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September 15, 1999

BY HAND

David Waddell
Executive Secretary
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

98-00097

Re: Notice of Rulemaking, Rule 1220-4-2-.55(2) ("IXC Rules")

Dear Mr. Waddell:

Please find enclosed for filing in the above captioned proceeding, one copy of AT&T's Submission of Supporting Materials, an Affidavit of Thomas Randolph Beard, and information from FCC Docket No. 79-252, Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor. Such material supports AT&T's position in this proceeding, under T.C.A. § 65-5-208(c), that the long distance market in Tennessee is competitive, and thus should not be price regulated. AT&T will present its position at the hearing on September 16, 1999, and will refer to the enclosed material as part of its presentation.

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to call me.

Sincerely,

Jim Lamoureux

Encls.

cc: Richard Collier, Esq., letter only

FILE

98-00097

BEFORE THE
TENNESSEE REGULATORY AUTHORITY
Nashville, Tennessee

Notice of Rulemaking: Rule 1220-4-2 .55(2) ("IXC Rules")

AFFIDAVIT OF THOMAS RANDOLPH BEARD

Thomas Randolph Beard, being duly sworn, deposes and says:

Section 1

1. My name is Thomas Randolph Beard. My business address is Department of Economics, Lowder Business Building, Auburn University, Auburn, Alabama, 36849.

2. I am an economist, and am Associate Professor of Economics at Auburn University. I hold an honors degree in economics from Tulane University, and a Ph.D. in economics from Vanderbilt University. My specialty is industrial economics and regulation, and I have taught both topics to undergraduate and graduate students for eleven years. I am an author of the academic monograph, *Initial Public Offerings: Findings and Theories* (Kluwer Academic Press, 1995), and the forthcoming *Economics, Entropy, and the Environment: The Extraordinary Economics of Nicholas Georgescu-Roegen* (Edward Elgar, Ltd.). I have published numerous academic articles on topics in economics and regulation in such journals as *The Review of Economics and Statistics, The Journal of*

Business, The RAND Journal of Economics, Management Science, The Journal of Regulatory Economics, The Journal of Industrial Economics, Energy Economics, The Antitrust Bulletin, and many others.

3. I have provided expert economic testimony, both oral and written, on several occasions, and have testified before the Tennessee Regulatory Authority, New Jersey Board of Public Utilities, and the South Carolina Public Service Commission. I have offered expert reports before the F.C.C. and the federal courts. My vita is attached as Exhibit 1.

4. I have been asked by AT&T Communications of the South Central States, Inc. (AT&T) to provide this testimony to assist the Tennessee Regulatory Authority (TRA), its staff, and other interested parties, in evaluating the proper form of price regulation of AT&T and other interexchange carriers offering intrastate, interlata toll service in Tennessee. In particular, my affidavit addresses two related issues: (1) should AT&T (and other interexchange carriers) be subject to price regulation in the provision of interlata toll services in Tennessee?, and: (2) what are the probable consequences of the implementation of the proposed new rules of the TRA that modify Rule 1220-4-2-.55 Regulatory Reform, and introduce a new "net revenue cap" methodology for limiting price increases for certain interexchange telecommunications services? My affidavit is limited to these two questions.

5. In forming my opinions, I have consulted numerous scholarly texts on regulation, industrial competition, and telecommunications policy, in addition to performing an

evaluation of various data relating to long distance competition, market shares, and similar matters. I have also studied reports and orders promulgated by the F.C.C.

6. I have reached the following primary conclusions:

(1) Tennessee is not a relevant market, in the antitrust sense, for interlata toll calls. Rather, the interlata toll market is national in scope.

(2) The U.S. interlata toll marketplace is effectively competitive. Interlata toll services in Tennessee are likewise subject to effective competition. Both the structural characteristics of this industry, and the historical record on prices, entry, and capacity expansion, suggest that consumers in Tennessee enjoy numerous choices in providers. AT&T, the largest interexchange carrier in Tennessee, is not dominant in this market.

(3) Because the interexchange market is effectively competitive, there is no economic reason to subject it to price regulation. In an effectively competitive market, price increases occur only when efficiency requires additional rationing of some good or service. This process should not be impeded on economic grounds.

