Letters

We welcome letters from readers, particularly commentaries that reflect upon or take issue with material we have published. The writer's name, affiliation, address, and telephone number should be included. Because of space limitations, letters are subject to abridgment.

Earth to Huber

I am writing in response to Peter Huber's article "Telephones, Competition, and the Candice-Coated Monopoly" (1993 Number 2). His main contentions are that (1) the long-distance market is a natural monopoly and AT&T could, but for its own restraint and regulation, easily drive out its competitors and (2) "competition in the local exchange market is taking root and will soon be flourishing."

The long-distance market is a natural monopoly, according to Huber, because (a) fiber-optic cable has enormous economies of scale and requires irrevocable upfront expenditures, (b) AT&T can fill the entire market demand at lower cost than any of its competitors, and (c) additional entry will be difficult. This reality is hidden by the Federal Communications Commission's asymmetric regulation of AT&T and its competitors and by AT&T's own restraint (out of fear of antitrust liability and re-regulation by the FCC). Huber also maintains that the long-distance market is characterized by tacitly collusive or interdependent pricing under an AT&T price umbrella.

As for the local exchange, Huber contends that new, low-cost radio technologies such as cellular mobile radio and personal communications service (PCS) will soon undermine the local telephone companies' long-established bottleneck control of access to telephone customers. The actions of AT&T and other firms that are investing in wireless technology and the FCC's recent decision creating PCS licenses are said to corroborate this contention.

While Huber's vision may have some surface appeal when viewed from 30,000 feet, numerous holes appear upon closer examination. Notably, Huber does not demonstrate that fiber costs are a substantial part of a long-distance company's total costs. If they are not, fiber's economies of scale may not be decisive in the long-distance market. Moreover, even if those scale economies are important, Huber fails to account adequately for the competitive consequences of the three existing, long-lived fiber-optic networks. Nor does he consider the implications of his arguments regarding fiber's scale economies on the prospects for competition in the local market. For the foreseeable future, most radio-based systems will interconnect with a wire-based infrastructure in the local exchange to complete their calls. If one company were to control that wire-based bottleneck, it would retain substantial monopoly power in the local exchange market. As I explain below, notwithstanding Huber, the case that the long-distance market is competitive is persuasive. As for competition in the local market, Huber's radio-based scenario is incomplete and decidedly on the rosy side.

Before explaining these points, I, like Huber, must make a disclosure. I worked at the FCC during the Reagan administration. I now consult for AT&T, among others, and the following analysis rests in significant part on work I did on behalf of AT&T. Like Huber, I ask that you consider the facts.

Huber's major conclusions about the long-distance market are flawed. First, he overestimates the significance of fiber-optic networks. If transmission costs represent only a small portion of a long-distance company's total costs, then economies of scale in fiber will have limited significance. Nowhere does Huber consider this key point. In 1991 AT&T's annualized transmission and related equipment costs were less than 3 percent of AT&T Communications' total annual costs. Admittedly, in AT&T's case the relative significance of fixed network costs will be lower than for its competitors, because these costs will be spread over higher traffic volumes. Nonetheless, it is probable that any advantage AT&T may have from greater utilization of its network could be offset by its rivals' cost advantages elsewhere, e.g., lower labor costs. (As for the equal charge rule, which Huber also stresses, suffice it to say that his analysis overstates its significance. Principally, eliminating this rule would promote actions by the local exchange companies, MCI, Sprint, and smaller long-distance companies that would reduce AT&T's estimated access cost advantage.)

Second, even if Huber were right about the importance of fiber's scale economies, it is not clear that they would be significant at this juncture. Huber correctly observes that fiber-optic networks require substantial upfront investment, that this investment has little salvage value, and that AT&T and its two major rivals operate fiber networks with substantial excess capacity. He fails, however, to pursue those facts to their logical conclusion. As the FCC has observed, "AT&T's competitors have enough readily available supply capacity to constrain AT&T's market behavior and inhibit it from charging excessive rates." While not all of this long-lived fiber capacity is currently being used (in industry jargon, some of it is "unlit" and "unswitched"), if a competitor were, at some future date, to achieve market dominance and attempt to restrict output and raise its prices, the other two networks would have the ability and incentive to "turn up" capacity sufficient to serve the entire market.

