weight should be given to the absence of entry barriers as compared with the absence of entry? To what extent does the threat of potential entry discipline the pricing of a firm with a large market share? Are peanuts and popcorn close enough substitutes to be placed in the same relevant market? Investigation of these sorts of questions is often hampered by lack of data. But even when good data are abundant, economic theory provides no simple rules for determining policy decisions from numerical estimates. We must expect at the outset to have to determine reasonable rules for cases for which there is no unequivocally correct answer.

Second, quantitative analysis of market power requires market-wide, firm-level data. Although the FCC's proposed data requirements would provide information on both addressability and market share for all access providers,[5] only addressability measures that establish the presence of competition in markets are pertinent. We believe that data useful for such analysis focuses on the presence of competition, rather than market share, in relevant markets. In addition, it is important to remember that any data reflect only the past, while in appraising market power we are asking about the consequences of future hypothetical price increases by the regulated firm. Both the unsustainable, inefficient pricing schemes of telephony which subsidize certain classes of customers and the rapid technical changes make even more obvious the hazards of trying to infer the future course of competition from past or current market structure.

Finally, reclassifying LEC services as markets become more competitive will be a contentious process, as incumbents and entrants alike seek to achieve a competitive advantage through the regulatory process. The process will be costly: to the incumbent LEC in terms of delay; to all parties (including the FCC) in terms of direct costs of litigation; and especially to consumers who will not receive lower prices and new services induced by competition. Simplicity in the design and application of criteria for regulatory relief will be essential to efficient and effective management of the transition to competitive markets.

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[5]FCC Public Notice, The Common Carrier Bureau Seeks Comment on Telecommunications Access Provider Survey, November 3, 1995.

III. BASELINE REGULATION

The basic structures of the FCC's Part 69 rules and the price cap plan were instituted before the technological or economic prerequisites of competition were thought to be prevalent.[6] As the FCC Staff recognized over two years ago,[7] subsequent changes in technology, market structure and regulation have undermined some of the foundations of access charge regulation, and significant reform is necessary in order to foster efficient local exchange and interstate competition, to move prices towards costs, to encourage development of new services and technologies, and to preserve universal service at affordable rates.

Some revisions to the access charge and price cap rules would enhance the efficiency of FCC regulation and of competition in carrier access markets irrespective of changes in the amount or degree of competition faced by the LECs. Examples of such revisions include (i) more rapid treatment of new service introductions, including reductions in notice periods and elimination of the Part 69 Waiver requirements and (ii) the implementation of Alternative Pricing Plans (APPs) -- including volume and term discounts. Both of these reforms would reduce regulatory asymmetries and produce benefits even before competition is able to discipline the LECs' price changes.

In the interexchange market, the FCC has already recognized the importance of reducing unnecessary asymmetries in baseline regulation in order to enhance the effectiveness of emerging competition. Even before it found that competition was effective in the interexchange market, the FCC relaxed regulation of AT&T through:

- approval of contract tariffs for large business and government customers. First filed in 1987, Tariff 12 provides tailored options for particular Fortune 500 customers, and more than 200 such contracts have been filed to date. Tariff 16 permits AT&T to

[6]Indeed, one factor in the rapid emergence of competition in these markets was the pricing of switched access services to recover a portion of non-traffic sensitive costs.

[7]FCC Access Reform Task Force, "Federal Perspectives on Access Charge Reform," April 30, 1993, at 16-28.

supply reduced-price services to state and federal governments and agencies.

- relaxation of regulation of construction permits. While a dominant carrier, AT&T was permitted to file annual blanket requests for Section 214 authority to build facilities.

- introduction of optional calling plans,[8] and other services such as Megacom and SDN.

- permission to file promotional and limited term pricing plans.[9]

As the FCC has determined that competition is sufficient in the domestic interexchange market, it has continued to reduce AT&T's regulatory requirements. In 1991 and 1993, services for large business customers[10] and 800 services[11] were removed from price cap Baskets 3 and 2, respectively, and subjected to streamlined regulation. In January 1995, regulation of commercial services for small business customers was streamlined. Most recently, the FCC has reclassified AT&T as a non-dominant carrier, subject to interim safeguards.[12] This dramatic change not only terminates price cap regulation of AT&T's services, it places AT&T on equal footing with its rivals as AT&T must only file tariff rates effective on one-day's notice, without any cost support.

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[8]Guidelines for Dominant Carriers' MTS Rates and Rate Structure Plans, Memorandum Opinion and Order, CC Docket No. 84-1235, 59 Rad. Reg. 2d (P&F) 70 (1985). (AT&T OCP Order)

[9]AT&T Communications; Revisions to Tariff FCC Nos. 1, 2, 4, 7, 9, 11, 13 and 14, Memorandum Opinion and Order, Transmittal Nos. 1431 and 1552, 4 FCC Rcd 4475 (1989).

[10]Competition in the Interstate Interexchange Marketplace, CC Docket No. 90-132, Report and Order, 6 FCC Rcd 5880 (1991).

[11]Competition in the Interstate Interexchange Marketplace, CC Docket No. 90-132, Second Report and Order, 8 FCC Rcd 3668 (1993).

[12]Motion of AT&T to be Reclassified as a Non-Dominant Carrier, CC Docket 79-252, Order, Released October 23, 1995 (AT&T Non-Dominant Order).