(4) Effectively competitive markets will serve the people of Tennessee very well. When the particular circumstances of individual users create political or social concerns, such concerns should be addressed in a specific, targeted manner. It is highly inefficient to regulate an entire competitive market in order to provide a benefit to a small, identifiable group of consumers (or producers).

(5) Because interlata toll services in Tennessee are supplied by an effectively competitive market, the "net revenue cap" proposal is unnecessary to serve the public

interest. Further, imposition of this mechanism will involve numerous serious difficulties that will necessitate further interventions and burdensome oversight.

7. The bases for these conclusions are described in detail below. The remainder of this affidavit is organized as follows. First, in Section 2, I explain the national scope of the interlata toll marketplace, and note that interlata toll services in Tennessee are provided by this market. I also explain why this market is effectively competitive. Section 3 then evaluates the consequences of regulating effectively competitive markets, and describes the reasons for regulatory intervention accepted by economics. None of these reasons is applicable to interlata toll services in Tennessee. Section 4 addresses several issues in implementation of the proposed "net revenue cap" methodology, while Section 5 summarizes my conclusions.

Section 2

8. In order to determine if any market, or submarket, is effectively competitive, it is necessary to define the relevant market very carefully. Fortunately, an extensive literature in antitrust economics addresses this problem. A classic reference is W. Landes and R. Posner, "Market Power in Antitrust Cases," 94 *Harvard Law Review*, 937, 1981. A summary and additional commentary is given by D. Kaserman and J. Mayo, *Government and Business*, Chapter 4. The four components of market definition are: (1) geographic extent; (2) product definition; (3) buyer identification; and (4) seller identification. The relevant principle in implementing each of these criteria is actual and

potential substitution. The market is defined by the widest criteria for which substitution is large.

9. On the "supply side," we ask which sellers, both potential and actual, provide the goods or services in question. Thus, we must initially and provisionally define the service, and evaluate this candidate definition. We note first that the proper product definition here is all interlata toll services. This is so because of supplier substitution: any provider who offers MTS, for example, is ordinarily also able to offer other services such as WATS. These services are all generally provided over identical equipment. Likewise, the relevant geographic extent of the interlata toll market is national. Although there are regional carriers, there is nothing in the regional natures of their operations that preclude national sales, nor do particular regions exhibit cost or demand differences that are sufficient to insulate such regions from other sellers. This issue is settled, as the F.C.C. has noted that, "interstate, domestic interexchange telecommunications services comprise the relevant product market" (Competitive Carrier Proceeding, Fourth Report and Order, paragraph 13). I agree with the F.C.C. assessment: interlata toll is a national product market.

10. Substitution among sellers is a critical aspect of economic market definition. In particular, if a single seller, such as AT&T, attempted to implement noncompetitive pricing, would the supply response of other sellers "punish" AT&T for its action? Several types of evidence suggest that this would happen, indicating that the providers (and potential providers) of interexchange services are in the same market as AT&T. In

economic terms, the relevant issue is the "supply elasticity," or responsiveness to price changes, of other firms. This elasticity, in turn, depends on the willingness and ability of other sellers to capture customers from any seller who raises prices above competitive levels.

11. There is extensive public evidence establishing the ability and willingness of IXCs to capture other firms' customers. First, the trends in interlata toll services market shares, using either presubscribed lines, toll revenues, or capacity as a base, strongly suggest the vibrancy of competition. Evidence from the F.C.C. Long Distance Market Shares Reports (March, 1999) give the following results based on toll revenues:

	AT&T	MCI	Sprint	Worldcom	Others
1990	65.0	14.2	9.7	0.2	10.8
1997	44.5	19.4	9.7	6.7	19.8

These figures (from Table 3.2) suggest that competition is vigorous in the interlata toll market, with substantial share growth especially notable among "other" carriers. The Herfindahl index (HHI) dropped between 1990 and 1997, going from 4512 to about 2508. Similarly, the F.C.C. reports that new entrants' share of non-LEC toll revenues increased from 34.1% in 1990, to 55.5% in 1997. Alternative measures of AT&T's market share paint a similar picture: Chart A 1.2 estimates that AT&T's revenue share of toll services will be 42% in 1999.

