Toward Competition in Phone Service

The Case for Freeing AT&T

Michael L. Katz and Robert D. Willig

WHEN AT&T and the Department of Justice settled what had been the largest antitrust case in history, they agreed to sweeping changes in the long-distance telephone market that are designed to foster competition. The most dramatic of these is about to take place. On January 1, AT&T will spin off its twenty-two local operating companies, while retaining its long-distance arm (to be called AT&T Communications) and its unregulated communications and other businesses. This move is intended to ensure that the newly divested companies will not be tempted to favor AT&T over its competitors, such as MCI and Sprint, when granting long-distance carriers interconnection with local facilities. Other less visible changes in the way long-distance and local calls are hooked up also will make it easier for non-AT&T carriers to compete.

Michael L. Katz and Robert D. Willig are assistant professor of economics and professor of economics and public affairs, respectively, at Princeton University. *The research on which this article is based is described more fully in Economics Discussion Paper No. 47, Woodrow Wilson School, and was partially funded by AT&T.*

While the settlement fundamentally restructures the long-distance market, it leaves intact the traditional regulatory framework—service-by-service rate-of-return regulation for AT&T Communications and simple rate-and-tariff oversight for its competitors. The question we raise here is whether pervasive regulation of AT&T will still be needed, once all of the provisions of the settlement are in place, or whether the discipline of competition can replace regulation in the long-distance market.

Chairman Mark Fowler of the Federal Communications Commission (FCC) seems to think competition can work. In a January speech he proclaimed that the FCC had already taken "the first steps to deregulate," and said he expected it to "step away" when the antitrust settlement and its own access charge ruling are in force. Others disagree. Stressing AT&T's 95 percent share of the long-distance market, they argue that continued public-utility-style regulation will be required for the foreseeable future. (For a brief description of the costing and pricing of phone service, before and after January 1, 1984, see page 34.)

Whatever the decision turns out to be, it should be based on a weighing of the social

costs and benefits of continuing regulation. In our view, both the basic structure of the long-distance market and current trends in that market indicate that, once the settlement is in effect, competition (supplemented by limited regulatory oversight) will achieve the goals of pervasive, public-utility-style regulation at a lower cost.

The Costs and Benefits of Regulation

The social costs of regulating AT&T's long-distance operations are very high. Currently, each AT&T rate change is subject to FCC approval on the basis of mechanistic criteria which, by their nature, are not flexible enough to reflect changing market conditions. These rules deter AT&T from aggressive pricing, marketing, and investment strategies that would benefit its customers. They also put it at a disadvantage that may cause it to lose business to less efficient but unencumbered competitors. This cost is particularly large in times like the present, when the market is becoming increasingly competitive and technological change is so rapid and sweeping that the nature of services and their supply in five years' time is anyone's guess. If regulation is continued, innovation will be dampened, and costs and prices will be higher industry-wide than they otherwise would need to be.

There is another problem. Under current rate-of-return regulation, the price of a regulated service is tied (in theory, at least) to its costs, which makes it necessary for the FCC to determine how fixed and common costs are allocated among AT&T's various services. Through its Computer II decision (1980), the FCC has reduced the problem of allocating those essentially unallocable costs by requiring that AT&T group its competitive, unregulated businesses (customer premises equipment and enhanced telecommunications services) in a subsidiary that deals with the rest of the firm at arm's length. This may be the best way to deal with the problem, but it is socially costly because it prevents the efficient sharing of facilities and administration company-wide. In the absence of regulation, there would be no need for this inefficient separation.

Finally, continued regulation will divert corporate energies away from forms of competition that benefit telephone consumers. Much of the competitive interaction between AT&T Communications and its less regulated rivals will be played out in lengthy proceedings before agencies and courts, not in bringing new and better services to the market.

Even substantial social costs might be justified if regulation were the only way to attain some crucial policy goal. In this case, the goal is to ensure that AT&T does not exercise market power—that it does not raise prices to inefficiently high levels. Thus, the fundamental question in calculating the benefits is this: would AT&T, in the absence of regulation, find it profitable to raise its long-distance prices substantially, on average, for a sustained period? If the answer is yes, continued regulation will be needed to protect society from AT&T's exercise of market power. If the answer is no, competition will be able to enforce essentially the same pricing discipline that regulation aims at, and the benefits of continued regulation will be small relative to the high costs.

