk Books, 2000.)
- "The Economics of Gray-Market Imports," (with C. DeMuth), written for the Coalition to Preserve the Integrity of American Trademarks (COPIAT), (May 1985).
- "The Limitation of Pigouvian Taxes As A Long Run Remedy for Externalities: Extension of Results," (with G. Loury) Quarterly Journal of Economics, (August 1986).
- "The Rigidity of Prices," American Economic Review, (September 1986).
- "The Theory and The Facts of How Markets Clear: Is Industrial Organization Valuable for Understanding Macroeconomics?" in Handbook of Industrial Organization, eds. Schmalensee and Willig, (1989).
- "Market Power and Mergers in Durable Good Industries," (with R. Gertner), Journal of Law and Economics, (October 1989).
- "Comments on Vertical Integration and Market Foreclosure," Brookings Papers on Economic Activity: Microeconomics, (1990).
- Book Review of Tirole's "The Theory of Industrial Organization", Journal of Political Economy, (June 1990).
- "The Genesis of Inflation and the Costs of Disinflation: Comment," Journal of Money, Credit & Banking, (August 1991, Part 2).
- "The Theory of Allocation and its Implications for Marketing and Industrial Structure: Why Rationing is Efficient," Journal of Law and Economics, (October 1991).
- "The Economics of Cooperation and Competition in Electronic Services Network Industries," in Economics of Electronic Service Networks, Wildman Steven ed., Praeger Press, (1992).
- "Merger Policy and Market Definition Under the EC Merger Regulation," (with W. D. Bishop). Conference on Antitrust in a Global Economy, Fordham Corporate Law Institute, (1994).
- "The Antitrust Economics of Credit Card Networks," (with A. Frankel) Antitrust Law Journal, (Winter 1995).

- "Economic Organization and Conflict," Journal of Institutional and Theoretical Economics, (March 1995).
- "Antitrust and Higher Education: Was There a Conspiracy to Restrict Financial Aid?" (with G. Bamberger and R. Epstein) The Rand Journal of Economics, (Vol. 26, No. 1, Spring 1995, pp. 131-147).
- "The Competitive Effects of Line-of-business Restrictions in Telecommunications," (with K. Arrow and H. Sider), Managerial and Decision Economics, (Vol. 16, pp. 301-321, 1995). (Reprinted in Deregulating Telecommunications - The Baby Bells Case for Competition, edited by Richard S. Higgins and Paul H. Rubin, John Wiley & Sons Ltd., 1995.)
- "The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee," (with A. Frankel), Antitrust Law Journal, (Spring 1995).
- "Antitrust and Payment Technologies," (with A. Frankel), Review, Federal Reserve Bank of St. Louis (November/December 1995).
- "Antitrust Policy Toward Mergers When Firms Innovate: Should Antitrust Recognize the Doctrine of Innovation Markets?" Testimony before the Federal Trade Commission Hearings on Global and Innovation-based Competition (October, 1995).
- "You Keep on Knocking But You Can't Come In: Evaluating Restrictions on Access to Input Joint Ventures," (with S. Salop), Harvard Journal of Law & Technology, (Volume 9, Summer, 1996). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)
- "Comments on Causes and Consequences of Airline Fare Wars," Brookings Papers on Economic Activity: Microeconomics, (1996).
- "A Critical Assessment of the Role of Imperfect Competition in Macroeconomics," in Market Behavior and Macro Economic Modeling, Brakman, Van Ees, & Kuipers (eds.), MacMillan Press (1997).
- "Price Rigidity," Business Cycles and Depressions, David Glasner ed., Garland Publishing, Inc., (1997).
- "Communication Among Competitors: Game Theory and Antitrust," (with R. Gertner and A. Rosenfield), George Mason Law Review, (1997). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)
- "Comments on Born and Viscusi," Brookings Papers on Economic Activity: Microeconomics, (1998).
- "Antitrust and Higher Education: MIT Financial Aid (1993)" (September 1997) (with G. Bamberger), The Antitrust Revolution, (Oxford University Press, 3rd edition 1999).
- "Market Power and Vertical Restraints in Retailing: An Analysis of FTC v. Toys 'R' Us," (with H. Sider), The Role of the Academic Economist in Litigation Support, edited by Daniel Slottje, North Holland, (1999).
- "The Economics of Religion, Jewish Survival and Jewish Attitudes Toward Competition on Torah Education," (with A. Weiss), Journal of Legal Studies, (2001). (Reprinted in Essential Readings

on Jewish Identities, Lifestyles and Beliefs, edited by Stanford M. Lyman, Gordian Knot Books, 2003).

"A General Analysis of Exclusionary Conduct and Refusal to Deal -- Why Aspen and Kodak are Misguided," Antitrust Law Journal, (2001). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)

"The Lessons from Microsoft," Business Economics, (January 2001).

"Lessons from Halacha About Competition and Teaching," (with A. Weiss), Center for Business Ethics Social Responsibility, <http://besr.org/library/competition.html>, (March 2001).

"The Choice of Organizational Form in Gasoline Retailing and The Costs of Laws Limiting that Choice," (with A. Blass), Journal of Law and Economics, (October 2001). Reprinted in Franchise Contracting and Organization, edited by Francine Lafontaine, Elgar Publishing, (2005).

"Should The Merger Guidelines Be Scrapped? Introduction to a Debate," in Symposium On The Antitrust Analysis Of Mergers: Merger Guidelines vs. Five Forces, 33 U. WEST L.A. L. REV. (2001).

"Free Riding and Sales Strategies for the Internet," (with J. Chevalier), The Journal of Industrial Economics, (December 2001).

"The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries," (with M. Waldman), The Rand Journal (Vol. 33, No. 2, Summer 2002). (Reprinted in Business Economics: Pricing, Edward Elgar Publishing Ltd, forthcoming Spring 2007.)

"The Competitive Effects of Fannie Mae," (with D. Gross and R. Stillman) in Housing Matters: Issues in American Housing Policy, Fannie Mae (January 2002, reprinted 2004).

"Intellectual Property, Antitrust and Strategic Behavior," (with R. Gertner), in eds. Adam Jaffee and Joshua Lerner, Innovation Policy and the Economy, Volume 3, MIT Press (2003).

"Airline Networks and Fares," (with G. Bamberger), Handbook of Airline Economics, 2<sup>nd</sup> ed., Darryl Jenkins, ed., McGraw Hill (2003).

"Contracts that Lessen Competition -- What is Section 27 for, and How Has it Been Used?" (with David Goddard), in Mark N. Berry and Lewis T. Evans eds., Competition Law at the Turn of the Century: A New Zealand Perspective, Victoria University Press (2003).

Interview, Economists' Roundtable, Antitrust Magazine, (Spring 2003).

"The Relevance for Antitrust Policy of Theoretical and Empirical Advances in Industrial Organization," (Fall 2003), George Mason Law Review.

"The Control of Externalities in Sports Leagues: An Analysis of Restrictions in the National Hockey League," (with A. Frankel and E. Landes), Journal of Political Economy, (February 2004).

"An Empirical Investigation of the Competitive Effects of Domestic Airline Alliances," (with G. Bamberger and L. Neumann), Journal of Law and Economics, Vol. 47, No. 1, (April 2004, pp. 195-222).

“Why Barriers to Entry are Barriers to Understanding,” American Economic Review, (May 2004).

“Using Economics to Improve Antitrust Policy,” Milton Handler Lecture, Columbia Business Law Review, (June 2004).

“The Proper Role for Antitrust in an International Setting,” (Keynote address: Second Annual Conference of the International Competition Network (ICN), Merida City, Mexico (June 25, 2003), appears as Appendix to “Using Economics to Improve Antitrust Policy”, Columbia Business Law Review (June 2004).

“Econometric Analysis of Telephone Mergers,” (with H. Sider) pp. 373-395 in American Bar Association, Econometrics: Legal, Practical, and Technical Issues, (2005).

“How Economics Can Improve Antitrust Doctrine Towards Tie-in Sales,” (with M. Waldman), Competition Policy International, (Spring 2005).

Preface to: “Law and Economics of the Mexican Competition Laws,” by Francisco Gonzalez de Cossio (2005).

“Transaction Costs, Externalities and “Two-Sided” Payment Markets,” (with A. Frankel), Columbia Business Law Review, No. 3, Vol. (2005).

“Predation and the Entry and Exit of Low-Fare Carriers,” (with G. Bamberger), in Advances in Airline Economics: Competition Policy and Antitrust, Darin Lee, ed., (2006).

“Why Tie An Essential Good,” (with Michael Waldman), in Hahn R. ed., Antitrust Policy and Vertical Restraints, AEI-Brookings, (July 2006).

“Market Definition: Use and Abuse,” Competition Policy International (Spring 2007)

Interview with Deputy Assistant Attorney General, The Antitrust Source (February 2007)

Separate Statement of Dennis W. Carlton, in The Report of the Antitrust Modernization Commission, (April 2007)

“Does Antitrust Need to be Modernized?,” Journal of Economic Perspectives (Summer 2007)

“Mergers,” Palgrave Dictionary, (with J. M. Perloff), (2008).

“Antitrust and Regulation,” (with R. Picker) in N. Rose ed., Economics of Deregulation, NBER, (forthcoming).

“Tying,” (with M. Waldman), in W. Collins ed. Issues in Competition Law and Policy, American Bar Association, (forthcoming).

“Barriers to Entry,” in W. Collins ed. Issues in Competition Law and Policy, American Bar Association, (forthcoming).

“Product Variety and Demand Uncertainty: Why Mark-ups Vary with Quality,” (with James D. Dana Jr.), Journal of Industrial Economics (forthcoming)

- "Regulation, Antitrust, and Trinko," (With H. Sider), in eds. J. Kwoka and L. White, The Antitrust Revolution, (forthcoming).
- "The Year in Review: Economics at the Antitrust Division 2006-2007" (with K. Heyer), Review of Industrial Organization, (2007).
- "Economic Analysis of Competition Practices in the EU and the U.S.: A View from Chief Economists," (with M. Salinger), Competition Policy International (Autumn 2007).
- "Proposal for a Market-Based Solution to Airport Delays," (with W. Whalen, K. Heyer and O. Richard), Regulation (2008).
- "Safe Harbors for Quantity Discounts and Bundling," (with M. Waldman), George Mason Law Review (2007).
- "Should 'Price Squeeze' Be A Recognized Form of Anticompetitive Conduct?," Journal of Competition Law and Economics (2008).

