

In calculating market share for the purpose of estimating market power in the carrier access market, self-supply creates a serious measurement problem: not all of the relevant supply of the product ever comes on the market. Carrier access services are sold to customers who can supply the services themselves. Interexchange carriers' networks perform the same functions of switching and transport that LEC networks provide; the IXCs determine in their network expansion plans where they will purchase access transport and switching and where they will carry and switch the traffic themselves. Hence an observation such as "98 percent of an IXC's access expenditure goes to LECs" is biased as an indicator of market share or market power because it ignores the carrier access functions contained in the IXC's own network.¹⁴ Indeed, even if there were regulatory barriers to entry that prevented CAP or cable participation in these markets, expanded interconnection supplied to IXCs would impose severe restrictions on the ability of the LEC to control the prices of carrier access services.

Market share and market power calculations for carrier access services have a geographic component. Competitors' networks provide alternatives to LEC access, but only to those customers whose traffic is sufficiently large to warrant a direct connection and whose premises are sufficiently close to the CAP's network.¹⁵ Given geographic pricing flexibility, the LEC, as would any other firm, could exercise market power in any single geographic area where it experienced no competition. Thus, to justify pricing flexibility, it must be the case that either regulatory rules or the competitive process constrains the LEC in each geographic area in which it operates.

Finally, the goal of efficient regulation when markets are opened to competition should be to ensure that all potential competitors are given an opportunity to compete. The pricing structure

¹⁴This argument also ignores that access could be purchased from another non-IXC supplier, or self-supplied by end-users. In either case, there would be no purchase from IXCs when customers buy directly from LECs or CAPs.

¹⁵Or, more generally, for those customers whose traffic can be aggregated economically into a size and at a location for which direct connection to a CAP is cost-effective.

introduced with expanded interconnection and ONA allows competitors (CAPs and cable companies) to resell all components of the LEC's network necessary for them to compete. Regulation should not seek to ensure that competitors thrive and their market shares increase; such regulation prejudices the outcome of the competitive experiment, in which we observe whether particular CAPs (for example) are adroit enough to survive and whether the CAP (or IXC or LEC) industry can efficiently meet the needs of customers.

B. Undue discrimination

A consequence of expanded interconnection is that customers with alternatives for some portions of the local network will be able to demand lower prices than customers without such alternatives. Regulatory policy has often tried to restrict the degree to which cost savings could be channeled to low-cost customers at the expense of high-cost customers. Such a policy -- if maintained -- would take the form of limiting the amount by which the LEC's access charges could be rebalanced across customer groups: i.e., limiting the amount by which prices to some customers could rise while prices to others fall in the current price cap environment.

However worthy this objective, it cannot now be achieved.¹⁶ Since competitors are not required to serve ubiquitously at averaged rates, the competitive process will insure that well-situated customers will be offered low prices reflecting their circumstances. There is no question what prices such customers will pay; the only question is whether or not the LEC will be permitted to compete for their business. In such circumstances, it is easy to see that customers benefit from the LEC's ability to meet market prices, and limitations on that ability reduce some of the benefits from competition to which customers are entitled.

¹⁶Of course, the objective may not be particularly worthy. Unregulated markets frequently exhibit price variation for large and small customers or for customers in high-cost and low-cost geographic areas, and thus enforcement of uniform prices for all customers would most likely entail some loss in economic efficiency.

A similar story holds for interexchange carriers. IXC's can take advantage of expanded interconnection and carrier access competition in two ways: (i) they can purchase services from the lowest-priced access provider, or (ii) they can provide their own facilities and services where the LEC's access price exceeds the IXC's cost. If the economic costs of dedicated transport without tandem switching are lower than the costs of common transport with tandem switching, then IXC's with sufficient traffic volumes will take advantage of such cost savings regardless of pricing constraints on the LEC's. Even if regulation continues to constrain LEC carrier access prices to preserve the current balance of advantages in the interexchange market, the Commission can only preserve that balance if it constrains the pricing of CAP's as well:

“...to prevent exercise of AT&T's monopsony power, the Commission may need to require that [CAP's] offer switched access service under tariffs using the same benchmarking standards which we have previously demonstrated as requirements for LEC access pricing.”¹⁷

In the Commission's words:

“Denying the LEC's [pricing] flexibility...will not prevent the larger IXC's from obtaining discounts, either from CAP's or through self-supply, but will only prevent them from getting the discounts from the LEC's. Thus, a ban on discounts would disadvantage the LEC's without providing small IXC's the benefits they seek to achieve.”¹⁸

The relevant public policy concern is to insure that low-cost LEC's will be able to provide such services in the same manner as CAP's, cable companies, or the IXC's themselves.

C. Anticompetitive Pricing

The regulatory problem shifts in this section from prices that are too high to prices that are too low. One of the primary objectives of pricing flexibility is the ability to reduce prices to

¹⁷Comments of Wiltel, Inc., CC Docket 91-141 (Transport, Phase I), p. 4, footnotes omitted.

¹⁸Expanded Interconnection with Local Telephone Company Facilities, CC Docket No. 91-141, Second Report and Order, FCC 93-379 (released September 2, 1993) [Phase I Order] at ¶ 117.

meet competition. Since the initial level of prices for carrier access services was not set by an economic cost or market standard, price reductions for some services in some geographic areas will be necessary so that the LEC's offerings will be competitive. The economic issue is to identify circumstances in which such price reductions are anticompetitive, in the sense that lower cost, more efficient competitors would be disadvantaged and unable to compete in the face of such pricing tactics.