Whether AT&T would find it profitable to increase its rates would depend on the degree to which its customers responded to rate hikes by buying less of its services. They could do this either by curtailing the overall quantity of long-distance phone services they consumed or by switching to alternative suppliers. The

Whether AT&T would find it profitable to increase its rates would depend on the degree to which its customers responded to rate hikes . . . by curtailing the overall quantity of long-distance phone services they consumed or by switching to alternative suppliers.

statistical studies of the demand for long-distance services that Lester Taylor has surveyed suggest that the first of these—curtailing consumption—would not be sufficient to deter price rises (*Telecommunications Demand: A Summary and Critique,* 1980). So the issue comes down to whether sufficient numbers of consumers would switch to alternative suppliers if AT&T raised its prices.

For a significant block of AT&T's customers to switch, it would not be enough for them

By Oliphant

simply to respond to the change in relative prices by deciding one day that they wanted to sign up with competing carriers. The competing carriers would also have to be willing to expand their capacity to take on the new customers. We argue here that both these conditions are likely to be met once the antitrust settlement has restructured the long-distance market.

Restructuring the Long-Distance Market

The Modified Final Judgment that codifies the settlement implements the split between local and long-distance services by defining approximately 160 regions known as local access and transport areas (LATAs). All telephone services between points within a single area, or LATA, are considered to be local, and all services between areas are considered to be long-distance.

Typically, the connection between the subscriber's phone and a long-distance carrier will be made through a local company's facilities, but it will also be possible to route long-distance calls over facilities that bypass the local companies. The judgment requires every local company to reconfigure its equipment by 1987 so that, for each area it serves, the company can provide any long-distance carrier with interconnection to all telephones through a single "interface" between its facilities and those of the carrier. (For this interconnection, the carriers will pay the local company through a system of charges.) The object is to guarantee all carriers the availability of access of equal quality to the local networks. To discourage the local companies from being discriminatory in granting access, the judgment expressly forbids them from offering long-distance services themselves. Up to now, the access provided to AT&T's competitors has been inferior to that enjoyed by AT&T, so that they have had to either spend money upgrading their service or settle for offering their customers lower quality.

A second equal access provision requires that consumers be able to use all long-distance carriers with equal ease. A consumer will be able to designate any one firm as the automatic carrier of his or her long-distance calls and also, by dialing a short code number, will be able to reach any nondesignated carrier. The dialing codes will be of equal complexity for all such carriers. In contrast, the consumer who wishes to use one of AT&T's competitors today

must have a push-button phone (or purchase a special adaptor) and must dial approximately twelve extra digits. Thus, competing carriers have trouble selling their services to the roughly 60 percent of households that have rotary phones.

Will Consumers Switch?

Consumers in increasing numbers are already demonstrating their willingness to use an AT&T competitor when it offers lower prices. MCI now has almost 1.3 million long-distance subscribers, compared with 350,000 two years ago, while Sprint, GTE's long-distance division, has 651,000. By the late 1980s consumers should be even more willing to switch, for several reasons. First, assuming that the local phone companies meet their equal access obligations on schedule, the services of the competing carriers will be higher in quality and easier to use. Second, consumers will become less reluctant to switch suppliers as they grow to know and trust competing firms more. By the end of the decade, firms such as MCI and Sprint will have been in business for many years, and companies that have well-established reputations in other lines of business may have entered the market.

Moreover, the market will become increasingly sophisticated. There will be more "resellers"—firms like U.S. Telephone Inc., Satelco, and Combined Network Inc. (which offers its service under the name of Allnet) that buy bulk services from a carrier or carriers and then resell them in smaller packages to consumers. A reseller may serve two roles. By pooling its customers' demands, a reseller can obtain quantity discounts that are passed on to its customers, each of whom may have a small individual demand. Also, a reseller can shop around to find the best carriers for its customers' calls. Already there are automated services capable of matching consumers and carriers on a call-by-call basis. In the future, consumers will come to rely on resellers much as they rely on independent insurance agents. And some well-known retail and service firms may enter the business. Resellers, along with large corporations that are heavy long-distance users (several companies have annual telecommunications budgets that exceed $100 million each), will have the incentive and the ability to analyze the services and prices offered by each carrier to determine which are best.

In short, consumers should become increasingly responsive to price differentials between carriers. This will be particularly true of heavy users, who generate a large proportion of total traffic. In 1976, for example, the 4 percent of households having the largest individual demands generated 30 percent of all household interstate calling. Business demand is even more strongly concentrated. Thus, only a small fraction of all consumers need switch in response to an AT&T price increase to make it unprofitable.

Will Competing Carriers Expand?

