

COMPETITION AND ASYMMETRIC REGULATION IN LONG-DISTANCE TELECOMMUNICATIONS: AN ASSESSMENT OF THE EVIDENCE

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I. INTRODUCTION

Prior to the entry of MCI into the long-distance market in 1969, AT&T supplied virtually all long-distance calling in the United States, as well as the predominant share of local exchange services. Accordingly, AT&T was subjected to traditional monopoly regulation by both federal and state regula-

tory authorities. As the number of interexchange carriers grew, however, the question of whether and how these new entrants into the long-distance market should be regulated arose. In 1980, in the Competitive Carrier Proceeding,¹ the Federal Communications Commission ("FCC" or "Commission") resolved the issue by adopting a policy which classified firms according to their ability to adversely af-

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¹ *In re* Policy and Rules Concerning Rates for Competitive Carrier Services and Facilities Authorizations Therefor, *Notice of Inquiry and Proposed Rulemaking*, 77 F.C.C.2d 308 (1979); *First Report and Order*, 85 F.C.C.2d 1 (1980); *Second Report and Order*, 91 F.C.C.2d 59 (1982); *Order on Recon.*, 93 F.C.C.2d 54 (1983); *Policy Statement and Third Report and Order*, 48 Fed. Reg. 46,791 (1983); *Fourth Report and Order*, 95 F.C.C.2d 554 (1983), *vacated and remanded*, *AT&T v. FCC*, 978 F.2d 727 (D.C. Cir. 1992), *cert. denied*, 113 S. Ct. 3020 (1993); *Fifth Report and Order*, 98 F.C.C.2d 1191 (1984); *Sixth Report and Order*, 99 F.C.C.2d 1020 (1985), *vacated and*

remanded, *MCI Telecommunications Corp. v. FCC*, 765 F.2d 1186 (D.C. Cir. 1985) [hereinafter *Competitive Carrier Proceeding*]. AT&T filed a motion in this docket to have its classification changed from a dominant carrier to a non-dominant carrier. Motion for Reclassification of AT&T as a Nondominant Carrier, in CC Dkt. No. 79-252 (Sept. 22, 1993); *Ex Parte* Presentation in Support of AT&T's Motion for Reclassification as a Non-Dominant Carrier, in CC Dkt. No. 79-252 (Apr. 24, 1995) [hereinafter *Ex Parte Presentation*] (reasserting the motion). On October 12, 1995, the FCC decided that it would now treat AT&T as a nondominant carrier for regulatory purposes. *In re* Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, *Order*, in CC Dkt. No. 79-252, FCC 95-427 (Oct. 23, 1995) [hereinafter *AT&T Non-Dominant Order*]. See also Doug Abrahams, *FCC Frees AT&T from Some Restrictions*, WASH. TIMES, Oct. 13, 1995, at B8; *Ruling Makes Phone Rivalry Keener*, S.F. EXAMINER, Oct. 13, 1995, at B-1.

fect market prices.³ Specifically, firms with significant market power were to be classified as "dominant," while firms without such power were to be classified as "nondominant." Of particular importance, considerably more regulatory oversight and controls were imposed on any firms judged to be "dominant."³

When the FCC adopted this "dominant firm" system of regulation, AT&T was one of a very small number of long-distance firms competing in the United States. It supplied over ninety percent of the long-distance traffic, owned or operated nearly 100 percent of the transmission facilities used to carry long-distance calls, and enjoyed a unique dialing advantage over other long-distance competitors. Most importantly, in 1980, AT&T maintained control over the local exchange bottleneck facilities through which virtually all long-distance calls pass. In light of these market conditions, the FCC chose to classify AT&T as a dominant firm and put in place a regulatory apparatus designed to control the exercise of AT&T's perceived market power.

Today's long-distance market is vastly different from that of fifteen years ago. The 1984 divestiture of the Bell operating companies eliminated AT&T's control of local exchange bottleneck facilities.⁴ AT&T is now one of over 450 interexchange companies vying for the patronage of long-distance customers.⁵ Moreover, as the number of competitors has grown, AT&T's share of long-distance transmission

capacity has shrunk to some forty to forty-five percent,⁶ while its share of interstate minutes-of-use has fallen to fifty-eight percent.⁷ Indeed, MCI, Sprint and LDDS/Wiltel now have sufficient capacity in place to absorb thirty-two percent of AT&T's remaining share of the market within three months.⁸ The degree and intensity of rivalry among long-distance firms also has increased commensurate with the growth of competitors in the long-distance market. In 1994, a typical American household received some 330 advertising contacts from long-distance companies.⁹ The result of this heightened rivalry has been falling prices, improved quality, and an ever-expanding choice of innovative long-distance services.

Due to these changes in the long-distance market, the FCC has reclassified AT&T as a nondominant carrier. This reclassification, however, does not completely eradicate asymmetric regulation. Though the FCC declared that it was not the determinative consideration, AT&T has agreed to be bound by several residual controls which do not apply to its competitors.¹⁰ For example, AT&T will provide a fifteen percent discount to low-income consumers for a period of three years.¹¹ Other constraints were negotiated for low-volume residential customers and for 800 directory assistance service.¹² AT&T is also required to notify the Commission five days in advance of residential rate increases above certain levels.¹³ In addition, the Commission declined to extend the nondominant classification to AT&T's international ser-

³ Competitive Carrier Proceeding, *First Report and Order*, *supra* note 1.

⁴ The general policy of applying different regulatory constraints to firms competing within the same market is known as "asymmetric regulation" and has been the subject of some criticism. See, e.g., FCC, OPP WORKING PAPER 14, IMPLICATIONS OF ASYMMETRIC REGULATION FOR COMPETITION POLICY ANALYSIS (authored by John R. Haring) (1984); David L. Kaserman & John W. Mayo, *Market Based Regulation of a Quasi-Monopoly: A Transition Policy for Telecommunications*, 15 POL'Y STUD. J. 395 (1987). Asymmetric regulatory controls over the "dominant" firm have continued until very recently, even though traditional rate-of-return regulation of AT&T was replaced by price cap regulation in 1989. *In re* Policies and Rules Concerning Rates for Dominant Carriers, *Report and Order and Second Further Notice*, 4 FCC Rcd. 2873 (1989), *reconsidered*, 6 FCC Rcd. 665 (1991), *remanded sub. nom.* AT&T v. FCC, 974 F.2d 1351 (D.C. Cir. 1992). Thus, the change to price cap regulation did not signal an end to asymmetric regulation.

⁵ See *United States v. American Tel. & Tel. Corp.*, 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* *Maryland v. United States*, 460 U.S. 1001 (1983).

⁶ FCC, CC, INDUSTRY ANALYSIS DIV., TRENDS IN TELEPHONE SERVICE (1995) [hereinafter TELEPHONE TRENDS].

⁷ FCC, CC, INDUSTRY ANALYSIS DIV., FIBER DEPLOY-

MENT UPDATE, END OF YEAR 1993 (1994) [hereinafter FIBER DEPLOYMENT UPDATE].

⁸ FCC, CC, INDUSTRY ANALYSIS DIV., LONG DISTANCE MARKET SHARES: FIRST QUARTER 1995 Tbl. 3 (1995) [hereinafter MARKET SHARES].

⁹ T.L. Brand et al., An Updated Study of AT&T's Competitors Capacity to Absorb Rapid Demand Growth, in *Ex Parte Presentation*, *supra* note 1, Att. B.

¹⁰ Letter from C.L. Ward, AT&T, to William F. Caton, Acting Secretary, FCC, in CC Dkt. Nos. 79-252, 93-197, and 80-286 (Mar. 9, 1995), in *Ex Parte Presentation*, *supra* note 1, Att. S.

¹¹ *AT&T Non-Dominant Order*, *supra* note 1, para. 37. AT&T suggested these "voluntary" commitments in a series of *ex parte* letters to the Commission. See Letter from R. Gerard Salemme, Vice President of Governmental Affairs, AT&T, to Kathleen M.H. Wallman, Chief, Common Carrier Bureau, FCC, in CC Dkt. No. 79-252 (Sept. 21, 1995); Letter from R. Gerard Salemme, V.P.-Gov. Affairs, AT&T, to Kathleen M.H. Wallman, Chief, CC, FCC, in CC Dkt. No. 79-252 (Oct. 5, 1995).

¹² *AT&T Non-Dominant Order*, *supra* note 1, para. 84.

¹³ For example, low-volume residential customers will have a guaranteed rate, set at three dollars per month for the first 20 minutes of service during the first year. *Id.* para. 85.

¹⁴ *Id.* para. 86.

vices.¹⁴ Further, fifteen state regulatory commissions still continue to employ asymmetric regulation of intrastate long-distance calling.¹⁵ Thus, while it appears that asymmetric regulation of AT&T has ended, in fact it has not quite yet.

In light of these developments, it is appropriate, if not long overdue, to examine the issue of whether AT&T should continue to be subjected to any form of asymmetric regulation by the FCC or state regulatory commissions. Our purpose, then, is to examine whether AT&T has market power in today's market and whether any economic rationale exists for regulating AT&T's services differentially from its competitors. This examination is greatly facilitated by the publication of several empirical studies of the post-divestiture long-distance market and by a wealth of evidence that has accumulated at the state level over the past decade as individual state regulatory commissions have introduced more relaxed regulation and eliminated asymmetric regulatory policies. In this article, we will draw heavily upon both of these important sources of information.

Our approach is three-pronged. First, relying on the conventional tools of industrial organization/antitrust analysis, we assess whether AT&T has sufficient unilateral market power to warrant its continued classification as "dominant." Second, we review a complementary body of direct and indirect empirical evidence pertaining to the question of AT&T's market power. Finally, we examine a set of miscellaneous "competitive" issues that surround the question of "dominance." These issues initially arose at the state level and, for the most part, were resolved as many states have now moved to end asymmetric regulation in their long-distance markets.

On the basis of this analysis, as well as the other evidence examined herein, this paper concludes that AT&T does not possess the control over pricing or competitors that initially gave rise to its classification as a "dominant" carrier. As a result, neither consumers nor the tax-paying public are well served by the perpetuation of asymmetric dominant firm regu-

lation of AT&T. Specifically, an examination of standard market power criteria used in antitrust analyses provides compelling evidence that AT&T does not possess significant market power but, rather, faces effective competition from both existing and potential competitors. Moreover, an abundant amount of evidence drawn from other independent analyses of this market, as well as state and federal experimentation with relaxed regulation, provide further corroboration that AT&T faces effective competition. Finally, an examination of several auxiliary issues that have periodically surfaced regarding the merits of relaxed regulation reveal that the regulatory commissions can safely and confidently remove the dominant firm regulation governing AT&T.

II. THE ECONOMIC RATIONALE FOR TRADITIONAL REGULATION AND THE CRITERIA FOR RELAXED REGULATION

The entire post-divestiture period has been characterized by asymmetric regulation of AT&T at the federal level, on the grounds that it is "dominant." All other interexchange carriers are classified as "nondominant."¹⁶ In order for the FCC (or any regulatory agency) to establish and maintain the "dominant" classification of a firm, it is necessary first to define what is meant by this term. Economically, a firm is considered to be dominant if it possesses significant monopoly power.¹⁷ Alternatively, a nondominant firm can be said to be subject to effective competition.

This economic definition is entirely consistent with the regulatory definition of dominance first adopted by the FCC in 1980 in the Competitive Carrier Proceeding. The FCC stated that a dominant firm is one with "substantial opportunity and incentive to subsidize the rates for more competitive services with revenues obtained from its monopoly or *near-monopoly* services."¹⁸ The order further said that a nondominant firm is one without sufficient market power to

¹⁴ *Id.* para. 2. The Commission is also poised to begin a new proceeding on the entire interexchange marketplace to determine appropriate industry-wide regulation. *Id.* Thus, despite the significance of this Commission action, it remains to be seen whether it will lead to true deregulation of the interexchange market.

¹⁵ The FCC has lagged behind many state regulatory commissions in eliminating asymmetric regulation of long-distance carriers, as currently 35 states regulate all interexchange carriers equally. Letter from Alex J. Mandl, Exec. V.P., AT&T, to the Hon. Reed E. Hundt, Chairman, FCC (Nov. 17, 1994), in *Ex Parte Presentation*; *supra* note 1, Att. U (Status of Regulatory

Rules and Regulations of AT&T by Jurisdiction). Of these states, only three continue to regulate AT&T's earnings. *Id.* Thus, while 32 states have already implemented symmetric regulation without earnings constraints, AT&T is still hampered in substantial portions of the country. *Id.*

¹⁶ Competitive Carrier Proceeding, *First Report and Order*, *supra* note 1, para. 27.

¹⁷ See generally F.M. SCHERER, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* (2d ed. 1980).

¹⁸ Competitive Carrier Proceeding, *First Report and Order*, *supra* note 1, para. 15 (emphasis added). The Commission also noted that a carrier would be classified as "dominant if it has

“sustain prices either unreasonably above or below costs.”¹⁹ Thus, the concept of market power provides the cornerstone of the FCC’s classification system.

The question then, is how to determine whether a firm possesses a significant amount of market power.²⁰ A prerequisite to analyzing market power is to define the relevant market for the firm’s product or products. If markets are defined either too broadly or too narrowly, it is likely that the standard market power criteria will provide misleading information.²¹ The market definition process requires the delineation of a set of boundaries in both geographic and product space within which the market price is determined. A relevant market is a set of buyers and sellers whose purchase and production decisions establish the price at which the product or service is sold.

The economic criteria used to delineate market boundaries are built upon product and geographic substitutability on both the demand and supply sides of the market.²² In general, the greater the degree of supply-side or demand-side substitutability, the broader the relevant market.²³ In the case of long-distance telecommunications, the high degree of supply-side substitutability across services indicates that the relevant product market includes all interexchange toll services. Firms currently providing any one of the toll services (e.g., Message Telephone Service (“MTS”)) could very easily begin to provide other toll services (e.g., Wide Area Telephone Service (“WATS”)). Thus, the relevant product market to examine, and upon which to base policy, is the set of all interexchange services.²⁴

Similarly, the high degree of substitutability of vendors across geographic regions indicates that, as acknowledged by the FCC, the relevant geographic market encompasses the entire United States.²⁵ This determination is underscored by the fact that interexchange carriers with a point-of-presence (“POP”)

in any local access transport area (“LATA”) may supply originating service to any end office in that LATA by ordering access from the local exchange company. Accordingly, market coverage extends across both urban and rural areas, all of which are accessible simply by purchasing local exchange company access. Application of the standard economic criteria used to delineate market boundaries leads to the conclusion that the relevant market is all interexchange services sold in the United States.