A. Regulation of New Services

The importance of economically correct pricing signals warrants changes to the existing regulation of new product introduction. In particular, most observers agree that the Part 69 rules are no longer responsive to current market conditions and should be changed.[13,14] Tariffing restrictions on LECs are a form of asymmetric regulation that reduces the ability of the LEC to market its services to customers by varying product characteristics (including prices) to determine the best product and price for the market. In addition, Part 69 tariff rate structures and accompanying Part 61 tariff requirements can prevent LECs from meeting customer needs in a predictable and timely manner. The waiver process adds an unnecessary whiff of uncertainty to LEC offerings that a customer can avoid by shopping elsewhere. The Part 69 rules also set prices for access elements, averaged over geographic areas and customers.[15] A firm whose procedures were driven by the needs of its customers would not have created the Part 69 filing requirements.

Furthermore, the FCC's rules should allow the incumbent LEC to establish prices for new services that reflect incremental costs. To do otherwise creates prices that are economically inefficient in three ways. First, since price would exceed the LEC's incremental cost for new services, allocative efficiency would be lost.[16] Second, but, more significantly, higher-cost firms could enter and survive under the price umbrella, directly reducing first-order technical

[13]Staff Working Paper at p. 32, and Reform of the Interstate Access Charge Rules (RM-8356), Comments to USTA Petition for Rulemaking (Nov. 1, 1993) of MFS at p. 1, CompTel at p. 1, and Information Technology Association of America at p. 10.

[14]Before LEC price cap regulation, which severed the link between costs and rates, was implemented, the Part 69 rules set prices for access elements at fully distributed cost, averaged over geographic areas and customers.

[15]Initial levels under price caps were based on the allocation of costs to interstate services.

[16]Of course, this allocative efficiency loss would be measured relative to the (unattainable) first-best standard of efficiency where price is set at marginal cost and the total cost of the firm is just recovered. This standard is of little use in measuring welfare losses in telecommunications where economies of scale keep marginal costs below average costs at current levels of output.

efficiency.[17, 18] Third, inefficient pricing would alter the LEC's expected gain from introducing a new service and thus distort its incentives to invest, reducing dynamic efficiency in the market. In general, the principal social benefit to be expected from competitive carrier access markets is that market-based decisions about which firms provide what new services to particular customers will reduce costs and enhance economic efficiency. Without the ability for the incumbent LECs to price above incremental cost but at competitive levels, however, this benefit of competition would not accrue to customers, and carrier access competition may raise industry costs rather than lower them.

To achieve competitive symmetry, LECs should be able to respond to market demands in two specific ways. First, the Part 69 waiver process, which unnecessarily delays the introduction of switched access services must be abolished. Indeed, the waiver process has not only inhibited the LECs' ability to offer new switched access services, but it has also limited the variety and innovativeness of such services.[19] While the LECs are constrained in the switched access services market, they have taken advantage of the freedom to offer special access services, which do not require Part 69 waivers, by introducing a wide range of services to meet customer requirements. Second, LECs should be permitted to respond to customer solicitations for specific service proposals (e.g., requests for proposals, or RFPs) when the customer has the option of alternative supply sources. Winners in such competitions should be determined on the basis of the merits of competing proposals, undistorted by artificial regulatory constraints.

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[17]Technical efficiency means that output is produced using the lowest-cost bundle of inputs possible. Allocative efficiency means that prices of outputs are equal to their incremental costs so that the highest-valued bundle of outputs will be produced. As discussed above, fully allocative efficiency is unattainable in markets characterized by declining marginal costs.

[18]In 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 inefficiency.

[19]Since price cap regulation was implemented for LEC services, 60 percent of the new services have been special access services.

B. Alternative Pricing Plans

Alternative pricing plans, such as term and volume discounts, are a general feature of unregulated competitive markets and of other regulated telecommunications markets. Multiproduct unregulated firms in competitive markets have the flexibility to recover their fixed costs in those market segments in which they have a comparative advantage. In telecommunications markets, part of that flexibility lies in the ability to adapt services and price structures to the fundamentally different needs of different customers. Both technical and allocative efficiency can be enhanced by permitting regulated firms to set the same types of tariffed rates, generally involving volume and term discounts, that we observe unregulated firms setting in other markets.

Given the prevalence of volume and term discounts in unregulated markets, it is not surprising that the FCC has recognized the benefits of volume and term discounts for other switched transport services and has determined that they constitute reasonable and lawful pricing mechanisms for competitive services.[20] Even for the case in which the LEC is the incumbent, the FCC recognized the importance of symmetric regulation of the structure of tariffs:

> [T]he rules governing the pricing of transport services, even for price cap LECs, do not allow the LECs sufficient ability to respond to growing access competition, particularly in light of our expanded interconnection policies...Retention of this blanket prohibition [against volume or term discounts, even when cost-justified] would unduly restrict LEC responses to competition.[21]

Discounting services or merchandise is a widespread and practical business tool. In particular, volume and term discounts are an effective way to segment customers having different demand characteristics for the service, enabling the firm to recover a higher portion of common costs

[20]Expanded Interconnection with Local Telephone Company Facilities, Second Report and Order and Third Notice of Proposed Rulemaking, CC Docket No. 91-141, Transport Phase I (adopted August 3, 1993 and released September 2, 1993), ¶ 4. (Switched Access Interconnection Order)

[21]Switched Access Interconnection Order, ¶ 90.

from customers whose demand is less sensitive to price. As long as the service recovers its incremental costs it is not receiving a subsidy, and the amount of the margin above incremental cost that a discounted service recovers should depend on market forces, rather than a preset amount typically reserved for traditional telephony services.