#### UNPUBLISHED PAPERS

- "Modeling the Housing Allowance Program," M.A. Thesis, Massachusetts Institute of Technology (September 1974).
- "The Cost of Eliminating a Futures Market and The Effect of Inflation on Market Interrelationships," (1984).
- "The Empirical Importance of Delivery Lags as an Explanation of Demand," (1984).
- "Statistical Supplement to The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee Comment, 63 Antitrust Law Journal 903 (1995)," (with Alan Frankel), (May 1997).
- "Competition, Monopoly, and Aftermarkets," (with M. Waldman), NBER Working Paper No. 8086, (January 2001, revised March 2002).
- "Tying, Upgrades, And Switching Costs In Durable-Goods Markets," (with Michael Waldman), NBER Working Paper 11407, (2005).
- "Antitrust and Not for Profits," (with G. David), mimeo (2005).
- "Why Tie a Product Consumers Do Not Use?," (with J. Gans and M. Waldman), NBER Working Paper 13339, Recipient of Inaugural Robert F. Lanzilotti Prize, awarded by the International Industrial Organization Society for Best Paper in Antitrust Economics, (2006).
- "The Need to Measure the Effect of Merger Policy and How to Do It," Department of Justice, Antitrust Division, Economic Analysis Group Paper 07-15, (2007).
- "Mergers in Regulated Industries: Electricity," Department of Justice, Antitrust Division, Economic Group Paper, 07-16, (2007).
- "Appropriate Antitrust Policy Towards Single-Firm Conduct" (with K. Heyer), Department of Justice, Antitrust Division, Economic Analysis Discussion Paper, 08-2 (2008).

EXPERT TESTIMONIAL EXPERIENCE

Testimony of Dennis W. Carlton in Re: "Vertical Integration--An Overview, "Congressional Record Hearings on the Communications Act of 1978: Proceedings before the House on Bill H.R. 13105, August 3, 1978.

Testimony of Dennis W. Carlton in Re: Competitive Effects of the Proposed North Central-Southern Airline Merger: Proceedings before the Civil Aeronautics Board, Docket No. 33136, Exhibit NC/SO-T-7, October 13, 1978 and October 9, 1979 (with William M. Landes and Richard A. Posner).

Testimony of Dennis W. Carlton in Re: McNeilab, Inc.: Proceedings before the United States Department of Justice, Drug Enforcement Administration, Docket No. 78-13, March 13, 1980 and May 1980 (Oral).

Testimony of Dennis W. Carlton in Re: Acco Industries, Inc. v. Kresl Power Equipment, Inc.: In the U.S. Court of Appeals For the Seventh Circuit, Docket No. 80-2024, March 29, 1980.

Deposition, Testimony, and Rebuttal Testimony of Dennis W. Carlton in Re: Ethyl Corporation: Proceedings before the Federal Trade Commission, Docket No. 9128, November 10 & 11, 1980 (Deposition), November 13 & 14, 1980 (Testimony), February 20, 1981 (Rebuttal).

Deposition of Dennis W. Carlton in Re: Independence Tube Corporation v. Copperweld Corporation, Regal Tube Company, The Yoder Company v. David F. Grohne (counter-defendant): In the U.S. District Court for the Northern District of Illinois, Eastern Division, No. 76 C 4201, January 24, 1981.

Affidavit of Dennis W. Carlton in Re: Ellis Banking Corporation, Ellis First National Bank of Bradenton, and Ellis First Security Bank v. Barnett Banks of Florida, Inc., Barnett Bank of Manatee County, and Westside National Bank of Manatee County: In the U.S. District Court for the Middle District of Florida, Tampa Division, No. 81-693-Civ-T-H, July 28, 1981.

Deposition and Economic Report of Dennis W. Carlton in Re: Schneider Industrial Sales and Service Company, William Schneider and Mary Emily Schneider v. Acco Industries, Inc.: In the U.S. District Court for the District of New Jersey, April 19, 1982.

Deposition and Testimony of Dennis W. Carlton in Re: City of Batavia, et al. v. Commonwealth Edison Company: Proceedings before the U.S. District Court, Northern District of Illinois, Eastern Division, No. 76 C 4388, May 17, 18 & 25, 1982 (Deposition), July 22, 1982 (Testimony).

Deposition of Dennis W. Carlton in Re: M. K. Metals Inc., et al. v. National Steel Corporation: In the U.S. District Court for the Northern District of Illinois, Eastern Division, No. 79 C 1661, September 15, 1983.

Declaration and Deposition of Dennis W. Carlton in Re: Carter Hawley Hale Stores, Inc. v. The Limited, Inc., et al.: In the U.S. District Court, Central District California, No. CV 84 22000 AWT (JRX), April 21, 1984 (Declaration), April 23, 1984 (Deposition).

- Verified Statements and Testimony of Dennis W. Carlton in Re: Denver & Rio Grande Western Railroad v. Santa Fe Southern Pacific Corporation et al: Proceedings before the Interstate Commerce Commission, Docket No. 30400, August 28, 1984, November 14, 1984, and May 22, 1985, (Statements), and January 30, 1985 and June 19, 1985, (Testimony).
- Affidavit of Dennis W. Carlton in Re: United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company: In the United States District Court for the District of Columbia, December 19, 1984 (with William M. Landes).
- Statement of Carlton in Re: To the National Telecommunications Information Administration (NTIA) Request for Comments in Connection with the Comprehensive Study of the Structure and Regulation of the U.S. Telecommunications Industry, March 29, 1985 (with DeMuth, Landes, and Rosenfield).
- Deposition and Affidavit of Dennis W. Carlton in Re: L&W Industries, Inc. v. American Standard, Inc.: In the U.S. District Court, Eastern District of Wisconsin, Civil Action No. 81-C-1409, May 14, 1985 (Deposition), August 30, 1985 (Affidavit).
- Testimony of Dennis W. Carlton in Re: E. I. Du Pont De Nemours and Company's Thebaine Import Application: Proceedings before the U.S. Department of Justice, Drug Enforcement Administration, Docket No. 84-51, May 31, 1985.
- Testimony of Dennis W. Carlton in Re: Joint Application of Pan American World Airways, Inc. and United Airlines, Inc., Pacific Division Transfer Case: Proceedings before the U.S. Department of Transportation, Docket No. 43065, August 7, 1985 (with William M. Landes and Sam Peltzman).
- Deposition of Dennis W. Carlton in Re: General Motors "THM 200" Transmission Litigation: Proceedings before the U.S. District Court, Northern District of Illinois, Eastern Division, No. 79 C 1249, 80 C 2151 and 85 C 4805, July 2, 1986.
- Affidavit of Dennis W. Carlton in Re: Norwest Bank Fire Case: Proceedings before the U.S. District Court, Fourth Judicial District, State of Minnesota, Court File No. 83-08122, August 28, 1986.
- Affidavit of Dennis W. Carlton in Re: Policy and Rules Concerning Rates for Dominant Carriers: Before the Federal Communications Commission, Washington, D.C., Docket No. 87-313, October 16, 1987.
- Deposition of Dennis W. Carlton in Re: Research Institute for Medicine and Chemistry, Inc. v. Wisconsin Alumni Research Foundation: In the U.S. District Court, Western District of Wisconsin, Case No. 85-C-1060-D, October 20 & 21, 1986.
- Affidavit and Deposition of Dennis W. Carlton in Re: United States Football League, et al. v. National Football League, et al.: In the U.S. District Court, Southern District of New York, 84 Civ. 7484 (PKL), November 24, 1986 (Affidavit), February 26, 1986 and December 4, 1986 (Deposition).
- Verified Statements of Dennis W. Carlton in Re: Coal Trading Corporation, et al. v. The Baltimore and Ohio Railroad Co., et al.: Before the Interstate Commerce Commission, ICC Docket No. 38301S, December 16, 1986 and September 8, 1987.
- Testimony of Dennis W. Carlton in Re: The Application of Pacific Bell, a Corporation, for Authority to Increase Certain Intrastate Rates and Charges Applicable to Telephone Services Furnished

within the State of California, California Public Utilities Commission, Application No. 85-01-034, December 19, 1986 and January 22 & 28, 1987.

Deposition of Dennis W. Carlton in Re: John H. Torphy v. Touche Ross & Co., et al.: In the Circuit Court Dane County, State of Wisconsin, Case No. 82-CV-4033, August 25, 1987.

Deposition of Dennis W. Carlton in Re: Martin Exploration Management Company, et al. v. Panhandle Eastern Corporation, et al.: In the U.S. District Court for the District of Colorado, Civil Action No. 86-Z-804, May 5, 6 & 18, 1988.

Deposition of Dennis W. Carlton in Re: The Dow Chemical Company v. Halliburton Company and The Dow Chemical Company v. Mississippi Power & Light Company: In the U.S. District Court for the Northern District of Mississippi Greenville Division, No. GC-78-31-GD-D and No. GC-78-32-GD-D, June 16, 1988.

Statements and Testimony of Dennis W. Carlton in Re: Trailer Train Company et al., Approval of Pooling of Car Service With Respect to Flat Cars: Before the Interstate Commerce Commission, Finance Docket No. 27590. (Sub-No. 1), July 7 & 14, 1988 (Statements), July 25 & 26, 1988 (Testimony).

Testimony of Dennis W. Carlton in Re: Pontarelli Limousine, Inc. v. City of Chicago, Finance Docket No. 83-C-6716, September 25 & 26, 1989.

Deposition of Dennis W. Carlton in Re: Great Northern Nekoosa Corporation v. Georgia-Pacific Corporation: Before the United States District Court District of Connecticut, Civ. Action No. B-89-607-WWE, December 28, 1989 and January 15, 1990.

Testimony of Dennis W. Carlton in Re: The Matter of the Physicians and Surgeons Medical Malpractice Insurance Rates of St. Paul Fire & Marine Insurance Company: Before the State of Minnesota Office of Administrative Hearings for the Commissioner of Commerce, O.A.H. Docket No. 0-1004-3412-2, January 1990.

Deposition of Dennis W. Carlton in Re: Dale A. Ervin, et al. v. Amoco Oil Company, et al.: In the District Court, City and County of Denver, State of Colorado, No. 88-CV-11994, September 5, 1990.

Reply Affidavit of Dennis W. Carlton in Re: United States of American v. Western Electric Company Inc. and American Telephone and Telegraph Company: In the United States District Court for the District of Columbia, Civil Action No. 82-0192, January 10, 1991 (with George J. Stigler).

Testimony of Dennis W. Carlton in Re: Westreco, Inc. v. Commissioner of Internal Revenue: In the United States Tax Court, Washington, D.C. 20217, Docket No. 24078-88, January 29, 1991.