12. Market shares may also be defined using capacity as a basis. This is an important issue because the existence of excess capacity in the long distance industry suggests that firms are able to absorb customers from other sellers, a necessary condition for effective competition. Using F.C.C. data on fiber deployment among IXCs, Kaserman and Mayo ("Competition and Asymmetric Regulation in Long-Distance Telecommunications: An Assessment of the Evidence," *Commlaw Conspectus*, 4, 1996) note that tremendous fiber transmission capacity exists in long distance, and that AT&T's market share by this criterion was only about 45% back in 1995. The F.C.C.'s Fiber Deployment Report for 1998 estimates AT&T's share of deployed fiber among IXCs for late 1997 as less than 31% (Table 1: Fiber System Route Miles - Interexchange Carriers). Much fiber is "dark," and the extent of fiber capacity held by many IXCs suggests that unjustified price increases can easily be punished. As this proceeding is occurring, GTC is becoming a facilities-based carrier via leased capacity.

13. Although it is apparent that existing IXCs are both willing and able to take one another's customers, the role of potential competitors, i.e., new entrants, implies that the interlata toll market is more competitive (exhibits greater supplier substitution) than the market share analysis above suggests. The credibility of potential competitive responses depends on the extent of entry barriers in interlata telecommunications. There are several public sources of evidence relevant to this question. For example, the report Trends in Telephone Service, prepared by the Industry Analysis Division of the Common Carrier Bureaus of the F.C.C. (February, 1999), presents evidence that barriers to entry in interlata toll telecommunications are surmountable. Table 10.2, "Alternative Measures of

Long-Distance Carrier Development," shows that the number of IXCs with presubscribed lines has risen from 325 in 1990, to 511 in 1994, and 621 in December of 1996, the last year of data available. This represents a near doubling of the number of IXCs with presubscribed lines in only six years. Combined with the market share data described earlier, this implies that entry is feasible, and that the entrants have realistic chances of obtaining market share.

14. The nature of consumer purchase behavior in interlata toll services facilitates competition among sellers and bolsters the conclusion that the relevant market includes all interlata toll service providers. The key questions is, "Do buyers regard the IXCs as competing with one another, and as realistic alternative sources of service?' Although interlata toll service is a point-to-point function so that consumers in one location do not view service at another location as a substitute, the sellers are generally both willing and able to provide services in many or all locations. Consumers, for their part, evidence a substantial willingness to switch presubscribed carriers. Millions do so each year, often in response to discount offers. Further, the skewed distribution of usage among consumers – with a minority of buyers producing the bulk of the interlata minutes – creates an important block of buyers who are highly price sensitive, sophisticated, and desirable to sellers. This factor promotes price competition among IXCs, a result we will return to below.

15. To summarize, the relevant market is national in extent, and includes all interlata telecommunications services. Substitution between services by sellers is high because

the relevant services largely use the same equipment and technology. Entry into this market is feasible and has occurred at a high rate. Market share changes show that the larger existing carriers are quite vulnerable to smaller rivals, and therefore all are in the same market. Consumers evidence a willingness to switch providers. Transmission capacity is substantial and is widely distributed.

16. One important implication of the analysis above is that Tennessee is not, in economic terms, a relevant market for interlata toll services. Although the people of Tennessee certainly would not see interlata services in Kentucky as a good substitute for services in Tennessee, the boundaries of the market are determined by the largest degree of substitution, not the smallest. Thus, substitution between IXCs which operate in Tennessee implies that Tennessee is a part of a national market place, not a separate market. There is nothing about the political boundaries of Tennessee that prohibits seller substitution as required to define a market. Unless one could show that the number and behavior of IXCs operating in Tennessee somehow substantially differed from the national scene, and that those differences arose from some durable economic factor peculiar to Tennessee, one could freely conclude that interlata toll competition exists in Tennessee if it exists in the national market of which Tennessee is a part.

17. All evidence available to me suggests that the provision of interlata toll services in Tennessee is quite similar to that observed nationally. For example, there are at least six (or seven, depending on one's definition) facilities-based IXCs operating in Tennessee: AT&T, Citizen's, ICG, MCI WorldCom, Sprint, and United Telephone. (Wiltel, a

subsidiary of WorldCom, also has facilities in Tennessee used to produce interlata, intrastate services.) On top of this, one observes the usual huge set of resellers; Tennessee appears to have over 300 resellers of interlata services at the current time. Consumers in Tennessee thus enjoy a huge array of choices and, as anyone who has tried to finish a meal without answering the phone knows, competition is often keen to the point of irritation.