Three forms of anticompetitive pricing are frequently alleged, and the regulator must have assurances that any proposed regulatory reform does not permit or encourage any of these pricing schemes.

1. **Predatory Pricing**

To be a successful competitive strategy, predatory pricing requires that three conditions hold: (i) the predator must be a dominant firm or likely to become one, (ii) market structure must allow later recoupment of funds invested in predation, and (iii) the predator must invest in the elimination of its competitor. Dominance, recoupment, and investment are thus all necessary components of a predation strategy. Regulatory rules that restrict dominance, eliminate barriers to entry, and prevent pricing below cost address each of these concerns, and if **any** such rule is successful, predation will not be a profitable strategy for a regulated firm.

Telecommunications markets are vulnerable to predatory pricing assertions because of apparent dominance. However, recoupment and investment in a rival's destruction are particularly unlikely in these markets.

As the Supreme Court observed in *Matsushita*; recoupment is difficult in general:

“(t)he success of any predatory scheme depends on *maintaining* monopoly power for long enough both to recoup the predator's losses and to harvest some additional gain...For this reason, there is a consensus among

commentators that predatory pricing schemes are rarely tried and even more rarely successful."¹⁹

In the pantheon of predatory business strategies, predatory pricing is particularly ineffective because it is very expensive for a firm to reduce its own profits in order to harm its rival. It is generally cheaper to harm a rival directly, e.g., by devising strategies to raise its costs but not one's own.²⁰

Recoupment is particularly difficult in telecommunications because many different services are provided through the same network, and networks are long-lived, immobile investments. While the firm may enter or exit different markets for different services, the network will remain. Predation in an interstate carrier access market (for example) may prevent CAPs from supplying interstate carrier access services, but their networks can still supply local and intrastate services. Moreover, networks of many competitors extend beyond the boundaries of an individual LEC serving territory, study area, or wire center, so driving a rival from the interstate carrier access market in a particular wire center is unlikely to drive the rival permanently from the telecommunications business. And when the LEC raises prices in the future to recover its lost profits, the rival's network will still be in place, and the LEC will be unable to earn above-normal profits to compensate it for its earlier losses.²¹

To prevent a dominant firm from investing in its rivals' destruction, public utility regulators have devised a number of direct tests for predatory pricing, generally based upon relationships between price and incremental cost. While such tests may be blunt instruments for

¹⁹*Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986), emphasis in original.

²⁰See, e.g., the recent literature on raising rivals' costs, spawned by T. Krattenmaker and S. Salop, "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price," *The Yale Law Journal*, Vol. 96, No. 2, December 1986, pp. 209-293.

²¹It is worth noting that the entities competing with LECs in the carrier access market are large, well-financed and have the resources to survive short-term tactics, thus giving the LECs no opportunity to recoup short-term losses. LEC rivals include the largest CAPs, MFS and Teleport, which are owned by multi-billion dollar corporations, AT&T and McCaw, and MCI (which has recently announced its intention to become a local phone company).

detecting predatory behavior, they probably provide adequate safeguards to competitors in telecommunications, given the bleak prognosis for profitable predation at the outset.

In any case, the pricing flexibility requested in the USTA proposal does not appear to create any new opportunity for the LEC to invest in predatory behavior. So long as carrier access prices in more competitive markets remain above incremental cost, pricing flexibility that permits price reductions to match competition is procompetitive, not anticompetitive.

2. Cross-subsidization

In economic theory, a service provided by a rate-of-return regulated firm is cross-subsidized if the incremental revenue from provision of the service at current prices falls short of the incremental cost of providing the service at its current volume, taking into account demand cross-elasticities and cost complementarities.²² Predatory pricing for a competitive service may be combined with an increase in prices or profits from a non-competitive service to offset the losses from predation. The problem is that customers of the non-competitive service would be better off if the subsidized service were discontinued and the savings used to reduce non-competitive service prices.²³

²²The economics literature on cross-subsidization begins in the late nineteenth century: see E.P. Alexander, Railway Practice, New York, 1887, p. 4 (cited in G.R. Faulhaber, "Cross-Subsidization: Pricing in Public Enterprises," The American Economic Review, Vol. 65, No. 5, December, 1975, pp. 966-977). Modern discussions include Faulhaber (op. cit.); E.E. Zajac, Fairness or Efficiency: An Introduction to Public Utility Pricing, Cambridge: Ballinger Publishing Company, 1978, chapter 8; W.J. Baumol, Superfairness, Cambridge: MIT Press, 1986, chapter 6; and W.J. Baumol, "Minimum and Maximum Pricing Principles for Residual Regulation," Eastern Economic Journal, Vol V, No. 1-2, January/April 1979, pp. 235-248.

²³In a sense, cross-subsidization is an artifact of rate-of-return regulation. Absent regulation, prices for noncompetitive services would be set at profit-maximizing levels. Under price cap regulation they would be set at the highest level permitted by the cap. In either case, the firm would have no ability to compensate for predatory pricing of competitive services by raising prices of noncompetitive services. Under rate of return the constraint on competitive prices is partly a function of prices of other more competitive services. Reducing the price of one service creates the opportunity to raise the price of another. This opportunity doesn't exist for an unregulated firm or a firm regulated by price caps.