This finding is extremely important for regulatory purposes. Where regulatory policy is founded upon the intensity of competition within the regulated firm’s market or markets, determination of the correct market boundaries becomes crucial for two reasons. First, as noted above, market definition is a prerequisite to an accurate evaluation of market power. An inaccurate conclusion regarding market power is likely to result if an inaccurate market definition is employed. Erring in the direction of defining the market too narrowly generally tends to bias the analysis toward a finding of significant market power. An overly narrow market definition can result in an unwarranted conclusion that substantial market power is present.

Second, whether the regulated firm operates within a single market or multiple markets determines whether regulatory constraints should apply to the firm’s overall operations or be tailored to those subsets of the firm’s outputs that constitute separate markets. Where the firm sells its output within a single overall product market, a policy that applies different regulatory policies to different services within that market can have serious adverse consequences. Specifically, regulating one part of a market differently from other parts of the same market can distort market signals and create opportunities for strategic and inefficient uses of regulatory authority by competitors.²⁶

market power (i.e. power to control price).” *Id.* para. 26.

¹⁹ *Id.*

²⁰ This question, of course, has a long tradition in the economics of antitrust. For a more detailed discussion of the economics of monopoly power and effective competition see DAVID L. KASERMAN & JOHN W. MAYO, *GOVERNMENT AND BUSINESS: THE ECONOMICS OF ANTITRUST AND REGULATION* ch. 4 (1995).

²¹ Although the market definition issue is one that can lead to errors in market power analysis, it is conceptually possible to err in the market definition analysis and still perform an evaluation of market power that yields correct outcomes. See William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 *HARV. L. REV.* 937 (1981). As a practical matter, however, one is far more likely to get the economics right if the

market is correctly defined.

²² For a more detailed discussion of the market definition exercise see KASERMAN & MAYO, *supra* note 20, at 111-16.

²³ Because substitutability on either side of the market will significantly influence the price that is established, market boundaries are determined by the greatest degree of substitutability found — whether it is on the demand side or the supply side of the market.

²⁴ For an example of the wide acceptance of this broad product market definition see *Competitive Carrier Proceeding, Fourth Report and Order, supra* note 1, para. 13 (stating that “interstate, domestic interexchange telecommunications services comprise the relevant product market”).

²⁵ *Id.*

²⁶ For a discussion on the strategic use of antitrust concerns

Once the relevant market has been determined, three fundamental factors are typically used to evaluate the extent to which any given firm in that market is subject to effective competition: the supply responsiveness (or elasticity) of other firms, market demand characteristics, and market share characteristics. Indeed, both academic literature and public policy bodies have widely acknowledged the relevance of these criteria in the assessment of market power.²⁷ Information on these three factors allows policymakers to reach informed judgments regarding the extent of competition in the market. As competition emerges, the need for traditional regulation wanes and, where effective competition is found to exist, a complete elimination of direct regulation is warranted.²⁸ In the paragraphs that follow, we briefly examine the role each of these economic characteristics plays in determining whether a firm possesses significant market power.

First, consider the role of the supply elasticity of competing firms. Any firm contemplating a price increase above the competitive level must consider the extent to which such an increase will encourage increased sales by its competitors. Business lost to these other firms will exert downward pressure on market price, thereby reducing (or, in some cases, completely eliminating or even reversing) the potential gains from the contemplated price increase. Thus, in a market where other firms can promptly meet customer demand by expanding their service availability in response to a competitor's price increase, every firm faces effective competition because any attempt to increase price to supra-competitive levels will be defeated by a substantial loss of sales to competitors.

Just as a firm must consider the supply response of firms already in the market, it must also consider the response of firms that are not currently providing service to this market but which could begin serving it if additional profit incentives were created by an increase in the market price.²⁹ Incumbent producers must recognize the response of potential competitors as well as current competitors in evaluating their ability to raise prices. As a result, in situations

where new firms can readily enter the market and capture sales, other firms' supply responsiveness to price changes may be quite high even if there is a limited number of firms currently serving the market.³⁰ Incumbent suppliers still face effective competition in this situation because any attempt to raise prices above the competitive level will result in the entry of additional firms with a corresponding increase in supply. Thus, an assessment of entry and expansion conditions in the relevant market is a critical part of the overall assessment of competition in a market.

Second, market demand characteristics play an important role in determining the market power of a firm. At the most basic level, the price elasticity of total market demand affects the extent of any firm's market power. Specifically, the more elastic the market demand, the more consumers view other goods and services (or reduced purchases of the service in question) as viable alternatives. As a result, a highly elastic market demand will limit substantially the extent of any firm's market power. Attempts to increase price will result in significant losses in sales as consumers switch to substitute goods or services or simply purchase fewer units.

In addition to market demand elasticity, three other characteristics of demand help to determine whether a given firm possesses market power: market growth, the distribution of demand, and the willingness of consumers to switch suppliers. First, *ceteris paribus*, growing markets are more likely to attract entry than stagnant or declining markets.³¹ Market growth reduces the likelihood of firm failures, and in turn lessens potential entrants' vulnerability. The heightened threat of entry and expansion in rapidly growing markets thus acts to restrict incumbent firms' ability to raise prices to above-competitive levels.³²

Next, in markets with a highly skewed demand distribution (i.e., a small proportion of customers accounts for a large portion of total demand), firms with high market shares have fewer opportunities to engage in supra-competitive pricing, because the rel-

to hamper competitive market processes see William J. Baumol & Janusz A. Ordover, *Use of Antitrust to Subvert Competition*, 28 J. L. & ECON. 247, 257-58 (1985).

²⁷ See, e.g., Landes & Posner, *supra* note 21, at 938-63; Simran K. Kahai, David L. Kaserman & John W. Mayo, *Is the Dominant Firm Dominant? An Empirical Analysis of AT&T's Market Power*, — J. L. & ECON. (forthcoming 1996). See also *In re Revisions to Price Cap Rules for AT&T Corp., Report and Order*, 10 FCC Rcd. 3009, para. 16 (1995) [hereinafter *AT&T Price Cap Order*] (applying these same criteria to the case of commercial long-distance services).

²⁸ Indirect regulation in the form of constraints provided by antitrust laws, of course, remains.

²⁹ Landes & Posner, *supra* note 21, at 938-63.

³⁰ *Id.* at 950.

³¹ See, e.g., J.C. Hause & G. Du Rietz, *Entry, Industry Growth and the Microdynamics of Industry Supply*, 92 J. POL. ECON. 733, 734-47 (1984).

³² Note, though, that rapidly expanding demand may exert upward pressure on prices in the most competitive of markets. JOSEPH E. STIGLITZ, *ECONOMICS* ch. 5 (1993).

atively few customers that account for a large share of the business being generated have a strong incentive to seek out alternative suppliers if their current provider raises prices.³³ The fear of losing a significant amount of business drives firms to charge competitive prices to these large customers, who, themselves may become competitors through resale. Similarly, a relatively skewed demand sends important signals to the various competitors that rapid market share gains (losses) are possible through efficient (inefficient) performance and pricing. This heightened vulnerability reduces incumbent firms' market power and lowers the likelihood that they would exercise any residual market power they might possess.

The willingness or reluctance of consumers to switch vendors of a good or service is also a fundamental consideration in analyzing a firm's ability to raise prices to supra-competitive levels. When a given firm's customers are relatively unwilling or unable to switch suppliers regardless of price, the firm in question has more latitude to raise price to the detriment of consumers. Alternatively, if consumers are willing and able to switch vendors, a firm will have considerably less latitude to unilaterally raise prices above competitive levels.

The third set of criteria traditionally used to examine market power revolve around market share. *Ceteris paribus*, a firm with a large market share could, by withholding some given portion of its output from the market, have a larger impact on total market supply and, hence, price than a firm with a small market share.³⁴ The measurement and interpretation of market share for the interexchange industry, however, must be approached with caution. The level and time path of AT&T's market share reflect not only normal marketplace developments but also the fact that AT&T was "endowed" with a very high market share at the time of the divesti-

ture.³⁵ That endowment, however, did not ensure that AT&T would have monopoly control over the supply of long-distance services. Thus, the information that, in some cases, might be contained in a market share number at a specific point in time is diluted substantially by the fact that AT&T began the post-divestiture period with an inherited high share. The competitive significance of a market share number, however, stems from a firm's ability (or lack thereof) to *retain* a given market share in the wake of an attempt to raise prices to above-competitive levels.³⁶ Firms whose market share declines over time in a market with stable (or falling) prices are very unlikely to have significant market power.

In this context, the presence of a high market share at a given point in time provides virtually no information on the incumbent firm's vulnerability to market share losses. Accordingly, any analysis of market share should examine the dynamic path of a firm's market share over time. Where the analysis reveals substantial market share losses, the observed vulnerability indicates significant limits on the firm's market power, regardless of the current level of its (statically-measured) market share. This is particularly true if significant price increases have not occurred. If the firm's market share has been vulnerable in the *absence* of substantial price increases, then it is extremely unlikely that the firm will be able to sustain its share in the *presence* of a significant price increase. The ability to maintain market share in the presence of a significant price increase is a true measure of market power.

Further, although minutes-of-use and revenue-based market share statistics are more readily available, in the case of the long-distance services market it is more meaningful to review market share measures based on the relative amount of transmission capacities held by interexchange firms. Capacity-based market share figures, combined with information on

³³ For empirical evidence that buyer concentration tends to promote more competitive pricing see Steven H. Lustgarten, *The Impact of Buyer Concentration in Manufacturing Industries*, 57 *REV. ECON. & STAT.* 125 (1975); Peter R. Cowley, *Business Margins and Buyer/Seller Power*, 68 *REV. ECON. & STAT.* 333 (1986).

³⁴ Whether such withholding of supply by a single firm will have a significant effect on market price also depends upon the other determinants of market power discussed in this section, such as the supply response of other firms.

³⁵ This "endowment" of a large market share did not, however, mean that AT&T was "endowed" with significant market power. Indeed, Judge Greene, who oversaw the divestiture of AT&T, concluded that:

[o]nce AT&T is divested of the local Operating Compa-

nies, it will be unable either to subsidize the prices of its interexchange service with revenues from local exchange services or to shift costs from competitive interexchange services . . . [w]ith the removal of these barriers to competition, AT&T should be unable to engage in monopoly pricing in any market.

United States v. American Tel. & Tel. Corp., 552 F. Supp. 131, 172 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

³⁶ "The right question is that of what happens to share, or, more generally, to a firm's business when monopoly profits are sought. The fundamental issue is whether competitors are able to grow." FRANKLIN FISHER, *INDUSTRIAL ORGANIZATION, ECONOMICS, AND THE LAW* 15 (1991).

customers' willingness to switch suppliers,³⁷ reveal whether existing firms can rapidly expand output or service availability in response to an attempted price increase. Consequently, capacity-based market shares are a more accurate indicator of the market's ability to enforce competitive pricing behavior.³⁸

It is important to understand that a firm cannot hold significant market power unless it has a large market share *and* other firms' supply responsiveness is low. That is, *either* a low market share *or* a high responsiveness of other firms' supply to price changes means that the firm is facing effective competition. If market share is low, significant market power cannot exist even if the responsiveness of other firms' supply to price changes is limited. Conversely, where other firms' supply is highly responsive to price changes, an individual firm cannot possess significant market power even if it holds a very high share.

The consequent need to examine both entry/expansion conditions and market share characteristics has been emphasized repeatedly by antitrust enforcement agencies.³⁹ State regulatory commissions also have recognized the importance of entry conditions and the corresponding need to look beyond market share figures in evaluating the intensity of competi-

tion. For example, the Virginia State Corporation Commission substantially reduced its regulation of interexchange carriers in 1984, reasoning that "the threat of competition is, in itself, a potent check on a firm's pricing policies."⁴⁰ Additional state-level recognition of the role of entry conditions in market power assessments is provided by the ongoing monitoring process by the California Public Utilities Commission of the intrastate interexchange marketplace. Their most recent assessment concludes that "[t]here are no significant barriers to entry that would discourage companies from competing in the California Interexchange market, and there are no barriers to exit."⁴¹ Thus, many state commissions have correctly incorporated the role of entry conditions in their evaluations of market power.

Totally specious conclusions may be reached if entry and expansion conditions are ignored and focus is placed solely on market share. It is necessary to look beyond market share.⁴² While market share is one of the economic determinants of market power, it cannot by itself demonstrate that a firm has significant control over market price. The other economic determinants, such as entry conditions, must also be conducive to providing such control.

³⁷ Consumers' high willingness to switch carriers is addressed *infra* at notes 54-56 and accompanying text.

³⁸ "Analytically, capacity seems to be the correct choice. The power of the dominant firm is limited not by the amount its competitors are currently manufacturing but by the amount they could manufacture in response to the dominant firm's price increase." Herbert Hovenkamp, *Antitrust Analysis of Market Power, with Some Thoughts About Regulated Industries*, in TELECOMMUNICATIONS DEREGULATION: MARKET POWER AND COST ALLOCATION ISSUES 7 (John R. Allison & Dennis L. Thomas eds. 1990).

³⁹ For example, the Federal Trade Commission has stated: Ideally, if we could measure all relevant demand and supply elasticities, we could arrive at relatively precise estimates of market power. Such evidence, however, is rarely, if ever, available and is not readily susceptible to direct measurement. Therefore, other criteria must be utilized. The most probative criteria include entry barriers; concentration trends (including volatility of market shares); technological change; demand trends; and market definition . . . [t]he issue of entry barriers is perhaps the most important qualitative factor, for if entry barriers are very low it is unlikely that market power, whether individually or collectively exercised, will persist for long.

