

B. Costs

63. Because of the physical location of AT&T's switches relative to LEC end offices and tandems and its large volume, the LECs' cost of providing access to AT&T has always been less than that of providing access to other IXCs.⁴⁷ However, when MCI entered the switched long distance market in 1974, it did so at a cost advantage over AT&T. For many years, MCI's regulated access charge was less than the separations charge that AT&T was required to pay to its local operating subsidiaries. The asymmetry in the cost of access was maintained after divestiture as the non-AT&T IXCs were given a 55 percent discount on their access charge to make up for the lesser quality of the access services available to them.⁴⁸ The access charge advantage diminished as equal access lines were installed, and eventually the regulated charge for access was equalized for all IXCs. Despite the fact that the actual cost of providing access to AT&T remains less than the cost of providing access to other IXCs, the FCC has refused to allow local companies to charge AT&T lower access rates based on these costs, claiming that some of this cost advantage is due to AT&T's previous relationship to the local exchange companies.⁴⁹ Since access charges still comprise nearly one-third of the cost of providing long distance service, the identical regulated access charge helps to provide the equal and stable cost conditions which facilitate tacit coordination of prices.

C. Substitutability of Services

64. If the products of each supplier are not good substitutes for those of the others, each competitor will have difficulty in identifying price reductions from the information available to it. The substitutability of the products produced by AT&T, MCI and Sprint is evidenced by AT&T's own filings. It states that the "churn" rate, the annual number of pre-subscribed lines that shift between long distance carriers, was 18 million in 1993, 27 million in 1994 and an estimated 30 million in 1995.⁵⁰ Although many customers have not changed carriers, many of

⁴⁷ See FCC, *In the Matter of MTS and WATS Market Structure* (MTS and WATS Structure), CC Docket No. 78-72, 6 FCC Rec 5341, 5342 (1991)

⁴⁸ See *MTS and WATS Market Structure*, FCC 84-36, released February 15, 1984.

⁴⁹ The "equal charge" rule was due to expire in September 1991 but the FCC kept the arrangement in place. See *MTS and WATS Market Structure*, 6 FCC Rec 5341, 5344 (1991).

⁵⁰ *Ibid.* at 33-34.

the more price sensitive have. These high churn rates indicate that the products offered by each of the providers are deemed by consumers to be good substitutes for each other.

D. Price Information and Pricing Patterns

65. Timely information on rivals' prices is useful to competitors because it provides assurance against undetected price cutting. The sharing of such information between rivals in unregulated industries is generally suspect and may be held a violation of Section 1 of the Sherman Act.⁵¹ Prior to the FCC decision declaring AT&T a "non-dominant" carrier in 1995, AT&T was required to post its tariffs at least 14 days before they went into effect.⁵² Non-dominant carriers, which now include all IXCs, had been required to file tariffs, but only one day prior to their effective date. At least one carrier, MCI, apparently found these filings useful, as evidenced by its objection to the FCC's attempt to eliminate the requirement in 1985.⁵³ In October 1996, the FCC eliminated all requirements for IXCs to file domestic tariffs, but they will still be required to make publicly available the rates and terms of their customer contracts.⁵⁴

66. The convergence of AT&T's, MCI's and Sprint's rates is apparent in any comparison of their posted tariffs. Figures 4 through 7 present simple comparisons of the posted daytime rates of the three carriers for calls between several major cities in the U.S., the access charges paid by the IXCs, and the differential between the average rate and access charges. More sophisticated comparisons, averaging over several mileage bands and using representative consumer calling profiles, exhibit very similar patterns.⁵⁵ The FCC is aware of these patterns and their possible implications, stating that ". . . each time that AT&T raised its basic rates, MCI and Sprint quickly matched the increase. Thus, to the extent that prices would rise if the Basket 1 price cap were removed, this is not evidence of AT&T's individual market power, but perhaps of tacit price coordination."⁵⁶ Figures 4 through 7 graphically show how closely MCI and Sprint followed AT&T's rate increases from 1992 through 1994.