Access services are available for resale on an unrestricted basis, and this is a sufficient safeguard against undue price discrimination through volume and term discounts. As long as the volume and term discounts are available for resale, arbitrage will ensure that the differential between a LEC's high-volume, long-term prices and its low-volume, short-term price is efficient. If the volume and term discounts are inefficiently large, a reseller could aggregate traffic--over both customers and time--to qualify for volume and term discounts, and if it could perform this function at a lower cost than a LEC, it would exert intrabrand pricing pressure on a LEC's low volume services until the price differential fell to a competitive level.

C. Safeguards Against Anticompetitive Behavior

The analysis so far has concentrated on preventing the exercise of market power and creating correct economic pricing signals while making regulation of services facing competition as symmetric as possible among incumbents and entrants. Another concern is the possibility that a LEC with market power might use that power to drive rivals from the market through anticompetitive pricing strategies such as predatory pricing, price squeeze and cross-subsidization.

None of the regulatory changes discussed above increase the likelihood that a LEC could successfully create or maintain market power through anticompetitive behavior. Moreover, the presence of substantial excess capacity[22] in the markets eliminates the ability of the LEC to price its services anticompetitively. To the contrary, shorter notice periods for introducing new

[22]Access customers have the options of purchasing from competitive access providers (CAPs), cable television companies or supplying the facilities themselves. As early as 1992, MFS had the capacity to carry more than six times Bell Atlantic's DS3 and DS1 miles in the Washington D.C. metropolitan area: see, Ex Parte, CC Docket No. 91-141, Bell Atlantic, June 12, 1992, Attachment A, p. 3.

services, as proposed by the FCC, is likely to enhance competition by making it easier for LECs to avoid holding price umbrellas over their competitors. The FCC observed in its recent decision regarding regulation of AT&T that tacit price coordination among AT&T, MCI and Sprint is

> better addressed by removing regulatory requirements that may facilitate such conduct, such as the longer advance notice period currently applicable only to AT&T.[23]

Ultimately, changes in the price cap regulation for new services, as proposed by the USTA, will improve the competitive nature of the markets, without adding to the possibilities of anticompetitive behavior.

Recoupment and investment in a rival's destruction are particularly unlikely in carrier access 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.[24]

Firms generally lack an incentive to engage in predatory pricing because doing so requires giving up profits today in the hope of crippling or killing a rival quickly enough, and avoiding new entry and expansion of other rivals long enough to permit profitable future recoupment of today's sacrifices. Recoupment is particularly difficult in telecommunications because many different services are provided through a single network, and networks are long-lived, immobile investments. While any particular target firm may enter or exit different markets for different services, its network would remain,[25] and a would-be predator would generally be unable to

[23]AT&T Non-Dominant Order, at ¶ 83.

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

[25]Second Further Notice, at ¶ 22.

earn above-normal profits to compensate it for its earlier losses.[26] The additional capacity could be acquired by new rivals -- or more likely by the interexchange carriers (IXCs) themselves -- and the disciplinary effect of that capacity on the LEC's ability to raise price would remain intact.[27]

Based on a cursory examination, telecommunications markets may appear vulnerable to predatory pricing assertions because of the apparent dominance of the LECs in many markets. Indeed, the Second Further Notice cites work of P.L. Joskow and A.K. Klevorick which identifies structural features of markets that make them particularly susceptible to predatory pricing concerns.[28] In the Joskow-Klevorick study, structural characteristics of the market such as the presence of market power and barriers to entry are used as a screen (i) to identify markets in which predatory pricing cannot be quickly ruled out as a feasible anticompetitive tactic and (ii) to confine further detailed analysis of specific pricing behavior to these markets. Despite appearances, the Joskow-Klevorick analysis does not suggest that predatory pricing is likely in carrier access markets. Such pricing would be difficult because carrier access services are not final goods but are sold as inputs to a small number of large, sophisticated customers who also self-supply parts of the services in question. Thus, unlike in consumer markets, predatory pricing in carrier access markets directly *benefits* one group of current competitors in the market, i.e., IXCs that benefit from reduced access charges. In addition, marketing and product differentiation barriers to entry are absent in the carrier access market.

Theoretically, a LEC could engage in an anticompetitive price squeeze by charging competitors more for essential facilities than the LEC charges its own carrier access service, thus preventing a lower-cost service provider from competing in the market. However, such a

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[26]It is worth noting that the entities competing with LECs are generally large, well-financed and have the resources to survive short-term tactics, thus giving the LECs no opportunity to recoup short-term losses. For local services, LEC rivals include CAPs which are often owned by multi-billion dollar corporations, AT&T, and MCI. For toll services, AT&T, MCI and Sprint are well-financed and serve a much wider geographic area than any LEC.

[27]Note that even the chilling effect of the predatory destruction of a rival does not reduce the competitive discipline provided by this added capacity. When it is purchased by an IXC for its own use, the previous inability of a CAP to compete against the predatory LEC is irrelevant.