FEDERAL TRADE COMMISSION, STATEMENT CONCERNING HORIZONTAL MERGERS, TRADE REG. REPORTS 20,901, at 20,902 (1993).

⁴⁰ Re SouthernTel of Va., Inc., *Final Order and Opinion*,

62 PUR4th 245, 256 (1984). In a similar vein, the West Virginia Public Service Commission wrote in 1986 that:

We realize that AT&T does enjoy a large share of the interLATA toll market; however, market share in and of itself is not the only criterion to be considered for regulatory purposes. Indeed we consider ease of entry, availability of customer choices and the presence of alternate carriers to be more important factors.

In re MCI Telecomm. Corp., Generic Order, 75 PUR4th 487, 498 (1986).

⁴¹ CAL. PUB. UTIL. COMM'N, THE COMM'N. ADVISORY AND COMPLIANCE DIV., REPORT ON 1992 CALIFORNIA INTEREXCHANGE MARKET (1995).

⁴² Almost a half a century ago, Nobel Laureate Paul Samuelson noted that:

[t]he demand curve of any firm is equal to the demand curve of the industry minus the supply curve of the remaining firms, already in the industry or potentially therein. This being the case, it is easy to show that under uniform constant costs the demand curve for a firm is horizontal even though it produces 99.9 per cent of all that is sold . . . [e]conomically if the firm were to begin to restrict output so as to gain monopoly profit, it would cease to see 99.9 per cent of the output or even anything at all. Consequently, it would not attempt to do so, but would find its maximum advantage in behaving like a pure competitor.

PAUL A. SAMUELSON, THE FOUNDATIONS OF ECONOMIC ANALYSIS 79 (1947).

III. APPLICATION OF THE COMPETITIVE CRITERIA TO THE INTEREXCHANGE SERVICES MARKET

The variety of data now available from several different sources permits an informed assessment of the extent of competition in the interexchange market. A review of the data, in light of the criteria identified in Section II, above, leads to the conclusion that the interexchange market is effectively competitive.⁴³ Neither AT&T nor any other competitor in the interexchange market has sufficient market power to control price in a manner adverse to the public interest. Let us examine each of the criteria identified above.

First, the available evidence unequivocally reveals that AT&T's competitors have a high responsiveness or elasticity of supply and that barriers to entry and expansion in this market are very low. This conclusion should not be surprising. The FCC and state regulatory bodies have liberally granted entry to long-distance firms, effectively eliminating all regulatory barriers to entry. This liberalization of prior entry restrictions is vividly demonstrated by the number of firms that have entered this market. As shown in Figure 1, over 450 competitors were providing long-distance service in the United States.⁴⁴ This flood of new entry, especially in the face of significant price decreases, clearly demonstrates that economic barriers to entry into this market are extremely low. Also, as seen in Figure 2, the total minutes-of-use reported by the non-AT&T long-distance competitors for interstate services has grown at an annual average rate of roughly twenty percent for the 1984-1994 period.⁴⁵ Thus, as new firms have entered this market, they have been able to expand their output (sales) rapidly. Another important factor in determining new firms' ability to expand out-

put (the elasticity of their supply) is the distribution of transmission capacity in the interexchange market. If existing firms' output were capacity-constrained, their ability to defeat an attempted AT&T price increase could be limited. If competitors have abundant capacity, however, both their ability and willingness to lure away customers and expand output is heightened, especially if consumers demonstrate a willingness to utilize their services.

Data collected by the FCC and other studies indicate that the capacity available for the transmission of long-distance traffic is abundant.⁴⁶ First, capacity expansion in this market has been rapid and significant. As shown in Figure 3, AT&T's competitors have aggressively built fiber-optic transmission capacity, and collectively they now own more activated capacity than AT&T.⁴⁷ It is also generally acknowledged that the large gap between activated fiber capacity and the potential capacity of the networks now in place creates a huge reserve of additional capacity that could rapidly and inexpensively be brought on-line should any firm in the market attempt to price anticompetitively. Moreover, the distribution of capacity across scores of interexchange carriers and "carriers' carriers" assures that no single firm can limit competition through exercise of "bottleneck" control of transmission capacity. Thus, competing carriers' ability to rapidly expand output in this market at low marginal cost is unconstrained due to the widespread availability of abundant transmission capacity.

By definition, where new firms have demonstrated their ability to enter a market and successfully capture market share over a protracted period of time, economic barriers to entry and expansion are low and, the responsiveness of their output to price is high.⁴⁸ Many new firms have entered the interexchange market, built large amounts of capacity,

⁴³ For similar conclusions see generally MICHAEL PORTER, *COMPETITION IN THE LONG DISTANCE MARKET* (1993); MICHAEL WARD, *MEASUREMENTS OF MARKET POWER IN LONG DISTANCE TELECOMMUNICATIONS*, FTC, BUREAU OF ECONOMICS STAFF REPORT (1995); Michael L. Katz & Robert D. Willig, *The Case for Freeing AT&T*, 7 REG. 43-49 (1983); Robert E. Hall, *Long Distance: Public Benefits from Increased Competition*, APPLIED ECON. PARTNERS (1993); see also David L. Kaserman & John W. Mayo, *Deregulation and Market Power Criteria: An Evaluation of State Level Telecommunications Policy*, in TELECOMMUNICATIONS DEREGULATION: MARKET POWER AND COST ALLOCATION ISSUES 65-102 (1990); David L. Kaserman & John W. Mayo, *Long Distance Telecommunications Policy: Rationality on Hold*, 122 PUB. UTIL. FORT. 18 (1988); Kahai et al., *supra* note 27.

⁴⁴ TELEPHONE TRENDS, *supra* note 5.

⁴⁵ MARKET SHARES, *supra* note 7, Tbl. 2.

⁴⁶ See, e.g., FIBER DEPLOYMENT UPDATE, *supra* note 6.

⁴⁷ *Id.* Tbl. 2.

⁴⁸ Recently, it has been alleged that the emergence of fiber-optic technology has created "huge" barriers to entry into the long distance market. See, e.g., Jerry Hausman, *The Long Distance Markets Today* (1993) (unpublished manuscript, on file with authors). Such a conclusion is erroneous for at least two reasons. First, the argument uses the wrong standard to judge the height of barriers to entry. Entry barriers should be measured by examining the economic characteristics of the costs for the *most likely mode of entry*. Thus, the fact that the construction and deployment of a nationwide fiber optic long-distance network is costly and involves considerable sunk costs is irrelevant, because that is not the preferred least-cost mode of entry. Profit maximizing firms will typically seek to enter markets via a least-cost strategy that minimizes their exposure to losses if the new venture fails. In the case of the long-distance industry, this

provided a wide array of long-distance telecommunications services, and expanded their output rapidly. This entry and expansion has benefited consumers by enhancing customer choice, creating downward pressure on prices, and providing heightened incentives for new service innovations. In addition, the high supply elasticity demonstrated by this observed behavior assures the long-run viability of competition in this market.

Turning to the second set of market power determinants, virtually all of the fundamental demand factors identified in Section II also unequivocally point toward the presence of effective competition. For example, demand growth has been quite strong in the long-distance market. Interexchange switched access minutes have grown nationally at an average rate of about ten percent annually since 1984.⁴⁹ This healthy growth rate has facilitated the emergence of new competitors, as entrepreneurs seek to garner a share of this burgeoning market.⁵⁰ Indeed, this market growth has undoubtedly contributed to the observed entry of hundreds of new firms into the interexchange market. Moreover, the outlook for continued growth in telecommunications markets appears excellent.

The distribution of demand also points toward the likelihood of vigorous competitive rivalry among the market participants. The demand for long-distance calling is highly skewed. For AT&T, fifty-three percent of its residential customers account for ninety-three percent of long-distance revenues.⁵¹ This skewed demand distribution contributes to the vulnerability of interexchange companies' market shares. Any attempt by one interexchange company to raise prices above competitive levels would provide significant financial incentives for its largest and most profitable customers to switch carriers.

Consumers' willingness and ability to switch firms

also clearly shows that no interexchange firm can manipulate the market price. Consumers' ability to switch, of course, depends upon the ease with which competing firms can reach customers seeking to utilize their services. The equal access conversion process, which is now virtually complete, has facilitated this capability to provide customers a ready choice of carriers. By the end of 1993, over ninety-seven percent of the nation's telephone lines had been converted to equal access.⁵² This conversion ensures that consumers have a readily available choice of a variety of long-distance carriers. Indeed, a recent survey of available choices for "1+" long-distance carriers found that residential customers typically have between ten and thirty long-distance carriers from which to choose.⁵³ Importantly, this competitive choice is available to customers in urban, suburban, and rural areas. As a result, substantial competitive choice is now ubiquitous throughout the United States. In today's environment, there is simply no substantial portion of the population without a significant choice of long-distance carriers.

Not only do consumers typically have a number of long-distance carriers from which to choose, but they also have demonstrated in droves that they are willing to exercise that choice. Indeed, according to industry data, in 1994 residential customers switched their long-distance carrier twenty-seven million times.⁵⁴ Taking "multiple switchers" into account, this represents carrier changes by over nineteen million customers in 1994, or about one in five households. Based upon the most recent data available, it appears that households will switch their long-distance company roughly thirty million times in 1995.⁵⁵ Moreover, it is important to note that it is not just high volume customers who switch to alternative long distance carriers. Specifically, in 1994, over ten million AT&T customers with average

least-cost path does not involve *de novo* construction of a fiber optic transmission network but, rather, entry by leasing existing capacity. As new entrants grow and expand their customer bases, a point is reached where it may become economical to construct their own transmission networks, depending on the price and availability of leased facilities. Second, regardless of any *theoretical* arguments regarding barriers to entry, the overwhelming marketplace evidence regarding *actual entry* and expansion belie the notion that any significant barriers to entry and expansion in the interexchange industry exist. For a more complete discussion see David L. Kaserman & John W. Mayo, *Long Distance Telecommunications: Expectations and Realizations in the Post-Divestiture Period*, in *INCENTIVE REGULATION FOR PUBLIC UTILITIES* 83 (Michael A. Crew ed., 1994).

⁴⁹ MARKET SHARES, *supra* note 7, Tbl. 1.

⁵⁰ See, e.g., Catherine Arnst et al., *Phone Frenzy: Is There Anyone Who Doesn't Want To Be a Telecom Player?*, BUS.

Wk., Feb. 20, 1995, at 92-97.

⁵¹ See *Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Nondominant Carrier*, in CC Dkt. No. 79-252 (Mar. 9, 1995) [hereinafter *Mar. 9 Ex Parte Presentation*] (chart labeled, "over half of Light Users currently fall below break even").

⁵² TELEPHONE TRENDS, *supra* note 5, Tbl. 12.

⁵³ See Kaserman & Mayo, *supra* note 48, at 92-93.

⁵⁴ *Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Non-Dominant Carrier*, in CC Dkt. No. 79-252 (Feb. 8, 1995) [hereinafter *Feb. 8 Ex Parte Presentation*] (chart labeled "Competition - Customers' Freedom of Choice"). See also *Hearings Before the Senate Comm. on Commerce, Science, and Transportation*, 104th Cong., 1st Sess. (Mar. 2, 1995) (prepared statement of John W. Mayo at 3).

⁵⁵ *Ex Parte Presentation*, *supra* note 1, Att. I (chart labeled "The Long Distance Market").

monthly usage of less than ten dollars per month switched carriers.⁵⁶ Consequently, all consumers possess both the willingness and ability to switch between long-distance firms.

Turning last to the market share data, capacity-based estimates reveal that AT&T's current market share is roughly between forty and forty-five percent.⁵⁷ AT&T's competitors thus have more fiber optic capacity in place (measured by fiber-miles or route-miles) than AT&T. As a consequence of prevailing capacity and demand conditions, it has been estimated that AT&T's competitors could immediately absorb fifteen percent of AT&T's 1993 demand without incurring any capital costs.⁵⁸ Moreover, by utilizing spare switch ports and existing transport facilities, it is estimated that AT&T's competitors could absorb an additional seventeen percent of AT&T's 1993 traffic within three months.⁵⁹ Given the rapidly evolving nature of the electronics of switching and the commensurate increases in switching capacity, it is clear that the capacity of any given carrier can be expanded very rapidly by deploying newly available electronics. For example, relatively straightforward alterations in the electronics may boost several-fold the average number of DS-3's per fiber pair embodied in today's electronics.⁶⁰ Thus, for purposes of market power assessment, AT&T's capacity-based market share measurement is actually quite conservative.⁶¹ AT&T's output-based 1994 market share is somewhat higher, about fifty-eight percent of all interstate minutes-of-use.⁶² While these alternative measures indicate that AT&T is a major competitor in the interexchange services market, they are not out of line with the market shares of other firms (e.g., Campbell Soup Company) which operate in unregulated environments.⁶³

Moreover, AT&T's market share is not static. The temporal pattern of its market share reveals that AT&T's services are quite vulnerable to competitive

attacks by rivals even in the absence of an attempted price increase. At the time of divestiture, AT&T sold the predominant share of interexchange services in the United States. Figure 4 reveals that AT&T's minutes-of-use market share has declined almost continually throughout the post-divestiture period.⁶⁴ The fact that this decline has occurred over an eleven year period in which AT&T's prices have fallen dramatically (over fifty percent in real terms)⁶⁵ clearly indicates that AT&T will be highly vulnerable to even larger market share losses if it should ever fail to offer quality services at competitive prices.

Significantly, the aggregate trend of market share declines masks an even more revealing vulnerability of AT&T's customer base. As noted above, the long-distance marketplace is characterized by a considerable amount of customer churn. In 1994, some twenty-seven million households switched long-distance carriers.⁶⁶ This widespread propensity of many customers to switch carriers reveals the vulnerability of every long-distance firm to rapid market share erosion. AT&T's overall market share trend reveals only the net effect of household switching. The true vulnerability of AT&T to market share erosion is considerably greater than the net market share trend shown in Figure 4 suggests. On a monthly basis, residential customers are changing carriers over two and a half million times. Given such demonstrated willingness to change carriers, a single mis-step by AT&T could result in significant and dramatic share loss. This vulnerability to competitors is similar for the business segment, where churn levels are somewhat lower but revenue per customer is much higher. Such vulnerability clearly shows that the marketplace effectively disciplines AT&T's pricing behavior.⁶⁷ The principal conclusion to be drawn from the declining market share and substantial customer churn data is that, regardless of the historical

⁵⁶ *Id.* at 34.