⁵¹ *American Column & Lumber Co. v. United States*, 257 U.S. 377 (1921).

⁵² See *AT&T Non-dominance Order*.

⁵³ *MCI v. FCC*, 765 F.2d at 1186, No. 85-1030, argued July 9, 1985.

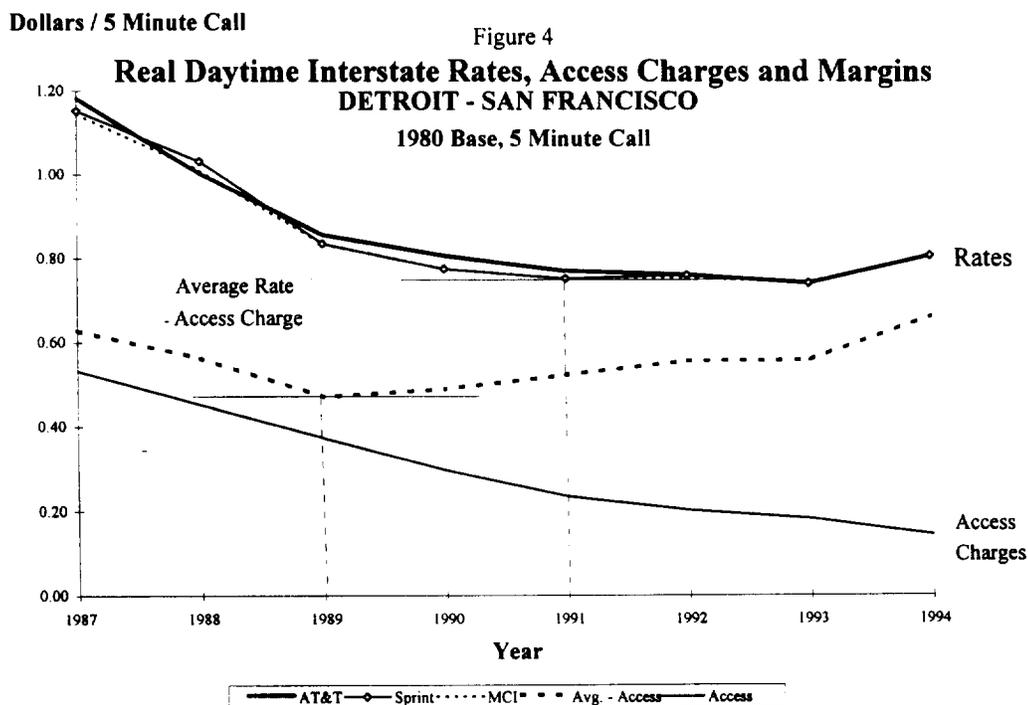
⁵⁴ *Washington Telecom News*, Phillips Business Information Inc., November 4, 1996.

⁵⁵ See for example MacAvoy, Paul W., *op. cit.*

⁵⁶ *AT&T Non-dominance Order*, at para 82.

67. These figures also demonstrate the divergence of interstate rates from interstate access charges beginning in the late 1980's. After divestiture, as a result of regulation, rates fell with access charges. Since the liberalization of AT&T regulation beginning in 1989-90, however, the gaps between rates and access charges has steadily increased. Unless there were substantial increases in the non-access costs of providing interstate services, this divergence is not consistent with the operation of a competitive market. We evaluate AT&T's cost structure in Section VI below.