[28]Paul L. Joskow and Alvin K. Klevorick, "A Framework for Analyzing Predatory Pricing Policy," *Yale Law Journal* 213 (1979).

strategy requires that the LEC recoup its foregone profits without incurring re-entry by its well-established competitors (CAPs, IXCs and cable companies). Recoupment of foregone profits is increasingly unlikely for two reasons--competition and price cap regulation. LEC competitors, especially CAPs which operate in every major metropolitan area, are unlikely to exit any market permanently, thus preventing LEC recoupment and making a price squeeze strategy unprofitable. In addition, the FCC has correctly recognized that its price cap system provides safeguards against a price squeeze.[29] If price cap regulation continues, as the USTA proposes, until facilities-based competition exists, no price squeeze would be possible under the current regulatory scheme.

Another benefit of price cap regulation is that it eliminates the ability and incentive of the regulated firm to cross-subsidize competitive services. As a matter of definition, cross-subsidization only exists when the incremental revenue from provision of some service at current prices falls short of the incremental cost of providing that service at its current volume, taking into account demand cross-elasticities and cost complementarities.[30] 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 disincentive to cross-subsidize as a competitive firm.

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[29]Second Further Notice, at ¶ 18. The proposed modifications to the FCC's regulation of new services and APPs does not alter the effectiveness of price cap regulation to offer protection against a price squeeze.

[30]The 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.

IV. STREAMLINED REGULATION

The FCC's proposal to grant pricing flexibility when a showing of actual competition is made raises issues related to the second change in regulation mentioned above -- when competitive forces are sufficient to control prices. In the Second Further Notice, the FCC proposes a number of factors to be considered before streamlined regulation is applied to LEC services. Citing the methods used to justify moving AT&T services from price cap to streamlined regulation, the Second Further Notice proposes to streamline regulation of carrier access services

> when such service is subject to substantial competition, based on considerations of demand responsiveness, supply responsiveness, market share, and pricing trends.[31]

We address these factors in the discussion below but emphasize here several important differences in assessing competition between AT&T business and residential services and LEC interstate carrier access services. Carrier access services are not final goods. They are intermediate goods purchased by a very small number of large, well-informed buyers for whom the cost of carrier access is a high fraction of the total cost of the retail services they supply in competitive markets. The ability of competitors in the long-distance markets (and therefore LEC customers) to seek and receive price reductions from carrier access service providers is an important advantage, and it would be unusual if any possibility of lower access prices -- particularly lower prices for individual carriers or end-user customers -- went unexploited. In addition, suppliers of carrier access services have no ability to differentiate their services or exploit brand preferences, beyond those determined by technical service quality, the availability of services of the required type and -- most important -- the geographic availability of those switching and transport services to reach particular IXC switches and final customers. Thus the ability to supply carrier access services in competition with the LEC is a much greater

[31]Second Further Notice, at ¶ 133.

determinant of the competitiveness of the market than is the case for long-distance services to final consumers, where the exploitation of brand preference and bundling of inbound, outbound and data services is common practice.

The principles for determining whether specific LEC services in specific markets warrant regulatory reclassification are the same as those discussed for streamlining and used by the FCC in its AT&T streamlining orders and its nondominant classification order: demand responsiveness, supply responsiveness, market share and pricing trends. In terms of supply response, when competitive entry is unencumbered so that durable assets are committed to a particular local exchange market, the effect of that commitment of resources will persist in the long run, irrespective of the fortunes of the firm that initially owned the asset. In such cases, a change in the degree of regulation is warranted, to match the permanent increase in competitive capacity.

A. Market Definition and Market Power

To set the analysis of streamlined regulation in the proper context, it is important to establish a framework of market definition and market power. The following discussion is predicated on the principles outlined in the Department of Justice/Federal Trade Commission *Horizontal Merger Guidelines* (*Merger Guidelines*). Of course, these concepts only pertain to the determination of the level of competition in markets eligible for streamlined or nondominant regulation. They are not relevant for the regulatory changes that should be made now (as discussed in the previous section).

When it can be plausibly argued that competition provides significant constraints on LEC pricing for some services in some areas, it must be decided whether that competition is sufficiently vigorous -- and thus the market constraints on price sufficiently tight -- that streamlined regulation or treatment as a nondominant provider is in order. The *Merger Guidelines* describe the leading practical approach to the analysis of the effectiveness of competition. In our analysis, we incorporate the basic principles of the *Merger Guidelines* -- the definitions of relevant product and geographic markets, evidence concerning concentration

in that market, conditions of market entry, ability of competitors to expand, and the history of exclusionary or anticompetitive conduct. In addition, we consider a third dimension of a relevant market: customer segments. Our evidence is then used to assess whether the two conditions that must hold in order for a firm be able to exercise market power are satisfied.

As the first condition for the exercise of market power, there must be little competition from existing firms producing substitutes for the service in question.[32] If competitors had sufficient capacity to accommodate a large portion of LEC demand then raising price above the competitive level would not be profitable because the LEC demand volumes would fall.[33] Further evidence that competition limits the incumbent's ability to raise its price includes evidence of active rivalry (e.g., pricing, marketing, advertising, changing of service specifications or design in response to actions of others).