In contrast, a widely-recognized benefit of price cap regulation is that it reduces or eliminates the ability and incentive of the regulated firm to cross-subsidize competitive services. To the extent that non-competitive services are isolated from competitive services under the price cap, lowering competitive service prices bestows no additional ability to raise non-competitive service prices to offset losses. Under price caps--or any form of incentive regulation that breaks the link between observed costs and prices--the LEC has the same incentive not to cross-subsidize as a competitive firm: if it invests money in the destruction of its rivals, it will have to absorb that investment as a reduction in its earnings and hope to recoup its losses later under more favorable circumstances.

The USTA pricing proposal affects prices regulated by the FCC's price cap plan. We show below that the proposal does not increase the ability to cross-subsidize, because flexibly priced services are brought out from under the price cap. Thus the LEC cannot raise prices in other geographic areas more than allowed under price cap regulation to fund below-cost pricing of services in a CMA. The USTA plan doesn't provide any new opportunities or pricing mechanisms to cross-subsidize.

3. Anticompetitive Price Squeeze

Even in dense urban markets, the LEC may possess facilities that are necessary for CAPs, cable companies, or IXCs to use to reach their customers. By charging competitors more for such facilities than the LEC (implicitly) charges its own carrier access service, the LEC could prevent a lower-cost service provider from competing in the market.

Like predatory pricing, a price squeeze requires that the LEC sacrifice current profits (e.g., from selling interconnection to a CAP) in favor of providing the interconnection directly to an IXC. It is a profitable strategy only if--at some future date--the price of interconnection to IXCs

can be increased enough to recoup foregone profits without incurring re-entry by CAPs. Such recoupment is unlikely: CAPs and IXC are vast, well-funded organizations which have sunk large amounts of capital into their networks and which provide many services other than interstate switching and transport. And since those networks will continue to provide intrastate services even if they cannot compete with the LEC for interstate services because of a price squeeze, whenever interstate IXC carrier access prices are increased, the CAP will costlessly re-enter the interstate carrier access market. Thus the ability and incentive for LECs to undertake a vertical price squeeze are as weak as those to undertake predatory pricing.

In addition, a price squeeze requires that the dominant firm possess an essential facility; i.e., a service that its competitors cannot economically duplicate and therefore must purchase from it in order to compete at all. The widespread availability of fiber capacity, the deployment of separate networks, and the introduction of expanded interconnection greatly reduce the scope of possible bottleneck facilities through which a price squeeze could be attempted. Since CAPs and IXCs are currently constructing local networks which replace various components of the LEC network, including local loops and switching, one cannot simply treat the local exchange as an essential facility in determining a price floor for carrier access services.

4. Summary

Current regulatory constraints on LEC pricing prevent unwarranted price increases, decreases, and undue differences in prices across customers or interexchange carriers. The move from rate-of-return regulation has sharply limited the ability and incentive for the LEC to engage in anticompetitive practices, and removal of the sharing requirements would reduce such incentives even further. Nonetheless, the FCC will require assurance that any proposed access reform will be able to restrict the ability of the LEC to raise prices above the competitive level in those geographic

markets--and for those customers--for which explicit competition or the possibility of self-supply provide inadequate ability to substitute away from LEC offerings.

Finally, it is important to keep in mind that a well-designed pricing flexibility plan will provide substantial benefits. Current carrier access prices were largely determined through regulatory procedures and are unrelated to economic costs. As competition comes to LEC wire centers, restrictions on a LEC's pricing flexibility that prevent it from lowering prices can eviscerate the benefits that competition and expanded interconnection were designed to bring. Without pricing flexibility, a policy that encourages entry will merely redistribute the contribution embedded in the LECs' regulated rates among different services and among old and new market participants. LEC pricing will not send efficient signals, and, as a consequence, resources will not be allocated efficiently.

IV. Proposed Criteria for Pricing Flexibility

The heart of the USTA proposal is the set of criteria under which a geographic area would be classified as an initial market area (IMA), a transitional market area (TMA) or a competitive market area (CMA). A wire center would be classified as a TMA if a competitor were present that could provide substitute carrier access services or if expanded interconnection were present.²⁴ A TMA wire center would be classified as a CMA if it meets both of the following criteria:

²⁴This definition follows the FCC's example in determining when additional pricing flexibility would be warranted. In the Special Access Order (at ¶ 179, footnote 411), the Commission permitted zone density pricing whenever "an interconnector has taken the expanded interconnection cross-connect element...We believe that this is a reasonable point for permitting implementation of additional LEC pricing flexibility since the interconnector will first become able to serve customers when they take the cross connect."

- (i) a sufficiently large portion of the customer demand in the wire center has an alternative source of supply available, and
- (ii) a sufficiently large number of customers are actively seeking alternative sources of supply through solicitation of bids or construction of their own facilities.