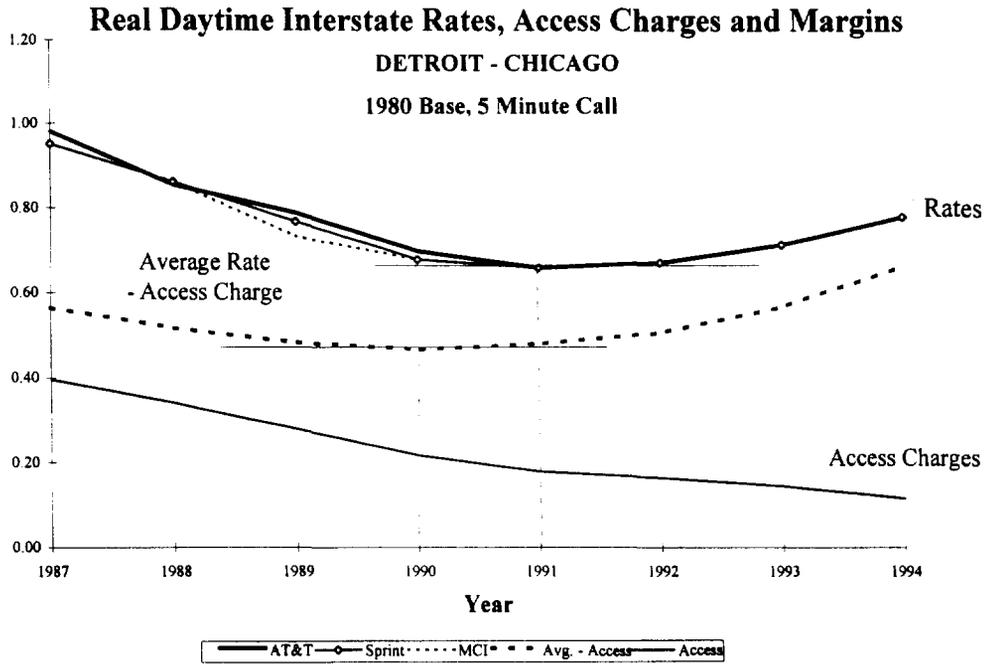
68. One might argue that these posted rates do not reflect actual rates, which are subject to well-publicized discounts. Figure 8, however, shows that even if all calls were subject to a 10 percent discount,⁵⁷ AT&T revenue, net of the discount and access charges, increased from 1990 to 1994.



⁵⁷ MacAvoy, *op. cit.*, estimates that only Sprint customers realize more than a 5 percent discount on their total bill. (table 5-6, p. 129).