AT&T Communications faces a growing variety of rapidly expanding competitors. MCI is spending $1 billion for expansion in the current fiscal year, and GTE says it will spend $8 to $10 billion over the next decade on Sprint. New firms are entering as well. For example, Citicorp has created its own telecommunications subsidiary, Rochester Telephone recently announced plans to build a long-distance optical fiber network in New York state, Starnet now uses satellites to handle long-distance calls originating from hotels, and SBS uses satellites to offer both long-distance telephone and sophisticated data services. Finally, some resellers are beginning to invest in their own transmission facilities.

AT&T Communications faces a growing variety of rapidly expanding competitors. MCI is spending $1 billion for expansion in the current fiscal year, and GTE says it will spend $8 to $10 billion over the next decade on Sprint.

Expansion Incentives. Would these and other carriers be able to expand fast enough to serve the wave of consumers that might desert AT&T if it increased prices? Clearly, one condition that must be met before an existing carrier will expand its services, or a new carrier will enter the market, is that the expected prices exceed

the unit costs of expansion. The fact that firms are now committing hundreds of millions of dollars to expansion indicates that this condition is already satisfied.

But the point must be put in perspective. Existing regulations may distort the investment incentives of the competing carriers in two ways. First, AT&T's long-distance arm currently pays a higher charge for interconnection with local telephone networks than does its competition. Some (including AT&T) claim that this discrepancy favors the competing carriers, while others say that it is more than justified by the fact that the competing carriers get inferior access. If the former is true, then investment by competing carriers has been artificially stimulated and may fall in the future. Second, under the FCC's jurisdiction, AT&T charges the same price for any two calls of equal distance, even though the costs may differ greatly. That might mean that competing firms, which are not required to engage in "rate averaging" or to serve all customers across the country, could be undercutting AT&T's prices on lower-cost routes (without necessarily having lower costs than AT&T). If so, then their investment might tail off if mandatory rate averaging were removed. As equal access is implemented, we must watch what happens to the continuing level of investment by competing carriers, particularly if AT&T is allowed to "de-average" its rates and thus compete on more equal terms.

A second condition for expansion is that the investment not be thought overly risky. Of the kinds of transmission facilities a long-distance carrier might choose—land-based microwave, optical fiber, or satellite microwave—the last should carry particularly low risk. There is a well-developed lease market for satellite facilities, and satellite capacity is expected to quadruple between 1982 and 1987. Much of the necessary ground equipment can be moved to new locations relatively cheaply. Thus, if an expansion proved to be unprofitable, the carrier could retrench without substantial losses simply by terminating its leases and moving or selling its ground equipment.

Land-based microwave and optical fiber transmission facilities are much more costly to relocate. A given set of facilities, however, may be used as a component of complex network links to connect many different LATAs and to provide many different services. This fact has two important consequences. First, by diverting capacity that was serving other routes or services, a competing carrier could expand its supply in the area where prices had risen without constructing any new facilities. Second, if the firm did construct facilities in that area and the expansion proved unprofitable, the facilities could be used to serve other long-distance telephone routes (in some cases combining the facilities of several carriers) or to provide other types of telecommunications services, such as data transmission. For a reasonably rich network, the risks of local expansion even for a carrier using land-based microwave or optical fiber are likely to be very low. Of course, when the expansion is a response to a nationwide price increase, the geographic fungibility of capacity is a less effective means of reducing the risk, although it remains possible for a competitive carrier to reallocate capacity to different services.

There are two additional factors that reduce the risk of expansion. First, if AT&T raised its prices to levels that covered the expansion costs of competing carriers, these carriers could profitably sign long-term contracts with brokers and big businesses, undercutting AT&T's prices, and large consumers of telecommunications services might find it profitable to construct their own facilities. In either case, the expanding firm would be guaranteed enough traffic to cover the costs of expansion, at very little risk. The second factor reducing the expansion risk is that telecommunications demand has grown by almost 10 percent a year over the last decade, and there is no reason to expect it to stop. Thus, if a firm expanded in response to an AT&T price increase and AT&T then reversed itself and cut prices, the expanding firm could in due course find the additional business it needed.

Anticompetitive Practices. Given the market conditions that should prevail by the end of the 1980s, we would expect competing carriers to expand in response to any substantial and sustained AT&T price increase. But what about price cuts? Without rate-of-return regulation, would AT&T engage in anticompetitive or predatory price wars to scare off competition? Indeed, if we suppose that AT&T could plausibly threaten to cut its prices enough to make a com-

petitor's new investment unprofitable, then the competitor might be unwilling to make irreversible investments in new capacity, and the growth of competitive firms would cease. The question, however, is not whether AT&T could pursue such a strategy (which might, incidentally, violate antitrust law) but whether AT&T would find it profitable. For the strategy to work, AT&T would have to convince all and sundry that it would respond to each new competitor by lowering prices sufficiently to make the competitor suffer losses. A firm coming into the market with a low irreversible investment (for example, using satellite transmission and renting satellite capacity) could call AT&T's bluff at little cost. If AT&T did carry out the threatened price reduction, and stuck to it, the entrant could exit cheaply and still be waiting in the wings, while AT&T suffered huge revenue losses. The upshot is that nobody would be effectively deterred by such a threat.

