B

REPLY DECLARATION OF WILLIAM E. TAYLOR

ATTACHMENT B

ATTACHMENT B:

ANALYSIS OF PAPER BY PROFESSORS HILL AND BEARD

Dr. Kelley asserts that the long-distance market is competitive. As sole support, he cites a paper developed for WorldCom (then MCI) by Professors R. Carter Hill and T. Randolph Beard.[1] The Hill and Beard paper criticizes a study that Paul Brandon and I developed, which showed that AT&T, MCI, and Sprint failed to pass through to residential customers the reductions in interstate access charges and other fees that the FCC ordered effective January 1, 1998.[2] Our study compared the average prices that residential customers paid in April through June 1998 with the average prices they paid in November through December 1997.[3] Hill and Beard limit their analysis to MCI's customers. They claim the following:

- MCI passed through the reductions in access charges and other fees that occurred on July 1, 1997, and January 1, 1998.
- Our finding that MCI did not pass through the January 1, 1998, reductions in access charges and other fees is misleading because it "is entirely a product of the misleading selection of two snapshots in time to perform a comparison of rates. Use of almost any other time intervals to compare prices before and after an access charge reduction yields results opposite to NERA's."[4]
- "Long distance carriers appear to have reduced rates in advance of scheduled access charge changes."[5]

Based on the following points, I stand by the findings in our original study:

- Our choice of time periods for the study was neither arbitrary nor did in result in a "manipulation of data."[6] Rather, the time periods we chose were reasonable because

[1] R. Carter Hill and T. Randolph Beard, "A Statistical Analysis of the Flow-Through of Reductions in Switched Access Charges to Residential Long Distance Rates" (May 24, 1999).

[2] Paul S. Brandon and William E. Taylor, "AT&T, MCI, and Sprint Failed To Pass Through the 1998 Interstate Access Charge Reductions to Consumers" (October 16, 1998).

[3] We used December 1997 as the base period for AT&T, to exclude its rate increase on November 8, 1997, from the analysis.

[4] Letter, Michael D. Pelcovits (MCI) to William E. Kennard (FCC), May 24, 1999, at 2.

[5] *Id.*

[6] *Id. at* 3.

they gave the interexchange carriers time to fully adjust to each access charge change. We also selected the time periods before analyzing any results.

- Beginning the second quarter of 1998, MCI imposed a carrier line charge of $1.07 per month on most of its customers. Hill and Beard understate the effect of this charge by attributing a portion of it to international calls, which they exclude from their results. Showing the full effect of this charge would have increased their estimate of the average revenue per minute in the first half of 1998. Even more important, their inclusion of the first quarter 1998 with the second quarter dilutes the visible effect of the carrier line charge by half. This difference largely explains the discrepancy between my results and theirs.

- We replicated Hill and Beard's methodology using our data set, and we extended their methodology to the second half of 1998.[7] We find that MCI increased its residential average revenue per minute for interstate direct-dial calls from the first half of 1998 to the second half of 1998 by two percent, in spite of the large reduction in access charges and other fees. (We have calculated that the access charges and other fees that AT&T pays to serve its residential customers in New York was 12 percent on July 1, 1998.)

- Using Hill and Beard's methodology, we find that our previous findings for AT&T and Sprint remain robust. Both of these carriers increased their residential average revenue per minute in the first half of 1998 relative to the second half of 1997 and again in the second half of 1998 relative to the first half of 1998.

- Year-to-year rate changes can vary, especially when the interexchange carriers bargain for access charge reductions with the FCC. Therefore, the safest procedure is to compare rate changes over a long period. We have repeatedly found that AT&T increased the average prices that residential customers pay for their interstate calls, when measured over several years. *See* Section II.B of my attached Declaration.

- The Hill and Beard paper emphasizes a reduction in MCI's average prices from the first half of 1997 to the second half of 1997, a comparison the Brandon-Taylor paper did not analyze. Suppose for the sake of argument that we accept that estimate. That reduction is not evidence that the residential interexchange market is competitive. AT&T's reduction in basic direct-dial rates after July 1, 1997, was part of an agreement with the FCC to reduce access charges. It is hardly surprising that MCI would have gone along. If, for example, MCI were a member of a tight-knit cartel or implicit collusion, it also would have gone along.