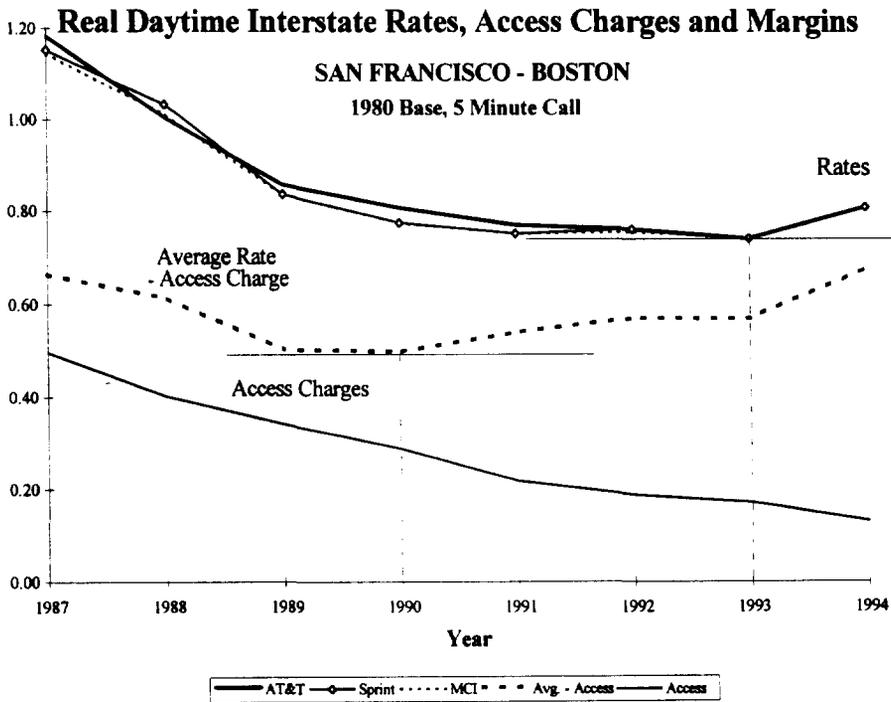
Dollars / 5 Minute Call

Figure 5



Dollars / 5 Minute Call

Figure 6



Dollars / 5 Minute Call

Figure 7

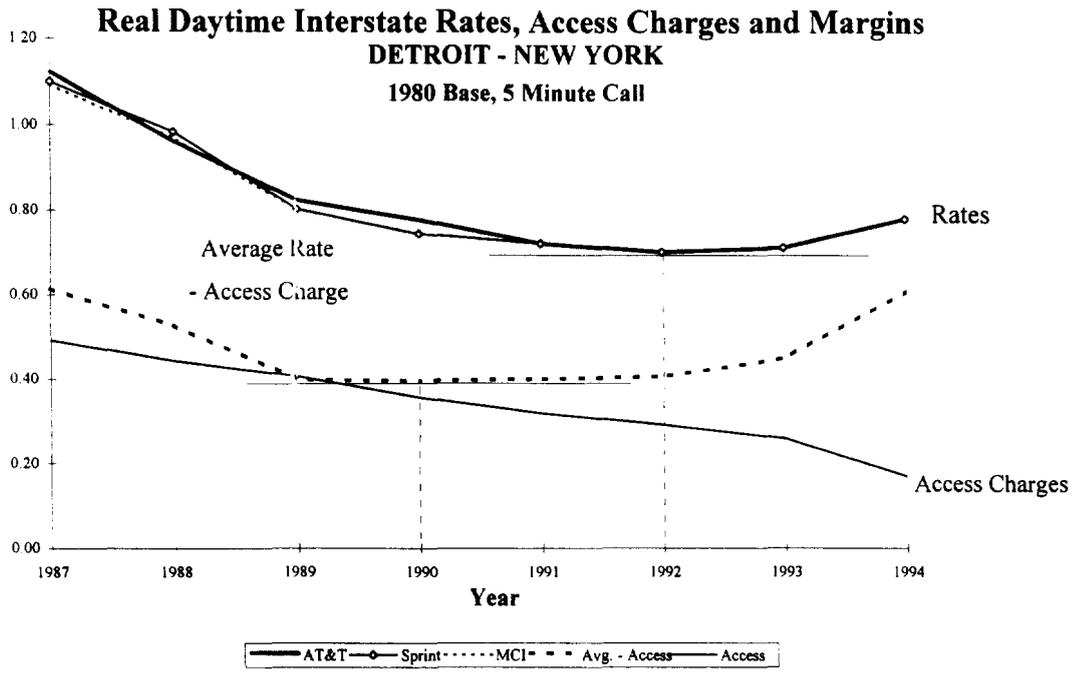
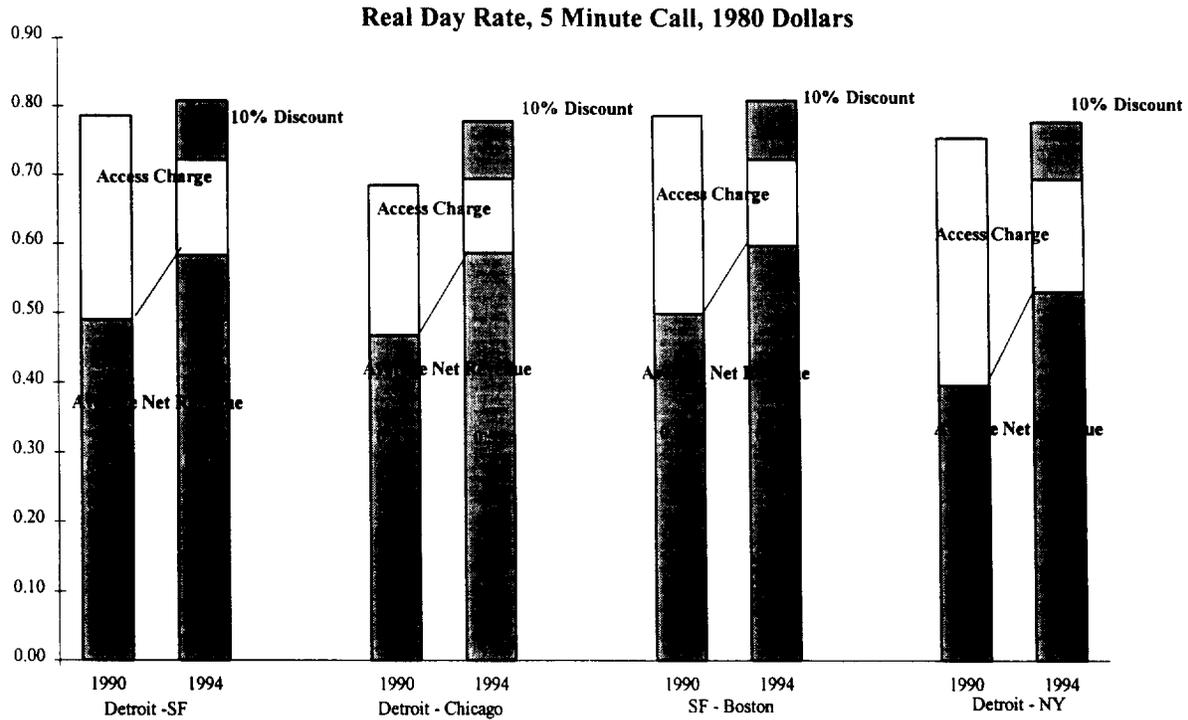