A TMA wire center would receive limited additional pricing flexibility: price changes for individual TMA categories would have an annual upper limit of 5 percent and a lower limit of 15 percent, adjusted for the change in the price cap index (PCI).²⁵ In addition, LECs would be permitted to respond to a request for proposal (RFP) with a contract designed to meet the specific requirements of the customer.²⁶ Prices in CMA wire centers would no longer be subject to the price cap rules but would remain regulated as Title II communications services. Contract-based pricing would be permitted in a CMA. Prices and quantities in both TMA and CMA wire centers would be removed from the service band index (SBI) calculations for services provided in IMAs to avoid cross-subsidy. Specifically, the TMA wire centers, still regulated by price caps, would have a SBI separate from the IMAs, and CMA wire centers would be removed from price cap regulation, thus eliminating any SBI requirements.

A. Scope of the Proposal

The proposed pricing plan addresses several shortcomings of the current Part 69 pricing rules: (i) prices must be permitted to vary across geographic markets that are very different, (ii) prices cannot be set for services without taking into account the ability of telecommunications facilities to provide many different services, and (iii) pricing flexibility is necessary for small LECs and for non-price-cap-regulated LECs in competitive circumstances.

²⁵Upper and lower bands for the IMAs would be +5 and -10 percent respectively.

²⁶Of course, the contracted service would also be available to other similarly situated customers; LECs are not given the ability to discriminate.

1. Geography

The USTA proposal adopts current LEC wire centers as the market areas for analysis.²⁷ That is, competition is determined to be either sufficient or insufficient to warrant pricing flexibility for all of a wire center or for none of a wire center. To determine whether or not competitive conditions adequately protect against market power to warrant the requested pricing flexibility, we need to ascertain whether or not LEC wire centers correspond to relevant geographic markets and--if not--what the consequences would be if wire centers were used for analysis when the economic market were actually larger or smaller.

The DOJ Merger Guidelines provide a clear definition of the geographic component of an economic market for antitrust and merger analysis:

“the geographic market [is] a region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that region would profitably impose at least a “small but significant and nontransitory” increase in price, holding constant the terms of sale for all products produced elsewhere”²⁸

The idea is to determine what would happen if all producers of a product in a given geographic area were to raise their price (presumably from the competitive level). If products produced at locations outside the region were sufficiently attractive (at current prices) so that the attempt to raise prices decreased demand enough to be unprofitable, then the initial geographic area was drawn too narrowly. In essence, the definition seeks a geographic distance from a given set of producers sufficiently far that customers will not purchase services in quantity from the distant providers in response to a local price increase.

²⁷The USTA proposal allows for competitive analysis to be performed for a single wire center, or for a larger area, such as a group of wire centers. For purposes of discussion in this paper, we will use the term “wire center” to mean the serving area of one or more wire centers.

²⁸U.S. Department of Justice and Federal Trade Commission, “Horizontal Merger Guidelines,” April 2, 1992, p. 16.

While this idea is sensible for the cement market, it is awkward in its application to telecommunications services. Carrier access service must connect an interexchange carrier and an end user at their existing locations: close is not good enough because customers are loath to walk across the street to originate and terminate long distance calls. And whether or not it is economical to connect a customer location to an alternative carrier access provider depends on both the distance and the volume of traffic. Thus it is probably not useful to perform a geographic market analysis by starting with the city center and asking whether or not the sole provider of service in circles with larger and larger diameters could profitably raise its price above the competitive level.²⁹ For telecommunications services, it appears easier to perform the analysis in the opposite direction: that is, to start with the collection of customers who have sufficient choices available that they can substitute away from the LEC's services in the event of a price increase. In effect, the analysis begins with a map of the networks of alternative service providers and interexchange carriers and identifies customers (and their associated volumes of demand) that are sufficiently close (given their size) that an economic alternative to LEC carrier access service exists.

A geographic market so defined would not correspond to any particular geographic area in the LEC's network, and this approach would accordingly be expensive or impossible to implement. These market areas are determined by the density of customer demands, and while the LEC network may have located its wire centers to serve areas of high demand efficiently, (i) current and future locations may differ from those chosen in the past, and (ii) the efficient sizes and locations for LEC wire centers serving all traffic are not necessarily efficient for serving carrier access traffic alone.³⁰ For example, a large building in a metropolitan area--or an office park in a rural area--

²⁹If the firm were the sole provider to any single customer, it could profitably raise its price to that customer and the propinquity of other providers would not constrain it.

³⁰Because the bulk of traffic at a LEC switch is local usage, the configuration of the wire center is determined primarily by the characteristics of local usage rather than of toll or carrier access.

may have sufficient demand by itself to warrant direct connections to interexchange carriers even though few other customers in the corresponding wire center might have such a choice. But defining sub-wire-center areas for regulatory purposes would be inherently difficult and time-consuming, and LEC competitors would have both the interest and ability to lengthen the process so as to delay LEC competitive responses. For practical purposes, then, the LEC wire center is the smallest possible geographic area to which market power analysis can practically be applied.³¹ Because the wire center is the smallest appropriate geographic area, the scope of possible price discrimination against customers without competitive alternatives is made as small as possible.

While use of the LEC wire center to determine a geographic market represents a reasonable practical implementation of the concept of a geographic economic market, there are some limitations that this analysis imposes. First, it treats what is likely to be a heterogeneous area as homogeneous. If a LEC wire center is predominantly competitive, treating the entire wire center as competitive could expose customers who have no competitive alternatives to the dangers of LEC pricing flexibility. However, the presence of LEC average rates to IXCs in CMAs, coupled with IXC rate averaging across customers in a CMA limits the exposure of individual customers to serious price discrimination. At the same time, predominantly noncompetitive wire centers may have pockets of demand whose volume is sufficient to warrant connection to an existing CAP or IXC network. For that reason, the choice of the wire center for competitive analysis limits the risk of price discrimination to the greatest extent possible.