- As I mentioned above, Hill and Beard claim that the interexchange carriers reduced rates in late 1997 in anticipation of the January 1, 1998, access charge reductions. This argument is specious. There is clear evidence to the contrary showing that AT&T *increased* basic rates on November 8, 1997. Further, during most of the second half of 1997 the interexchange carriers could not have known what the size of the reductions on January 1, 1998, would be nor even if there would be any reduction.

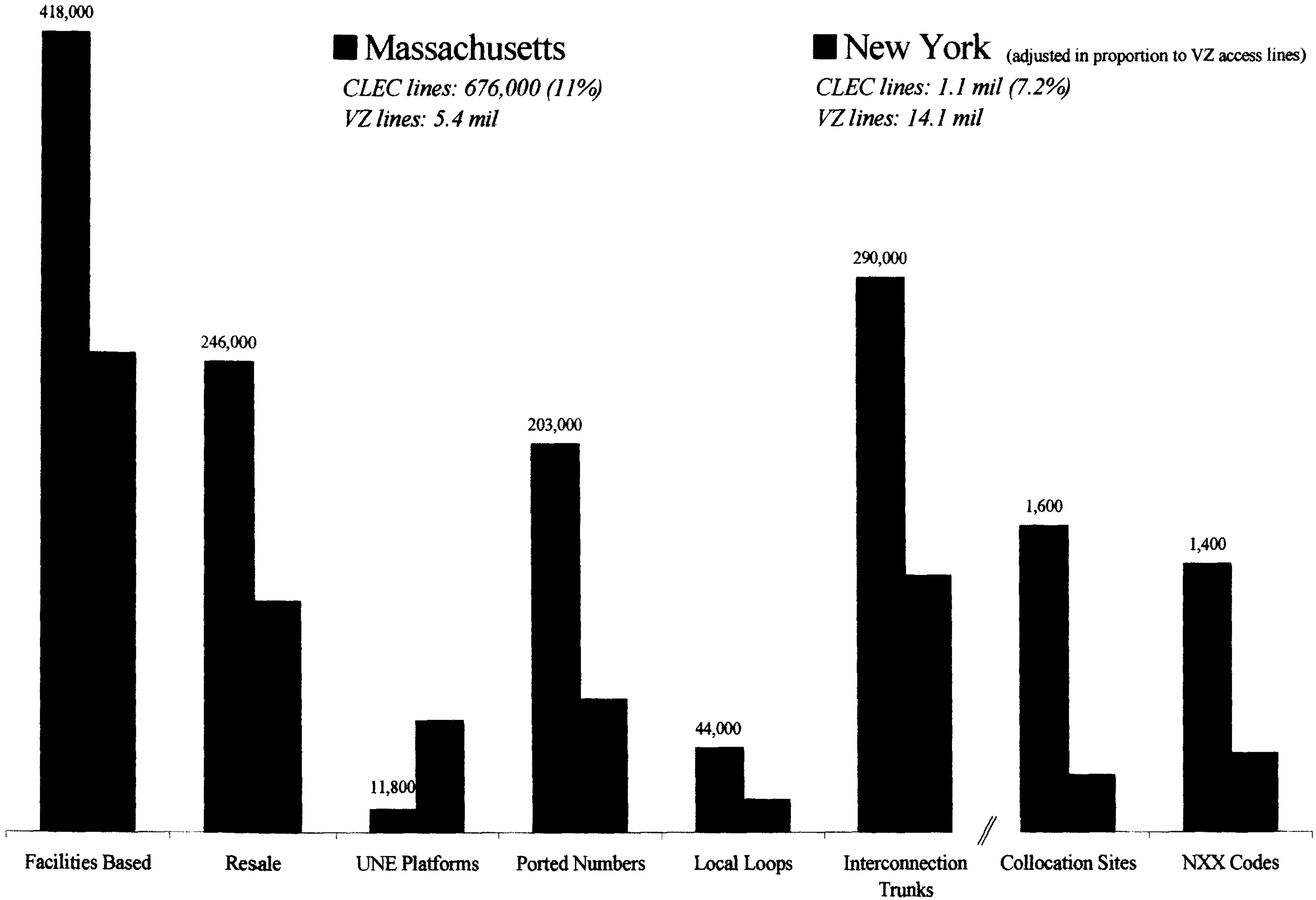
[7] Our replication yielded results that were quite close to, but not identical to, Hill and Beard's results. The small difference might have been attributed either to our use of a different release of the *MarketShare Monitor* data than Hill and Beard used or to ambiguities in their description of their methodology.