Figure 8

AVERAGE REVENUE NET OF ACCESS CHARGES AND 10% DISCOUNT



Source: SOCCC 1994/1995, Table 7.4, “Comparative Historical Rates at Year End, 1980 Through 1994 Interstate Message Toll Telephone Rates (Five and Ten Minute Calls,)” and Table 8.3, “Annual Rate of Change in Major Price Indexes.”

Note: Real interstate telephone rates for five minute daytime calls were derived from historical interstate telephone rates deflated by the CPI (all items, 1980 base year). Average Revenue is the average of real five minute rates for AT&T, MCI and Sprint, adjusted by a 10% discount and net of access charges.

E. Regulation and the Level of InterLATA Rates

69. Given the advantage in access charges given to MCI and Sprint prior to full conversion to equal access, AT&T’s share of all long distance carrier revenues declined from 90 percent to 65 percent, and the combined share of MCI and Sprint increased from 7.2 percent to 23.9 percent between 1984 and 1994. As the regulatory restraints on AT&T’s prices were eased and the other carriers’ advantage in access charges declined with the installation of equal access lines, the

erosion of AT&T's share slowed somewhat. In the 1986-90 period, its share fell almost 17 percentage points while in the period from 1990 to 1994 the decline was less than 10 percentage points.

70. The process of freeing AT&T from pricing restraints has been gradual. Regulation was changed to price caps in 1989 and removed entirely by the non-dominance decision in 1995.⁵⁸ Much of the concern about freeing AT&T was directed at the possibility that it would set prices at "predatory levels" and thus capture all of the market. Throughout the transition the regulators have tended to err on the side of high prices in order to protect the new competitors. Given this concern and the enforced equality of access cost, it is not surprising to find that interLATA rates are still above their competitive level.