Lastly, Huber contends that AT&T, MCI, and Sprint are not pricing competitively and if they did, prices would fall precipitously. His evidence is the testimony of investment analysts, AT&T's ability to stanch the flow of losses to its competitors, and analysis that suggests that long-distance prices have not tracked cost reductions.

Huber and the analysts he cites never get beyond the tautology that firms in a relevant market can profit from recognizing their interdependence and approximating the results of a cartel. The question is, under what circumstances will it be easier for them to recognize and act on

their interdependence? Factors fostering interdependent behavior in concentrated industries were recently summarized by the Supreme Court in last term's tobacco case, *Brook Group Ltd v. Brown & Williamson Tobacco Corp.*: "Tacit coordination is facilitated by a stable market environment, fungible products, and a small number of variables upon which the firms seeking to coordinate their pricing may focus. Uncertainty is an oligopoly's greatest enemy" (citations omitted). While it is true that the long-distance market is concentrated, the current economics of the industry make for an inherently unstable situation. When competitors have comparable shares and costs, it is easier for them to recognize their interdependence. In the long-distance market, by contrast, share disparities between AT&T and its competitors and each firm's excess capacity provide no easily recognizable point about which the three firms could coalesce. The more important fiber's scale economies are, the more unstable the situation is: the competitors must gain share and AT&T must be wary of losing share.

The public record is replete with evidence supporting this analysis. MCI, Sprint, and others have achieved stunning share gains—30 share points in less than 10 years. Now MCI has 17 percent of the market and AT&T's share has fallen to 60 percent. Neither MCI nor Sprint are competing passively. The press is full of accounts of big telecommunications customers who have taken most of their business to MCI and Sprint. Even in the residential market, MCI and Sprint have initiated their successful price savings plans, "Friends & Family" and "The Most."

More fundamentally, actions by AT&T to stem share loss provide evidence of competition, not collusion. There is no mystery about how AT&T has acted to halt its rate of share loss: it has reduced prices. For example, Michael Porter, in a study recently submitted to the FCC on behalf of AT&T, concludes that the price gap between AT&T and MCI and Sprint has narrowed steadily over the past 10 years and now is nearly eliminated. This is what competition is about. (As to whether AT&T's prices have tracked cost reductions, Huber's analysis only considers changes in AT&T's general price schedule. It does not account for the fact that millions of AT&T's customers have migrated to AT&T's various discount plans. The importance of this point is suggested by Porter's finding that AT&T's revenues per minute (net of access) have fallen roughly 7 percent since 1990.)

Further, if the three major competitors were smoothly cooperating, it would not be necessary for MCI and Sprint to use the regulatory process to inhibit AT&T's efforts to lower its prices. As Huber recounts in *Geodesic Network II*, these companies have accused AT&T of "predatory pricing, below-cost pricing, noncompensatory rates, cross-subsidy, insufficient documentation, regulatory bypass, and various other nefarious strategies." It appears that the umbrella has a few holes. This is not to say that the situation could not be improved. Eliminating most of the remaining price and profit regulation of the long-distance market would foster more robust price competition. This is a point with which, I suspect, Huber would agree.

At this juncture, there can be little doubt that in the relevant market, local exchange companies have substantial ability to raise price and exclude competitors. For most customers there is no remotely close alternative. For example, Huber reported in *The Geodesic Network: 1987 Report on Competition in the Telephone Industry* that less than 0.1 percent of all long-distance traffic used an alternative to a local exchange company. That situation has not changed much in the intervening six years. Robert Allen, CEO of AT&T, recently testified before the U.S. Senate that it currently pays only about 0.14 percent of its total local access costs—or one-seventh of a cent of its total local access dollar—to some alternative provider of access.