The second condition for a firm to possess market power beyond the short run, requires that entry into the market by new competitors be difficult. Even if there were limited availability of current substitutes for the service, an attempt to increase the market price might not be profitable if it induced a firm that is not currently in the market to enter. Potential new competitors include startup firms, firms that already supply services in the area using similar technologies (CAPs, IXCs, cable companies, electric utilities), firms that supply similar services in other geographic areas (other LECs and CAPs, IXCs and cable companies from other areas), firms that supply substitute services using different technologies (cellular and personal communications service providers), and firms with national reputations in other industries seeking diversification (Microsoft and Disney). This effect of potential competition is particularly acute for telecommunications network-based services where competitors may not currently produce a service or serve a market but for whom entry would only require software changes and marketing.

[32]The presence of substitutes means that if the firm were to raise its price above the competitive level, customers would shift to the cheaper substitutes.

[33]Note that substitutes need not be exact in order that their existence limit the ability of the firm to raise prices or hold them above the competitive level profitably. All that is required is that consumers be able to purchase a service--available in ample supply from other providers--that provides acceptable substitutes to the service in question.

It is important to recognize that market power is conceptually different from market share,[34] and, for practical purposes, rules written in terms of market share will have very different effects from rules written in terms of market power.[35] A useful measure of market power combines measures of the market price elasticity of demand and the elasticity of supply of actual and potential competitors to assess the ability of a firm to restrict output and raise market price above the competitive level. As noted previously, market concentration -- of which share is one measure -- is generally an *outcome* of the competitive process rather than a determinant of that process.[36]

1. Relevant Markets: Product, Geographic and Customer Segment

The FCC's Second Further Notice proposes to treat the existing service categories within each access service basket as separate product markets for the purpose of determining the LECs' possible market power. Existing density zones are proposed as the applicable geographic markets for LEC access services. Neither of these market definitions comports with the ordinary principles of product and geographic market definition as described, for example, in the *Merger Guidelines*. In addition, the USTA proposes, and we endorse, a third dimension of a relevant market -- customer segments. For some telecommunications customers, some access services are substitutes depending upon the characteristics of the customer location that originates and terminates the traffic. For example, LEC switched access, LEC special access, and direct connections from CAPs or self-provision are substitute forms of access for customer locations having a high volume of originating or terminating long distance usage. Dedicated and switched access are less likely to be substitutes for small-volume customer locations, unless those

[34]A variety of measures can be used to calculate a firm's market share. If market share is used at all in carrier access markets, it should be measured in terms of addressable capacity, not actual sales or revenues.

[35]The regulator's ultimate concern is with market power not with market share. The FCC implicitly confirmed this by declaring AT&T to be nondominant (or lacking market power), despite the fact that AT&T's market share is the highest in the interexchange industry (roughly 60%) and significantly higher than its largest rival, MCI (market share is approximately 20%).

[36]For a more substantive discussion of market power and its relationship to market share, see R. Schmalensee and W. Taylor, "Comments on the USTA Pricing Flexibility Proposal," Attachment 4 to the United States Telephone Association Comments, May 9, 1994 in CC Docket No. 94-1, at 8-12 (Schmalensee and Taylor Comments).

locations can economically aggregate their traffic (e.g., through resale or through combining traffic in multi-tenant buildings, industrial parks or college campuses). Large customer locations are likely to be in separate relevant markets from small customer locations, and use of this distinction would enhance the market classifications available to the FCC when it determines which markets should be subject to streamlined regulation.

a) Product Markets

The Second Further Notice proposes to use the current regulated structure of carrier access tariffs to define relevant product markets. As enumerated in ¶ 118, carrier access services would be split into more than a dozen relevant markets, comprised of price cap baskets, service categories and subcategories (including common line, local switching, information, data base access, billing name and address, voice grade transport, audio and video, DS1 special access and transport, DS3 special access and transport, wide band data and analog, tandem switch transport, interconnection, and signaling for tandem switching) and "various rate elements (billing elements) that are associated with specific costs and/or functions of LEC interstate services." Now as the Second Further Notice recognizes (in ¶ 116), a relevant product market includes services that are readily substitutable for one another and to which a customer would turn if the price of one service were increased. The FCC's proposed product market definitions are inconsistent with that approach.

While it is administratively convenient to tie the definition of a relevant service market to the existing Part 69 carrier access rate structure, doing so creates three problems. First, the current access price structure is widely recognized as outdated in that its baskets, categories and subcategories no longer reflect the way that customers buy access services, and there are several proposals to reform and simplify this structure.[37] Administrative convenience would not be served by defining service markets using a structure that is likely to change. Second -- and more

[37]See, for example, the exposition in FCC Access Reform Task Force, "Federal Perspectives on Access Charge Reform," April 30, 1993, at 16-28. For these reasons, USTA has proposed changes to both the Part 69 rules and the structure of the price cap baskets.

importantly -- that structure was not designed to track economic markets when it was developed, and it certainly does not correspond to economic markets today. Access categories and subcategories (let alone rate elements) are generally too small to correspond to economic product markets. Third, the complexity of these narrow market definitions for LEC carrier access services could make regulation using such markets unworkable. A LEC would need information on competitors supplying the more than 13 subcategories listed above for services in different geographic markets in order to receive sufficient pricing flexibility to match a competitor's bid. This complexity -- stemming from a narrow product market definition -- contrasts sharply with the simplicity of the extremely broad product market definition the FCC used to find that AT&T was nondominant in the entire interstate, domestic, interexchange market.

b) Geographic Markets

A standard for defining a relevant geographic market is given in the *Merger Guidelines*:

> "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"[38]

In essence, this standard seeks to determine the geographic distance from a given set of producers that is sufficiently far that customers will not purchase services in any substantial quantity from the distant providers in response to a local price increase. If products produced at locations outside the region were sufficiently attractive so that the price increase decreased demand enough to be unprofitable, then the initial geographic area was drawn too narrowly. As applied to telecommunications services, the analysis begins with a map of the networks of alternative service providers and IXCs and identifies customer demand that is sufficiently close (given their size) that an economic alternative to LEC carrier access service exists.