F. Evidence From Intrastate, InterLATA Pricing

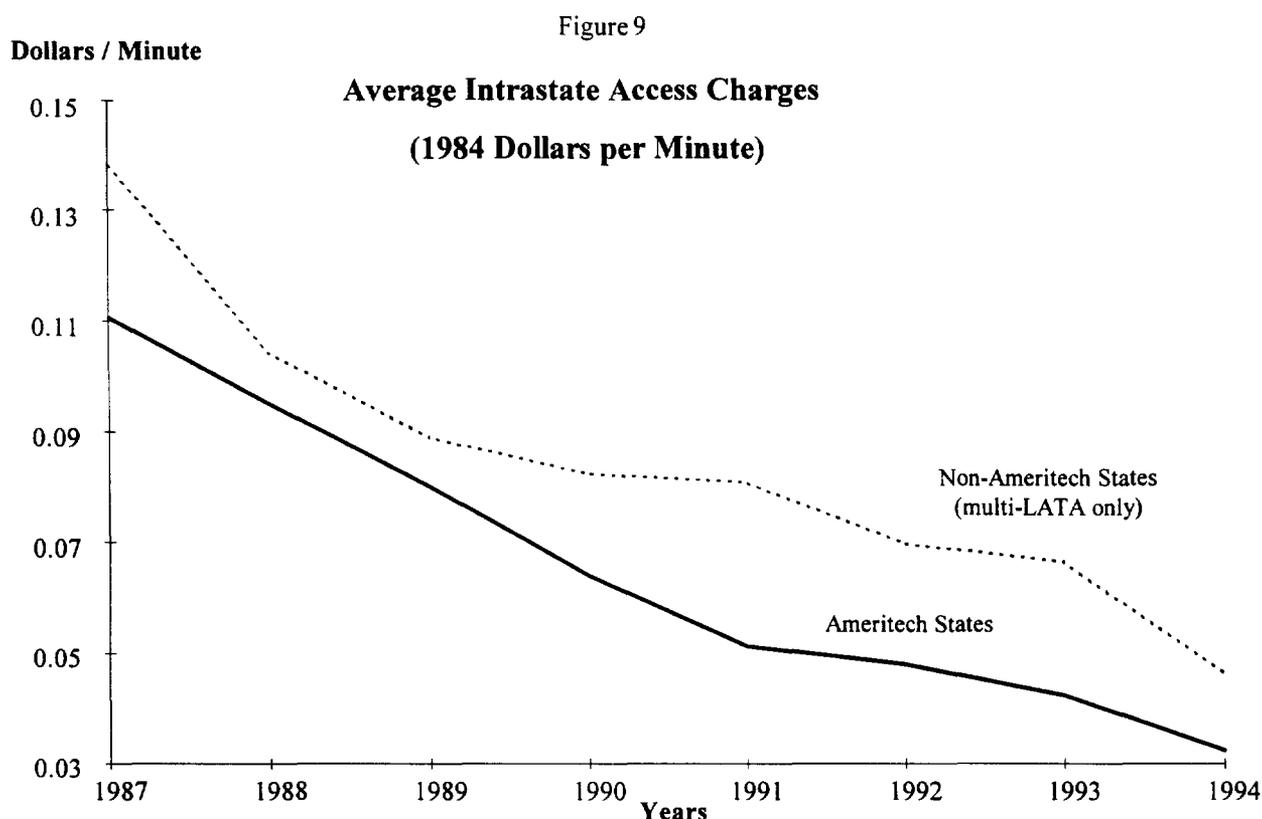
71. In our recent book *Talk is Cheap*, we examined the degree of competition in segments of the long distance market. For interstate services regulated by the FCC, we examined the relationship between prices and minutes of use on the one hand, and AT&T's market share and the change in access costs on the other hand. We concluded that "[t]he empirical results are suggestive of a market evolving towards a more competitive structure, but not one that has been fully competitive throughout the post-divestiture era." Thus, the benefits of the entry of a new brand-name competitor could be significant.

72. In Chapter 5 of *Talk Is Cheap* we analyzed the evolution of competition and deregulation in intrastate interLATA services. Data from tariffs for interLATA message telephone service rates and on access costs are available for most of the 38 multiple LATA states. Access costs are exogenous to and, as noted above, now equal for AT&T, MCI, Sprint and the other firms in the interLATA business. Access costs are predominant in the carriers' cost functions. For AT&T, they were equal to 50 percent of revenues in 1987 and fell gradually to 38 percent of revenues in 1993. If interLATA services were fully competitive, changes in marginal cost would be passed directly on to the consumer. We therefore utilized the data on the level and changes in access costs to examine the degree to which prices respond to changes in these exogenous costs. This analysis led us to conclude that intrastate interLATA services are less than competitive.