³¹In the future, however, the market area designation may need to be changed to reflect changes in the industry. As cable networks or networks of radio transmitters are overlaid on the LEC network, the LEC wire center will become less useful as an area for competitive market analysis. The geographic scope of economic markets for services will be determined partly by the geometry of the competing CAP, IXC, cable, PCS and cellular networks, and these markets can easily overlap existing LEC wire centers. Indeed, PCS and cable networks may provide ubiquitous service in the future so that a tight focus on the geographic reach of the CAP network may be unnecessary to determine whether or not individual customers have choices in paths by which to reach the IXCs' networks.

Second, the immobility of LEC wire centers would permit CAPs and IXC's to game the system as they expand their networks and determine in which wire centers they will interconnect or collocate. An entrant might be reluctant to build facilities in a marginal wire center where such construction could tip the wire center from a TMA to a CMA and invite a competitive response from the LEC. Indeed, if an estimate of traffic that can economically reach CAP or IXC facilities is used to implement this plan, entrants will have different incentives to build facilities rather than resell LEC local exchange services.

Third, the geographic distribution of demand within a wire center is important in ascertaining whether or not sufficient customers have alternatives that the LEC can be permitted pricing flexibility. To a first approximation, the capacity of a recently-installed optical fiber cable is limitless: by adding and modifying the electronics at either end of the cable, almost any conceivable amount of future demand can be satisfied. To measure the proportion of customers (weighted by demand) that can substitute away from LEC access in response to a price increase, we will have to measure demand from customers who have competitive alternatives to make substitution possible.

2. Services

If a customer connects to an interexchange carrier either directly or through a CAP, all long distance traffic would presumably flow through that connection. Once the facility is in place, the incremental costs of traffic are slight, and it would almost always pay the customer to send jurisdictionally intrastate traffic, interstate traffic, switched and dedicated traffic, and--if possible--originating and terminating traffic through that facility. As a result, it is not practical to restrict our view of the market to interstate carrier access traffic, even though the pricing flexibility that will be implemented--if the wire center is found to be sufficiently competitive--is for interstate carrier access traffic only. For practical purposes the range of substitutable services includes all interstate access

services. Therefore, when analyzing the geographic market, it does not make sense to restrict the range of services or subsets of services (e.g., switched access v. special or DS1 v. DS3) to be considered.

Ultimately, what determines whether or not a wire center is competitive is the presence of competitors' (CAPs', IXC's', PCS and cable providers') networks. Once present, those networks can be used to provide any desired set of services. The services currently provided do not provide sufficient guidance as to the scope and volume of services that can be provided in response to a change in LEC prices.

3. Non-Price Cap LECs

The USTA proposal also provides limited pricing flexibility to smaller LECs that have chosen not to implement price cap regulation. Those carriers regulated under optional incentive regulation would have bands of ± 10 percent in IMAs expanded to + 10 and -20 percent (on a biennial basis) in a TMA. In CMAs, prices of non-price cap LECs' interstate access services would be constrained by market forces; and they would continue to be regulated as Title II communications services. Contract-based tariffs would be permitted for all CMA services. In a TMA, traditionally regulated LECs could choose between (i) a banding scheme (or set of banding constraints) similar to those for optional incentive regulated companies, or (ii) a banding scheme in which individual rate elements could increase by 5 percent per year and decrease without limit subject to the restriction that price changes could not cause revenue for an access category to exceed its revenue requirement, taken from the LEC's most recent annual or biennial filing and evaluated at the demand used in that filing. All non-price cap LECs serving TMAs would be allowed to respond to RFPs, and prices and quantities from such contracts would not be used to calculate revenue requirements for setting non-contract prices in IMAs and TMA areas. In recognition of the special circumstances of small carriers, USTA proposes that non-Tier 1 LEC wire centers contiguous to Tier 1 LEC TMAs and

CMAs be assigned to the same classification as the Tier 1 LEC wire center if the non-Tier 1 LEC so desires.

B. The TMA Criteria

Classification as a TMA recognizes the presence of competition in a market area but implies no presumption that competitive forces can adequately prevent exploitation of market power or anticompetitive pricing. A TMA would be subject to reduced regulatory oversight, principally in the form of greater--but still restricted--pricing flexibility. Prices could move up or down within an expanded band, and the LEC would be permitted to respond to a customer's request for an individual proposal. All carrier access services originating or terminating in a TMA-designated wire center would be accorded reduced regulatory oversight, because transport and switching capacity can easily be repackaged to provide whatever access service a customer requires. Under the USTA proposal, such pricing flexibility would be permitted in any wire center in which competitive carrier access services were available or in which expanded interconnection options had been exercised.

In this section, we ask whether the degree of pricing flexibility made available to the LEC in a TMA could threaten any of the Commission's regulatory objectives. In effect, we ask whether or not the possible costs of additional pricing flexibility for LECs could outweigh the possible benefits of additional pricing flexibility in response to competition in a TMA.