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[38] *Merger Guidelines*, at p. 16.

A geographic market so defined would not necessarily 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. For example, a large building in a metropolitan area--or an office park in a rural area--may have sufficient demand by itself to warrant direct connections to IXCs even though few other customers in the corresponding wire center might have such a choice. The LEC wire center is the smallest possible geographic area to which market power analysis can practically be applied, and it should be used as the fundamental unit to determine which group of wire centers comprise the relevant market.

In the Second Further Notice, the FCC revealed that it is

> "disinclined to adopt a wire center definition because there it would create thousands of individual markets and impose substantial administrative burdens on both the industry and [the FCC]. One possible solution would be to consolidate individual wire centers into geographic markets in some rational way, based on competitive considerations..." (at ¶ 126)

There are several reasons why current density zones are -- in principle -- not appropriate for use in defining geographic markets for carrier access services:

- The original pricing zones were based on the use of traffic density as a proxy for cost for the trunking basket. It is necessary now to assess geographic markets for both switching and trunking services.

- LEC cost and density characteristics are only imperfectly associated with the presence of competitors. The correct geographic scope of the market requires specific knowledge of the capacity of competitors to address LEC end user customers. It is the size of the set of addressable customers that determines the degree of competition

in any geographic area, and that set cannot be determined accurately by using broad proxies such as LEC costs or customer density measures.

These considerations led us in previous comments to observe that the wire center was the level of aggregation that corresponds to a *Merger Guidelines* geographic market and that should be used to measure addressability and assess market power.[39] We continue to hold that belief. The use of larger geographic areas as fundamental units for competitive analysis would run the risk of distorting the competitive picture by combining heterogeneous geographic markets into a single analysis. However, we hasten to add that performing an addressability analysis at the level of the wire center need not be administratively burdensome. Groupings of wire centers -- not the individual wire centers -- would be the geographic markets which would be subject to relaxed regulation[40] and would be the basis of competitive showings. As the area served by a competitor expanded, this area would be added to the competitive footprint. If it were thought to be appropriate to analyze competition in a larger geographic setting -- e.g., a LATA or SMA -- the criteria we propose below could be applied at this wider level. Nonetheless, the analysis would -- and must -- begin with the footprint of competitors' networks measured by addressability. Thus the footprint could often be larger than a wire center as it should reflect where customers receive service, not where LEC facilities are located.

Restricting LEC pricing flexibility to competitive wire centers may to some extent help control the exercise of LEC market power, but the additional protection is not free. Moreover, timing is essential, and a policy that permits pricing freedom to respond to competitive entry after entry has occurred has very different consequences from one in which potential entrants are shown proper pricing signals. This is as true today as it was 10 years ago when the FCC granted AT&T pricing flexibility, despite AT&T's market power. The FCC did

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[39]"For practical purposes, then, the LEC wire center is the smallest possible geographic area to which market power analysis can practically be applied." Schmalensee and Taylor Comments, at 23 (emphasis in original, footnote omitted).

[40]As technology broadens the availability of services such that geographic area is no longer a limiting factor, the USTA proposes to exclude certain services from this analysis. For example, Directory Assistance can be provided by multiple providers in multiple areas without a physical presence in a geographic market determined by customer location.

> ...not believe it to be wise as a matter of policy to prevent AT&T from engaging in any competition until it is determined that the market is 'fully competitive.' To restrain AT&T from competing until such a hypothetical degree of competition develops would send erroneous signals to the marketplace. By taking this step at this time we believe that we can provide consumers with limited benefits from competition while also ensuring that AT&T fairly competes.[41]

c) Customer Segments

Customers that originate or terminate large volumes of interexchange traffic generally use a different technology to reach IXCs than do customers having only small volumes of traffic. The cost-minimizing method of sending a large amount of traffic from one location to an IXC POP is generally by means of a dedicated facility: a full or partial DS-1 or DS-3 link. Customers having low traffic volumes cannot justify the fixed costs of such facilities and depend essentially on providers of switched access (LECs, cable companies, CAPs with switching services) to reach their IXCs. A hypothetical firm that became the sole supplier of dedicated services to large customers (those with high volumes of traffic) could price significantly above the competitive level for dedicated access without losing customers to suppliers of switched access because the costs of dedicated access are significantly below those of switched access. By the *Merger Guidelines* market definition method, then, customers having sufficient volume to support dedicated access services should be treated as a separate market from small customers (those with low volumes of traffic) that are restricted to switched access. For the purpose of tailoring streamlined regulation to markets where customers have a choice of providers, it is important to have this flexibility to distinguish between large and small customers.