If AT&T did carry out the threatened [predatory] price reduction, and stuck to it, the entrant could exit cheaply and still be waiting in the wings, while AT&T suffered huge revenue losses.

And if the expanding firm did commit itself to substantial irreversible investments in new capacity, AT&T price cuts could not drive this capacity from the market. In order to make the competing carrier scrap the new facilities, AT&T would have to threaten plausibly to hold prices below variable costs for the life of the competitor's facilities. A below-cost pricing strategy would hurt AT&T much more than the expanding firm, because AT&T has a much larger market share and because it would have to hold down prices throughout the many regions and types of services that the entrant's facilities could serve through network interlinking. Moreover, large consumers would still have an incentive, if only for safety's sake, either to build their own facilities or to sign long-term contracts with non-AT&T carriers whenever AT&T tried to raise its prices above incremental costs. Either way, the retaliatory price reductions would do AT&T no good.

Another way AT&T might try to block competition would be to make preemptive purchases of particular resources that a carrier would need. For example, if AT&T could buy or lease all the transponder capacity suitable for voice transmission, it could deter satellite expansion by carriers. But for preemptive purchasing to be a threat, the supply of the required input must be limited, and that condition applies to only a few areas—satellite capacity, spectrum space, and rights-of-way for land-based transmission links. In these areas, the FCC could adopt a simple set of rules that would prevent predation, while interfering very little with normal market activity. For example, the commission might forbid AT&T from signing contracts for exclusive use of optical fiber rights-of-way. Pervasive rate-of-return regulation is not needed to prevent the monopolization of inputs; in fact, the existing body of antitrust law might well turn out to be sufficient.

Policy Conclusions

Our analysis indicates that competition in the long-distance telephone market can work. Today, large numbers of consumers are beginning to use competing carriers and resellers, existing carriers are expanding, new firms are entering the market, and the market is continuing to grow. Moreover, the conditions affecting entry and expansion in the industry are such that competition should strengthen as the divestiture and equal access provisions of the antitrust settlement are implemented.

In short, there is good cause for beginning the transition to deregulation without delay. Even so, policy makers should manage that transition carefully, watching for continuing signs that competitive entry and expansion are indeed working to limit AT&T's ability to raise prices. For example, one useful indicator of the ability of competing firms to expand in response to an AT&T price increase is whether there is still enough satellite capacity available for diversion to interLATA traffic without causing a substantial rise in the price of satellite time. Similarly, continued growth of the market would indicate that the risks of overbuilding in response to a price increase are low. Comparing the market shares of AT&T and its competitors also conveys information—but, contrary

to what some have claimed, it is not by itself a sufficient test. The market shares of the non-AT&T carriers are relevant only to the extent that they demonstrate the carriers' ability to expand their output significantly in response to an AT&T price increase, and a group of firms may have this potential even if their combined market share is small.

During the transition period, special rules might be needed to keep AT&T from exploiting temporary market power. The competing carriers, for example, may need a few more years before they are able to expand sufficiently to make a large price increase (say, 50 percent) unprofitable for AT&T. It thus might be useful to put a temporary cap on the size of permissible increases. Even after the transition period, of course, we would not have to rely solely on market forces. Existing antitrust laws should be enforced, and some other residual regulations might be needed as well. There may be a few local areas so small and isolated that a second carrier cannot achieve large enough economies of scale to compete with AT&T. Some minimal form of continued regulation might be appropriate in those areas—perhaps price ceilings defined in relationship to market prices in areas where there is effective competition.

. . . a decision to deregulate need not be irreversible. . . . But if we refuse to start the process—if we do not give competition a chance—we may miss the permanent benefits of increased innovation, efficient supply, and lower prices that it could bring.

Finally, it is well to remember that a decision to deregulate need not be irreversible. If the market signs change in the course of the transition and indicate that competition is not working, we could pull back from deregulation —suffering, at most, temporary social losses. But if we refuse to start the process—if we do not give competition a chance—we may miss the permanent benefits of increased innovation, efficient supply, and lower prices that it could bring. ■