18. Although it appears impossible to obtain reliable sales share data for Tennessee instate, interlata toll calls, several types of evidence suggest that the economic landscape in Tennessee telecommunications is quite similar to the national picture. First, the Telecommunications Act of 1996 specifically bars any state authority from limiting entry. Second, the F.C.C. serial *Trends in Telephone Service* formerly published market shares by state using presubscribed lines. It is very important to note that presubscription is a very poor measure of economic market shares, since many presubscribed customers either use dial around services or else buy little. However, one may use these figures in a relative way to compare Tennessee to the whole U.S. For July 1998, *Trends in Telephone Service* (p. 56) reports these shares:

	AT&T	MCI	Sprint	WorldCom	Excel	Other
Tennessee	67.3	13.3	6.3	3.9	3.2	6.0
U.S.	63.3	14.5	7.5	2.9	2.4	9.3

By this measure, Tennessee looks quite similar to other states.

19. Having explained that Tennessee obtains interlata toll services, including intrastate toll, from a national market, it is critical for this proceeding to examine whether that market is effectively competitive. In economics, a market is termed "effectively competitive" if no firm unilaterally has market power, i.e., no single firm can impose a successful price increase which is contrived, and if collusion is absent. This differs from "perfect competition," which requires that every firm be a price taker with centralized market clearing. In a perfectly competitive market, consumers do not actually buy from individual sellers in any significant sense. In many real markets, including telecommunications markets, buyer-seller relationships are important. As a consequence, few markets are perfectly competitive, yet many are effectively competitive.

20. Effectively competitive markets are considered to be "not worth regulating" because the costs of such intervention exceed the benefits when market performance is sufficiently competitive. Competition among firms leads to a set of desirable results: prices tend towards economic costs, the allocation of resources resulting from competition is "allocatively efficient" (i.e., resources flow to their most-valued uses), firms are compelled to produce at minimum costs, and so on. Effectively competitive markets are thus highly desirable, and regulatory intervention is unwarranted on economic grounds.

21. The degree of competition exhibited by the U.S. interlata toll market has been the subject of heated argument. This state of affairs has occurred because of the importance attached to re-entry into the interlata market by the Bell Operating Companies (BOCs) under the 271 process of the Telecommunications Act of 1996. If one could show that the interlata

market was not effectively competitive, then that finding might bolster claims that BOC re-entry would be in the public interest if one could additionally argue that such entry would result in competition. As a consequence, a number of studies of long distance competition have been published by economists who serve as consultants to the BOCs (e.g., Taylor and Taylor, "Post-Divesture Long-Distance Competition in the United States," *American Economic Review Papers and Proceedings*, No. 83, 1993; Taylor and Zona, "An Analysis of the State of Competition in Long-Distance Telephone Markets," *Journal of Regulatory Economics*, No. 11, 1997). Unsurprisingly, most of these studies suggest that the long distance market is not effectively competitive. A smaller number of studies with contrary findings have been published by economists who serve as consultants to IXCs (for example, Kahai, Kaserman, and Mayo, "Is the Dominant Firm Dominant? An Empirical Analysis of AT&T's Market Power," *Journal of Law and Economics*, 1996).

22. Because many studies of long-distance competition have been conducted by researchers affiliated with various parties in this dispute, one must proceed cautiously in analysis of this topic. Additionally, there has been considerable methodological debate concerning the proper econometric procedure to apply in such studies, with arguments over the proper applications of the notion of the "pass through" of switched access charge reductions by IXCs being especially contentious. In general, one expects that, if the IXCs behave competitively, then reductions in access charges should result in "equivalent" reductions in toll prices. This is, however, a rather complex empirical problem. As a

result of these difficulties, I will restrict my discussion primarily to studies or findings by third parties, such as the F.C.C., and to empirical results that are of a public nature.