⁵⁷ FIBER DEPLOYMENT UPDATE, *supra* note 6.

⁵⁸ See *Ex Parte Presentation*, *supra* note 1, at 2.

⁵⁹ *Id.*

⁶⁰ *Id.* at 6.

⁶¹ These estimates, proffered by AT&T, are claimed to be conservative since they are based solely on MCI, Sprint, and LDDS/Wiltel and ignore AT&T's other competitors in this area. *Id.* at 2.

⁶² MARKET SHARES, *supra* note 7.

⁶³ JOHN SUTTON, SUNK COST AND MARKET STRUCTURE: PRICE COMPETITION, ADVERTISING, AND THE EVOLUTION OF CONCENTRATION Tbl. M.8 (1991) (listing market shares in the prepared soups industry).

⁶⁴ The vulnerability of AT&T to market share losses appar-

ently extends well beyond the losses to MCI and Sprint. Indeed, recent data indicates that the most rapid growth in presubscribed lines in recent periods has come from the so called "third tier" carriers. KASERMAN & MAYO, *supra* note 20.

⁶⁵ WARD, *supra* note 43, at 11.

⁶⁶ See *supra* note 54 and accompanying text.

⁶⁷ AT&T's market share losses are not due to the ability of regulators to effectively restrain some innate advantage that AT&T might have were it freed from regulatory controls. Market share declines have occurred not only in states where AT&T has been asymmetrically regulated (e.g., New York), but also in states such as Virginia in which the regulatory commission has eliminated asymmetric regulation. See *supra* notes 40-41 and accompanying text.

"dominance" of AT&T in the market, no firm today is immune to large market share swings if it were to attempt to charge non-competitive prices.⁶⁸

In sum, the presence of numerous competitors, the demonstrated vulnerability of AT&T's market share, the widespread availability of transmission capacity, the minimal amount of economic barriers to entry, and the fundamentally pro-competitive demand conditions in the interexchange market clearly demonstrate the presence of effective competition. Moreover, several factors indicate that this competition exists not just at the aggregate level, but also for every toll service and each geographic area within the country. As pointed out in Section II, the degree of competition is only meaningful when discussed with respect to "the relevant market." In this case, the relevant market includes *all* interexchange toll services sold in the United States.⁶⁹ Thus, the finding of effective competition in the relevant market necessitates the conclusion that such competition exists for *each* service and geographic area within that market. Therefore, AT&T faces competitors in *every* geographic area within the United States and for *every* toll service it offers.⁷⁰

IV. COMPETITION IN THE INTER-EXCHANGE MARKET: OTHER EMPIRICAL EVIDENCE

The foregoing analysis provides clear evidence that the interexchange market is subject to effective competition. Corroborating evidence of such competi-

tion stems from two additional sources that we briefly review in this section. First, although it was possible in the immediate wake of the divestiture to argue (largely on conceptual grounds) that AT&T had very little market power, we now have had over ten years of actual marketplace experience on which to base this conclusion. Numerous states have experimented with relaxed and, in many cases, symmetric regulation of interexchange carriers. Second, the FCC has substantially relaxed its regulation of interstate business services. Such experimentation provides a natural opportunity to observe AT&T's market behavior in a less stringent regulatory environment and offers empirical evidence of AT&T's lack of market power. In addition, the passage of time and the advancement of empirical industrial organization methodologies since the divestiture have now created the opportunity to formally (econometrically) test the hypothesis that AT&T retains significant monopoly power. Specifically, it has become possible to estimate directly the degree of market power held by AT&T. In the three subsections that follow, we briefly describe the results of these two types of studies.

A. Relaxed Regulation: The State Evidence

Beginning with the Virginia State Corporation Commission's decision in late 1984 to grant full pricing flexibility to all long-distance firms, including AT&T,⁷¹ the vast majority of states now have relaxed regulation of intrastate interLATA toll service

⁶⁸ In this context, it is important to note that any explicit public policy linkage between AT&T's market share and the removal of the "dominant" label and asymmetric regulation would constitute very poor policy. Indeed, a policy that predicates an end to asymmetric regulation on AT&T's market share falling below some specific threshold reduces all firms' propensities to compete. AT&T would, under such a policy, be encouraged to refrain from aggressive competition in order to allow its market share to fall below the threshold level. It could do this, for instance, by raising prices, refusing to offer new services, or allowing quality to fall. At the same time, the firms attempting to prolong regulation of AT&T would face an incentive not to capture too much market share, so as to deny the "dominant" firm regulatory freedoms to fully and freely compete for customers' patronage. Thus, under a "market share threshold" policy, if competitors succeed in attracting customers away from AT&T, the "reward" is the deregulation of AT&T. In this scenario, the entire competitive process is put in reverse. A contest is created to see who can turn in the worst performance. This is the fundamental reason that the federal antitrust authorities have not established a singular focus on market share or created any market share threshold test for the existence of significant monopoly power.

⁶⁹ See *supra* notes 24-26 and accompanying text.

⁷⁰ As noted above, over 97% of all local exchange access lines in the United States have now been converted to equal access, ensuring dialing and technical interconnection parity between AT&T and its competitors in virtually every geographic location in the United States. TELEPHONE TRENDS, *supra* note 5, Tbl. 12. Even the tiny fraction of customers without equal access are protected from market power by the practice of geographically uniform pricing. This practice assures that the price of a long-distance call is the same regardless of whether the origination and termination locations are urban or rural, equal access or nonequal access. Because competition is pervasive in equal access areas with (typically) between 15 and 30 long distance carriers, nonequal access areas are also assured competitive pricing. Kaserman & Mayo, *supra* note 48, at 92-93. Moreover, even in areas where equal access is not yet implemented, it is routine for long-distance customers to be served by several interexchange carriers. See, e.g., *In re* PSC's Investigation of the Regulatory Status of Other Common Carriers and Contemplated Rulemaking, MONTANA PUBLIC SERVICE COMM'N, Dkt. No. 94.2.8. (Direct Testimony of John W. Mayo)(June 10, 1994).

⁷¹ See *supra* note 40 and accompanying text.

to varying degrees.⁷² As a result, it has become increasingly possible to examine empirically the cumulative evidence regarding the effects of such policies and to make informed judgments about the likely impacts of a further relaxation of regulatory controls. This type of evidence is extremely important in public policy proceedings, because parties opposed to relaxed regulation of AT&T have often argued that such a policy would lead to various sorts of undesirable consequences.⁷³ For instance, some parties have predicted that AT&T would use its newfound pricing freedom to charge monopoly prices, including differentiating between terms offered in contract tariffs for end users and those for resellers of telecommunications services to disadvantage its competitors.⁷⁴ Others fear that relaxed regulation would lead to predatory pricing, cross-subsidization, or reductions in universal service.⁷⁵ Given these predictions, it is informative to look at the experience with reduced regulation of AT&T. If these feared consequences have not emerged under reduced regulation, the predictions lose their credibility.

The available evidence strongly indicates that consumers have benefited substantially from reduced regulation. Indeed, industry performance has improved markedly with the relaxation of regulatory controls. It is of specific interest to regulatory commissions' current and ongoing deliberations that no evidence exists that in those state jurisdictions where policies of continued asymmetric regulation remain that competitive performance in the interexchange market has in any way improved. In fact, the availa-

ble evidence strongly suggests that such regulation has actually caused consumers to pay higher prices.

This conclusion is supported by several studies. For example, one study of the effects of regulation and competition on the prices of AT&T's intrastate toll rates found that "[t]he price of AT&T was found to be lower in states with pricing flexibility than in states where AT&T was operating under rate of return regulation . . . [h]owever, the price of AT&T service was lowest in states with complete deregulation."⁷⁶ This study is congruent with an earlier study by staff economists at the Federal Trade Commission ("FTC") in which the authors concluded, "(t)he results of this analysis suggest that AT&T's daytime, evening, nighttime and weekend rates are significantly lower in states that allow pricing flexibility than in states that use rate-of-return regulation."⁷⁷ Indeed, the study indicates that the price of a five-minute daytime intrastate toll call was, on average, 7.2 percent lower in states that allow AT&T increased pricing flexibility.⁷⁸

Together, these studies reject the hypothesis that anticompetitive pricing has occurred under relaxed regulatory policies and allay any fears of price escalation after regulation is relaxed. Indeed, the results demonstrate that relaxed regulation is pro-competitive, and generally leads to significant price reductions. The results also provide compelling evidence that AT&T lacks significant market power. If AT&T had such power, relaxed regulation should have led to higher (not lower) prices.⁷⁹

Assessing whether any states have deemed it nec-

⁷² See *supra* note 15.

⁷³ David L. Kaserman & John W. Mayo, *The Ghosts of Deregulated Telecommunications: An Essay by Exorcists*, 6 J. POL'Y. ANALYSIS MGMT. 84, 85 (1986); Kaserman & Mayo, *Long Distance Telecommunications Policy: Rationality on Hold*, *supra* note 43, at 21-25.

⁷⁴ Comments of the Telecommunications Resellers Ass'n. to the Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Non-Dominant Carrier, at App. 1 (June 9, 1993).

⁷⁵ MCI Telecommunications Corporation has argued that it is premature to classify AT&T as non-dominant because it still has substantial market share, dominates in market segments seemingly "immune to the introduction of effective competition," and holds key patents for fundamental telecommunications systems. Comments of MCI Tel. Corp. to the Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Non-Dominant Carrier *passim* (June 9, 1995). MCI suggested that the FCC should at least reaffirm important "market rules" to ensure that AT&T does not avoid its legal obligations. *Id.* at 7-21. Four of the Regional Bell Operating Companies have argued that the major long distance telephone companies have established a cooperative pricing pattern in which they generally increase prices on one another's lead. Further Opposition of Bell

Atlantic, BellSouth, Pacific Telesis, and SBC Communications to the Motion for Reclassification of AT&T as a Nondominant Carrier (June 9, 1995) [hereinafter RBOC Comments]. See also William E. Taylor & J. Douglas Zona, *Analysis of the State of Competition in Long Distance Telephone Markets* (1995), in RBOC Comments, Att. E.

⁷⁶ Robert Kaestner & Brenda Kahn, *The Effects of Regulation and Competition on the Price of AT&T Intrastate Telephone Service*, 2 J. REG. ECON. 363, 372 (1990).

⁷⁷ Alan D. Mathios & Robert P. Rogers, *The Impact of Alternative Forms of State Regulation of AT&T on Direct-Dial, Long Distance Telephone Rates*, 20 RAND. J. ECON. 437, 437 (1989).

⁷⁸ *Id.* at 447.

⁷⁹ One study reaches the conclusion that regulatory manipulation of access charges assessed to long-distance carriers, not competition, has been responsible for price declines in the interexchange marketplace. See William Taylor & Lester D. Taylor, *Postdivestiture Long-Distance Competition in the United States*, 83 AM. ECON. REV. 185, 189 (1993). This conclusion, as well as the underlying data and methodology embodied in the study, are, however, subject to serious debate. See, e.g., Letter from E. E. Estey, Regulatory V.P., AT&T, to William F. Caton, Acting Secretary, FCC (Mar. 21, 1995), in *Ex Parte Presentation*,

essary to reverse reduced regulation policies in response to any performance problems presents another perspective on the experience with relaxed regulation. Virtually all of the states that have implemented reduced regulation have retained their authority to reinstitute more stringent regulatory controls if the experience did not benefit consumers. Moreover, these states have continued to monitor various aspects of market performance to detect whether any undesirable consequences have materialized. An absence of reregulation clearly is indicative of competitive market performance.

Here again, the evidence is unequivocal. No state that has relaxed regulation has found it necessary to reverse itself. Indeed, in the state with the longest experience with relaxed (and symmetric) regulation, the Virginia State Corporation Commission staff concluded that, "the information put forward here reflects well, overall, on the effects of deregulation on AT&T's prices in Virginia."⁸⁰ Similarly, in the state of Washington, where AT&T has been granted substantial pricing flexibility with symmetric regulation, an examination of interexchange rates led the Washington Utilities and Transportation Commission to conclude that "the competitive marketplace is working."⁸¹

B. Relaxed Regulation: Business Services

The marketplace experience after the FCC's relaxation of regulation of AT&T's business services in 1991 supplies additional evidence on the merits of relaxed regulation.⁸² Competition for these services has flourished in the wake of the removal of pricing controls for AT&T. Moreover, while this competi-

tion has been "messy" for individual competitors, with hundreds of promotional offerings and thousands of individual contract offerings, customers have benefited immensely. Nominal prices have declined by roughly fifteen percent, scores of new services have been introduced, and quality has improved.⁸³ This positive experience with the Commission's removal of pricing controls for business services provides additional evidence that asymmetric regulation of interexchange services is simply unnecessary and is, in fact, harmful in today's marketplace.

In summary, the published literature, internal staff studies, and state and federal regulatory decisions to retain relaxed regulation policies all support the conclusion that effective competition prevails in the interexchange market. This body of empirical evidence does not support continued asymmetric regulation of AT&T by either federal or state regulators under the "dominant" firm classification inherited from the pre-divestiture period.

C. Direct Econometric Estimates of AT&T's Market Power

In recent years, the advancement of "new empirical industrial organization" techniques has provided the means in certain situations to examine the market power of individual firms directly.⁸⁴ At least two such studies of the interexchange industry have now been performed.⁸⁵ Both employ a variant of the so-called residual demand estimation approach to generate empirical estimates of the "Lerner index" for AT&T.⁸⁶ This index provides a direct measure of the degree of market power held by the firm.⁸⁷ Inter-

supra note 1, Att. V (demonstrating that, when properly calculated, AT&T's rate reductions exceed access charge reductions that have been resulting from regulation). Thus, while access charge changes have, without doubt, contributed to the evolving set of prices in the post-divestiture era, the assertion that revenue reductions are eclipsed by access charge reductions is incorrect. Moreover, the studies noted herein demonstrate that relaxed regulation of AT&T's toll services has had beneficial effects on prices after accounting for access charge changes.