Deposition, Testimony, and Rebuttal Testimony of Dennis W. Carlton in Re: In the Matter of Marathon Oil Company and Phillips Petroleum Company: Before the Department of Revenue, State of Alaska, Case No. 89314, April 23 & 24, 1991 (Deposition), March 28, 1991 (Expert Report), June 19, 1991 (Testimony), July 22, 1991 (Rebuttal Testimony), October 3 & 4, 1991 (Oral).

Deposition of Dennis W. Carlton in Re: Martin Exploration Management Company, et al. v. Panhandle Eastern Pipeline Corporation, et al.: In the U.S. District Court for the District of Colorado, Civil Action No. 91-N-110, February 5, 1992.

- Deposition, Affidavit and Testimony of Dennis W. Carlton in Re: United States of America v. Brown University, et al.: In the U.S. District Court For the Eastern District of Pennsylvania, Civil Action No. 91-CV-3274, February 18 & 19, 1992 (Deposition), April 28, 1992 (Affidavit), July 8 & 9, 1992 (Testimony).
- Deposition of Dennis W. Carlton in Re: United States of America, People of The State of California, et al. v. J. B. Stringfellow, Jr., et al.: In the United States District Court Central District of California, No. CIV 83-2501 JMI, March 10 & 11, 1992.
- Affidavit of Dennis W. Carlton in Re: SCFC ILC, Inc. d/b/a MountainWest Financial v. Visa U.S.A., Inc.: In the U.S. District Court for the District of Utah, Central Division, Civil No. 2:91-cv-047B, June 25, 1992.
- Deposition and Testimony of Dennis W. Carlton in Re: Adcom, Incorporated, Cutrone Communications, Incorporated, Great Southern Communications Incorporated, Nola Communications Incorporated and Conrad Communications, Incorporated v. Nokia Corporation, Nokia-Mobira Oy, Nokia-Mobira, Incorporated, Nokia, Incorporated, Nokia Data Communications and Cue Paging Corporation: In the United States District Court for the Eastern District of Louisiana, Civil Action Number 90-4088, November 3 & 4, 1992 (Deposition), February 9 & 10, 1993 (Testimony).
- Statement, Supplemental Statement and Deposition of Dennis W. Carlton in Re: City of Dillingham, et al. v. Western Pioneer, Inc., et al., and City of Nome v. Western Pioneer, Inc., et al.: In the United States District Court for the District of Alaska, No. A89-014 Civil (Consolidated for Pre-Trial Proceedings with No. N89-004 Civil), November 6, 1992 (Statement and Supplemental Statement), November 24, 1992 (Deposition).
- Verified Statement of Dennis W. Carlton in Re: Kansas City Southern Industries, Inc., The Kansas City Southern Railway Company and K&M Newco, Inc. -- Control -- MidSouth Corporation, MidSouth Rail Corporation, MidLouisiana Rail Corporation, SouthRail Corporation and TennRail Corporation, Before the Interstate Commerce Commission, Finance Docket No. 32167, May 1993.
- Verified Statements and Deposition of Dennis W. Carlton in Re: Union Pacific Corporation, Union Pacific Railroad Company and Missouri Pacific Railroad Company -- Control -- Chicago and North Western Holdings Corp. and Chicago and Northwestern Transportation Company: Before the Interstate Commerce Commission, Finance Docket No. 32133, May 24, 1993, June 21, 1993, and November 24, 1993 (Statements), March 17, 1994 and July 26, 1994 (Deposition).
- Verified Statement of Dennis W. Carlton in Re: Application of TTX Company and Certain Common Carriers by Railroad For Approval of Amendment of Pooling Agreement and Car Contract Extending Their Terms, Before the Interstate Commerce Commission, Finance Docket No. 27590 (Sub-No. 2), November 19, 1993.
- Deposition of Dennis W. Carlton in Re: Merck & Co., Inc. v. Alcon Laboratories, Inc., In the United States District Court for the District of Delaware, No. C.A. 92-691, December 14, 1993.
- Deposition and Affidavit of Dennis W. Carlton in Re: Northwest Airlines, Inc. v. American Airlines, Inc., Before the United States District Court, District of Minnesota, Fourth Division, C.V. No. 4-91-539, February 22 & 23, 1994, May 16 & 17, 1995, and July 8, 1997 (Deposition); and February 20, 1995 and May 9, 1996 (Affidavit).

- Testimony of Dennis W. Carlton in Re: Florida Power & Light Company: Before the Federal Energy Regulatory Commission, Docket Nos. ER93-465-000, ER93-507-000, ER-93-922-000, and EL94-12-000, April 5, 1994, October 19, 1994, and June 22, 1995.
- Testimony of Dennis W. Carlton in Re: The Matter of Touchfax Information Systems Inc. and Landis & Gyr Communications: Before the American Arbitration Association, No. 13-T-133-00260-93, May 10, 1994.
- Affidavit and Declaration of Dennis W. Carlton in Re: United States of America v. Western Electric Company, Inc., and American Telephone and Telegraph Company: Before the United States District Court for the District of Columbia, Civil Action No. 82-0192, February 28, 1994 (Affidavit with Kenneth J. Arrow), May 30, 1995 (Declaration with Kenneth J. Arrow).
- Affidavit and Testimony of Dennis W. Carlton in Re: Leonard R. Kahn v. Emerson Electric Co., a Missouri corporation; Hazeltine Corporation, a Delaware corporation; and Motorola, Inc., a Delaware corporation; John Doe corporations 1-x; and John Does 1-x, individually; Before the United States District Court, for the Eastern District of New York, 92 Civ. 3063 (ADS), October 20, 1994 (Affidavit with Alan S. Frankel), May 22, 1995 (Testimony with Alan S. Frankel).
- Deposition and Testimony of Dennis W. Carlton in Re: Federal Trade Commission v. B.A.T. Industries P.L.C., Brown and Williamson Tobacco Corporation; American Brands, Inc.; and American Tobacco Company. Before the United States District Court, Southern District of New York, C.V. No. 94 Civ. 7849, November 20, 1994 (Deposition), December 14, 1994 (Testimony).
- Affidavit, Supplemental Affidavit and Deposition of Dennis W. Carlton in Re: Weatherford Roofing Company v. Employers National Insurance Company and Employers Casualty Company et al: In the United States District Court for the District of Dallas County, Texas, 116th Judicial District, No. 91-05637, May 5, 1995 (Affidavit), May 9-10 & June 1, 1995 (Deposition), October 20, 1995 (Supplemental Affidavit).
- Affidavit of Dennis W. Carlton in Re: Airline Travel Agency Commission Antitrust Litigation: In the United States District Court for the District of Minnesota, No. 4-95-107, June 14, 1995.
- Declaration of Dennis W. Carlton in Re: Donnelly Corporation v. Gentex Corporation: In the United States District Court for the Western District of Michigan, Southern Division, Case No. 1:93 CV 530, October 20, 1995.
- Testimony of Dennis W. Carlton in Re: Hearings on Global and Innovation-based Competition, before the Federal Trade Commission October 25, 1995.
- Report and Deposition of Dennis W. Carlton in Re: Brand Name Prescription Drugs Antitrust Litigation, In the United States District Court for the Northern District of Illinois, Eastern Division, MDL No. 997, November 20, 1995 (Report), December 18 & 19, 1995 (Deposition).
- Expert Report and Deposition of Dennis W. Carlton in Re: Johnson Matthey v. General Motors (Antitrust Counterclaim), District Court for the Eastern District of Wisconsin, No. 93 C 0931, January 9, 1996 (Expert Report), February 14, 1996 (Deposition).
- Brief of Evidence, Summary of Evidence, and Testimony of Dennis W. Carlton on Behalf of Defendants in Re: Shell (Petroleum Mining) Company Limited and Todd Petroleum Mining Company Limited v. Kapuni Gas Contracts Limited and Natural Gas Corporation of New

Zealand Limited, In the High Court of New Zealand, Auckland Registry, Commercial List, CL 5/94, April 2, 1996 (Brief of Evidence), July 18, 1996 (Summary of Evidence), July 18-19, 1996 (Testimony).

Expert Report, Deposition, and Testimony of Dennis W. Carlton in Re: The Matter of the Arbitration Between Sprint Communications Company L.P. and Network 2000 Communications Corporation, Arbitration Case Number 57 181 0013 94, July 15, 1996 (Expert Report with H. Sider), August 12, 1996 (Deposition), September 27, 1996 (Testimony).

Testimony, Prepared Statement and Affidavit of Dennis W. Carlton on behalf of Sacramento Municipal Utility District in Re: Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company: Before the Federal Energy Regulatory Commission Technical Conference on Market Power & Transmission Pricing, Docket Nos. ER96-1663-000, EC96-19-000, EL96-48-000, September 12, 1996 (Testimony and Prepared Statement), January 16, 1997 (Affidavit with G. Bamberger).

Declaration of Dennis W. Carlton in Re: United States of America v. International Business Machines: In the United States District Court for the Southern District of New York, Civil Action No. 72-344 (AGS), November 12, 1996.

Expert Report, Affidavit Rebuttal and Deposition of Dennis W. Carlton in Re: Bell Atlantic Corporation and DSC Communications Corporation v. AT&T Corporation and Lucent Technologies Inc., Civil Action No. 5-96CV45, December 4, 1996 (Expert Report with R.E. Olley and D.S. Sibley), January 10, 1997 (Affidavit Rebuttal with R.E. Olley and D.S. Sibley), January 21, 1997 (Deposition).

Affidavit of Dennis W. Carlton in Re: Advanta Corp., Advanta National Bank U.S.A., and Advanta National Bank v. Visa U.S.A., Inc. and Mastercard International, Inc.: In the United States District Court for the Eastern District of Pennsylvania, Civil Action No. 96-CV-7940, January 21, 1997.

Deposition, Testimony, and Surrebuttal Testimony of Dennis W. Carlton in Re: In the Matter of Toys "R" Us, Inc.: In the United States of America Before the Federal Trade Commission, File No. 9278, March 16, 1997 (Deposition), April 16 and 25, 1997 (Testimony), June 3, 1997 (Surrebuttal Testimony).

Deposition of Dennis W. Carlton in Re: In the Matter of Theresa Aguilar, et al vs. Atlantic Richfield Corporation et al: In the Superior Court of the State of California In and For the County of San Diego, File No. 700810, September 30, 1997 (Deposition).

Report of Dennis W. Carlton in Re: Few Ready Mix Concrete Co., v. Transit Mix Concrete & Materials Co., et al: In the United States District Court for the Eastern District of Texas Lufkin Division, No. 9:96-CV-86, October 31, 1997 (with W. J. Lynk).