In reaching his conclusion that the local exchange market will soon lose its natural monopoly status, Huber places considerable importance on the competitive prospects for radio-based communications. But the two leading candidates for wireless competition, PCS and cellular mobile service, will likely rely on a local wire-based infrastructure for the foreseeable future. PCS is to provide voice and data mobile service by employing numerous interconnected low-power transmitters throughout the market. The low power of the transmitter will permit receivers to be compact and cheap. These PCS transmitters would be interconnected with each other and the local exchange network using some wire-based infrastructure.

Similarly, cellular mobile calls almost always interconnect with the local exchange carrier's facilities. AT&T has reported that cellular carriers currently use the local exchange to complete 98 percent of all their calls, including 99 percent of long-distance calls. History has proven time and again that it is foolish to rule out technical breakthroughs, but in the near and probably intermediate term, PCS providers and cellular carriers are likely to interconnect with a local wire-based network. This clarification is crucial, because competition in a limited part of the market may not fundamentally change the bottleneck problem. Specifically, any remaining bottleneck that must be used in fixed proportion with other inputs to complete calls would give its owner, if it were unregulated, the ability to capture almost all the available monopoly profits.

Evan Kwerel, a senior economist at the FCC, has usefully illustrated this "fixed input monopoly" point with hypothetical bilateral monopolists producing hammer heads and hammer handles. (Assume the customer assembles the hammer.) How the monopoly profits are divided between the producers of those two inputs used in fixed proportions would be the outcome of bargaining. However that is decided, one thing is certain: consumers of hammers would pay a monopoly price.

Now consider what happens when one of these inputs is subjected to competition. For our purposes assume technology makes handle production competitive. Kwerel explains why consumers will be no better off: "Competition will drive the price of handles to the marginal cost of production but will not benefit the consumer of hammers because the head monopolist will raise the price of heads to keep the price of hammers at the monopoly level. The firm with the monopoly on heads might even decide to produce handles himself and thus become a vertically integrated hammer manufacturer. But there would be no gain to doing so if the market for hammers were perfectly competitive since handles would be supplied at marginal cost."

In analyzing competitive developments in the local exchange market, it is essential to determine whether the local telephone company maintains monopoly power over any key

"But technology has created an information explosion — everyone *does* have to talk at once."

level of local exchange service. Thus, the above radio-based developments may not constitute a fundamental breakthrough, if those technologies cannot access a competing wire-based infrastructure.

Wire-based competition is coming from two different directions. First, there are the competitive access providers (CAPs) that serve large customers or sites where traffic has been aggregated. Second, there are the cable TV companies who see their cable infrastructure complementing the PCS technology discussed above. Their infrastructure could be used to provide nodes interconnecting PCS technology to serve the 90 percent of all households now passed by cable systems.

Ironically, competitive prognostications for CAPs and cable companies rest on the importance one places on the same economies of scale in fiber that Huber concludes are decisive in the long-distance market. That is, how could investment in more than one local network be rationalized? Elsewhere (in *Geodesic Network II*), Huber acknowledges: "Other things being equal, local telcos should be able to more than match these competitive challenges. Given their entrenched position and much higher traffic volumes, the steep cost-curve economics of fiber should permit local carriers to annihilate the CAPs, just as they would permit AT&T to bankrupt its competition if it chose. But as was true when MCI took on AT&T in the 1970s, the incumbent local carriers are ensnared in a tangle of tariffs and cross subsidies, price averages and equal charge rules, along with the sclerotic inefficiencies of aging monopolies."

However, these factors beg the question: if the asymmetric regulatory obligations were eliminated, would the local telephone companies have a natural monopoly position? Based on his analysis of AT&T and the long-distance market, Huber's answer would appear to be "yes." In contrast, I believe the long-run prospects for local competition may be good, but for reasons that are similar to those given regarding the long-distance market. First, cable systems have sunk, long-lived cable passing 90 percent of all households. Even if telephone companies were completely free to use fiber networks to provide cable TV as well as telephony services, cable systems' investment in coaxial cable would have no place to go. It should assure that the PCS/cable competitive alternative gets a try-out. Second, and more fundamentally, emphasis on scale economies in one facet of business operations may, and likely will, prove to be misplaced in the local market just as it is misplaced in the long-distance market.