23. The position of the F.C.C. with respect to the state of competition in the U.S. interlata market is relatively unambiguous: this market is competitive. For example, in their public statement, "FCC to Ensure that All Consumers Benefit from Long Distance Competition" (July 9, 1999), the F.C.C. states: "The Commission fully recognizes, however, the competitive nature of the long distance market in this country and has no intention of imposing any unnecessary regulations on this competitive industry." Similarly, in the Statement of William E. Kennard, Chairman, Federal Communications Commission, Before the United States Senate Committee on Commerce, Science, and Transportation on Federal Communications Commission Oversight Hearing, May 26, 1997, Kennard states: "There are now over 600 long distance providers offering services, some on their own facilities, some entirely by resale and still others by a combination of owned facilities and resale. The vibrant competition between these firms has given consumers a wide range of choices of providers and services, which has made an appreciable difference on the prices most consumers pay for long distance services." Similarly, in his statement of opposition to re-regulation of long distance markets, F.C.C. Commissioner Furchgott-Roth (July 9, 1999) notes that, "Each of the five Commissioners has recognized publicly that the market for long distance services is substantially competitive. Still, the Commission refuses to cut its regulatory apron strings. American consumers, not federal bureaucrats, can best choose whether the pricing plans offered by certain long distance carriers suit their needs."

24. F.C.C. reports, such as the serials *Trends in Telephone Service* and *Long Distance Market Shares,* provide a convincing public record of the effectively competitive nature of the U.S. interlata services industry. For example, the Long Distance Market Share Report for the Fourth Quarter of 1998, released March, 1999, shows that the Herfindahl index for interlata toll services (by revenues) has fallen from about 4512 in 1990 to about 2508 in 1997. This shows that market shares are highly unstable, and that entry and expansion of smaller firms is robust. The F.T.C. economist Michael Ward, using a sophisticated econometric technique to measure the supply elasticity of AT&T's rivals, found that AT&T had little market power, and that "The estimation results lead us to a number of conclusions. Chief among them is that the long-distance market is relatively competitive" (M. Ward, "Measurements of Market Power in Long Distance Telecommunications, F.T.C. Bureau of Economics Staff Report, 1995). Since Ward analyzed residential and small business users only through 1991, his conclusions would be strengthened by recent developments. He acknowledges this by stating: "Because the long-distance market appears more competitive now that during the period covered by our analysis, the current deadweight loss from AT&T's exercising market power may be even less than our estimates." Ward's estimate of this loss for 1988-1991, it should be noted, was about 1/3 of 1% of industry revenue.

25. Concentration levels in the interlata market have fallen substantially since Ward concluded long distance was competitive. Many completely unregulated industries in the U.S. have Herfindahl indices exceeding those found in telecommunications. As a perhaps telling example of this observation, John Sutton notes that the Campbell Soup

Company enjoyed greater market share than did AT&T back in 1990 (J. Sutton, Sunk Cost and Market Share: Price Competition, Advertising, and the Evolution of Concentration (1991), Table M.8). Since 1990, as shown earlier, AT&T has lost almost 30% of its share in the interlata market.

26. Perhaps the strongest evidence of competition in interlata toll markets stems from the extensive debate and analysis surrounding the reclassification of AT&T as a "nondominant" carrier by the F.C.C. in the Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, Order, in C.C. Docket No. 79-252, FCC 95-427, October 23, 1995. By the standard adopted by the F.C.C. in the Competitive Carrier Proceeding, First Report and Order, 85 F.C.C. 2d, (1980), a "dominant firm" is one which has the ability to adversely affect market prices (i.e., has market power). By finding, over strenuous opposition by many parties, that AT&T lacked market power, the F.C.C. simultaneously concluded that no IXC, acting alone, had market power.

27. A fundamental prerequisite for any noncompetitive market is the existence of effective "barriers to entry" (BTEs). These BTEs are the means by which incumbent firms are able to successfully raise prices. If entry is sufficiently easy, and involves low enough sunk costs, no scheme to artificially inflate prices can succeed, whether that scheme is initiated by a single firm or a cartel. The best evidence of the lack of effective barriers in the interlata toll market is high rate of entry observed in recent years. As noted above, hundreds of new IXCs have entered, spurred by the easy availability of resale and "carriers' carrier" services. More significantly, facilities-based competition is thriving,

and there are at least six facilities-based carriers in Tennessee. The number of carriers with presubscribed customers has increased, according to the F.C.C., from 223 in 1987 to 621 in December, 1996, the latest year available (Trends in Telephone Service, Feb. 1999, Table 10.2). It is very difficult to argue, in light of these results, that BTEs are an impediment to effective competition in the interlata market.