2. Market Power

For measuring market power, the criteria relating to market concentration (the distribution of sales, revenue or productive capacity across suppliers in a market) are especially

[41] AT&T OCP Order, at ¶ 48.

important. Intuitively, these criteria are relevant because if a large fraction of supply is controlled by a single firm, its actions can have a significant effect on the market price. If the ability to supply is concentrated among a small number of firms, the possible gains from collusive behavior may also lead to market prices above the competitive level.

In this analysis and in general, it must be recognized that the usual measure of market share, the fraction of the market sales accounted for by each competitor, is only one possible indicator of market power. The FCC apparently agrees on this point

> We [the FCC] believe that market share should be one factor, among others, to be considered in determining the level of competition in a given market for purposes of streamlined regulation...a high market share does not necessarily confer market power. A company that enjoys a very high market share will be constrained from raising its prices above costs if the market is characterized by high supply and demand elasticities. We [the FCC] believe that an analysis of the level of competition for LEC services based solely on a LEC's market share at a given point in time would be too static and one-dimensional.[42]

Since the effects of the market price elasticity of demand and the fringe firms' supply elasticity are to reduce market power, whenever the regulated firm's market share is small, its market power is likely to be small as well. But, as the preceding quotation makes clear, it is not true that a large share of sales reliably signals substantial market power--even in the short run.

In our previous comments, we observed that the best measure of market power is based on a determination of capacity in a relevant carrier access market. Carrier access services are homogenous services sold as intermediate goods to a small number of large, sophisticated buyers. In this market where product differentiation is limited, the *Merger Guidelines* suggest that share of capacity best reflects the firm's ability to restrict output and raise the market price. Note that in this application, unused, or raw, capacity is not a good indicator of the ability to control price because not all of that capacity can be rapidly brought into the market at low cost to serve additional demand brought about by a competitor's hypothetical price increase. As explained below, addressable capacity measures the ability of firms to expand in the various geographic carrier access markets.

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[42]Second Further Notice, at ¶ 143 (footnote omitted).

Use of addressable capacity rather than actual sales has four additional advantages. First, it measures forward-looking pressure on price in the market rather than historical pressure based on current customer distributions, and thus it is better suited to measure market power in markets that have historically been supplied under monopoly conditions. As observed by Landes and Posner:

> To the extent that regulation is effective, its effect is to sever market power from market share and thus render our analysis inapplicable. This is obviously so when the effect of regulation is to limit a monopolist's price to the competitive price level.[43]

Use of addressable capacity ameliorates this problem somewhat by shifting the focus from historical sales to factors that influence future sales.

Second, addressable capacity can -- in principle -- be used to reduce the measurement bias from self-supply. Recall that when IXCs provide some portions of carrier access services themselves, those portions do not appear on the market and are not counted as sales of a competitor for carrier access service. As IXCs increasingly enter local markets,[44] this error leads to a systematic overstatement of the market share of the incumbent LEC. While sales of access services within a vertically-integrated IXC would be impossible to identify or measure, it is possible -- in principle -- to track IXC addressable capacity, applying the same tools to the IXCs' networks that we would apply to the CAPs' networks. Thus large business customers located near AT&T facilities would be treated as addressable by AT&T, so that AT&T has a choice of carrier access facilities when it originates or terminates traffic to those locations.

Third, use of the share of sales to classify firms for regulatory flexibility would set up distorted incentives for the LECs. A target level of market share (e.g., 60 percent) below which a LEC would receive permanent regulatory flexibility would create a perverse incentive to lose

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[43]W.M. Landes and R.A. Posner, "Market Power in Antitrust Cases," Harvard Law Review, 94, 1981, at 975.

[44]See, e.g., "AT&T Vows Battle to Offer Local Service," *The Wall Street Journal*, October 27, 1995, p. A3 and "MCI Rolls Out Plans for Local Network in Major Challenge to RHCs," *Communications Daily*, January 5, 1994, p. 1.

customers at least in the short run. Such incentives may have led AT&T to increase basic prices for residential and business toll services while migrating higher-volume customers to lower priced plans and introducing minimum monthly charges for low-volume business customers. Using addressable capacity rather than sales to measure market share would reduce this problem.

Fourth, as mentioned earlier, the use of sales-based market share produces another undesirable outcome. Pricing based on market share creates an umbrella for the entrants, at the expense of the incumbent and all customers served by either the entrant or the incumbent. Competitive forces should be allowed to determine the outcome in the marketplace. The use of capacity (thus addressability) alleviates the risk of a pricing umbrella by gauging the ability of a provider to serve rather than relying on historic measures of market share which leads to pricing inefficiencies and market distortions.

Finally, market share is a reasonable indicator of the presence of competitors but is a poor proxy for market power. In particular, market share is less a determinant of market power than a result of competitive forces acting on incumbents and entrants. Moreover, a predetermined target level for market share creates perverse incentives for the incumbent firm and essentially determined that a specific portion of the market should be served by competitors until the LEC is permitted to respond. Such a regulatory plan effectively greenhouses competition for a period, sending false signals to entrants and denying customers the lower prices that ordinary competitive response to entry would produce.