Verified Statement, Depositions, Verified Reply Statement, and Verified Rebuttal Statement of Dennis W. Carlton in Re: CF Industries, Inc. v. Koch Pipeline Company, L.P.: In the United States of America Before the Department of Transportation Surface Transportation Board, No. 41685, November 7, 1997 (Verified Statement), December 19, 1997 (Deposition), January 8, 1998 (Verified Reply Statement), February 3, 1998 (Deposition), February 20, 1998 (Verified Rebuttal Statement).

Expert Witness Report, Deposition and Affidavits of Dennis W. Carlton in Re: Industrial Silicon Antitrust Litigation: In the United States District Court for the Western District of Pennsylvania, No. 95-2104, January 9, 1998 (Expert Witness Report), February 10-11, 1998 (Deposition), April 8, 1998 (Affidavit), June 29, 1998 (Affidavit).

Declaration, Affidavit (NY), Affidavit (FL) and Second Declaration of Dennis W. Carlton in Re: Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.: Before the Federal Communications Commission, CC Docket No. 97-211, January 25, 1998 (with H. Sider); Before the New York State Public Service Commission, No. 97-C-1804, February 16, 1998 (Affidavit with H. Sider); Before the Florida Public Service Commission, No. 971375-TP, February 27, 1998 (Affidavit with H. Sider); Before the Federal Communications Commission, CC Docket No. 97-211, March 19, 1998 (Second Declaration with H. Sider).

Expert Report and Deposition of Dennis W. Carlton in Re: Bepco, Inc., et al v. AlliedSignal Inc. and AlliedSignal Truck Brake System Co.: In the United States District Court for the Middle District of North Carolina, Winston-Salem Division, No. 6:96CV00274, February 3, 1998 (Expert Report), March 3, 1998 (Deposition).

Affidavit, Reports, Reply Affidavit, Reply Report, Prepared Statements and Testimony of Dennis W. Carlton in Re: The Merger of SBC Communications Inc. with Ameritech Corporation: Before the Federal Communications Commission, CC Docket No. 98-141, July 20, 1998 (Affidavit and Report), November 12, 1998 (Reply Affidavit and Reply Report), February 5, 1999 (Prepared Statements and Testimony as a Participant in the Round Table on the Economics of Mergers Between Large ILECS), April 13, 1999 (Report to the FCC on Supplemental Analysis of the Katz/Salop Hypothesis).

Report and Supplemental Report of Dennis W. Carlton in Re: Riverside Pipeline Company v. Panhandle Eastern Pipeline Company: In the U.S. District Court for the Western District of Missouri, No. 97-0642-CV-W-4, September 20, 1998 (Report with H. Sider), January 7, 1999 (Supplemental Report).

Statement of Dennis W. Carlton in Re: Enforcement Policy Regarding Unfair Exclusionary Conduct in the Air Transportation Industry: Before the Department of Transportation, Office of the Secretary, Washington, D.C., Docket No. OST-98-3713, September 24, 1998 (with G. Bamberger).

Report and Deposition of Dennis W. Carlton in Re: The Procter & Gamble Company, et al. vs. Amway Corporation, et al: In the U.S. District Court for the Southern District of Texas, Houston Division, January 8, 1999 (Report), February 9, 1999 (Deposition).

Responsive Direct Testimony, Prepared Answering Testimony (OK), Prepared Answering Testimony and Exhibits (FERC) of Dennis W. Carlton for Intervenor Oklahoma Gas and Electric Company in Re: Joint Application of American Electric Power Company, Inc., Public Service Company of Oklahoma and Central and South West Corporation Regarding Proposed Merger: Before the Corporation Commission of the State of Oklahoma, Cause No. PUD 980000444, March 29, 1999 (with G. Bamberger); United States of American Before the Federal Energy Regulatory Commission FERC Docket Nos. ER98-40-000, ER98-2770-000, ER98-2786-000, April 27, 1999 (with G. Bamberger).

Report and Declaration of Dennis W. Carlton in Re: Telnet Communications, Inc., et al. v. WorldCom, Inc., et al.: In the United States District Court for the Southern District of Texas, Houston Division, No. H-98-2020, March 30, 1999 (Report), April 28, 1999 (Declaration).

Expert Report, Deposition and Supplemental Report of Dennis W. Carlton in Re: United States of America vs. American Society of Composers, Authors and Publishers in the Matter of the Application of Turner Broadcasting Systems Inc. for the Determination of Reasonable License Fees: Before the United States District Court, Southern District of New York, Civ. 13-95 (WCC) (Referred to Magistrate Judge Dolinger), April 15, 1999 (Expert Report), July 28-29 and August 5, 1999 (Deposition), December 16, 1999 (Supplemental Report).

Declaration, Deposition and Reply Declaration of Dennis W. Carlton in Re: Visa Check/MasterMoney Antitrust Litigation: Before the United States District Court, Eastern District of New York, No. CV 96-5238 (JB) RLM), April 15, 1999 (Declaration), May 25, 1999 and June 1, 1999 (Deposition), August 1, 1999 (Reply Declaration).

Report and Deposition of Dennis W. Carlton in Re: Zeneca Limited, Zeneca Holdings Inc., and Zeneca Inc. v. Rhone-Poulenc Inc. and Rhone-Poulenc AG Company: In the United States District Court for the District of Delaware, No. 97-652-GMS, May 17, 1999 (Report), June 16, 1999 (Deposition).

Affidavit and Reply Affidavit of Dennis W. Carlton in Re: Andersen Consulting Business Unit Member Firms v. Arthur Andersen Business Unit Member Firms and Andersen Worldwide Societe Cooperative: Before the International Court of Arbitration of the International Chamber of Commerce, No. 9797/CK, June 2, 1999 (Affidavit), September 13, 1999 (Reply Affidavit).

Affidavit, Report, Rebuttal Report, Reply Report, Rebuttal Report and Testimony of Dennis W. Carlton in Re: The Commissioner of Competition and Superior Propane Inc. and ICG Propane Inc.: Before The Competition Tribunal, No. CT-98/2, August 17, 1999 (Affidavit and Report), September 14, 1999 (Rebuttal Report with G. Bamberger), September 19, 1999 (Reply Report with G. Bamberger), September 27, 1999 (Rebuttal Report to Professor Michael Ward with G. Bamberger), December 13-14, 1999 (Testimony with G. Bamberger).

Declaration of Dennis W. Carlton in Re: Merger of Qwest Communications International Inc. and U S WEST, Inc.: Before the Federal Communications Commission, CC Docket No. 99-272, October 18, 1999 (with Hal Sider).

Prepared Direct Testimony, Deposition and Cross-Examination of Dr. Dennis W. Carlton on behalf of Sierra Pacific Power Company in Re: United States of America Before the Federal Energy Regulatory Commission: Docket Nos. ER99-28-001, ER99-28-003, EL99-38-002 and ER99-945-002, November 17, 1999 (Prepared Direct Testimony), January 10, 2000 (Deposition), April 26 and May 1, 2000 (Cross-Examination).

Expert Report and Deposition of Dennis W. Carlton in Re: United States of America v. Northwest Airlines Corporation and Continental Airlines, Inc.: In the United States District Court for the Eastern District of Michigan, Southern Division, Civil Action No. 98-74611, January 27, 2000 (Expert Report), June 7, 2000 (Deposition).

Declaration and Ex Parte Declaration of Dennis W. Carlton in Re: Joint Applications of MCI WorldCom, Inc., and Sprint Corporation for Consent to Transfer Control: Before the Federal Communications Commission, CC Docket No. 99-333, February 18, 2000 (Declaration with H. Sider), May 10, 2000 (Ex Parte Declaration with H. Sider).

Testimony, Rebuttal Testimony and Cross-Examination of Dennis W. Carlton on behalf of Sacramento Municipal Utility District in Re: Application of Pacific Gas and Electric Company to Market Value Hydroelectric Generating Plants and Related Assets Pursuant to Public Utilities Code Sections 367(b) and 851: Before the Public Utilities Commission of the State of California, application No. 99-09-053, March 2, 2000 (Testimony), March 16, 2000 (Rebuttal Testimony), May 9, 2000 (Cross-Examination).

Affidavit, Deposition and Reply Affidavit of Dennis W. Carlton in Re: Gregory F. Daniel, M.D., et al. v. American Board of Emergency Medicine, et al: In the United States District Court for the Western District of New York, Civil Action No. 90-CV-1086A, March 3, 2000 (Affidavit), April 17 and 18, 2000 (Deposition), July 12, 2000 (Reply Affidavit).

Expert Report, Reply Expert Report, Deposition and Supplemental Report of Dennis W. Carlton in Re: CSX Transportation, Inc. V. Qwest Communications International, Inc.: In the United States District Court for the Middle District of Florida, Jacksonville Division, Civil Action No. 99-412-CIV-J-21C, July 19, 2000 (Expert Report), October 11, 2000 (Reply Expert Report), January 10-11, 2001 (Deposition), July 18, 2001 (Supplemental Report).

Reply Declaration of Dennis W. Carlton in Re: Joint Application of Northpoint Communications and Verizon Communications for Authority to Transfer Control of Blanket Authorization to Provide Domestic Interstate Telecommunications Services as a Non-Dominant Carrier: Before the Federal Communications Commission, Washington DC, Docket No. 00-157, October 17, 2000 (Reply Declaration with H. Sider).

Declaration and Reply Declaration of Dennis W. Carlton in Re: In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities: Before the Federal Communications Commission, Washington DC, Docket No. 00-195, December 1, 2000 (Declaration with K. Arrow and G. Becker), January 10, 2001 (Reply Declaration with K. Arrow and G. Becker).

Report, Rebuttal Report, Deposition, Testimony, and Supplemental Report of Dennis W. Carlton in Re: Rambus Inc. v. Infineon Technologies AG, Infineon Technologies North America Corp., Infineon Technologies, Inc., Infineon Technologies Holding North America Corp., and Infineon Technologies Corp.: In the United States District Court for the Eastern District of Virginia, Richmond Division, Civil Action No. 3:00CV524, December 20, 2000 (Report), January 19, 2001 (Rebuttal Report), February 6, 2001 (Deposition), May 3, 2001 (Testimony), February 13, 2004 (Supplemental Report).