C

REPLY DECLARATION OF WILLIAM E. TAYLOR

ATTACHMENT C

Attachment C. Massachusetts Has More Competition than New York Did Prior to Section 271 Approval



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Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Application by Verizon New England	)	
Inc., Bell Atlantic Communications,	)	
Inc. (d/b/a Verizon Long Distance),	)	CC Docket No. 00-176
NYNEX Long Distance Company	)	
(d/b/a Verizon Enterprise Solutions),	)	
and Verizon Global Networks Inc., for	)	
Authorization To Provide In-Region,	)	
InterLATA Services in Massachusetts	)	

REPLY DECLARATION OF ROBERT W. CRANDALL

THE IMPACT OF VERIZON'S ENTRY INTO INTERLATA LONG DISTANCE SERVICES IN NEW YORK

ROBERT W. CRANDALL

SUMMARY

1. Verizon's entry into interLATA services in New York in January 2000 has already generated substantial benefits for New York consumers. The increase in competition has led to new, lower long-distance pricing plans that have generated significant increases in long-distance usage in New York. It is not just *Verizon's* long distance customers who are benefiting from the additional minutes. All long distance customers in New York have increased their use of long distance in response to the lower rates that have resulted from the additional competition. If Verizon is allowed to enter the long distance market in Massachusetts, its entry is likely to bring responses similar to those seen in New York.

2. In this declaration, I employ two different approaches to analyzing data on the effect on long-distance usage in New York for the first half of 2000, and I conclude from both approaches that Verizon's entry into interLATA services has stimulated substantial increases in long distance minutes of use. Total interLATA usage increased by about 7 percent over what would have been expected had Verizon not entered. This increase in calling is the result of lower long distance rates in New York, which have conferred benefits of $113 million on New York consumers in the first six months since Verizon began offering interLATA services in New York.

QUALIFICATIONS

3. I am Senior Fellow in Economic Studies at the Brookings Institution in Washington, D.C., a position that I have held since 1978. My areas of economic research are antitrust, telecommunications, the automobile industry, competitiveness, deregulation,

environmental policy, industrial organization, industrial policy, mergers, regulation, and the steel industry. I am also Chairman of Criterion Economics, L.L.C.

4. I am the author or co-author of five books on communications policy published by the Brookings Institution since 1989. With Leonard Waverman, I am co-author of *Who Pays for Universal Service? When Telephone Subsidies Become Transparent* (Brookings Institution 2000) and *Talk Is Cheap: The Promise of Regulatory Reform in North American Telecommunications* (Brookings Institution 1996). With Harold Furchtgott-Roth, I am co-author of *Cable TV: Regulation or Competition?* (Brookings Institution 1996). I am also the author of *After the Breakup: U.S. Telecommunications in a More Competitive Era* (Brookings Institution 1991). With Kenneth Flamm, I am co-author of *Changing the Rules: Technological Change, International Competition, and Regulation in Communications* (Brookings Institution 1989). In addition, I have published four other books on regulation and industrial organization with the Brookings Institution.

5. I have more than thirty years of experience in analyzing the economics of broadcasting, cable television, motion pictures, and telecommunications. I have served as a consultant to the Justice Department and the major commercial broadcast networks on antitrust issues in television programming and motion pictures.

6. Before joining the Brookings Institution, I was an assistant professor and associate professor of economics at the Massachusetts Institute of Technology between 1966 and 1974. I have also taught at George Washington University. I have twice served in the federal government. I was Acting Director, Deputy Director, and Assistant Director of the Council on Wage and Price Stability in the Executive Office of the President, and also served as an adviser to Commissioner Glen O. Robinson of the FCC.

7. I earned an A.B. from the University of Cincinnati in 1962 and a Ph.D. in Economics from Northwestern University in 1968.

8. I file this report in my individual capacity and not on behalf of the Brookings Institution.

PURPOSE OF DECLARATION

9. I have been asked by Verizon to examine the effects of Verizon's entry into in-region interLATA services in January 2000 and to use the data available thus far to estimate the consumer benefits from this entry. These benefits derive from the lower prices of long-distance services in New York that have been generated by the increased competition caused by Verizon's entry. These benefits would not exist if, as WorldCom has argued in this proceeding, the long-distance market were already extremely competitive.