⁸⁰ VA. STATE CORP. COMM'N, THE EFFECT OF DEREGULATION ON AT&T PRICING IN VIRGINIA AND A COMPARISON OF AT&T PRICING IN TEN STATES ACROSS THE UNITED STATES 14 (1987).

⁸¹ THE WASH. UTIL. AND TRANSP. COMM., THE STATUS OF THE WASHINGTON TELECOMMUNICATIONS INDUSTRY 52 (submitted to the Washington State Legislature, Jan. 27, 1989).

⁸² The FCC allowed AT&T to offer contract-based rates and terms of service to business customers. AT&T was required to file these rates and conditions with the Commission and to make them generally available to all similarly situated custom-

ers, and such filings required 14 day notice. *In re Competition in the Interstate Interexchange Marketplace, Report & Order*, 6 FCC Rcd. 5880, 5901, *recon. in part*, 6 FCC Rcd. 7569 (1991), *further recon.*, 7 FCC Rcd. 2677 (1992). Two years later, in the same docket, the Commission concluded that the 800 services market was competitive enough to remove price cap regulation on AT&T for these services. *Second Report & Order*, 8 FCC Rcd. 3668 (1993).

⁸³ *Ex Parte Presentation, supra* note 1, at 39-40.

⁸⁴ For a survey of studies making use of these techniques see Timothy F. Bresnahan, *Empirical Studies of Industries with Market Power*, in 2 HANDBOOK OF INDUS. ORGANIZATION 1011, 1051-55 (R. Schmalensee & R.D. Willig eds., 1989).

⁸⁵ WARD, *supra* note 43; Kahai et al., *supra* note 27.

⁸⁶ See A.P. Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 THE REV. OF ECON. STUD. 157 (1933-1934). Lerner sets forth a formula to measure monopoly power. Where "P" is price and "C" is marginal cost, the "Lerner index" is given by $(P - C) / P$. *Id.* at 169.

⁸⁷ WARD, *supra* note 43.

estingly, these two studies make use of substantially different methodologies and data sets, yet they reach strikingly similar conclusions. Specifically, both studies find that AT&T holds little market power. In fact, the Lerner index for AT&T is found to be well below that of many firms operating in completely unregulated industries.

The first study, by Michael Ward, staff economist at the FTC, makes use of two data sets — a time series for interstate calling that covers the period from July 1986 to August 1991, and a pooled sample of monthly data that covers the 1988-1991 period for five states.⁸⁸ His study focuses on the small business and residential portion of the overall interexchange market.⁸⁹ Simultaneous equations estimation techniques are employed to estimate both demand and supply relationships.⁹⁰ Ward's results lend further support to the conclusion that AT&T holds no economically significant market power in the interexchange services market.⁹¹

The second study to attempt a direct measurement of AT&T's market power is by Simran Kahai and the authors of this paper.⁹² This study makes use of quarterly observations on interstate calling volumes and tariffed rates for residential MTS service over the period of third quarter 1984 to fourth quarter 1993. The theoretical framework for this study is provided by the dominant firm/competitive fringe model.⁹³ Using this model, the study estimated simultaneously the total market demand and competitive fringe supply curves while controlling for exoge-

nous variables such as the price of carrier access and the percent of lines converted to equal access.⁹⁴ From these estimates and known values for AT&T's market share (based on either capacity or minutes-of-use), calculation of the price elasticity of AT&T's residual demand curve is feasible. The Lerner index for AT&T, then, is given directly by the reciprocal of this elasticity.

The estimated values for this index fall between 0.13 and 0.29, depending upon which market share figure is used.⁹⁵ These values are then compared to Lerner index estimates for other (predominantly unregulated) industries reported in two prior studies, by Robert E. Hall⁹⁶ and Timothy F. Bresnahan.⁹⁷ Both of these comparisons support the conclusion that, relative to other firms in the United States economy, AT&T possesses very little market power. From these estimates and comparisons, the study concludes that:

Comparison of these values with prior Lerner index estimates for firms in other industries suggests that, relative to these other (unregulated) industries, the long distance market is highly competitive . . . [t]o the extent that the 'dominant firm' label and the affiliated policy of asymmetric regulation were originally proposed as a mechanism to handle residual, but significant, monopoly power on the part of AT&T, our findings clearly indicate that this is a label and policy that are no longer warranted.⁹⁸

Thus, both studies have estimated directly the degree of market power held by AT&T and are in close agreement. Both demonstrate the positive impact of

⁸⁸ *Id.* at 24-25.

⁸⁹ Note that this is the Price Cap Basket 1 portion of the market, in which the greatest concern has been expressed regarding the possibility of significant market power by AT&T. Thus, Ward's results should hold *a fortiori* for the remainder of the interexchange market.

⁹⁰ WARD, *supra* note 43, at v.

⁹¹ From the results of this estimation, Ward writes that [t]his study measures empirically the competitiveness of the long-distance telephone market. To do so, it estimates firm-specific long-run demand elasticities for AT&T and its rivals for long-distance service marketed to households and small businesses during 1988-1991. A lower-bound for AT&T's long-run demand elasticity is estimated to be approximately -10.1. If AT&T's prices were completely unregulated, this elasticity estimate implies that the upper-bound deadweight loss due to allowing AT&T to set prices in excess of marginal cost would be about 0.36% of total industry revenues in 1991, or \$199 million in 1991. While direct estimates of the costs imposed by the current form of regulation are not available, this welfare loss estimate is well below previous estimates of the benefits that followed partial deregulation of the long-distance market. . . The estimation results lead us to a number of conclusions. Chief among them is that the long-distance mar-

ket is relatively competitive. Because the long-distance market appears more competitive now than during the period covered by our analysis, the current deadweight loss from AT&T's exercise of market power may be even less than our estimates.

Id. at iii-v.

⁹² See Kahai et al., *supra* note 27.

⁹³ For a discussion of this model, see KASERMAN & MAYO, *supra* note 20, at 104-09. Despite the rather pejorative title of this model, its use implies no *a priori* presumption of significant market power on the part of the so-called "dominant firm." See generally Landes & Posner, *supra* note 21. For a more complete discussion of the term "dominant" in the economics and telecommunications regulation literatures see Kahai et al., *supra* note 27.

⁹⁴ Kahai et al., *supra* note 27, at 11-15.

⁹⁵ *Id.* at 20. These estimates are probably biased upward due to the use of a short-run estimate of total market demand elasticity. They imply a price elasticity of demand for AT&T's services of between -3.45 and -7.69. *Id.*

⁹⁶ Robert E. Hall, *The Relation Between Price and Marginal Cost in U.S. Industry*, 96 J. OF POL. ECON. 921 (1988).

⁹⁷ Bresnahan, *supra* note 84, at 1051.

⁹⁸ Kahai et al., *supra* note 27, at 28-29.

reduced regulation on market performance, and fortify the more traditional structure-conduct-performance studies of underlying industry characteristics. The cumulative weight of this evidence overwhelmingly supports the conclusion that the interexchange market is subject to effective competition.

V. OTHER COMPETITIVE/POLICY ISSUES

The preceding assessment of the evidence from a variety of sources clearly demonstrates that AT&T does not possess the power to control price unilaterally in the interexchange market. That is, AT&T does not have significant market power. Consequently, under both the economic and regulatory definitions of dominance, AT&T is *not* a dominant firm.

Nonetheless, the authors have encountered some parties who have been willing to accept (or, at least, not oppose) this basic conclusion, but have been reluctant to advocate adoption of a symmetric regulatory policy. This reluctance is due to other concerns about market conduct and performance that might arise under such a policy. Specifically, three principal issues have been raised: the three largest firms could engage in tacit collusion and supra-competitive pricing;⁹⁹ AT&T could engage in predatory pricing, causing substantial exit and a reconcentration of the market; and AT&T may raise prices to its low volume or rural customers, where it is believed to hold a much larger market share.¹⁰⁰ In this section, we briefly address each of these competitive issues.

Before turning to these issues, however, two points are worth noting. First, the competitive concerns listed above are not new. Each of these issues has been raised and successfully resolved in various state-level regulatory proceedings. Despite allegations based on these concerns, numerous state commissions have chosen to implement relaxed/symmetric regulatory policies.¹⁰¹ To date, no evidence whatsoever has appeared that would indicate that anticompetitive consequences have emerged.

Second, when confronted with allegations that

these (or other) performance problems are likely to materialize in a less stringently regulated environment, questions must be asked: What, precisely, is the alleged concern? Is the market in question conducive to the sort of behavior postulated, and is there evidence that such behavior has arisen? Does the existing policy of asymmetric regulation make sense as a policy instrument to prevent the alleged conduct? Finally, is there an alternative, less stringent policy that is likely to be more successful in addressing the problem? Of course, the third and fourth questions are relevant only if the answer to the second is "yes." This sort of structured approach will help to ensure that public policy is responsive to the realities (and not the myths) of the marketplace. We now apply this approach to the issues listed above.

A. The Tacit Collusion Issue

From the time of divestiture, various parties have argued that long-distance telecommunications firms might engage (or are engaging) in tacit collusion to keep prices above competitive levels. The concept of tacit collusion was first developed by Edward H. Chamberlin in 1933.¹⁰² The basic idea is that under certain conditions, rival firms in a highly concentrated industry may gravitate toward the joint-profit maximizing (i.e., monopoly) price and output without actually entering into an explicit overt agreement to fix prices.¹⁰³ Whether this sort of behavior is likely to occur, however, is highly dependent upon the specific characteristics of the market in question. For tacit collusion to arise, industry conditions must be favorable to the stable sort of "meeting of the minds" that must occur to sustain this type of highly coordinated market conduct.¹⁰⁴

The market structure exhibited by the long-distance telecommunications industry is *not* conducive to such tacit collusion. At least seven structural attributes of this industry effectively preclude such behavior. First, collusion of any sort (either tacit or overt) cannot succeed in the absence of significant barriers to entry and expansion. The reason for this

⁹⁹ See RBOC Comments, *supra* note 75. See also Paul W. MacAvoy, *Tacit Collusion Under Regulation in the Pricing of Interstate Long-Distance Telephone Services*, 4 J. OF ECON. & MGMT. STRATEGY 147 (1995).

¹⁰⁰ This list of competitive issues is not exhaustive. It does, however, cover the major concerns that have been raised. This article's analytic analysis in responding to these concerns and the conclusions reached herein should easily be transferable to related issues.

¹⁰¹ See *supra* note 15 and accompanying text.

¹⁰² EDWARD H. CHAMBERLIN, *THE THEORY OF MONOPOLISTIC COMPETITION: A REORIENTATION OF THE THEORY OF VALUE* (8th ed. 1962).

¹⁰³ *Id.* at 106.

¹⁰⁴ Conspiracy within an industry may exist only where the behavior indicates "a unity of purpose or a common design and understanding, or a meeting of the minds in an unlawful arrangement." *Nurse Midwifery Assoc. v. Hibbet*, 918 F.2d 605, 616 (6th Cir. 1990), *cert. denied*, 502 U.S. 952 (1991).

is straightforward. To the extent that colluding firms succeed in raising market prices above competitive levels, new firms will enter the industry and/or existing non-colluding firms will expand output *unless* entry and expansion barriers prevent such natural market responses. Such entry and output expansion increase supply and drive prices back down, thereby defeating any collusive attempts to increase prices. Therefore, tacit collusion cannot succeed (and, consequently, will not arise) in markets characterized by relatively easy entry. Indeed, the fundamental role that entry barriers play in allowing collusion or other anticompetitive forms of conduct to arise has led F.M. Scherer and David Ross to write that, "significant entry barriers are the *sine qua non* of monopoly and oligopoly . . ."¹⁰⁵ Additionally, Roger Sherman points out that "[t]o perpetuate a cooperative solution, the firms must be able to limit industrial capacity to supply the good. Existing firms must resist expansion and there must be barriers to the entry of new firms."¹⁰⁶

No substantial barriers to entry into the long-distance telecommunications industry exist. The observed entry of over 450 new firms during the past decade in the face of declining prices provides compelling evidence that entry into this market is readily achievable. Moreover, the market is free of major barriers to expansion that would prevent smaller firms already in the market from increasing their supply if the larger firms were to attempt to increase prices above competitive levels. Both MCI and Sprint entered this market at smaller scales than many current market participants now enjoy. The substantial market share gains these two firms have realized could be replicated by the smaller carriers if the top three firms were to increase prices to supra-competitive levels. Indeed, the combined market share of these smaller firms has more than doubled in recent years and now exceeds the market share of

Sprint.¹⁰⁷ With no substantial barriers to expansion, these firms provide an effective constraint against tacit collusion by AT&T and its larger rivals. Therefore, the absence of significant entry and expansion barriers provides an effective safeguard against tacit collusion in this market.

The second structural characteristic of the inter-exchange market that prevents the emergence of tacit collusion is the substantial amount of spare capacity that exists in this industry. The economic literature on collusive behavior widely recognizes the tendency for collusive arrangements to break down in the presence of excess capacity.¹⁰⁸ The logic of the argument is straightforward. Where excess capacity is present, the marginal cost of increasing the individual firm's output can be quite low. As a result, the difference between a collusive price and marginal cost becomes great, and the incentive to increase output (or "cheat" on the collusive agreement) is correspondingly great. As participating firms succumb to this incentive to cheat, the collusive agreement collapses and the market price falls towards the competitive level.¹⁰⁹ This has led Stephen Martin to conclude that "[f]or this reason, economists have argued that substantial excess capacity increases the likelihood of price wars and a breakdown in oligopolistic control of prices."¹¹⁰ Excess capacity is thus an anathema to successful collusion. Its presence in the long-distance market makes tacit collusion extremely unlikely.¹¹¹

The third structural characteristic that frustrates any effort to achieve and maintain tacit collusion in this industry is the marked differences that exist in the market shares of the three largest firms. These unequal shares tend to confound the sort of mutually cooperative behavior that must be achieved without explicit communication if tacit collusion is to succeed.¹¹² Unless MCI and Sprint are content to continue to hold the market shares they now possess

¹⁰⁵ F.M. SCHERER AND DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 18 (1990).