Reports, Rebuttal Reports, Deposition and Declaration of Dennis W. Carlton in Re: Micron Technology, Inc. v. Rambus Inc.: In the United States District Court for the District of Delaware, Civil Action No. 00-792, March 28, 2001 (Report), April 13, 2001 (Rebuttal Report), April 18, 2001 (Deposition), and August 17, 2001 (Report), September 17, 2001 (Rebuttal Report), Declaration (October 1, 2001).

Expert Report, Deposition and Testimony of Dennis W. Carlton in Re: Amgen Inc. v. Ortho Pharmaceutical Corp.: Endispute Arbitration, Chicago, Illinois, August 31, 2001 (Expert Report), November 27-28, 2001 (Deposition), May 9-10, 2002 (Testimony).

Testimony of Dennis W. Carlton in Re: Empirical Industrial Organization Roundtable: Before the Federal Trade Commission, Matter No. P015602 (September 11, 2001).

- Expert Report of Dennis W. Carlton in Re: Artemio Del Serrone, et al. v. Philip Morris Companies, Inc., et al.: In the Circuit Court for the County of Wayne, State of Michigan, No. 00-004035 CZ, December 19, 2001.
- Expert Report and Deposition of Dennis W. Carlton in Re: Cigarette Price-Fixing Litigation and related cases, Holiday Wholesale Grocery Company, et al. v. Philip Morris Incorporated, et al.: In the United States District Court for the Northern District of Georgia, Atlanta Division, No. 1:00-CV-0447-JOF, MDL No. 1342, December 19, 2001 (Expert Report), January 23, 2002 (Deposition).
- Expert Report and Deposition of Dennis W. Carlton in Re: Flat Glass Antitrust Litigation: In the United States District Court for the Western District of Pennsylvania, No. 97-550, MDL NO. 1200, December 20, 2001 (Expert Report), February 4-6, 2002 (Deposition).
- Expert Report, Supplemental Expert Report, and Deposition of Dennis W. Carlton in Re: Symbol Technologies et al v. Lemelson Medical et al and Cognex Corporation v. Lemelson Medical et al: In the United States District Court, District of Nevada, CV-S-01-701-PMP (RJJ) and CV-S-01-702-PMP (RJJ), December 14, 2001 (Expert Report), May 7, 2002 (Supplemental Expert Report), October 3, 2002 (Deposition).
- Declaration and Reply Declaration of Dennis W. Carlton in Re: Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services: Before the Federal Communications Commission, Washington DC, CC Docket No. 01-337, FCC 01-360, March 1, 2002 (Declaration with H. Sider), April 22, 2002 (Reply Declaration with H. Sider and G. Bamberger).
- Declaration, Deposition, Reply Declaration, and Preliminary Injunction Hearing Testimony of Dennis W. Carlton in Re: Sun Microsystems Inc. v. Microsoft Corporation: In the United States District Court, Northern District of California, San Jose Division, Civil Action No. C 02-01150 RMW (PVT), March 8, 2002 (Declaration), June 27, 2002 (Deposition), August 9, 2002 (Reply Declaration); In the United States District Court for the District of Maryland, Northern Division, MDL No. 1332, December 4, 2002 (Preliminary Injunction Hearing Testimony).
- Declaration of Dennis W. Carlton in Re: In the Matter of Applications for Consent to the Transfer of Control of Licenses, Comcast Corporation and AT&T Corp., Transferors, to AT&T Comcast Corporation, Transferee: Before the Federal Communications Commission, Washington, D.C., MB Docket No. 02-70, April 26, 2002
- Declaration of Dennis W. Carlton In Re Shirley Robinson, et al., v. Bell Atlantic Corporation d/b/a Verizon Communications, et al., United States District Court Eastern District of Kentucky, Lexington Division, Case No. 01-98, August 30, 2002 (with R. Gertner).
- Expert Report and Deposition of Dennis W. Carlton in Re: Duramed Pharmaceuticals, Inc. v. Wyeth-Ayerst Laboratories, Inc.: In the United States District Court, Southern District of Ohio, Western Division at Cincinnati, Civil Action No. C-1-00-735, August 19, 2002 (Expert Report), September 24, 2002 (Deposition).
- Affidavit of Dennis W. Carlton in Re: USG Corporation, a Delaware Corporation, et al, In the United States Bankruptcy Court for the District of Delaware, Case No. 01-2094 (RJN), August 20, 2002 (Affidavit).
- Expert Report, Expert Rebuttal Report, and Deposition of Dennis W. Carlton in Re: Sarah Futch Hall, d/b/a Travel Specialist, et al., on behalf of themselves and all others similarly situated v. United

Airlines, Inc., et al.: In the United States District Court for the Eastern District of North Carolina Southern Division, No. 7:00-CV-123-BR(1), October 4, 2002 (Expert Report), November 13, 2002 (Expert Rebuttal Report), November 21, 2002 (Deposition).

Initial Report and Deposition of Dennis W. Carlton in Re: Sunrise International Leasing Corp., v. Sun Microsystems Inc.: In the United States District Court for the District of Minnesota, Civil Action No. 01-CV-1057 (JMR/FLN), March 27, 2003 (Initial Report with H. Sider), July 30, 2003 (Discovery Deposition).

Declaration and Reply Declaration of Dennis W. Carlton Before the Federal Communications Commission, Washington DC, in Re: Matter of Section 272(f) (1) Sunset of the BOC Separate Affiliate and Related Requirements, 2000 Biennial Regulatory Review Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules, WC Docket No. 02-112, CC Docket No. 00-175, June 30, 2003 (Declaration with H. Sider and A. Shampine), July 28, 2003 (Reply Declaration with H. Sider and A. Shampine).

Economic Analysis, Response and Economic Analysis of Dennis W. Carlton, "Economic Analysis of the News Corporation/DIRECTV Transaction," submitted to the Federal Communications Commission, MB Docket No. 03-124, July 1, 2003 (Economic Analysis with J. Halpern and G. Bamberger); September 8, 2003 (Response with J. Halpern and G. Bamberger); October 2, 2003 (Economic Analysis to DOJ with J. Halpern and G. Bamberger).

Supplemental Declarations of Dennis W. Carlton in Re: Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services: Before the Federal Communications Commission, Washington DC, CC Docket No. 01-337, FCC 01-360, July 11, 2003 (with H. Sider), September 3, 2003 (with H. Sider).

Expert Report and Deposition of Dennis W. Carlton In Re: D. Lamar DeLoach, et al. v. Philip Morris Companies, Inc., et al. (R.J. Reynolds Tobacco Co.), In the United States District Court for the Middle District of North Carolina, Greensboro Division, Case No. 00-CV-1235, October 2, 2003 (Expert Report), October 30, 2003 (Deposition).

Report of Dennis W. Carlton on behalf of Verizon, November 18, 2003 (with K. Arrow, G. Becker, and R. Solow).

Report and Deposition of Dennis W. Carlton In Re: Francis Ferko and Russell Vaughn as Shareholders of Speedway Motorsports, Inc. v. (NASCAR) National Association for Stock Car Auto Racing, Inc., International Speedway Corporation, and Speedway Motorsports, Inc.: In the United States District Court Eastern District of Texas Sherman Division, Case No. 4:02cv50, Honorable Richard A. Schell, December 15, 2003 (Report), January 21-22, 2004 (Deposition).

Declaration, Deposition, and Rebuttal Declaration of Dennis W. Carlton In Re: CSC Holdings, Inc. v. Yankees Entertainment and Sports Network, LLC, before the American Arbitration Association, Arbitration Proceeding, Case No 13 181 02839 03, January 23, 2004 (Declaration), February 5, 2004 (Deposition), February 24, 2004 (Rebuttal Declaration).

Expert Report, Deposition, Expert Report, Deposition and Testimony of Dennis W. Carlton In Re: Jamsports and Entertainment, LLC v. Paradama Productions, Inc., d/b/a AMA Pro Racing, Clear Channel Communications, Inc., SFX Entertainment, Inc., d/b/a Clear Channel Entertainment SFX Motor Sports, Inc., d/b/a Clear Channel Entertainment-Motor Sports, In the United States District Court for the Northern District of Illinois Eastern Division, Case No. 02 C 2298, March 8,

2004 (Expert Report), April 19 and 20, 2004 (Deposition), September 28, 2004 (Expert Report), October 4, 2004 (Deposition), March 11, 14, 2005 (Trial Testimony).

Affidavit in Reply, Second Affidavit, and Testimony of Dennis W. Carlton In Re: The Matter of an Appeal from Determinations of the Commerce Commission Between Air New Zealand Limited Between Qantas Airways Limited and The Commerce Commission, In the High Court of New Zealand Auckland Registry Commercial List Under The Commerce Act 1986, CIV 2003 404 6590, June 7, 2004 (Affidavit), July 6, 2004 (Second Affidavit), July 13-16, 2004 (Testimony).

Expert Report and Deposition of Dennis W. Carlton in Re: J.B.D.L. Corp. d/b/a Beckett Apothecary, et al., v. Wyeth-Ayerst Laboratories, Inc., et al., Civil Action No. C-1-01-704. CVS Meridian, Inc., and Rite Aid Corp., v. Wyeth, Civil Action No. C-1-03-781, in the United States District Court for the Southern District of Ohio Western Division, July 7, 2004 (Expert Report), September 3, 2004 (Deposition).

Declaration of Dennis W. Carlton on behalf of Bellsouth Telecommunications, Inc., in the matter of AT&T Corp., v. Bellsouth Telecommunications, Inc., before the Federal Communications Commission, Washington, DC 20554, July 20, 2004 (with H. Sider).

Expert Report, Sur-Reply Expert Report, Deposition, Affidavit and Supplemental Report of Dennis W. Carlton in Re: Flat Glass Antitrust Litigation: In the United States District Court for the Western District of Pennsylvania, Master Docket MISC No. 97-550, relates to Jeld-Wen, Inc. Docket No. 2-99-875, July 6, 2004 (Expert Report), September 9, 2004 (Sur-Reply Expert Report), November 1-2, 2004 (Deposition), July 20, 2005 (Affidavit), August 16, 2005 (Supplemental Report).

Expert Report, Declaration and Deposition of Dennis W. Carlton (T-Mobile, Sprint PCS, AT&T Wireless, Cingular, Verizon Wireless Reports) in Re: Wireless Telephone Services Antitrust Litigation: In the United States District Court Southern District of New York, 02 Civ. 2637, December 20, 2004 (Expert Report), February 9, 2005 (Deposition).