B. Supply Responsiveness

A showing of addressability would demonstrate that the supply elasticity in a relevant market is high enough to ensure that customers have the ability to substitute away from the LEC's services if the LEC prices them above the competitive level.[45] Theoretically, where the LEC's rivals have invested in sunk capacity in their networks, it is irrelevant whether 30

[45]We define addressability to include facilities-based competition--both actual capacity and capacity that could be easily added to an existing network.

percent, 60 percent, or no customers actually purchase service from a LEC competitor; if rivals have capacity in place that can be brought on line at low additional cost so that the customer has a real choice of suppliers, the LEC cannot exercise market power. For purposes of implementing streamlined regulations, however, two issues must be addressed: (1) a threshold which indicates that a sufficient number of customers within a relevant market have the ability to purchase substitutes to LEC services, and (2) the data needed to determine that the threshold has been met.

While economic theory does not support a number below which a firm cannot possess market power, there is some support for a reasonable range. A concentration standard for effective competition was proposed in the Cable Act of 1992[46] and implemented by the FCC. 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.[47] The Cable Act standard of houses passed is directly comparable to our proposed standard of addressability, in that both measure the fraction of potential customers in a market that can be readily served by a competitor. The USTA proposal uses 50 percent as the standard for nondominance (as compared with 50 percent for the complete deregulation in cable) and 25 percent as the standard for streamlining. Second, when the FCC recently reclassified AT&T as a nondominant carrier, it acknowledged that "AT&T's market share fell approximately 33 percent between 1984 and 1994."[48] The FCC found that AT&T's share was 60 percent of customers and that AT&T's competitors had sufficient capacity to absorb two-thirds of AT&T's switched traffic within one year.[49] In addition, cable and long-distance markets are for retail services, while carrier access services are sold as inputs to essentially three large, sophisticated purchasers (see below). Thus the requirement that 25 percent of customers in a relevant market have competitive alternatives available to them is a

[46]Communications Act, § 623 (1) (1), 47 U.S.C. § 543 (1) (1).

[47]MM Docket No. 92-266, released May 3, 1993 (§ II.A.2.a "Application of Effective Competition Tests").

[48]AT&T Non-Dominant Order, at ¶ 72.

[49]AT&T Non-Dominant Order, at ¶ 15.

reasonable threshold for streamlined regulation in that 25 percent is within the range of market share standards used in other contexts as a screen for market power.[50]

As mentioned in our previous comments in the proceeding, for market share calculations in the carrier access markets, the appropriate measure of size is capacity. In the Merger Guidelines, the Department of Justice (DOJ) observed that

> (m)arket shares can be expressed either in dollar terms through measurement of sales, shipments, production, capacity, or reserves.... When the availability of data allows a choice, dollar sales or shipments generally will be used if branded or relatively differentiated products are involved, and physical capacity, reserves of dollar production generally will be used if relatively homogeneous, undifferentiated products are involved.

In the recent revision and expansion of these guidelines (April 1992), this observation is replaced with the advice that

> (m)arket shares will be calculated using the best indicator of firms' future competitive significance. Dollar sales or shipments generally will be used if firms are distinguished primarily by differentiation of their products. Unit sales generally will be used if firms are distinguished primarily on the basis of their relative advantages in serving different buyers or groups of buyers. Physical capacity or reserves generally will be used if it is these measures that most effectively distinguish firms. (pp. 25-26).

[50]Recently, the FCC has used the availability of alternatives - as opposed to market shares - as a reason to relax its regulations in cable and long-distance markets. In New Jersey's Dover Township cable market, the FCC proposed a waiver of its cable programming service tiers rate rules as soon as video dialtone service is available. (See Waiver of the Commission's Rules Regulating Rates for Cable Services, Order Requesting Comments, CUID Nos. NJ0213 and NJ0160, released Nov. 6, 1995.) Within two weeks of the introduction of number portability in the 800 services market, the FCC granted AT&T's request to remove its 800 services from price cap regulation. (See Competition in the Interstate Interexchange Marketplace, Second Report and Order, CC Docket No. 90-132, 8 FCC Rcd 3668, 3669 (1993).)

For homogeneous products (like carrier access services) sold as intermediate goods, the fraction of the market that can be served by a competitor is thus the appropriate measure of market share.[51]

The requirement that 25 percent of the market have an alternative source of supply is probably a conservative screen to trigger streamlined regulation in the present context. The other market share screens are generally applied to firms that sell in retail markets to many independent buyers, in circumstances where advertising, product differentiation, reputation, product information and search costs tend to reduce the propensity of consumers to change suppliers rather than pay a higher price. In contrast, the nature of the carrier access markets makes it unthinkable that a customer would pay a higher price than necessary whenever a choice was possible.

- Carrier access services are sold to (essentially) three large, sophisticated multinational customers that purchase the same or similar services in every geographic market served by the LEC and all other LECs. Thus exploitation of market power that a LEC might have in one geographic market where an IXC has no alternative supplier of carrier access can be offset by its purchase decisions in other markets where the IXC has alternatives.

- Carrier access services are homogeneous: there is no reason to prefer LEC to CAP transport or self-supply at given technical specifications. Indeed, in these markets with a small number of sellers and buyers, a buyer can obtain a competitive advantage -- as well as increased redundancy -- by establishing relationships with as many sellers as possible.

[51]U.S. Department of Justice, "Merger Guidelines," June 1984.