Experience shows that studies showing one firm can serve the relevant market demand at lower unit cost than can two firms often miss the mark by ignoring the role that competition plays in reducing a firm's cost curve. In other words, competitive firms may produce at lower cost than a single inefficient monopolist. Thus, Peter Huber's analysis is subject to the same criticism he levels against the architects of the AT&T divestiture case. Competitive prognostications based on technical efficiencies should be made humbly and with considerable trepidation. That lesson applies to the Modification of Final Judgment architects who concluded that microwave technology would make the long-distance market competitive and to Huber who today concludes that fiber technology makes competition in the same market uneconomic.

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AT&T Leads, Competitors Follow

HUBER replies:

I appreciate Peter Pitsch's thoughtful and even-handed letter. Mr. Pitsch asserts that the enormous economies of scale of fiber optics are important only if fiber costs are "a substantial part of a long-distance company's total costs." In a "natural monopoly," costs of production permit a single producer to supply the entire market more cheaply than could two or more. See generally Kellogg, Thorne & Huber, *Federal Telecommunications Law* § 9.1 and authorities cited there. The question is not whether AT&T is spending a lot or a little on fiber today. It is whether the aggregate costs of AT&T, MCI, and

Sprint would be lower if one firm simply absorbed the other two.

All three firms might, for example, currently incur huge costs hiring people like Candice Bergen, who help churn customers within the oligopoly. These expenditures would make the steep economies of fiber-optic transmission seem less important. When competition is maintained artificially in a market that would otherwise be a monopoly, it is indeed normal for there to be much spending on all sorts of things that have nothing to do with real competition.

As the *New York Times* recently observed (July 23, 1993, p. D1), "now instead of slashing prices, the [long-distance] carriers have resorted to a contest of advertising muscle and clever marketing gimmicks in which specific discounts are offset by higher prices elsewhere."

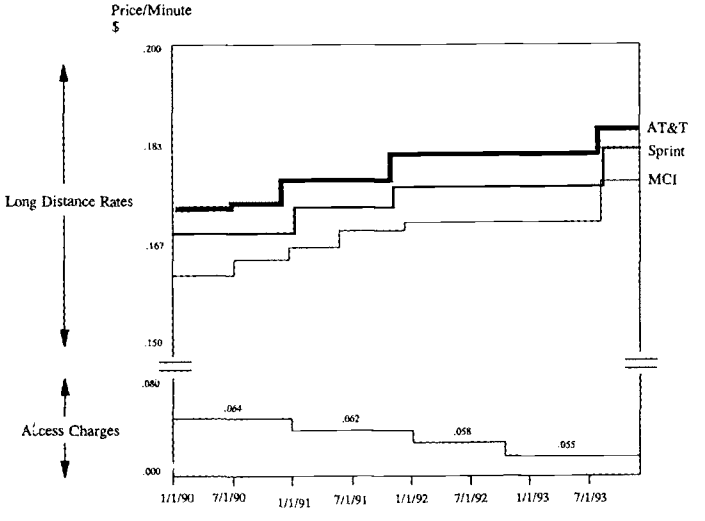
Mr. Pitsch declares that I "overstate the significance" of the equal charge rule. I disagree. When the rule was due to expire in 1991, CompTel, the trade association of long-distance carriers, insisted that AT&T would gain an insurmountable cost advantage. Other carriers would be unable "to discipline AT&T in any way." The FCC, however, was apparently persuaded. The equal charge rule was extended.