Declaration, Testimony, Reply Declaration/Rebuttal, Joint Applicants' Statement, Ex Parte, Rebuttal Testimony and Rejoinder Testimony of Dennis W. Carlton in Re: In the Matter of the Proposed Merger of AT&T Corp.(AT&T) and SBC Communications Inc. (SBC), Before the FCC, February 21, 2005\_(Declaration with H. Sider); Before the New Jersey Public Utility Commission, May 4, 2005 (Testimony with H. Sider); Before the FCC, May 9, 2005 (Reply Declaration/Rebuttal with H. Sider); Before the Pennsylvania Utility Commission, May 12, 2005 (Joint Applicants' Statement with H. Sider); Before the FCC, June 28, 2005 (Ex Parte with H. Sider); Before the Pennsylvania Public Utility Commission, July 15, 2005 (Rebuttal Testimony with H. Sider); Before the Pennsylvania Public Utility Commission, August 5, 2005 (Rejoinder Testimony with H. Sider).

Expert Report of Dennis W. Carlton in Re: In the matter of Echostar Satellite, L.L.C., v. Fox Television Holdings, Inc., Fox/UTV Holdings, Inc., News Corporation: Before the American Arbitration Association, Case No. 71 472 E 00690 04, March 2, 2005 (with G. Bamberger).

Declaration, Reply Declaration, Proprietary Report and Redacted Reports of Dennis W. Carlton in Re: In the matter of Verizon Communications Inc., and MCI, Inc., Applications for Approval of Transfer of Control, Before the FCC (Federal Communications Commission), Washington, DC 20554, WC Docket No. 05-75, March 10, 2005 (Declaration with G. Bamberger and A. Shampine), May 24, 2005 (Reply Declaration with A. Shampine), August 5, 2005 (Proprietary

and Redacted Report with G. Bamberger and A. Shampine), September 9, 2005 (Redacted Report with G. Bamberger and A. Shampine).

Expert Report, Deposition, Affidavit, Supplemental Report and Testimony of Dennis W. Carlton in Re: Celanese Ltd., et al. v. JO Tankers AS, et al., April 8, 2005 (Expert Report); and May 6, 2005 (Deposition); June 10, 2005 (Affidavit); October 10, 2005 (Supplemental Report), November 9-10, 2005 (Testimony).

Affidavit of Dennis W. Carlton in Re: In the matter of Beatrice C. Romero vs. Philip Morris Price Fixing Allegations; In the United States First District Court State of New Mexico County of Rio Arriba, April 15, 2005.

Deposition, Expert Reports, Written Direct Examination, Deposition and Trial Testimony of Dennis W. Carlton in Re: United States of America v. Philip Morris USA Inc. (f/k/a Philip Morris Incorporated), et al., In the United States Court for the District of Columbia, Civil Action No. 99-CV- 2496 (GK), September 10, 2002 (Deposition); April 29, 2005 (Expert Report); May 3, 2005 (Written District Examination); May 10, 2002 (Expert Report); May 23, 2005 (Written Direct Examination); May 23, 2005 (Deposition), June 2, 2005 (Trial Testimony).

Deposition and Expert Submission of Dennis W. Carlton in Re: 2003 NPM Adjustment Proceeding pursuant to Master Settlement Agreement, November 22, 2005 (Deposition), October 10, 2005 (Expert Submission), January 30, 2006 (Expert Final Submission).

Declaration of Dennis W. Carlton in Re: Covad Communications, et.al. v. Bell Atlantic, et. al., Civil Action No.:1:99-CV-01046, June 10, 2005 (Declaration).

Joint Report by Dennis W. Carlton and Alan S. Frankel In the Matter of the Decision of the Office of Fair Trading dated 6 September 2005 No. CA 98/05/05 of 6 September 2005 in Case CP/0090/00/S, Competition Appeal Tribunal (U.K.), February 27, 2006 (Report).

Expert Report and Deposition of Dennis W. Carlton in Re: Fresh Del Monte Pineapples Antitrust Litigation In the United States District Court for the Southern District of New York, Civil Action No. 03-CV-10230 (RMB), February 3, 2006 (Expert Report); February 22, 2006 (Deposition).

Expert Report of Dennis W. Carlton in Re: Marjorie Ferrell, et al., v. Wyeth-Ayerst Laboratories, Inc., et al. In the United States District Court for the Southern District of Ohio, Civil Action No. C-1-01-447, May 3, 2006 (Expert Report).

Declaration of Dennis W. Carlton (with Hal Sider) in Re: AT&T Corporation and BellSouth Corporation., Application for Approval of Transfer of Control, in the Federal Communications Commission, WC Docket 06-74, March 29, 2006 (Declaration), June 19, 2006 (Reply Declaration), August 21, 2006 (Declaration).

Declaration of Dennis W. Carlton in Re: Wireless Telephone Services Antitrust Litigation, Michael Freeland, et al., on behalf of himself and others, v. AT&T Corporation, et al. In the United States District Court, Southern District of New York, Master File 02 Civ. 2637 (DLC) and Separate File 04 Civ. 8653 (DLC), May 5, 2006 (Declaration).

Declaration, Deposition, Direct Testimony and Rebuttal Testimony of Dennis W. Carlton in Re: Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, Including Cellular Telephone Handsets, In the United States International Trade Commission, May 19, 2006 (Declaration), June 1, 2006

(Deposition), June 5, 2006 (Direct Testimony), June 7, 2006 (Rebuttal Testimony) July 10, 2006 (Live Testimony).

**ALLAN SHAMPINE**

**June 2008**

Business Address: Compass Lexecon  
332 South Michigan Avenue  
Suite 1300 (312) 322-0294  
Chicago, Illinois 60604-4306 Email: ashampine@lexecon.com

Home Address: 5441 Arcadia Street  
Skokie, IL 60077 (847) 663-1433

### **EDUCATION**

Ph.D. UNIVERSITY OF CHICAGO: Economics, 1996  
(Full scholarship from the University)  
(Thesis: *An Evaluation of Technology Diffusion Models and Their Implications*)

M.A. UNIVERSITY OF CHICAGO: Economics, 1993  
(Full scholarship from the University)

B.S. SOUTHERN METHODIST UNIVERSITY: Economics and Systems Analysis,  
Mathematics Minor, 1991  
(Summa Cum Laude, Honors, Departmental Distinction)

### **PROFESSIONAL EXPERIENCE**

COMPASS LEXECON (formerly Lexecon), Chicago, Illinois: Vice President (2003-Present)

COMPASS LEXECON (formerly Lexecon), Chicago, Illinois: Economist (1996 - 2003)

UNIVERSITY OF CHICAGO: Teaching Assistant (1994 – 1996)

DEGOLYER SPECIAL COLLECTIONS LIBRARY (May - July 1991)

BARNES & NOBLE (May - July 1989)

UNIVERSITY OF TEXAS, Research Assistant to Dr. Brian Berry (May - July 1987)

### **OTHER PROFESSIONAL EXPERIENCE**

“Boom and Bust in Network Industries: Rising from the Ashes,” 6<sup>th</sup> Global Conference on Business & Economics, Harvard University (October 15-17, 2006), with Hal S. Sider.

“House of Cards: The Economics of Interchange Fees,” Presentation to the Federal Reserve Bank of New York Conference, *Antitrust Activity in Card-Based Payment Systems: Causes and Consequences* (September 16, 2005), with Alan S. Frankel.

“The Impact of Technology on the Modern Labor Market,” 68th Annual Meeting of the Southwestern Social Science Association (March 29, 1990)

Presented papers on information externalities and technology diffusion at the *Economics and Public Policy Workshop* (3) and *Price Theory Workshop* (1), University of Chicago (1995, 1996)

Coordinated the *Conference on Valuing Non-Market Goods*, University of Chicago (July 21-22, 1995)

Assisted in coordinating the *Conference on Research in Health Economics*, University of Chicago (October 21-22, 1994)

Assisted in organizing the *Economic Policy and Public Finance Workshop*, University of Chicago (1993 - 1996)

Member of the *American Economics Association*

Associate member of the *American Bar Association*

Referee for the *Agricultural and Resource Economics Review*, *American Journal of Agricultural Economics*, *Antitrust Law Journal* and *Journal of Business*.

Vestry (2007-2008), Treasurer (2006), St. Mary’s Episcopal Church, Park Ridge

### **ACADEMIC HONORS**

#### Undergraduate:

Graduated Summa Cum Laude, Honors, Departmental Distinction

Award for Excellence (given to the outstanding senior in the Economics Department as decided by the vote of the faculty)

Presidential Scholarship (full scholarship)

National Merit Scholar (honorary)

Hyer Society (honorary society of Southern Methodist University)

Honor Roll (1987-1991)

Phi Beta Kappa

Alpha Lambda Delta (Treasurer, honorary society recognizing academic achievement)

Phi Eta Sigma (honorary society recognizing academic achievement)

Omicron Delta Epsilon (international honor society in economics)  
Kappa Mu Epsilon (honor society in mathematics)

Graduate:

Full Scholarship (tuition and stipend)

**FIELDS OF SPECIALIZATION**

Telecommunications  
Payment Systems  
Technology Diffusion

**PUBLICATIONS**

**BOOKS**

Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications

Technologies, (Editor) Nova Science Press (2003).

(Contributors include Debra Aron, Johannes Bauer, Peter Bernstein, David Burnstein, Robert Crandall, Nicholas Economides, Wayne Fu, Shane Greenstein, Charles Jackson, Junghyun Kim, Donald Kridel, Mercedes Lizardo, Paul Rappoport, Pablo Spiller, Lester Taylor and Steven Wildman)

**ARTICLES**

“Another Look at Payment Instrument Economics,” *Review of Network Economics* (December 2007).

“The Telecom Boom and Bust: Their Losses, Our Gain?” with Hal Sider, *Milken Institute Review* (October 2007).

“Boom and Bust in Network Industries: Rising from the Ashes,” with Hal Sider, *International Journal of Business & Economics, Proceedings* (2006).

“The Economics of Interchange Fees,” with Alan Frankel, *73 Antitrust Law Journal* 3 (2006).

“Handicapping Countries in the Race to Digital Switching,” *5 Review of Network Economics* 2 (2006).

“The Evolution of Telecommunications Switching in the Central Office,” in Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, Nova Science Press (2003).

“The Welfare Implications of Advertising and Extension Under Uncertainty,” with George Tolley, *Technological Forecasting & Social Change* 70 (2003).

“Determinants of the Diffusion of U.S. Digital Telecommunications,” *Journal of Evolutionary Economics* 11 (2001).

“Compensating for Information Externalities in Technology Diffusion Models,” 80 *American Journal of Agricultural Economics* 2 (1998).

Contributor to Guide to the Western Ephemera Collection at the DeGolyer Library, Southern Methodist University, 1993, edited by Kristin Jacobsen.