I. LONG DISTANCE SERVICES IN NEW YORK

10. New York has been a leader in promoting competition in its telecommunications sector. Competitive access providers and competitive local exchange carriers (CLECs) have been competing for many years against the incumbent local providers for customers, and competition is especially robust in New York City. In late 1999, the New York Public Service Commission (NYPSC) and the FCC determined that local competition was irreversible and that Verizon should be allowed to provide in-region interLATA services in New York as provided for under Section 271 of the 1996 Telecommunications Act. Verizon began providing long distance service to New York residential customers on January 5, 2000.

11. Competition in the U.S. long distance market has increased since 1984, but the market remains extremely concentrated with AT&T, MCI/WorldCom, and Sprint accounting for

approximately 75 percent of long-distance carrier revenues.[1] The Department of Justice has recognized this fact, stating that "[i]nterLATA markets remain highly concentrated and imperfectly competitive."[2] Consequently, the entry of a large significant player should have a positive impact on prices and output of long distance services in New York. It is therefore to be expected that Verizon's entry would have a substantial impact on long distance rates and the supply of long distance minutes. As I shall show, the consumption of long-distance services has indeed expanded substantially in the first six months after Verizon's entry.

II. ESTIMATING THE EFFECT OF VERIZON'S ENTRY INTO INTERLATA SERVICES IN NEW YORK

12. The effects of the additional competition in long distance services provided by Verizon's entry in New York can be estimated in at least two ways. First, one can attempt to measure the impact of this entry on the rates charged long distance customers by Verizon and its long distance competitors. Or one can measure the impact of these lower rates on customers' use of long distance services. With lower rates, residential and business customers alike are induced to use the network more intensively for long distance calls, thereby increasing the total value of telecommunications services inside and outside New York.[3]

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[1] FEDERAL COMMUNICATIONS COMMISSION, STATISTICS OF COMMUNICATIONS COMMON CARRIERS: 1999, Table 1.4 (Aug. 2000).

[2] Evaluation of the United States Department of Justice: SBC Communications-Oklahoma, In the Matter of Application of SBC Communications Inc. et al. Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in the State of Oklahoma, CC Docket No. 97-121 (FCC filed May 16, 1997) at 3-4.

[3] The increase in long distance calling will increase the benefits to New York customers and to the out-of-state telephone subscribers who receive an increase in call volume from New York.

13. It is clear that Verizon has offered New York long distance customers attractive rates. A recent survey of long-distance calling plans in New York by TRAC, an independent consumer group, found that Verizon's rates are lower for all consumers except for those making 1,290 or more minutes of calls per month – approximately 30 times the industry median.[4] As a result of this new competition, the major long distance companies have had to offer new, more attractive calling plans for New York subscribers.

14. In this declaration, I consider the impact on output as a result of Verizon's entry into the interLATA market. From this analysis, I am able to deduce a decline in long distance rates has occurred as a result of Verizon's entry and has lead to an increase in benefits to New York consumers. To analyze the effect of Verizon's entry on output of long distance services in New York, I utilize two alternative methodologies. The first simply compares the growth in the number of interLATA long distance minutes in New York and the other Verizon states in the first six months of 2000 with the growth in the first six months of 1999. If Verizon's participation in the interLATA market increases competition and thereby leads to lower interLATA rates, the effect of this competition should be evidenced in an acceleration of growth in interLATA minutes in New York in the first two quarters of 2000 relative to the experience in the other states. The second methodology is a statistical regression analysis of interLATA access minutes in New York and other Verizon states, using quarterly data for 1998, 1999, and the first two quarters of 2000. A regression analysis is a statistical technique that allows me to separate the effects of various economic and other forces on a given variable – in this case, interLATA

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4 TELECOMMUNICATIONS RESEARCH AND ACTION CENTER, MAY 2000 TELETIPS™ RESIDENTIAL LONG DISTANCE COMPARISON CHART AND JUNE 2000 ADDENDA (June 2000).

minutes across the Verizon states. In this analysis, I include separate variables to account for other economic and seasonal forces, allowing me to identify more precisely the effects of Verizon's entry in New York.