28. Although the various sorts of evidence described above suggest that no IXC has significant market power, it is also important to consider whether a cartel, if only a tacit one, operates in the interlata market. This claim is, in fact, commonly made by several economists who serve as consultants to the BOCs. As noted above, the existence of such a cartel could bolster requests for 271 relief on public interest grounds if one could show that BOC entry would remedy the imperfection. A representative statement of this sort is offered by P. MacAvoy ("Tacit Collusion Under Regulation in the Pricing of Interstate Long-Distance Telephone Services," *Journal of Economics and Management Strategy*, Vol. 4, 1995). Significantly, MacAvoy attributes this tacit collusion to regulation of prices, and states, "... when tariffs were submitted (to the F.C.C.), prices derived from them were checked and responded to by competitors before they took effect, precluding any competitive gain from a price reduction initiative. The "what" and "when" in the level of tariff charges of the single largest carrier established discipline in the price-change practices of all three large carriers." (Parentheses added, MacAvoy, 1995, p. 153)

29. One may conclude from MacAvoy's claim that regulation of prices itself "caused" tacit collusion, a strong argument against price regulation. However, an examination of the

31. The evidence strongly implies that the interlata toll market, of which Tennessee is a part, is effectively competitive. High levels of entry, unstable market shares, consumer churning, excess capacity, and the very large number of firms selling interlata toll services all show that effective competition exists. Further, market conditions in Tennessee appear similar to national conditions, implying that Tennessee is enjoying the benefits of interlata competition in much the same manner as elsewhere.

Section 3

32. The previous section noted that the interlata toll market, which includes Tennessee, is effectively competitive. Any imposition of economic regulation on an effectively competitive market will generally alter the performance of that market in several important ways. Because the outcomes of competitive behavior, including prices converging to economic costs, efficient production techniques, and optimal product offerings, are so highly desirable, regulation of an effectively competitive market involves significant risks and should not be undertaken lightly. Economists recognize this, and have identified a small list of circumstances under which economic regulation may be justified.

33. The primary economic (as opposed to social, or political) justifications for regulation are: (i) natural monopoly; (ii) externalities; (iii) public goods; (iv) monopolization. Natural monopolies are industries in which the production technology exhibits a technical property termed "subadditivity," which, if present, implies that a single firm can produce at lower costs than any combination of two or more firms. The case of natural monopoly

is the basis for most public regulatory mechanisms in the United States. Externalities are affects of economic activities that impact uninvolved third parties outside of the market. Pollution from industrial activity is the classic example, and environmental regulations are widely imposed throughout the U.S. economy. Public goods are extreme, impersonal externalities for which no provider can collect payment. For example, a lighthouse aids all ships at sea, and there is no practical way to exclude ships that fail to pay for it. As a result, public goods require subsidized or public provision. Finally, lack of competition, or private monopoly, is addressed through a variety of means, including the antitrust laws. For example, should the IXCs collude to fix interlata toll prices, they would be subject to both criminal and civil sanctions as would any other domestic firms pursuing a similar course. As extensive survey of these motives for regulation is presented by Kaserman and Mayo, *Government and Business*, Dryden Press, 1995.

34. It is difficult to conclude that any of the factors described above could provide a justification for price regulation of interlata toll services in Tennessee. First, the presence of multiple, solvent, facilities-based IXCs, and hundreds of resellers, is inconsistent with the view that scale economies in interlata toll services are so large that competition is impossible. In fact, AT&T began, after the MFJ in 1985, with a market share above 90%, but now has less than one half of that share. If scale economies were really large, small carriers would presumably fail.

35. It is also improbable that interlata toll services involve either externalities or public good features that require intervention. Even if this were so, output price regulation is not a

reasonable means to address the problem. Rather, restrictions or taxes on input use, or public provision of service, would be more reasonable.