Mr. Pitsch and I agree that there is an excess of capacity in the long-distance fiber network. We disagree, however, about what this implies. As I discuss at much greater length in *The Geodesic Network II: 1993 Report on Competition in the Telephone Industry*, there is in fact a *huge* excess of capacity. Sprint, with less than 10 percent of the market, has buried enough fiber to carry all the nation's long-distance traffic. But unless the company has grown tired of living, it is not about to try to fill it. AT&T has at least 10 times Sprint's resources. As the FCC's Office of Plans and Policy pointed out in April 1989: "The idea that AT&T would voluntarily allow fringe competitors to sell all that they wish given their ability to serve (more than) the whole market is, of course, totally ludicrous on its face."

As shown in the figure below, the upshot is that AT&T decides what prices the three main long-distance carriers will charge and the other two carriers follow. Despite steadily decreasing access charges, the long-distance carriers have raised prices no fewer than four times in the past three years. On each occasion, AT&T led the way, and the other two followed immediately. Most recently, AT&T announced on July 19, 1993, that it would increase business rates by an average of 3.9 percent and residential rates by an average of 1 percent. Industry watchers immediately forecast that the other two carriers would follow. Shares of all three companies rose on the day of AT&T's announcement. Four days later, right on cue, MCI proposed rate increases of 3.8 to 4.1 percent. Sprint immediately followed with increases of 3.8 to 4.7 percent. As the accompanying figure shows, this has become a familiar pattern.

Mr. Pitsch suggests that AT&T's revenues per minute (net of access) have fallen since 1990. Average figures of that kind are meaningless in a market where sharp price discrimination is standard. Suppose AT&T sold one business minute in 1990 for 10 cents, and one residential minute for 20 cents. Today it sells two business minutes for 12 cents, and one residential minute for 21 cents. Average revenues per minute have fallen, but prices have gone up across the board. In a market such as telephony, where prices vary by 100 percent or more, gross averages reveal nothing. Mr. Pitsch quotes Michael Porter's recent filing on AT&T's behalf. In his landmark best seller *Competitive Advantage: Creating and Sustaining Superior Performance* (1985), Professor Porter explains: "The presence of viable competitors may be necessary to reduce the risk of antitrust scrutiny and prosecution, in both government and private suits. . . . [H]aving too large a market share can expose a firm to private litigation every time it takes a significant action such as a new product introduction, technology license, or price change. . . . [H]olding a 100 percent market share is rarely, if ever, optimal . . . [because of] the antitrust problems of high share, the possible effect of high share in attracting entry, and risks faced by high-share companies of the attack by consumerist or public interest organizations." AT&T seems to have read the book too. Mr. Pitsch suggests that if the three major long-distance competitors were cooperating smoothly, they wouldn't have to keep bothering each other before the FCC. I think it's

Trends in Long Distance Rates and Exchange Access Charges



Source: WEFA Group, Economic Impact of Eliminating The Line-of Business Restrictions on the Bell Companies, July 1993; Robin Gareiss, Rate Hikes: MCI, Sprint Follow AT&T's Lead, Communications Week, August 9, 1993, at 60. With the exception of the most recent rate increase, long distance rates are based on the average price per minute for basic service. For the most recent rate increase, MCI and Sprint rates are estimated as the average of their stated range of rate increases. AT&T rates are estimated as the average of its proposed business rate increase and its smaller proposed residential rate increase -- a conservative estimate, considering that more revenue comes from business customers than from residential customers.

just the other way around. The FCC provides the only forum where the three companies can get together, exchange plans, compare price lists, and signal furiously. Meanwhile, the Department of Justice and a federal district court maintain a wall against new entry by seven natural competitors, the Regional Bell Companies.

Finally, I agree with Mr. Pitsch that a wire-based infrastructure will still be needed as a backbone, even for the new generation of wireless telephones. Existing telephone networks will serve. So will cable networks. So will long-distance networks, at least for service along highways and in rural areas. Nynex, through cable affiliates, is already providing telephone service in England—in direct competition with British Telecom. Southwestern Bell, US West, BellSouth, Nynex again, and most recently Bell Atlantic, are about to begin doing the same in the United States—outside their own regions, in direct competition with other telcos. The convergence of telephony and cable television, and wireless technology at the ends, is igniting what will soon become a conflagration of new competition in the local exchange.

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