A. A Comparison of InterLATA Growth in New York and Other Verizon States

15. If Verizon's entry into in-region interLATA services in New York has led to lower interLATA rates in that state, one should expect that consumers would respond by using interLATA services more intensively. In turn, this consumer response should result in an acceleration of the growth in interLATA minutes in New York relative to other states since Verizon's January entry. Indeed, the evidence from the Verizon states confirms that such an acceleration has occurred. I use Verizon's data on the access minutes passing through its own switches and the CLECs' switches in the first six months of 1998, 1999, and 2000 to gauge the growth of long distance. The growth in interLATA minutes in New York accelerated from -0.1 percent in the first half of 1999 to 8.9 percent in the first half of 2000.[5] (See Figure 1.) By contrast, the growth in interLATA minutes accelerated from an average of 4.7 percent to only 6.0 percent between these two periods in four large Verizon states – Massachusetts, Pennsylvania, New Jersey, and Virginia. Looking at all Verizon states other than New York, I find that interLATA minute growth accelerated from an average of 4.9 percent to just 6.3 percent in the same period.[6] Thus, New York stands out as having much greater interLATA minute growth in 2000 than the average of other states in the Verizon region – a difference of about 7.6 percentage points. This evidence is consistent with the evidence that Verizon's entry lowered interLATA

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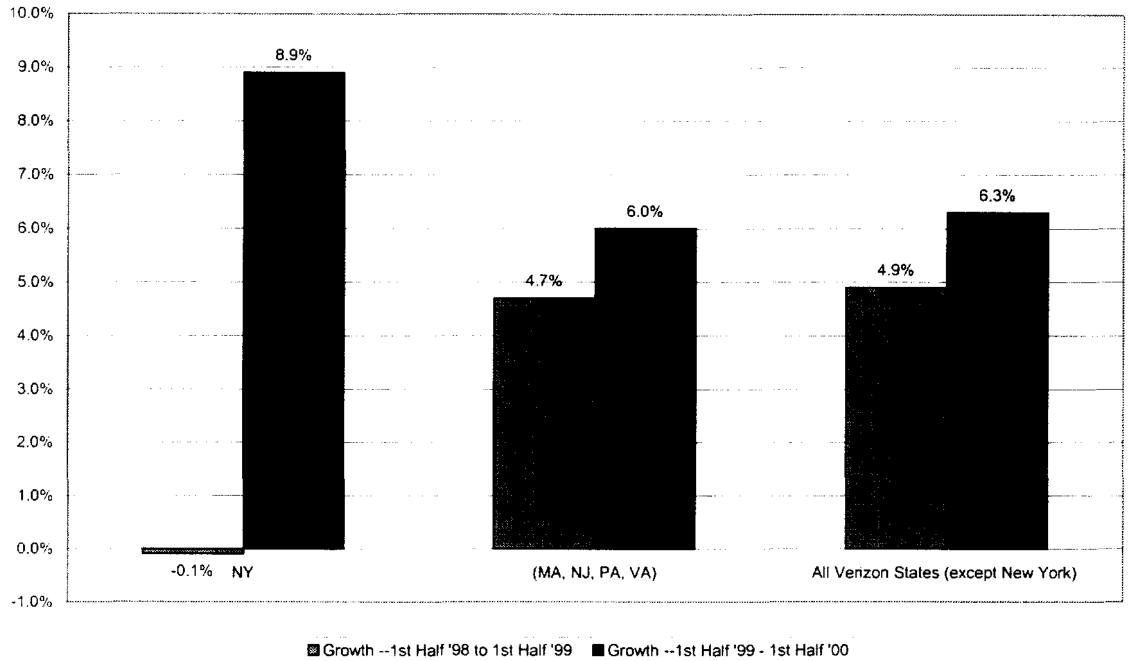
[5] This growth is measured as the percentage change in minutes between the first half of a given year and the first half of the previous year so as to eliminate the effect of seasonal variation.

[6] These other "states" include Delaware, DC, Maine, Maryland, New Hampshire, Rhode Island, West Virginia and Vermont as well as the four larger states (MA, NJ, PA, VA).

rates and, therefore, increased the number of interLATA minutes demanded more rapidly in New York than elsewhere.