¹⁰⁶ ROGER SHERMAN, *THE ECONOMICS OF INDUSTRY* 264 (1974).

¹⁰⁷ TELEPHONE TRENDS, *supra* note 5, at 45 (Tbl. 30).

¹⁰⁸ See Robert W. Staiger & Frank A. Wolak, *Collusive Pricing with Capacity Constraints in the Presence of Demand Uncertainty*, 23 *RAND. J. ECON.* 203 (1992), where in referring to SCHERER & ROSS, *supra* note 105, it notes a "large body of empirical evidence" supports the proposition that the incentive for vigorous price competition is most likely when capacity utilization is low. *Id.* at 203. The authors provide additional theoretical support for this proposition, concluding that price undercutting and market share instability can emerge if excess capacity is sufficiently great. *Id.* at 216.

¹⁰⁹ While the traditional argument about the role of excess capacity in frustrating collusive agreements has been cast in terms of breaking down an existing agreement, the logic of this argument applies equally to the inability to form such an agreement in the presence of excess capacity.

¹¹⁰ STEPHEN MARTIN, *INDUSTRIAL ECONOMICS: ECONOMIC ANALYSIS AND PUBLIC POLICY* 149-50 (1988).

¹¹¹ This point has explicitly been recognized by various regulatory bodies including the FCC. See, e.g., *AT&T Price Cap Order*, *supra* note 27, para. 25.

¹¹² For an example of research demonstrating the confounding effects of marketplace asymmetries on supra-competitive pricing see Charles F. Mason, Owen R. Phillips & Clifford Novell, *Duopoly Behavior in Asymmetric Markets: An Experimental Evaluation*, 74 *REV. OF ECON. AND STAT.* 662, 670

(which, historically, they clearly have *not* been content to do), their efforts to expand their shares will doom to failure any tacitly collusive agreement. The inherent tension created by substantially different market shares also serves to reduce the likelihood of tacit collusion.

The fourth characteristic of the long-distance market that is fundamentally incompatible with tacit collusion is the relatively complex structure of prices and the predominant mechanism through which effective price changes are now instituted. The sort of coordination-without-communication required for tacit collusion to succeed is generally thought to require a high degree of product homogeneity with a very simple price structure, i.e., a single, widely known, price that is the same for each unit of output sold.¹¹³ Without such pricing simplicity, it becomes exceedingly difficult for the parties to the (unstated) agreement to know what price they are supposed to charge. It also becomes much more tempting to cheat on the agreement by lowering price, because such behavior is more difficult to detect with a complex pricing structure.

In the interexchange telecommunications market, however, pricing is anything but simple. The price for a minute of long-distance service from a given supplier is likely to vary with distance, duration, time of day, day of the week, and which (if any) discount program is selected. Moreover, some carriers compete by eliminating the distance sensitivity of long-distance calling, while other carriers compete by altering the time increments over which a call will be measured. Additionally, numerous and frequent price changes are initiated in this market by the various carriers through a plethora of discount programs and affinity marketing plans. For example, joint marketing efforts between long-distance carriers

and airlines offer frequent flier miles in exchange for using the long-distance carriers' service.¹¹⁴ Other similar joint marketing programs between major U.S. companies and interexchange carriers are becoming increasingly popular.¹¹⁵ The presence of these "in kind" discounts make the pricing — both identification and agreement — necessary for successful tacit collusion among the various interexchange carriers highly unlikely.

In recent years the use of short-run promotions also has grown as a competitive instrument in this market. For instance, in each of the past two years, AT&T has introduced over 400 promotional offerings.¹¹⁶ Finally, the use of individual contracts between customers and long-distance carriers has increased in recent years. Since 1993, AT&T alone has filed some 2,000 contract tariffs for individual customers.¹¹⁷ As a result, it is extremely difficult for a competitor to know the effective price being charged and very easy for any given competitor to "cheat" on any pricing that is perceived to be above competitive levels. In this incontrovertibly complex and dynamic pricing environment, it strains credibility to contend that competitors could formulate and sustain a tacitly collusive agreement to charge supra-competitive prices.

The fifth characteristic of the interexchange telecommunications market that is unfavorable to tacit collusion is the dynamic nature of the technology in this industry.¹¹⁸ Where new products and/or production techniques are a common occurrence, collusive arrangements tend to be particularly difficult to sustain, because such changes provide expanded opportunities and incentives to increase profits by cheating on the agreement.¹¹⁹ While a price cut, if detected, may be retaliated against quickly by rival producers, thereby rapidly eroding the potential

(1992) ("Our results indicate that asymmetry is a powerful control on cooperative behavior in highly concentrated markets . . .").

¹¹³ DENNIS W. CARLTON ET AL., *MODERN INDUS. ORGANIZATION* (2d ed. 1994) "Firms have more difficulty agreeing on relative prices when each firm's product has different qualities or properties." *Id.* at .

¹¹⁴ MCI pioneered this type of program in 1988 and now has arrangements with at least four major airlines, American Airlines, Northwest Airlines, Continental Airlines, and Southwest Airlines, that also include cellular and paging service. *Pager Messages Turn Into Frequent Flyer Miles with MCI*, PR NEWSWIRE, Mar. 14, 1995, Financial Section. AT&T has similar marketing programs and offers three USAir discount certificates to some of its Universal Mastercard credit and phone cardholders. Lisa Fickenscher, *Marketing: AT&T and American Express Pile Extras on College Cards*, AMERICAN BANKER, Sept. 5, 1995, at 24. American Express has offered its cardhold-

ers 30 minutes of free MCI long-distance calls every month for a year. *Id.* These types of programs, driven exclusively by the rivalrous competition between the various long-distance carriers, undeniably benefit long-distance consumers even though the benefits may not appear in an examination of tariffed rates.

¹¹⁵ One example is AT&T offering customers the opportunity to accumulate points toward a trip to Walt Disney World. Edmund L. Andrews, *Finding Best Deal Among Long-Distance Calling Plans*, N.Y. TIMES, Jan. 21, 1995, at 48.

¹¹⁶ *Ex Parte Presentation*, *supra* note 1, at 39-40.

¹¹⁷ *Id.* at 40.

¹¹⁸ "Industries that are subject to rapid technological change find it particularly difficult to reach agreements." Alexis Jacquemin et al., *Cartels, Collusion, and Horizontal Merger*, in 1 HANDBOOK OF INDUS. ORGANIZATION 415, 420 (Richard Schmalensee et al., eds., 1989).

¹¹⁹ *Id.*

gains from cheating, a new product cannot be so easily replicated. Consequently, the incentive to cheat through product innovations can exceed the incentive to cheat by simply reducing prices on a standardized product. The outcome, however, is the same. As all firms face the same incentives, cheating spreads and the collusive arrangement breaks down. Therefore, industries characterized by rapid product innovation, such as the long-distance market, are generally considered to be unlikely candidates for tacit collusion.¹²⁰

A sixth aspect of the interexchange marketplace that undermines the potential for supra-competitive pricing from tacit collusion stems from its market demand characteristics. The well-known skewness in the demand for long distance services — wherein a relatively small share of interexchange customers account for a considerably larger share of the long distance business generated — creates a tremendous incentive for individual carriers to price aggressively. Given the demonstrated willingness of customers to switch their long distance carrier, this skewness of demand creates huge opportunities for large market share gains through aggressive pricing in the event that any other carrier or set of carriers is not similarly pricing aggressively. At the same time, this skewness, taken together with the willingness to switch long distance carriers, makes virtually every firm in the interexchange marketplace vulnerable to large market share losses if its prices were to rise to supra-competitive levels as a result of tacit collusion. Additionally, the overwhelming propensity of long-distance consumers to switch their long-distance pro-

vider also undermines the prospect for tacit collusion. "It follows that collusion is more likely to be successful if customers do not switch suppliers very often."¹²¹

A seventh structural characteristic of the interexchange marketplace that erodes the potential for supra-competitive pricing from tacit collusion is the large number of firms that provide long-distance telephone service in the United States.¹²² It is well established in the theoretical and empirical literature that as the number of competitors in a market grows the ability of the market to sustain supra-competitive pricing falls. In particular, as the number of competitors expands, the ability of the various competitors to have a "meeting of the minds" becomes geometrically more difficult.¹²³ The sheer volume of competitors and their virtual ubiquity provide a huge structural impediment to the prospect for tacitly collusive supra-competitive pricing.

In addition to these structural characteristics, the behavioral evidence against tacit collusion is equally compelling. At least four aspects of observed conduct and performance are clearly inconsistent with the claim that tacit collusion is occurring in this market. First, the downward trend in industry prices over the past eleven years is clearly inconsistent with successful collusion. Real transaction prices net of access charges have fallen consistently since divestiture. Moreover, the prices from which this downward trend started had been set by regulators at "just and reasonable" levels. It is hard to envision how one can reconcile this trend with tacit collusion.¹²⁴

Second, AT&T's market share has exhibited

¹²⁰ There has been a proliferation, if not explosion, of new service offerings to long-distance consumers in the post-divestiture period. A partial accounting for California alone found that a minimum of 130 new long-distance services had been made available to interexchange consumers in that state between 1984 and 1994. CAL. PUB. UTIL. COMM'N, Ex. JWM-16 (Rebuttal Testimony of John W. Mayo) (transcript on file with author). See also Peter Pitsch, *A Brief History of Competition in the Long Distance Communications Market*, at Tbl. 2, in *Ex Parte Presentation in Support of AT&T's Motion for Reclassification as a Nondominant Carrier* (Sept. 22, 1994).

¹²¹ MARTIN, *supra* note 110, at 147.

¹²² A related structural characteristic, market concentration, is sometimes thought to facilitate tacit collusion. While market concentration may, *ceteris paribus*, facilitate tacit collusion, this factor is benign in the case of the long-distance industry. As noted in the body of this paper, numerous other structural characteristics undermine the ability of this market to successfully maintain supra-competitive tacitly collusive prices, regardless of the extent of concentration. Nothing about market concentration, per se, mitigates any of the other impediments to successful tacit collusion. Moreover, any partial tacit collusive scheme that involves only the "concentrated" firms in this market becomes a

license for other non-participating firms to expand sales and profits. In particular, where the elasticity of supply of these other market participants is high (i.e., barriers to entry and expansion are low), as it unequivocally is in this industry, any "meeting of the minds" among a subset of the over 450 participants will be defeated by standard market forces.

¹²³ See, e.g., MICHAEL KATZ & HARVEY S. ROSEN, *MICROECONOMICS* 565 (1991) ("The more firms in a market, the less likely is cooperation, *ceteris paribus*.").

¹²⁴ Paul W. MacAvoy has asserted that prices have recently risen and argued that this, along with allegedly stable market shares, indicates that tacit collusion exists in this industry. See *Aff. of Paul W. MacAvoy* at 52-53, *United States v. Western Elec. Co., Inc. & AT&T* (D.C. Cir. 1956) (Civ. No. 82-0192), in *RBOC Comments*, *supra* note 75, Att. A; MacAvoy, *supra* note 99. This proposition has been rebutted with the argument that MacAvoy's perceived price increases are illusory (stemming from examination of AT&T's basic schedule tariffed rates rather than the transaction prices consumers actually pay), and that the alleged market share stability has turned out to be extremely short-lived. *Id.* at 9,18 (*Affs. of R. Glenn Hubbard and William H. Lehr*).

marked instability throughout the post-divestiture period. AT&T's market share reveals the net effect of substantial underlying customer churn among the competitors in this market. Unstable market share is generally considered to be *prima facie* evidence of an *absence* of successful collusion. Even opponents of relaxed symmetric regulation in the interexchange market acknowledge this point (albeit in different forums). For example, Jerry Hausman has stated that "[c]hanging market shares are a sign of strong competition."¹²⁵ Richard Schmalensee has also acknowledged this point, writing that "[w]hile stable market shares and firm ranks are consistent in principle with either collusion or competition, most would argue that unstable shares and ranks are inconsistent with effective collusion."¹²⁶ Observed market share changes in the long-distance industry therefore are also inconsistent with tacit collusion.

Third, the advertising and aggressive marketing campaigns of the three largest firms are inconsistent with tacit collusion. These campaigns reveal an intense rivalry and focus on price information that would not likely exist under tacit collusion. For example, a large proportion of competitors' commercials are directly aimed at taking customers from rivals by informing them of their new discount programs. These programs account for much of the observed price reductions implemented in recent years. This advertising represents a drain on joint profits and, therefore is inconsistent with the maintenance of a tacit cooperative agreement among these firms. In sum, the overtly aggressive solicitation efforts that are readily observable at the most casual level belie the contention that the interexchange market is characterized by tacit collusion.

Fourth, if the hypothesis that tacit collusion has arisen in the interexchange market in recent years was correct, a distinct change in the supply behavior of the smaller firms in the industry should be observed at the time such an agreement arose. As can be seen in Figure 2, however, no such change is apparent in the data on AT&T's competitors' output at any point in time. As discussed above, applying a more rigorous, explicit econometric test by modeling

the market demand and competitive fringe supply curves simultaneously while controlling for various exogenous factors yields no evidence whatsoever to support a finding of tacit collusion.¹²⁷ Industry structure, observed behavior, and formal econometric testing thus all confirm the conclusion that tacit collusion will not arise and has not arisen in this market.¹²⁸

Moreover, contrary to assertions advanced by MacAvoy,¹²⁹ recent rate restructuring in the long-distance market — basic schedule increases more than offset by price cuts in discount offerings — appears to reflect competitive pressures to move prices to cost. "AT&T's basic schedule rates do not recover the direct costs of serving the one third of customers" that call less than \$3 per month.¹³⁰ These costs include monthly subsidy costs for universal service "of \$.52 per customer and bill-rendering costs ranging from \$.33 to \$.88 per customer."¹³¹ Thus, in contrast to the fanciful tale of tacit collusion, a far more straightforward market-based explanation exists for the upward movement of certain MTS rates by the various interexchange carriers. Specifically, AT&T has an incentive to raise basic rates toward competitive levels to begin to cover the marginal costs of serving these low volume customers. By the same token, MCI and Sprint and the other long-distance carriers have an equally strong incentive to match these increases to avoid attracting the unprofitable part of the market. Competition drives market prices to costs, and that may mean either an increase or a decrease in these rates.