1. Market power, price discrimination, and anticompetitive conduct

Once a wire center is classified as a TMA, the prices and quantities of services sold under contract are removed from calculations of the SBI³² and API (for price-cap-regulated firms) or from the applicable revenue requirement (for non-price-cap-regulated firms). Thus reducing

³²The subindices in a basket proposed by the USTA petition are called market area band indices, which are functionally equivalent to the SBIs in price cap regulation.

prices to customers who have competitive alternatives cannot result in higher prices for customers in the same TMA (or in any other TMA or IMA) who do not have such alternatives. The additional pricing flexibility provided in a TMA thus does not increase the ability of the LEC to subsidize carrier access services in competitive areas at the expense of carrier access customers in less-competitive areas. Instead, the additional pricing flexibility provides the pro-competitive ability to meet competitors' low prices and customers' individual needs while retaining as much contribution to fixed and common costs as possible from those customers who have competitive alternatives.

While the pricing flexibility requested in the proposal does--on its face--increase the LECs' ability to charge different customers different prices for the same service (albeit under different market circumstances and, generally, different costs), it does not lead to inefficient price discrimination. The emerging competitive market will determine--on the basis of costs and demands--the price that each customer will pay for carrier access service. Thus, regulating the LECs' prices (and not the CAPs') will not prevent competitive market forces from determining market prices. It will, of course, determine which competitor will actually sell services. Indeed, even if the Commission price-regulated CAPs, it could not enforce rate averaging over geography or over customer sizes or types. In this case, the FCC could ensure reasonable rates, but not exact rate uniformity in the diverse areas the CAPs serve. Even the price at which supply takes place may not be as low as it could be because of the pricing umbrella the CAPs would continue to enjoy if the LECs do not have additional pricing flexibility. The IXCs can effectively deaverage carrier access prices to large customers or in urban areas by choosing where to interconnect with the LEC, which facilities to purchase, and which facilities to self-supply. The amount of price variation and price deaveraging under the USTA proposal would not differ significantly from the variation that is currently emerging from the switched and special access interconnection Dockets. The major difference would be that the additional pricing flexibility requested in the USTA proposal would

mean that LECs could continue to provide carrier access service in those areas where they were the low cost providers.

Because price reductions in a TMA cannot be recouped by raising prices indiscriminately elsewhere, there is no additional cost of anticompetitive behavior that could result from classifying any wire center as a TMA. If there truly were no competitors in the wire center--and no expanded interconnection were available to encourage CAP entry and IXC expansion--then, at worst, the additional pricing flexibility would be superfluous. The LEC would have no competitive need to reduce prices to large business customers, and if it did so, it would be unable to recover the lost revenue from price increases in other areas or to other customers.

2. Speed

In the USTA proposal, TMA classification is triggered automatically by the presence of a competitor in the wire center or by the purchase of expanded interconnection. Either event is indisputable evidence that competition is possible in the wire center. Neither event suggests--necessarily--that any particular competitor may succeed or that competitors in general will ever supply a significant fraction of demand. However, these events do signal the start of competition, and it is when competition starts--not when competitors succeed--that the incumbent firm must be able to adjust its prices and products to the new environment. Otherwise, if LEC prices remain significantly above competitive levels, entrants will receive false signals and will make incorrect calculations about their ability to supply services in particular wire centers after LECs finally reduce prices towards costs to respond.

This fact is particularly important in the carrier access market because it is a market for an intermediate good, purchased almost entirely by a small number of customers (primarily, the three large interexchange carriers) who are experienced purchasers of access and are solely concerned with the price and quality of the service provided. As described in the FCC Staff Analysis:

"Some argue that the extent of exchange access competition can change quickly given the demand characteristics of the market. That is, unlike the interexchange market, where demand is spread over many customers, the switched access market is much more concentrated with about sixty percent of switched access demand controlled by one IXC customer and about ninety percent controlled by the top three IXC customers. Parties contend that as a result, demand can shift very quickly from the LECs to their competitors." (p. 31).

It does little good to offer the incumbents the ability to respond to competition in such a market only after new fiber capacity has been placed, since entrants could then pick off desirable customers in advance and negotiate long-term contracts while even a lower-cost LEC is unable to compete. Such requirements were noted by the New York Public Service Commission in its orders requiring New York Telephone to file collocation tariffs, where it explicitly granted pricing flexibility for high capacity, interoffice, and other private lines, and for intrastate switched access services on a wire center basis.³³ The flexibility requested in the USTA proposal is similar to that granted in the interexchange market by the FCC, where AT&T was permitted to respond to competition by negotiating contract-based tariffs with individual customers.³⁴

3. Benefits

The above analysis shows that no costs are likely to be incurred from the implementation of the proposed limited pricing flexibility in a TMA. There are, however, clear benefits that customers would be denied under current access charge and price cap rules.³⁵ Geographic

³³New York Public Service Commission, Case Nos. 29469 (Opinion No. 89-12, May 16, 1989 and Order Approving New York Telephone Physical Collocation Tariffs, May 8, 1991) and 28425 (Opinion No. 92-13, May 29, 1992).

³⁴Report and Order in CC Docket No. 90-132, 6 FCC Rcd 5880 (1991).