FIGURE 1: GROWTH IN INTERLATA ACCESS MINUTES IN NEW YORK VERSUS OTHER VERIZON STATES



B. Regression Analysis

16. In order to demonstrate further that the acceleration in long-distance minutes in New York in 2000 is unique, I use a pooled cross section/time series regression model to estimate the determinants of interLATA minutes across Verizon states and over time. Since there has been no major long distance entry in any of the other Verizon states, this allows me to separate the effects of other economic forces on long distance output from those caused by Verizon's entry into long distance services in New York. In this regression model, I use quarterly data on access minutes from New York and the other Verizon states for 1998, 1999 and the first half of 2000. To explain movements in access minutes across states and over time, I

also use data on per capita income, weather, available business days, and total access lines for each of the ten periods. In addition, I create two sets of "dummy variables" to allow for other, unexplained variations across states and over the four quarters of each year, as well as two dummy variables to capture the specific events in New York in the first and second quarters of 2000. A description of each of the variables and the various regression specifications is contained in Attachment B.

17. The statistical results from the regression model show that the growth of interLATA access minutes in New York in the first half of 2000 was significantly greater than in the first half of 1999. As can be seen in Table 1 below, the increase was an average of 6.5 percent in the first two quarters of 2000.

TABLE 1: SUMMARY REGRESSION RESULTS FOR THE YEAR TO YEAR CHANGE IN INTERLATA ACCESS MOUS

Variable- Quarter	Estimated Coefficient	t-statistic*
NY-2000(I)	0.071	2.21
NY-2000(II)	0.060	1.88

* Measure of goodness of fit. Both variables are statistically significant at better than the 90 percent confidence level.

III. ESTIMATE OF THE BENEFIT TO CONSUMERS

18. The results of the previous two sections demonstrate that Verizon's entry increased competition and stimulated approximately a 7 percent increase in interLATA minutes in just the first half of 2000. Total interLATA access minutes in New York in the first half of 2000 were about 21.2 billion. Without Verizon's entry, the total would have been 19.8 billion minutes. Therefore, assuming two access minutes per conversation minute, the increase in

conversation minutes in the first half of 2000 was 0.7 billion. This increase in usage would have required a reduction in rates of 10 percent, given a price elasticity of demand of -0.7. Average long distance prices in the United States were $0.11 per minute in 1999. Assuming that this average rate was the price in New York before Verizon's entry, the consumer benefits from lower interLATA rates due to Verizon's entry in New York through the first half of 2000 may be estimated at $113 million, or $226 million per year.[7] (See Attachment C.) It is likely that these estimates are substantial underestimates of the effects of Verizon's entry because they are based on the assumption that there are no further price-depressing effects of the new competition in the last half of 2000 or thereafter.

[7] I use the average price per minute for all customers in 1999, not the average *residential* rate. I simply assume that the benefits of lower business rates are passed through to New York consumers and that the price elasticity of demand for long distance service is –0.7 for all callers.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on November 2, 2000

Robert W. Crandall

A

REPLY DECLARATION OF ROBERT W. CRANDALL

ATTACHMENT A

ATTACHMENT A. METHODOLOGY USED IN ESTIMATING ACCESS MINUTES FOR VERIZON AND CLECS

1. All of the analyses in this declaration are based on estimates of total New York long distance access minutes — the number of access minutes switched by Verizon local switches plus an estimate of minutes passing through Competitive Local Exchange Carrier (CLEC) switches. The number of long distance access minutes passing through Verizon switches in each state has been provided to me by Verizon. However, I do not have data for the access minutes that transit the CLEC switches, and CLECs do not report such data to the FCC. Thus, I estimate the CLEC access minutes using the number of access lines captured by the CLECs and an assumption that the average minutes per line for CLEC customers is the same as for Verizon lines. This may result in an underestimation of the CLEC minutes per line if the lines Verizon loses to CLECs are heavy users of long distance services.

2. The number of access lines supplied by CLECs is the sum of the UNE-Platform lines leased from Verizon, both residential and business, and those lines that have had numbers ported via local number portability (LNP) from Verizon to the CLECs. This estimate of CLEC lines is biased downward because it does not account for CLEC facilities-based lines to customers who were never part of Verizon's network. Using this estimate of the number of CLEC lines, I then calculate the number of CLEC minutes by multiplying the estimated number of CLEC lines by the average number of CLEC minutes per line.

3. Given the conservative assumptions on the number of CLEC lines and the minutes per CLEC line, the estimated growth in interLATA access minutes is likely underestimated. Since the largest number of competitive lines is in New York, this means that my results underestimate the impact of Verizon's entry in New York relative to the other states, and is thus a conservative estimate of the impact of entry.

B

REPLY DECLARATION OF ROBERT W. CRANDALL

ATTACHMENT B