The pricing actions taken by AT&T, MCI, and Sprint in the rest of the residential market are more relevant to this debate. The potential gains from collusive pricing would have been the greatest in this higher volume, more profitable segment of the market.¹³² Instead of maintaining rates, however, the major carriers have frequently cut prices and introduced widely-touted new offers over the last five years to attract customers in this segment. Therefore, recent pricing actions in the long-distance market are better characterized as a movement to cost-based prices and enhanced competition, not as an outcome

¹²⁵ See Aff. of Jerry Hausman at 14, *W. Elec. Co.*, in RBOC Comments, *supra* note 75, Att. C.

¹²⁶ Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 HANDBOOK OF INDUS. ORGANIZATION 951, 999 (Richard Schmalensee et al., eds., 1989).

¹²⁷ Kahai et al., *supra* note 27, at 29.

¹²⁸ Earlier studies discussed in this article also confirm that reduced and symmetric regulation of AT&T has not resulted in successful tacit collusion. See, e.g., Mathios & Rogers, *supra*

note 77, at 438-39; Kaestner & Kahn, *supra* note 76, at 364. If such collusion had materialized in a more relaxed regulatory environment, prices should have been increased, not decreased.

¹²⁹ See *supra* note 124.

¹³⁰ *Ex Parte Presentation*, *supra* note 1, at 51 n.119.

¹³¹ *Id.*; see also AT&T's Reply Comments in CC Dkt. No. 79-252, Att. B., at 20-21 (Sept. 18, 1990) (statement of Stanley M. Bensen).

¹³² See Pitsch, *supra* note 120, at 38.

of tacit collusion.

Finally, one must question the relevance of the tacit collusion argument to the issue of whether to reclassify AT&T as a non-dominant carrier and to further eliminate any remaining asymmetric regulatory controls. It is generally conceded that regulation of prices in a market tends to make collusion *more* likely, not less likely.¹³³ Pre-announcement of price changes, notification requirements, intervention opportunities, and open discussions of market conditions in regulatory forums all *discourage* aggressive price competition and facilitate the sort of information exchanges that tend to promote collusive outcomes. As a result, even if one believes that the interexchange market is conducive to tacit collusion (which it is not), the appropriate policy action would still be to eliminate direct price regulation of AT&T by reclassifying it as nondominant. In so doing, more aggressive competition would be fostered, and the likelihood of tacit collusion would be reduced.

B. Predatory Pricing

Another concern that has been raised is the possibility of predatory pricing by AT&T. This problem vanishes as soon as one recognizes how predatory pricing must operate and the industry characteristics that must be in place for the strategy to succeed.¹³⁴ Predatory pricing involves a two-step process. First, a firm reduces its prices below costs in order to drive rival producers out of the market. Then, following such exit, the successful predator raises its prices well above the competitive level in order to recoup the losses incurred during the period of predation. For predatory pricing to occur, existing rivals must have relatively low sunk costs so that their exit can be encouraged at reasonable expense. Also, for the predator to recoup losses through future profits, substantial barriers to entry must exist to protect it from

post-predation competition. Clearly, neither of these two conditions exist in the interexchange market. Predatory pricing therefore is extremely unlikely to occur in this industry.

To understand how exaggerated the concern over predatory pricing in the interexchange market is, one need only consider the events that would have to occur under the scenario envisioned. First, AT&T would have to run more than 450 other firms out of business by charging unjustifiably low rates while the FCC, state regulatory commissions, and antitrust authorities stood by without intervening. Moreover, all of the transmission and switching capacity owned by these other firms (much of which represents sunk costs) would have to be purchased by AT&T in order to keep it out of the hands of new competitors. Then, AT&T would have to raise its rates above the competitive level to regain its losses without attracting market entry (or reentry). Once again, this would have to occur while regulatory commissions and antitrust authorities stand idly by. Obviously, this sequence of events is extremely improbable.

The argument that a less-stringent regulatory environment would lead to predatory pricing is also rebutted by observing state level developments. If relaxed regulation leads to predation, then those states that have implemented such a policy should have realized a reduction in the number of interexchange carriers as AT&T lowered its rates to predatory levels.¹³⁵ A recent empirical analysis of the impact of relaxed regulation on the number of long-distance firms competing within each state, however, reveals no significant effect.¹³⁶ Reduced and/or symmetric regulation of this firm has not resulted in significant exit by rival producers. Consequently, it has not led to predation and relaxed and symmetric regulation will not lead to predation in the future under any plausible examination of evolving industry conditions.¹³⁷

¹³³ See, e.g., SCHERER & ROSS, *supra* note 105, at 266 ("Government agencies may inadvertently facilitate price parallelism by setting ceiling prices, e.g., as part of anti-inflation campaigns.").

¹³⁴ For a more complete discussion of both the theory and empirical evidence relating to predatory pricing in general see KASERMAN & MAYO, *supra* note 20, at 128-42.

¹³⁵ Under current antitrust standards, a claim of predatory pricing must pass what has come to be known as an incentive logic filter if it is to withstand a motion for summary judgment. Where a prolonged period of alleged predation has not resulted in substantial exit, the allegation fails to pass this filter, because the alleged behavior simply does not make sense economically under these circumstances. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986) (The Supreme

Court observed that "there is a consensus among commentators that predatory pricing schemes are rarely tried, and even more rarely successful."). A summary of the economics of this case is presented in Kenneth G. Elzinga, *Collusive Predation: Matsushita v. Zenith*, in *THE ANTITRUST REVOLUTION* (John E. Kwoka and Lawrence J. White eds., 1989).

¹³⁶ Simran K. Kahai, David L. Kaserman & John W. Mayo, *Deregulation and Predation in Long Distance Telecommunications: An Empirical Test*, *ANTITRUST BULL.*, Fall 1995, pp. 645-66.

¹³⁷ The authors of this study concluded:

In this paper, we have attempted to buttress the theoretical argument against the predatory pricing hypothesis with empirical evidence. Our findings yield no support for the argument that reduced regulation has resulted in pre-

C. Low Volume/Rural Customers

A common concern among regulators considering reduced regulation for AT&T has been that, with increased pricing flexibility, AT&T may be able to raise its rates to certain customer groups above competitive levels without experiencing a sufficient decline in sales to render such rate increases unprofitable.¹³⁸ In other words, while the overall interexchange market may be subject to effective competition, pockets of customer groups could remain susceptible to abuse. If so, relaxed regulation might lead to lower rates for some groups and higher (than competitive) rates for others. In particular, low volume residential customers and rural customers have been perceived to be at risk. These concerns, however, are unfounded.

First, the fundamental premise of the argument is inaccurate. In order for specific customer groups to be subject to abuse, they must first be confronted with monopoly or near-monopoly supply. That is, these groups must have a limited number of long-distance firms from which to choose, or they must be unwilling to switch suppliers in response to a significant price increase. Neither of these conditions exists in the long-distance market. The empirical evidence pertaining to the interexchange market reveals that substantial competitive choices are available to all customer groups, regardless of their geographic location or volume of usage;¹³⁹ and a disaggregated breakdown of industry churn numbers reveals that low volume users do, in fact, frequently switch carriers, and these users are spread across all demographic groups.¹⁴⁰ The assertions that low volume or rural customers face a limited choice of carriers, that they will not change carriers, or that they fit some specific demographic group, are simply myths. These customers *do* have choices, they *do* exercise those choices, and they span all demographic groups. Therefore, they do not need special regulatory

protection.

Second, from an economic perspective, concerns about adverse pricing to specific customer groups ultimately involve concerns about price discrimination. Price discrimination occurs where different prices are charged to different groups of customers, with the price differences not based upon differences in the costs of serving those groups. For price discrimination to occur, two necessary conditions must exist. The firm practicing price discrimination must hold some degree of market power and arbitrage across customer groups must be prevented.¹⁴¹ In the long-distance market, neither condition is met. All customer groups have a choice of carrier in a market with effective competition and are, therefore, not susceptible to discriminatory prices. Also, arbitrage opportunities exist through the ability to resell. As a result, any attempt to raise the rates for low volume or rural customers, by an amount that is not justified by underlying differences in the costs of serving such customers, will be defeated by the supply response of competitors and/or arbitrage by resellers. Market conditions will not tolerate the sort of behavior that would subject these groups to abuse.

Third, all of the empirical studies surveyed in this article¹⁴² have used the basic schedule tariff rates as their price variables in the empirical analyses. The schedule tariff rates are the *maximum* rates that low volume and residential customers pay when they place a long-distance call.¹⁴³ Customers enrolled in a discount program pay a lower rate. As a result, the findings, that reduced regulation leads to significant price reductions and that AT&T does not hold significant market power, are not limited to large volume or urban customers. Such conclusions apply to *all* customers, including those paying the full tariffed (non-discounted) rates.

Finally, identical concerns about low volume or rural customer groups have been voiced previously at the state level as well. Despite such concerns, how-

ation. In conjunction with the prior empirical literature relating to this market, the evidence strongly suggests that: (1) long-distance prices have fallen with divestiture and increased competition; (2) these prices have fallen more where regulatory constraints on AT&T have been relaxed; and (3) the price reductions observed have had no predatory effects.

Id. at 20.

¹³⁸ Regulators should not be concerned about AT&T raising its rates to competitive levels under a more relaxed regulatory environment. Moving prices toward marginal cost is generally welfare-improving regardless of whether that movement is upward or downward from the existing level.

¹³⁹ Moreover, note that the demographic characteristics of

low-volume long-distance customers is very similar to the demographic profile of other long-distance consumers. Thus, there is no sound basis for using volume-sensitive regulation to attempt to promote income redistribution goals. See *Ex Parte Presentation*, *supra* note 1, Att. O.

¹⁴⁰ See *Mar. 9 Ex Parte Presentation*, *supra* note 51 (charts indicating that the consumer profile of light users is comparable to heavy users).

¹⁴¹ See Hal R. Varian, *Price Discrimination*, in 1 *HANDBOOK OF INDUS. ORGANIZATION* 597, 599 (R. Schmalensee et al., eds., 1989).

¹⁴² Mathios & Rogers, *supra* note 77; Kaestner & Kahn, *supra* note 76; Ward, *supra* note 43; Kahai et al., *supra* note 27.

¹⁴³ 47 U.S.C. § 203 (1994).

ever, many states have implemented reduced/symmetric regulatory policies, and the feared abuse of these customer groups has not occurred. Compelling evidence that such groups are not at risk is provided by the fact that state regulatory agencies have continued to monitor performance and have not reinstated prior regulatory controls. In fact, the empirical evidence strongly suggests that low volume and rural customers stand to gain from reduced regulation. As a result, the combined evidence shows that continued asymmetric regulation of AT&T, which is ostensibly intended to protect these customer groups, actually has the effect of harming them.

VI. CONCLUSION

In this paper, we have drawn together and assessed a wide array of evidence relevant to asymmetric regulation of AT&T and its classification under existing FCC and state regulatory commission rules. This evidence comes from a decade of experience during which market conditions have evolved rapidly, many states have implemented a variety of relaxed (and symmetric) regulatory policies, and the FCC has applied reduced regulation to AT&T's business services. Such evidence consists of descriptive data pertaining to the underlying economic determinants of market power; empirical studies of the effects of relaxed regulation at the state level on the prices charged in the interexchange market; experience in the provision of AT&T's interstate business services under streamlined regulation; and empirical studies that directly estimate the degree of market power held by AT&T.

Given both the economic and regulatory definitions of dominance, the principal criterion for regulatory agencies' asymmetric regulation policies is the presence or absence of significant market power on the part of AT&T. The weight of the evidence considered herein overwhelmingly supports the conclusion that AT&T does *not* possess significant market power in the interexchange market. The various studies and indicia reviewed paint a consistent picture of a firm that faces very effective competition. As a result, the recent decision by the FCC to declare AT&T to be "nondominant" is thoroughly supported on economic grounds.

We have also considered several other competitive concerns that have arisen over the years regarding likely market performance under a more relaxed, symmetric regulatory policy. Here, too, the evidence strongly suggests that such residual concerns do not support a continuation of the classification of AT&T as a dominant firm or the continuation of a regulatory scheme which applies more stringent rules to AT&T than to its competitors. The market conditions that exist for interexchange services simply are not conducive to the sort of behavior that these concerns must postulate. Moreover, actual market experience also demonstrates that the feared consequences of relaxed regulation have not and will not materialize. Therefore, both economic theory and empirical evidence support the FCC's decision to cease classifying AT&T as a dominant carrier. This evidence further demonstrates that no principled basis exists for the continuation of remaining asymmetrical regulatory policies of interexchange carriers at both the federal and state level.