36. Finally, the previous section sought to establish that the interlata toll market is effectively competitive. As noted above, the structure of this market is actually less concentrated than many markets that are not price regulated at all. Barriers to entry are sufficiently low so that many firms, some with substantial facilities investments, have entered this market in the last few years. Competition is robust and beneficial to the public. The IXCs are subject to all the antitrust laws that apply to other firms. The case for price regulation of the interlata toll market in Tennessee cannot be constructed on the basis of a lack of competition.

37. I conclude that there is no economic rationale that would justify price regulation of the IXCs in Tennessee. It is, of course, true that regulations are imposed on firms for many reasons aside from the economic ones described above. In the case of telecommunications, a long history of regulation, cross subsidy, and the pursuit of social goals (such as universal service) is evident. If we were "starting over" today, however, and the interlata toll market had its current structure, it seems quite unlikely that this industry would be regulated at all. Yet history weighs heavy on telecommunications.

38. A primary concern of the F.C.C., evident in its recent (July, 1999) hearings on the use of "plan prices" (fixed monthly charges) in long distance calling plans, is the impact of long distance competition on certain targeted classes of users. For example, customers with

very low, or no, usage of interlata toll may be quite unattractive customers for the IXCs. It is costly to maintain accounts and bill such customers, and the IXCs incur various costs in order to provide these customers with the (unexercised) options of making long distance calls. The welfare of such customers may be a social or political concern. Such a view, which is understandably widespread, is the antithesis of an economic rationale for regulation. Rather than worry that competition is absent, the regulator is concerned that competition is present and is eliminating subsidies to targeted classes of users. Such concerns are evident in most discussions of universal service funding, lifeline plans, and similar initiatives.

39. Because the benefits of unfettered competition are so large, a general regulatory intervention into an effectively competitive market for the purposes of aiding a targeted class of users is not justified. Fortunately, neither are general interventions necessary to achieve social goals. Economists almost universally favor targeted, competitively neutral, explicit mechanisms for such purposes. In the same way that one would not attempt to help the poor by passing a law setting the price of milk at 10¢ a gallon (and thereby distorting the entire market), one should not engage in general price regulation in an effort to assist an identifiable class of users. For those consumers who need assistance, direct assistance, such as a lifeline or linkup type program, can be used.

40. There is an important reason to suspect that issues of low volume/low income users are far less significant in interlata toll than in local services. While access to the local network is necessary to obtain any services, no one need be presubscribed to an IXC.

The prevalence of "dial around" and 10-10 type services suggest that those customers wishing to avoid presubscription, and its charges, can do so. The rates offered by many of these services are actually quite competitive, particularly for low volume users. Further, it appears that Sprint offers a plan with no plan price but low rates.

41. In an effectively competitive market such as interlata toll, price increases, when they occur, are socially desirable. Firms in such markets are unable to profit from contrived price increases, and therefore raise prices only in response to cost considerations (or transitory demand fluctuations). In these cases, we want the price system to encourage less usage so resources may be used in a more valuable manner. Artificial limits on prices prevent these reallocations, resulting in a decline in social welfare. Additionally, history suggests that regulatory mechanisms are costly, slow, and can be used in anticompetitive ways.

42. I conclude that the effectively competitive status of the interlata toll market makes general price regulation unjustified and harmful. Social concerns, such as the effects of competitive pricing on low volume or poor consumers, should not be used to derail competition itself. Rather, specific, competitively-neutral programs that target customers entitled to assistance are a far more efficient means of achieving social goals.

Section 4

43. The proposal currently before the TRA, and to which this testimony is addressed, would, if adopted, institute a two-pronged price regulatory mechanism to replace an existing set

Mayo note that, "Regulation is used to determine prices in situations in which effective competition is infeasible for technological and market reasons" (*Government and Business*, p. 413). Hillman and Braeutigam concur, and state, "From an economic perspective, the classic basis for regulation has been described as follows: The most traditional economic case for regulation assumes the existence of natural monopoly." (*Price Level Regulation for Diversified Public Utilities*, p. 5.) Professor Spulber comments that, "Regulations may be classified and their effectiveness evaluated on the basis of the market failure they attempt to remedy. Regulation of prices ... in the utility industries, such as electricity, telecommunications, ... attempts to address imperfections in competition associated with barriers to entry." (Spulber, *Regulation and Markets*, M.I.T. Press, 1989.)