“The Impact of Technology on the Modern Labor Market,” 11 *Southwestern Journal of Economic Abstracts* 1 (1990).

### **RESEARCH PAPERS**

“The Evaluation of Social Welfare for Payment Methods,” with Dzmitry Asinski (2008).

“Investment Bank Research for Average Investors,” with Rajiv Gohkhale (2008).

“A New Direction in Mixed Income Housing,” submitted to Chicago Housing Authority (1993).

“A Survey of the Economics of Information, Focusing on Water” (1992).

“Petroleum Price Shocks and Rationality,” B.S. Honors Paper (1991).

### **EXPERT TESTIMONY**

Ex parte filing before the Federal Communications Commission on behalf of Verizon, “Verizon/MCI Merger: Analysis of Special Access,” September 9, 2005 (with Gustavo Bamberger and Dennis Carlton).

Comments to the New York Public Service Commission, In the Matter of the Joint Petition of Verizon Communications, Inc. and MCI, Inc. for a Declaratory Ruling Disclaiming Jurisdiction Over or, in the Alternative, for Approval of Agreement and Plan of Merger; and Joint Petition of SBC Communications Inc., AT&T Corporation, Together with its Certificated New York Subsidiaries, for Approval of Merger (CASE 05-C-0237 and CASE 05-C-0242), August 5, 2005 (with Gustavo Bamberger and Dennis Carlton).

Reply Declaration to the Federal Communications Commission, In the Matter of Verizon Communications Inc. and MCI, Inc., Application for Approval of Transfer of Control (WC Docket No. 05-75), May 24, 2005 (with Gustavo Bamberger and Dennis Carlton).

Declaration to the Federal Communications Commission, In the Matter of Verizon Communications Inc. and MCI, Inc., Application for Approval of Transfer of Control (WC Docket No. 05-75), March 9, 2005 (with Gustavo Bamberger and Dennis Carlton).

Reply Declaration to the Federal Communications Commission, In the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements (WC Docket No. 02-112) and 2000 Biennial Regulatory Review of Separate Affiliate Requirements of Section 64.1903 of the Commission’s Rules (CC Docket 00-175), July 28, 2003, (with Dennis Carlton and Hal Sider).

Declaration to the Federal Communications Commission, In the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements (WC Docket No. 02-112) and 2000 Biennial Regulatory Review of Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules (CC Docket 00-175), June 30, 2003, (with Dennis Carlton and Hal Sider).

Reply Declaration Re: 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, Before the Federal Communications Commission, Washington DC, WT Docket No. 01-14, May 14, 2001, Reply Declaration (with Robert Gertner).

Declaration Re: 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, Before the Federal Communications Commission, Washington DC, Docket No. 01-14, April 13, 2001, Declaration (with Robert Gertner).

Report to Directorate General IV of the European Commission: "Remedies in the United States," in *Remedies in the United States*, in *Remedies in EU Competition Law: The Policy and Practice of the European Commission, A Report for Directorate General IV of the European Commission*, July 1998, Report (with James Langenfeld).



## FIELDS OF SPECIALIZATION

Applied Microeconomics  
Econometrics  
Industrial Organization  
Telecommunications  
Labor Economics

## ARTICLES

- “Antitrust, Regulation and *Trinko*,” in The Antitrust Revolution: Economics, Competition and Policy, J. Kwoka and L. White, eds. (forthcoming) with Dennis W. Carlton
- “The Telecom Boom and Bust,” Milken Institute Review, (forthcoming) with Allan Shampine.
- “Have Mergers of Large Local Exchange Carriers Led to Discrimination Against Rivals? An Empirical Investigation” July 2002 in Econometrics: Legal, Practical and Technical Issues, American Bar Association Section on Antitrust Law (2005) (with Dennis Carlton and Tom Stemwedel).
- “Recent Developments in U.S. Antitrust Enforcement,” The United States Antitrust Review, October 1999 (with Gustavo Bamberger).
- "Market Power and Vertical Restraints in Retailing: An Analysis of FTC v. Toys ‘R’ Us,” in The Role of the Academic Economist in Litigation Support, edited by Daniel Slottje (1999), with Dennis Carlton.
- "The Competitive Effects of Line-of-Business Restrictions in Telecommunications," Managerial and Decision Economics (1995), with Kenneth Arrow and Dennis Carlton. (Reprinted in R. Higgins and P. Rubin, eds., Deregulating Telecommunications: The Baby Bells' Case for Deregulation, Wiley Series in Managerial Economics, 1995.)
- "Applications of Economic Theory and Econometric Methods to Merger Review in the United States," (paper presented to European Commission Merger Task Force, 1992), with A. Rosenfield and W. Bishop.
- "Unemployment Incidence and Duration: 1968-1982," American Economic Review (June 1985).
- "The Pay Gap and Occupational Segregation: Implications for Comparable Worth," Proceedings of the Industrial Relations Research Association (1985), with June O'Neill.

"Work-Related Accidents and the Production Process," Journal of Human Resources (Winter 1985).

"Labor Force Participation and the Relative Earnings of Black and White Males: 1940-80," with Andy Sparks, (paper presented at the World Congress of the Econometric Society, 1985).

"Comment on McIntyre: Estimating Long-Term Labor Market Flows from CPS Data," Proceedings: Conference on Applications of Gross Flow Data, U.S. Bureau of the Census (1985).

"The Changing Makeup of the Military and the Effect on Labor Force Data," Monthly Labor Review (July 1984), with Cheryl Cole.

"Accuracy of Response in Labor Market Surveys: Evidence and Implications," Journal of Labor Economics (October 1983), with Wesley Mellow.

"Safety and Productivity in Underground Coal Mining," Review of Economics and Statistics (May 1983).

"Economic Incentives and Safety Regulation," American Economist (Summer 1983).

"Consumers and Product Safety: Market Processes and Imperfections," Policy Studies Journal (February 1983), with Eugene Smolensky.

### REPORTS

The Economic Progress of Black Men in America, U.S. Commission on Civil Rights (1986).

Economic Status of Americans of Eastern and Southern European Ancestry, U.S. Commission on Civil Rights (1986).

Report of the President's Task Force on Food Assistance, Curran Press, Alexandria, Virginia (1984).

### MISCELLANEOUS

University-Industry Dissertation Fellowship, University of Wisconsin, 1979-80.

#### Referee for:

Journal of Human Resources  
Journal of Industrial Economics  
Journal of Labor Economics  
Journal of Law and Economics  
Journal of Legal Studies  
National Commission on Employment Policy

National Science Foundation  
Policy Studies Journal  
Review of Economics and Statistics  
Social Science Research Council  
U.S. Department of Health and Human Services  
Antitrust Law Journal

## TESTIMONIAL EXPERIENCE

Alaska Interstate Construction, L.L.C., et al. v. Pacific Diversified Investments Inc., et al., Superior Court of the State of Alaska, Third Judicial District at Anchorage, Case No. 3AN-05-7921 CI. Expert Report (October 9, 2006), on behalf of Alaska Interstate Construction, L.L.C., et al.

In the Matter of AT&T Corporation and BellSouth Corporation., Application for Approval of Transfer of Control, Federal Communications Commission, WC Docket 06-74. Declaration, (March 29, 2006), Reply Declaration (June 19, 2006), Declaration (August 21, 2006) on behalf of AT&T and BellSouth, (with Dennis Carlton).

In the matter of Arbitration of Nextel Partners, Inc. and Nextel Partners Operating Corp., against Nextel Communications, Inc. and Nextel WIP Corporation, International Institute for Conflict Prevention and Resolution, CPR No. G-05-33H. Declaration, (August 8, 2005), Supplemental Declaration (August 22, 2005), on behalf of Nextel Partners, Inc. and Nextel Partners Operating Corp.

Joint Application of SBC Communications Inc., AT&T Corporation, and its Certified Pennsylvania Subsidiaries, AT&T Communications of Pennsylvania, LLC, TCG Pittsburgh, and TCG Delaware Valley, Inc., for Approval of Merger, Pennsylvania Public Utility Commission Docket No. A-311163F0006, A-310213F0008, A-310258F0005. Direct Testimony (May 11, 2005), Rebuttal Testimony (July 15, 2005), Rejoinder Testimony (July 18, 2005), on behalf of SBC and AT&T, (with Dennis Carlton).

In the Matter of Proposed Merger of SBC Communications and AT&T Corp., New Jersey Board of Public Utilities. Direct Testimony (May 4, 2005), Rebuttal Testimony (June 5, 2005), on behalf of SBC and AT&T, (with Dennis Carlton).

In the Matter of SBC Communications Inc. and AT&T Corp., Application for Approval of Transfer of Control, Federal Communications Commission, WC Docket No. 05-65. Declaration (February 21, 2005), Reply Declaration (May 10, 2005), Ex Parte Presentations (June 28, 2005, July 6-7, 2005, and July 18, 2005), on behalf of SBC and AT&T, (with Dennis Carlton).

In the Matter of AT&T Corp. v. BellSouth Telecommunications, Inc., Federal Communications Commission, File No. EB-04-MD-010. Declaration (July 20, 2004), on behalf of BellSouth Telecommunications, Inc., (with Dennis Carlton).

FoodComm International v. Patrick James Barry et al., United States District Court for the Northern District of Illinois. Expert Report (December 2003), Deposition (January 28, 2004), Supplemental Expert Report (January 2007), on behalf of FoodComm International, (with David Gross).

In the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, Federal Communications Commission, WC Docket No. 02-112 and CC Docket 00-175, 2000 Biennial Regulatory Review of Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules. Declaration (June 30, 2003), Reply Declaration (July 28, 2003), on behalf of Qwest, Verizon and SBC, (with Dennis Carlton and Allan Champagne).

Report to the Civil Rights Division of the U.S. Department of Justice, Racial Differences in Citations for Traffic Violations in Cleveland, Ohio, (June 27, 2003) on behalf of the U.S. Department of Justice, (with David Gross).

Sunrise International Leasing Corporation v. Sun Microsystems, Inc., United States District Court for the District of Minnesota, No. 01-CV-1057 (JMR/FLN). Affidavit (January 2003, relating to discovery issues), Affidavit (March 2003, relating to damage issues, with Dennis Carlton), on behalf of Sun Microsystems.

Mesler v. Prudential Insurance, et al., Circuit Court of Cook County, Illinois, No. 99 L 37. Expert Report (November 2002), Deposition Testimony (January 30, 2003 and March 6, 2003), on behalf of Prudential Insurance, et al.