FIGURE 1

Long-Distance Firms Purchasing Equal Access

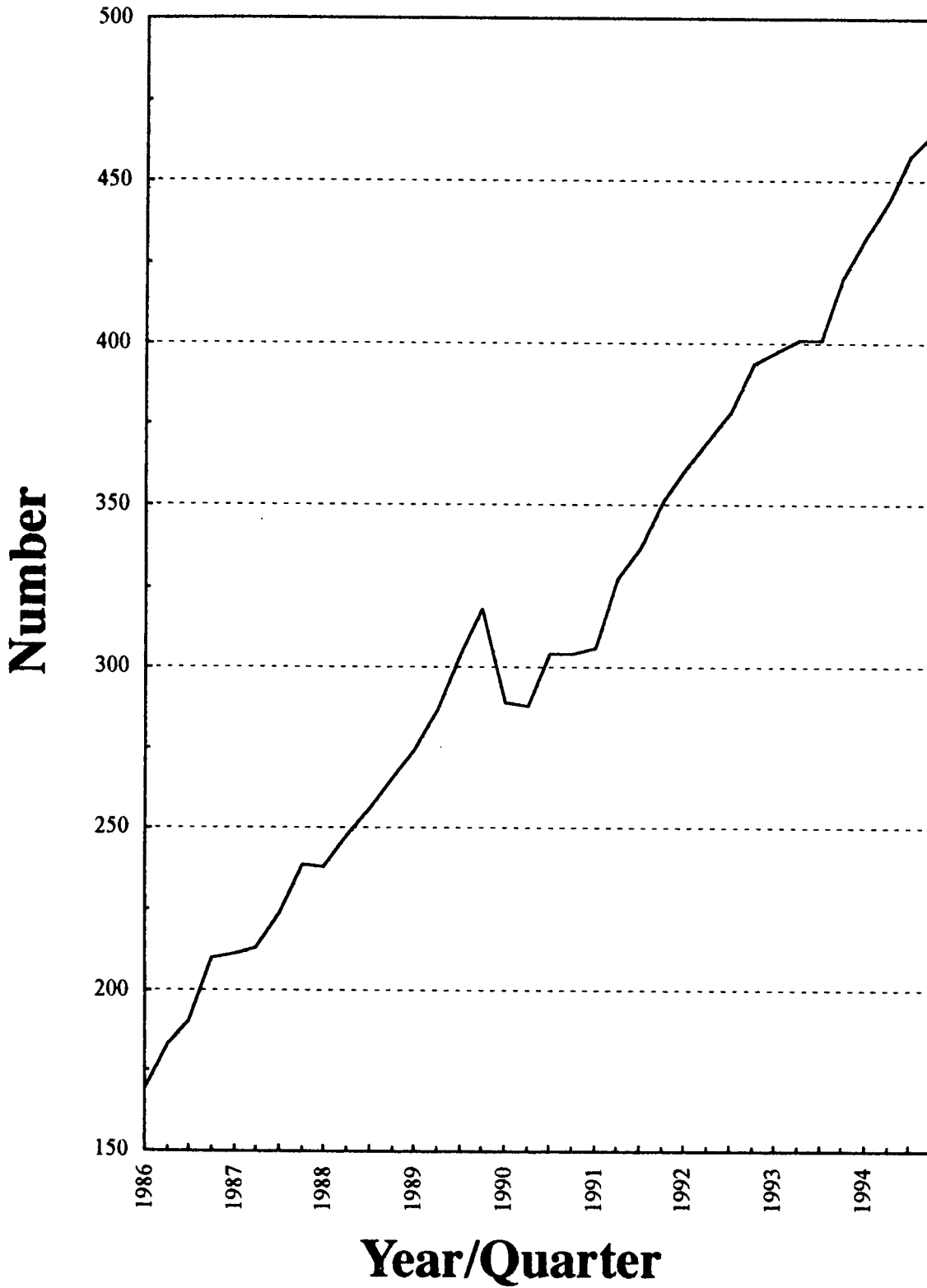


FIGURE 2

Output of AT&T's Competitors

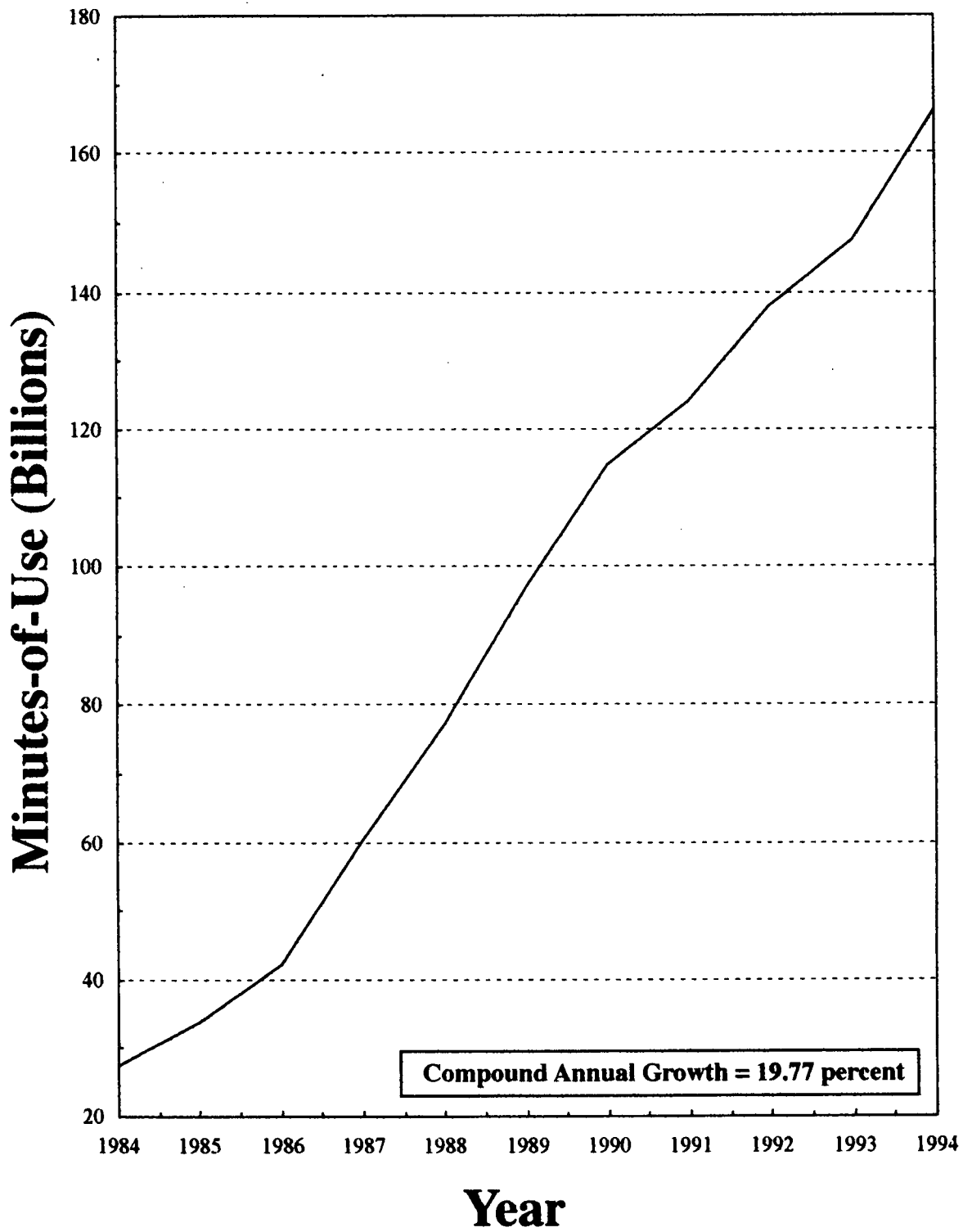
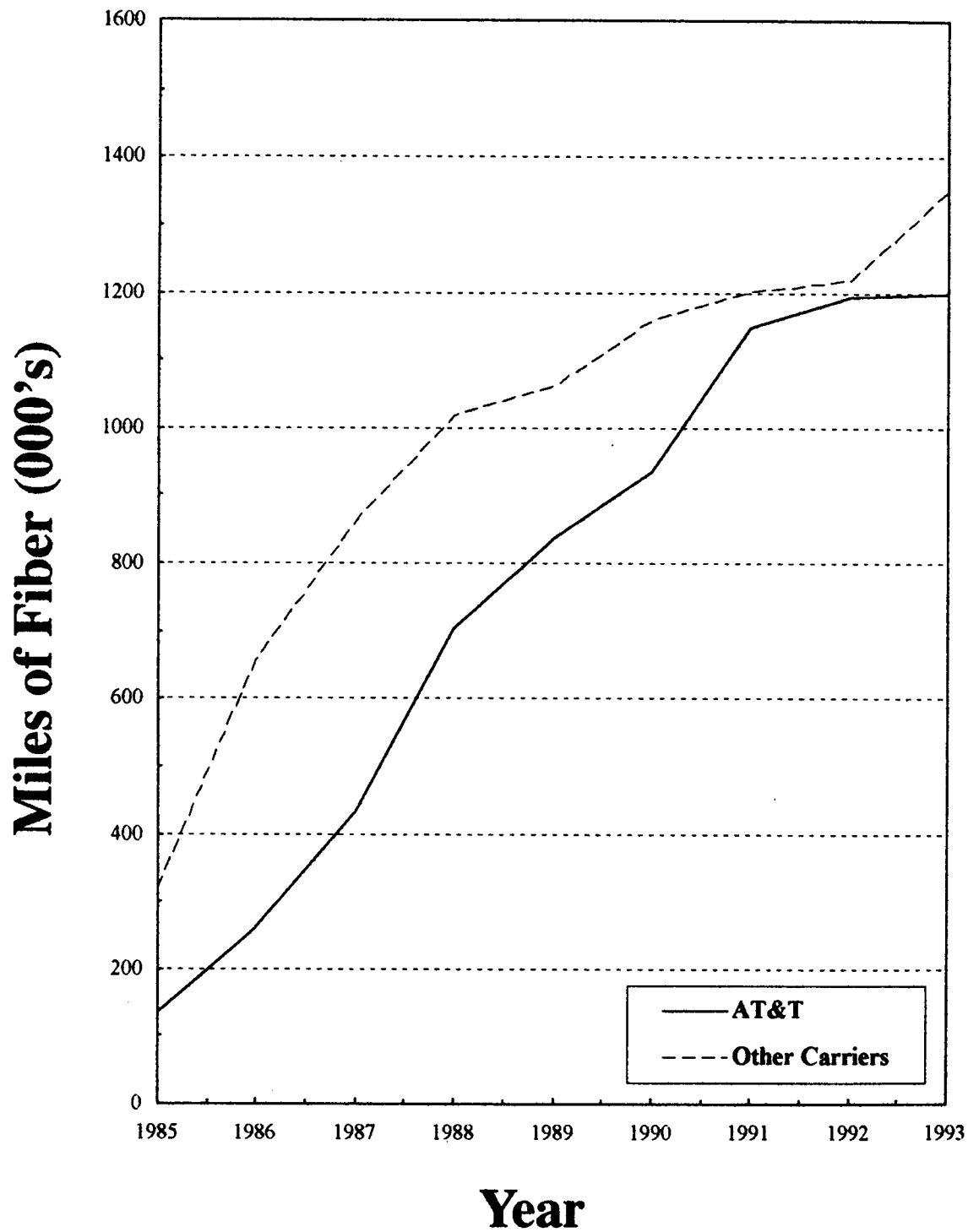
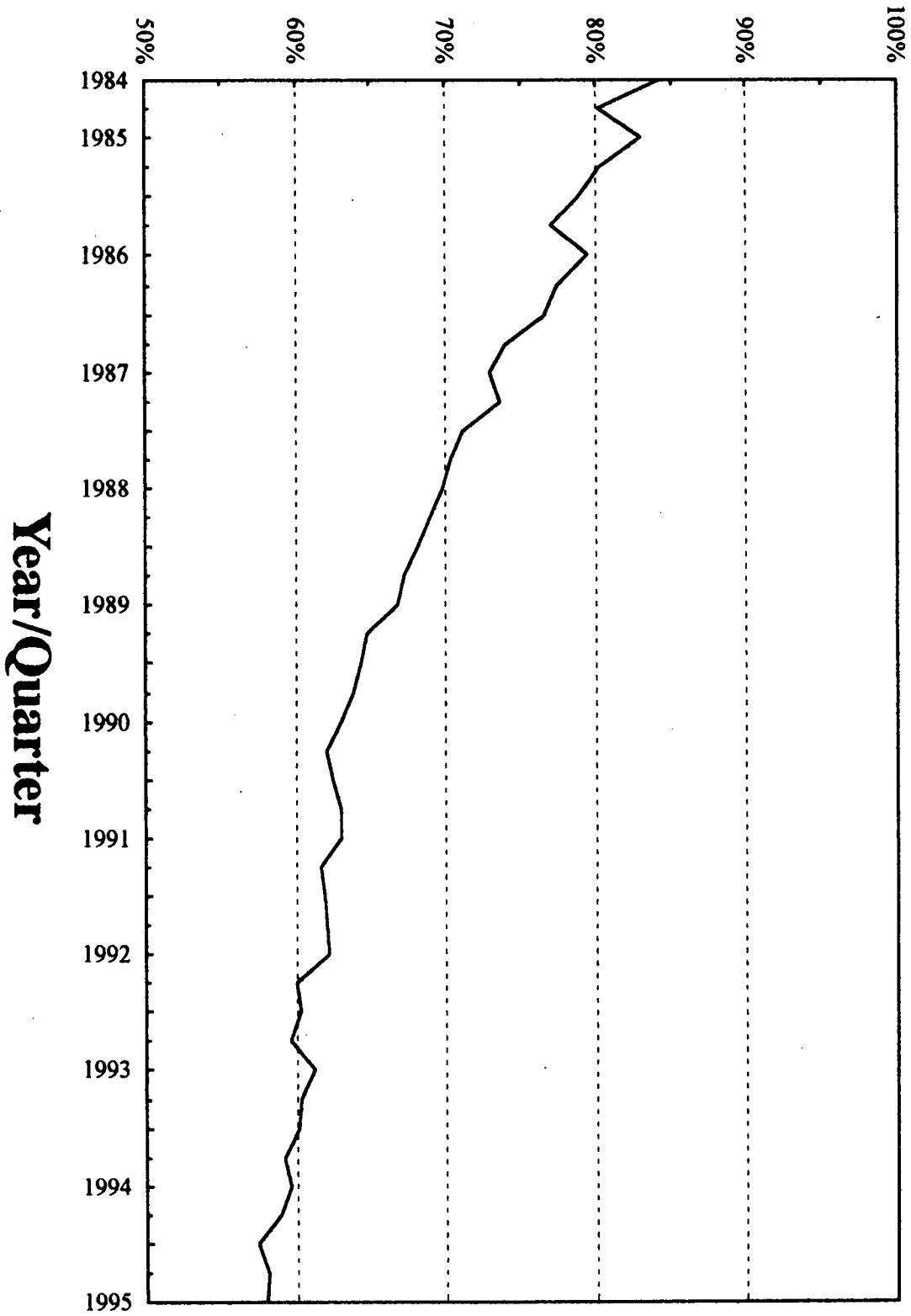


FIGURE 3
Deployment of Interexchange Company Fiber-Miles



Share of Market



AT&T's Minutes-of-Use-Based Market Share

FIGURE 4