³⁵Even the flexibility granted in the FCC's zone density pricing plan for special access is limited. It only provides flexibility based on zone density, not based on competition. Furthermore, once the zones are created the rates within a zone are not allowed to deviate from one another, and the ability to adjust price continues to be regulated by price cap rules. Thus the fundamental difference is that three separate rate elements exist where previously there was one.

averaging of prices across urban competitive wire centers and rural non-competitive wire centers creates losses in both technical and allocative economic efficiency. Economists distinguish between technical efficiency (which requires that output be produced using the lowest-valued set of inputs) and allocative efficiency (which requires that relative prices of outputs reflect their relative incremental cost of production).³⁶ Because access prices deviate from costs, customers receive improper signals regarding the appropriate amounts and proportions of different access services--and different technologies--to consume. For example, allocative efficiency is diminished when customers choose dedicated forms of access rather than switched because the markup of price over incremental cost is higher for switched access than for special. Technical efficiency also suffers when prices deviate from costs because potential entrants receive incorrect signals regarding their ability to compete successfully in the market and goods are not produced at the lowest cost. In either case, an important function of the competitive process--allocating scarce resources to their highest-valued use--is frustrated.

Technical (or first-order) efficiency means that goods must be produced using the lowest cost technology. The terms "first-order" and "second-order" efficiency refer to the likely magnitude of efficiency losses. If goods and services are produced at higher than minimum cost, efficiency is lost on every unit that is produced. Second-order efficiency losses occur only on the marginal quantities stimulated or repressed by setting prices too low or too high relative to marginal cost. As the Commission pointed out in the Switched Collocation Order:³⁷

"If pricing flexibility were delayed for too long, however, the full benefits of competition would be delayed, and false economic signals sent to new entrants."

³⁶In other words, technical efficiency requires that whatever outputs are produced, no resources are wasted in producing them. Allocative efficiency determines whether the proper set of outputs is produced in the first place.

³⁷Phase I Order at ¶ 92.

Preventing the incumbent LEC from lowering prices towards incremental costs establishes a price umbrella which reduces economic efficiency in two ways.³⁸ Since price will exceed the LEC's incremental cost, allocative efficiency will be lost. But, more significantly, higher-cost firms can enter and survive under the price umbrella, directly reducing first-order technical efficiency.³⁹ Thus the principal benefit to be expected from pricing flexibility in competitive carrier access markets is that market forces will determine which firms provide what services to particular customers. Without downward pricing flexibility for the incumbent LECs, this benefit of competition will not accrue to customers, and carrier access competition may raise industry costs rather than lower them.

C. The CMA Criteria

Classification of a wire center as a CMA would permit the LEC full pricing flexibility; prices and quantities of services supplied in CMAs would be removed from price cap regulation, and the LEC could sell services under contract-based access arrangements, much as AT&T is allowed to operate under Tariff 12. With such a rule in effect, potential entrants would have to believe that they were efficient relative to the LEC before they would rationally commit resources to build capacity in the wire center.

All services in a CMA would remain regulated as Title II communications services, available to all customers under tariff. Contract terms would be incorporated into tariffs as AT&T's are today. The LECs could also maintain general tariff rates for CMA services not purchased under

³⁸Prices can differ on average from incremental costs but much more prevalent is the difference between price and marginal cost for services supplied to large and small customers or in sparse and dense geographic areas.

³⁹In addition, distortions in the relative prices of switched and special access can cause customers to make an inefficient choice between switched and dedicated access. To the extent that customers use access facilities whose costs are higher because their prices are lower, there will be a loss in first-order efficiency. Thus allocative inefficiency can lead to technical efficiency.

contract. All prices for competitive carrier access services would be priced at or above incremental cost. While it is inconceivable that contract-based prices would exceed the tariffed price--after all, why would anyone pay more than the sticker price?--it would be conceivable for the tariff prices to rise if there were no competitive pressure in the CMA. Unlike the TMA case, then, the pricing flexibility requested in a CMA could--in principle--lead to higher profits and prices through the exercise of market power.

The showing that must be made, then, is that the classification rules for a CMA are sufficient to ensure that LECs cannot set prices in a CMA that (i) exploit market power, (ii) unduly discriminate between customers, interexchange carriers, or CAPs, and (iii) are anticompetitive in the sense of being predatory, cross-subsidizing competitive services or implementing a price squeeze.

1. Market Power

The market power component of the USTA CMA proposal reduces to the following question: can a company whose facilities must be used to reach 75 percent of the carrier access demand in a wire center profitably raise its tariffed prices while simultaneously competing for the remaining 25 percent of the market through price reductions or contract-based tariff reductions for individual customers? Or, in other words, does the efficiency loss from not permitting the LEC to respond quickly to competitive prices outweigh the possible efficiency loss from the exercise of market power if the standards for classification as a CMA are inadequate? Clearly if CMAs were workably competitive, LEC pricing flexibility could not be used to exercise market power, and there would be no market power costs to weigh against the benefits from LEC pricing flexibility.

Rather than undertake a detailed, time-consuming study of market power in each LEC wire center, the USTA proposes a simpler structural measure of the competitiveness of a wire center, based on the availability of competitive alternatives to a substantial fraction (25 percent) of the current demand for carrier access services. What fraction of customer demand subject to competition

would be sufficient to ensure that the LEC would be unable to use the pricing flexibility in the proposal to raise prices and profits? There is no single magic proportion in the economics literature. The problem is that the factor that determines whether or not a price increase is profitable is the price elasticity of demand facing the LEC, and this factor combines elements of market share, the supply reaction of current and potential entrants, and the market price elasticity of demand. Thus market share cannot be taken in isolation and used to determine the degree to which a market is competitive: the market for integrated circuits is highly concentrated but highly competitive, for instance.