46. Price cap regulation has been seen by many economists as a form of transitional regulation, the transition in question being one from a profit regulated, noncompetitive market towards a competitive, unregulated market. The F.C.C., for example, imposed price caps on AT&T as a "dominant carrier" until 1995, while "nondominant" carriers (all other IXCs) were mostly unregulated. As Kaserman and Mayo note, "... the emergence of competition for regulated firms' sales has led to a number of competitive regulatory reform proposals ... We focus our attention on two major proposals for reform ... These are price caps and rate-band regulation." (*Government and Business*, p. 574.)

47. As the above makes clear, price caps are a form of regulation intended to accommodate a transition to competition in a market which is not yet sufficiently competitive to prevent

the exercise of market power. There is no market failure so general in extent that competitive markets should be regulated in this manner. Thus, any application of price cap regulation in the Tennessee interlata market must be based on either the view that this market is not competitive, or else the belief that general price caps are the best way to achieve some social purpose. As explained in the preceding sections, neither motivation is correct.

48. The proposed rules in question in this proceeding, if implemented, will give rise to several unfortunate consequences which will not benefit the people of Tennessee. First, it appears that the level of the "net revenue cap" is fixed forever, subject only to flow-through of access charges. Yet IXC costs are not solely due to switched access charges from ILECs. Indeed, the majority of IXC costs arise from other sources, none of which are recognized in setting the cap. As Laffont and Tirole point out, "Price-cap regulation in its purest form (infinite regulatory lag) rules out the contractual use of cost data and is therefore unlikely to be optimal. It also requires the regulator to have a good knowledge of cost and demand conditions." (*A Theory of Incentives in Procurement and Regulation*, M.I.T. Press, 1993, p. 17.)

49. A second practical difficulty with the proposed new rules concerns the calculation of revenues (or ARPM) from covered services when the IXCs, as seems quite likely, begin to bundle existing services together into fixed price offerings. For example, if AT&T offered local, toll, cellular, and Internet service in a commonly priced basket, how would one even calculate the revenue from instate toll calls? Any such calculation would be a

distributed cost (or "distributed revenue") exercise, and would involve all the difficulties attendant on such calculations.

50. New services, particularly those sold in tandem with existing price capped services, present many of the same issues as bundling described above. Further, older regulated services may well become obsolete over time. The current proposed rule does not make allowances for this.

51. The problems cited above are merely particular examples of a general phenomenon denoted by Hillman and Braeutigam as the "Errant Indices" problem. They note, "The choice of an inflation adjustment index for price level regulation is not intended to create a condition of "Russian roulette" for either the firm or its customers. What should be chosen is the closest feasible proxy for measuring cost changes in the firm's actual inputs." (*Price Level Regulation for Diversified Public Utilities*, p. 69.) Hence, choice of the index, and adjustment of the index, is critical.

52. The price cap mechanism proposed in this proceeding makes no allowance for inflation in other input prices, obsolescence of some covered services, bundling of covered and noncovered services, and so on. Because the index will be adjusted only when switched access charges change, how the index is initially set is critical. An inappropriate choice could be quite unfortunate.

53. Although the proposed price cap mechanism at issue in this proceeding contains flaws described above, the primary and fundamental problem with this proposal is that it ignores the fact that interlata toll is an effectively competitive market. For effectively competitive markets, prices should not be regulated by any means. If competition produces results that the TRA finds unacceptable on explicit social grounds, then competitively-neutral mechanisms should be used to assist targeted users.

Section 5

54. My analysis of competition in the interlata toll market, conditions in Tennessee, and the proposed "Net Revenue Cap" mechanism under study by the TRA, lead to the following basic conclusions:

(1) The interlata toll market in the U.S. is effectively competitive;

(2) Tennessee is not by itself a relevant market for interlata toll services, but rather is a part of the national market;

(3) It is not appropriate to impose price regulation on any effectively competitive market;

(4) Social goals, such as reducing costs to low volume users, should be addressed by explicit, nondistortionary means, rather than by any general price regulation;

(5) The specific form of the "net revenue cap" mechanism proposed here suffers from several defects that will make its implementation difficult; and

(6) The TRA should end price regulation of the interlata toll market, and may instead monitor the performance of this market to assure the continuation of competition.

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