MHC Financing Limited Partnership v. City of San Rafael, United States District Court for The Northern District of California. Expert Report (September 13, 2002), Supplemental Report (September 30, 2002), on behalf of MHC, (with Daniel R. Fischel).

In the Matter of Inquiry Concerning High-Speed Access to Internet over Cable and Other Facilities, Federal Communications Commission, Docket GN No. 00-185. Joint Declaration (May 2002), on behalf of Verizon, (with K. Arrow, G. Becker, D. Carlton, R. Gertner, D. Fischel, J. Kalt, and G. Bamberger).

In the Matter of Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, Federal Communications Commission, CC Docket No. 01-337, FCC 01-360. Declaration (March 2002), (with Dennis Carlton), (May 2002, and July 2003), on behalf of Verizon, (with Dennis Carlton and Gustavo Bamberger).

White-Janes v. Chicago Board of Education, U.S. District Court for the Northern District of Illinois, Eastern Division, CA No. 00C-6128. Expert Report (March 2002), Supplemental Report (April 2002), Deposition Testimony (May 2002), and Supplemental Report (November 2002), on behalf of White-Janes.

Dean Foods, Kraft Foods, Ralston Purina Company, Nabisco, Inc. and McKee Foods v. Eastman Chemical, et al., United States District Court, Northern District of California, San Francisco Branch. Declaration (February 2002), Reply Declaration (May 2002), Supplemental Declaration (June 2002), on behalf of Dean Foods, et al.

Forest Laboratories, Inc. v. G.D. Searle and Co., U.S. District Court for the Northern District of Illinois, Eastern Division, CA No. 98C-5170. Expert Report (April 2001), on behalf of Forest Laboratories, (with David Gross).

In the Matter of Auction Houses Antitrust Litigation. United States District Court Southern District of New York, Master File No. 00 Civ 0648 (LAK). Declaration (February 2001), on behalf of Sotheby's Holdings Inc., (with William Landes).

In the Matter of Joint Application of Northpoint Communications and Verizon Communications for Authority to Transfer Control of Blanket Authorization to Provide Domestic Interstate Telecommunications Services as a Non-Dominant Carrier. Federal Communications Commission, CC Docket No. 00-157. Reply Declaration (October 2000), on behalf of Verizon and Northpoint, (with Dennis Carlton).

Gray et al. v. Monarch Luggage Company, Inc., 99 C 04345. Expert Report (August 2000), on behalf of Howard Cassandra Gray.

Erickson v. Alpha Therapeutic, et. al., USDC for the Northern District of Illinois Eastern Division - 99C 0426. Expert Report (July 2000), on behalf of Alpha Therapeutic, et. al.

Vitamin Antitrust Litigation, United States District Court for the District of Columbia, MDL No. 1285. Expert Report (June 2000) (with William M. Landes relating to discovery issues), Expert Report (May 2002) (with William M. Landes and Gustavo Bamberger relating to damages), Reply Expert Report (July 2002) (with William M. Landes and Gustavo Bamberger relating to damages), Declaration (August 2002) (with William M. Landes and Gustavo Bamberger relating to present value calculation), Deposition Testimony (August 7-8, 2002 and August 27, 2002), Declaration (November 2002) (with William Landes and Gustavo Bamberger relating to niacin damage issues), on behalf of opt-out plaintiffs.

Gas City, Ltd. v. Indiana Department of Transportation, Circuit Court of St. Joseph County, Indiana. Affidavit (March 2000), on behalf of Gas City.

In the Matter of Joint Application of MCI WorldCom and Sprint for Consent to Transfer Control. Federal Communications Commission, CC Docket No. 99-333. Declaration (February 2000), Ex Parte Declaration (May 2000), on behalf of SBC, (with Dennis Carlton).

In the Matter of Merger of Qwest Communications International Inc. and U S WEST, Inc., Federal Communications Commission, CC Docket No. 99-272. Declaration (October 18, 1999), Ex Parte Comments (February 2000), on behalf of Qwest and U S WEST, (with Dennis Carlton).

In the Matter of the Merger of SBC Communications Inc. with Ameritech Corporation.  
Federal Communications Commission, CC Docket No. 98-141. Affidavit and Report (July 1998), Reply Affidavit and Reply Report (April 1999) Ex Parte Report (April 1999), on behalf of SBC and Ameritech, (with Dennis Carlton).

Riverside Pipeline Co., v. Panhandle Eastern Pipeline Co., United States District Court for the Western District of Missouri, Case No. 97-0642-CV-W-4. Expert Report (September 1998) on behalf of Panhandle Eastern Pipeline Co., (with Dennis Carlton).

Lemon, Myer, Duncan et al. v. International Union of Operating Engineers, et al., United States District Court for the Eastern District of Wisconsin, Case No. 97-C-0857. Affidavit (September 1998), Affidavit (December 1999), Deposition (February 2000), Supplemental Report (March 2000), on behalf of International Union of Operating Engineers.

In the Matter of Application of WorldCom, Inc., Corp., for Approval to Transfer Control of MCI Communication to WorldCom, Inc., Department of Public Service of the State of West Virginia. Testimony (June 17, 1998), Oral Testimony (July 2, 1998), on behalf of WorldCom.

In the Matter of the Application of WorldCom, Inc. and MCI Communications Corporation for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., Department of Public Service Regulation, Public Service Commission of the State of Montana, Docket No. D97.10.191. Testimony (May 12, 1998), on behalf of WorldCom.

Application of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., Public Utilities Commission of the State of Colorado, in re Docket No. 97A-494T. Testimony (March 26, 1998), Cross-Examination (April 2, 1998), on behalf of WorldCom.

Petition of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., Florida Public Service Commission, Docket No. 971375-TP. Affidavit (February 27, 1998), on behalf of WorldCom, (with Dennis Carlton).

In the Matter of Application of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., New York State Public Service Commission, Case 97-C-1804. Affidavit (February 16, 1998), on behalf of WorldCom, (with Dennis Carlton).

In the Matter of Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications to WorldCom, Inc., Federal Communication Commission, CC Docket No. 97-211. Declaration (January 25, 1998), Second Declaration (March 19, 1998), on behalf of WorldCom and MCI, (with Dennis Carlton).

Shuller v. United States, U.S. District Court for the Eastern District of Pennsylvania, Civil Action No. 97-3820. Expert Report (February 1998), on behalf of U.S. Department of Justice.

Smith v. Amtrak, Circuit Court of Cook County, IL, Case 92 L 10525. Deposition (November 1997), Trial Testimony (January 1998), on behalf of Smith.

Johnson and Lehl v. City Colleges of Chicago, U.S. District Court for the Northern District of Illinois Eastern Division Case No. 96 C 0862. Expert Report (July 1997), Deposition Testimony (October 1997), on behalf of City Colleges of Chicago.

Gelumbauskas v. Precision Gear, U.S. District Court, Northern District of Illinois Eastern Division, Case No. 96 C 0862. Expert Report (April 1997), on behalf of Gelumbauskas.

Galvan v. U.S. Industries, Deposition Testimony (January 1997), Expert Report (December 27, 1996), on behalf of U.S. Industries.

Sprint Communications Company L.P. v. Network 2000 Communications Corporation, Expert Report (July 15, 1996), Deposition Testimony (July and August 1996), Affidavit (November 9, 1996), on behalf of Sprint, (with Dennis Carlton).

Beazer East v. CSX Transportation, Inc., U.S. District Court for the Western District of Pennsylvania, Case No. 93 0861. Expert Report (May 1996), Deposition Testimony (June 1996), on behalf of CSX.

Report to National Association of Independent Insurers, Response to the National Association of Insurance Commissions Staff: Analyses of the Availability and Affordability of Urban Insurance, (May 1996).

Carbon Dioxide Industry Litigation, U.S. District Court for Central District of Florida MDL940. Expert Report (October 1994) (with William M. Landes), Supplemental Report (May 1995) (with William M. Landes and Richard Leftwich), Deposition Testimony (July 1995), on behalf of opt-out plaintiffs.

AVR, Inc. v. Cemstone Products Corp., U.S. District Court, District of Minnesota, Third Division, File CIV 3-92-551. Expert Report (October 1994), Supplemental Affidavits (December 1994 and January 1995), on behalf of Cemstone.

W. Borysiewicz v. M. Gilblair, Circuit Court of Cook County, Illinois. Deposition Testimony (August 1994), and Trial Testimony (September 1994) on behalf of Borysiewicz.

NAACP et al. v. American Family Mutual Insurance Co., U.S. District Court, Eastern District of Wisconsin, Civil Action No. 90-C-0759. Deposition Testimony (July 1994 and November 1994), on behalf of American Family.

G. Bowan v. The Sales Force Companies, U.S. District Court for The Western District of Missouri, Case No. 92-0496-CV-W-2. Affidavit (February 1993), on behalf of Sales Force.

Wisconsin Central Transportation Corporation -- Continuance in Control -- Fox Valley and Western Ltd., Finance Docket 32036, Interstate Commerce Commission. Expert Report (September 1992), on behalf of Wisconsin Central, (with Andrew M. Rosenfield).

Castaneda v. Baron Wire and Steel Inc., Circuit Court of Cook County, Illinois, Municipal Department, Second District. Deposition Testimony (February 1992), on behalf of Castaneda.

Morgan v. ServiceMaster, U.S. District Court for the Northern District of Illinois, Case No. 89-C-0581. Report (September 1991), on behalf of ServiceMaster, (with Sherwin Rosen).

Sepich v. Mueller, U.S. District Court for the Central District of Illinois, U.S. District Court, Case No. 88-2353. Report (March 1991), on behalf of Mueller, (with Sherwin Rosen).

N. Savakis v. Beatrice Company, U.S. District Court for the N.E. District of Illinois Eastern Division, No. 89 C5790. Expert Report (June 1990), on behalf of Beatrice.

Times Herald Printing Company v. A.H. Belo Corp. and Dallas Morning News Company, District Court of Harris County Texas, 280th Judicial District. Deposition Testimony (April 1990), on behalf of Dallas Morning News.

Turner v. IDS Financial Services, Inc., U.S. District Court for the District of Minnesota, File No. 88-521. Report (November 1989), on behalf of IDS.

McLendon et al. v. Continental Group et al., U.S. District Court for the District of New Jersey, Civil Action No. 83-1340 (SA). Trial Testimony (February 1989), Testimony before Special Master (February 1990), Testimony before Special Master (August 1990), on behalf of Continental Group, (with Sherwin Rosen).

Application of Illini Carrier L.P. to provide natural gas transportation services, Testimony (April 1988), on behalf of Illini Carrier.