For the structural component of the calculation, some guidance is available from the economics literature, although the theoretical support for these rules of thumb is weak. The Merger Guidelines cites a market share of 35 percent for two merging firms above which:

“merged firms may find it profitable to raise price and reduce joint output below the sum of their premerger outputs because the lost markups on the foregone sales may be outweighed by the resulting price increase on the merged base of sales,” (p. 46)

and 35 percent is often cited as the Merger Guidelines standard for dominance.

Note, however, that the price increase contemplated in the Merger Guidelines is an increase over the previous, competitive level of prices. In the carrier access market, LEC prices currently exceed incremental cost by orders of magnitude. A price increase from current rates can be unprofitable for a LEC if only a very small fraction of demand changes suppliers. For example, suppose current carrier access prices are \$1.00 and current demand is 100 units. An own-price elasticity of -3.00 is consistent with a markup of 33 percent of price over marginal cost,⁴⁰ and with these parameters, a price increase of 5 percent would not be profitable because the reduction in

⁴⁰At its profit-maximizing level of output, the markup of price above marginal cost is equal to the negative of the inverse of the price elasticity of demand facing the firm. See, e.g., W. Landes and R. Posner, “Market Power in Antitrust Cases,” *Harvard Law Review*, Vol 94, (1981).

demand of 15 units would cause the reduction in revenue to outweigh the reduction in costs from providing fewer units of service.⁴¹ Under these conditions, a large potential reduction in output is not necessary to dissuade a profit-seeking firm from raising its price.

A second standard was proposed in the Cable Act of 1992, where a cable system was deemed to be subject to sufficient competition to justify complete deregulation if a competitor offered service to at least 50 percent and served more than 15 percent of the households in the franchise area. Factors that must be taken into account in comparing the Cable Act proportions to the USTA proposal for access charge reform include the following:

- carrier access is a wholesale service purchased primarily by three large, technically well-informed, sophisticated, and financially motivated customers, while cable is a retail service supplied to a large numbers of final customers,
- the Cable Act standards trigger deregulation of prices, whereas the USTA proposal only contemplates additional pricing flexibility,
- demand for carrier access service at customer locations varies tremendously from large businesses to residences, while demand for cable service by end users is similar at most customer locations,⁴²
- Cable customers cannot produce cable services themselves, although there certainly are substitutes for some of the services that cable provides. On the other hand, IXCs can supply portions of carrier access service themselves, so that carrier access demand not served by the LEC is never counted in the marketplace, and
- the Cable Act criterion is one of three separate, sufficient conditions for a franchise area to be deemed effectively

⁴¹The reduction in revenue from 15 fewer units at a five-cent higher price is \$10.75. Assuming constant marginal costs, the reduction in costs from 15 fewer units would be \$10, so the price increase would cost the firm \$0.75.

⁴²Since the cable and access markets do not have the same relative proportion of demand per customer, a new cable provider would have to serve a large portion of the audience to capture a substantial share of the market, whereas an access provider could capture a large share of the market by serving a few, high-volume customers.

competitive: if a franchise area passes any one of these tests, the Act prohibits price regulation.⁴³

Competition for a homogeneous product sold at wholesale to a small number of firms competing downstream and capable of self-supply is likely to be more vigorous than competition between suppliers of a differentiated retail product sold to many small customers. A small change in price or service quality in the carrier access case would rapidly create large shifts in demand. In cable markets, customer reaction to such changes would be much slower. Thus the 50 percent availability standard in the Cable Act may be comparable in terms of competitiveness to the 25 percent availability standard in the USTA proposal. For similar reasons, it seems less necessary for competitors to have a particular market share in the carrier access market in order to justify price flexibility. For wholesale services sold to a small number of knowledgeable customers, availability of a competitive service to a customer is sufficient to restrict the pricing of the incumbent.

Thus the form of the standard for competitiveness in the Cable Act is quite consistent with the USTA proposal in the carrier access market: at least one sufficient condition depends heavily on the fraction of demand that a competitor can serve. The differences in numerical standards reflect differences in market conditions and policy contexts.

Of course, the usefulness of any particular structural measure for our purposes depends on other aspects of the market. In particular, where products are undifferentiated, where buyers are few and knowledgeable, where the service is an intermediate good and constitutes a large portion of the costs of production for a final good sold in competitive markets, and where buyers are capable

⁴³The Act provides that if a cable system is subject to "effective competition," its rates shall not be regulated by the Commission, the state, or the franchising authority. In turn, effective competition is defined to hold in the following circumstances: (A) fewer than 30 percent of the households in the franchise area subscribe to the cable service; (B) the franchise area is served by at least two unaffiliated multichannel video programming distributors offering comparable video programming to at least 50 percent of the households in the franchise area, and at least 15 percent of the households in the franchise area subscribe to the smaller of these two systems; or (C) a multichannel video provider operated by the franchising authority offers video programming to at least 50 percent of the households in that franchise area.