73. Figure 9 provides a plot of access costs by region over time, showing that access costs in the Ameritech region have been substantially lower than those in other multiple LATA states.

⁵⁸ *AT&T Non-dominance Order*, at para. 82.

The rate of decline of these costs is similar in the two regimes, providing evidence of the effect of the breakpoint in 1990 when the access-charge transition period ended.⁵⁹



74. Table 4 shows the average AT&T posted price of daytime five minute intrastate, interLATA calls for 11 mileage bands, net of access charges, in the Ameritech region and in all other multiple LATA states. It is important to note that in 1987 the average margins in all but the shortest mileage bands were higher in the five Ameritech regions than in the rest of the USA. There was a systematic differential, with the intrastate prices minus access costs in the Ameritech region proportionately greater than outside the region the shorter the distance.⁶⁰ In the four years between 1987 and 1991, the average margin over access costs in the Ameritech region declined relative to the average in the other multiLATA states. In 1991, this average margin in the

⁵⁹ Brock, Gerald W., *Telecommunication Policy for the Information Age: From Monopoly to Competition*, Harvard University Press, 1994, p. 213.

⁶⁰ In the shortest distance band in 1987, the intrastate price in the non-Ameritech regions was below access costs.

Ameritech region was below the average outside Ameritech in the five longest mileage bands but above the average margin in the six shorter mileage bands. Between 1991 and 1993, however, the price net of access costs rose in the Ameritech region relative to all other states in all mileage bands but the shortest one (0-10 miles).

75. To summarize, in 1987 prices net of access costs, were above the national average in the Ameritech region. Although prices fell in this region relative to the nation through 1991, in six of eleven mileage bands, prices net of access costs were still somewhat above the national average. Between 1991 and 1995 prices net of access costs rose in the Ameritech region as they did in the rest of nation. Hence, as recently as 1993, these rates suggest far less than robust competition in the Ameritech states and across the USA.

Table 4
AT&T Margin (Rate - Access Charge)
Based on Posted Rate for 5 Minute Daytime Intrastate InterLATA Call
by Region & Mileage Band
 Real Dollars, 1984 Base Year

Mileage Band	1987		1991		1993		1995	
	N=5 Amer	N=25 Other	N=5 Amer	N=28 Other	N=5 Amer	N=24 Other	N=5 Amer	N=24 Other
1-10	0.29	-0.02	0.44	0.19	0.45	0.22	0.51	0.32
11-16	0.41	0.12	0.49	0.29	0.52	0.29	0.58	0.39
17-22	0.54	0.21	0.54	0.36	0.56	0.35	0.61	0.47
23-30	0.65	0.4	0.59	0.46	0.61	0.46	0.66	0.58
31-40	0.76	0.51	0.61	0.51	0.62	0.5	0.66	0.62
41-55	0.79	0.58	0.61	0.54	0.62	0.53	0.67	0.65
56-70	0.89	0.73	0.66	0.62	0.66	0.62	0.72	0.74
71-124	0.94	0.8	0.67	0.67	0.67	0.65	0.72	0.77
125-196	1.03	0.91	0.72	0.76	0.71	0.72	0.76	0.84
197-292	1.05	0.96	0.72	0.78	0.71	0.74	0.76	0.85
293+	1.05	1.03	0.74	0.83	0.72	0.77	0.77	0.85

G. Conclusion

76. The evolution of the interexchange market in the U.S. has made it fertile ground for tacit price cooperation among the major carriers. The evidence presented establishes the existence of conditions under which firms, even in the absence of a single firm with “market power,” or overt collusion, and even in the absence of any conscious desire to coordinate prices, may discover that they are able to maintain prices above the competitive level. In the following sections we will show that indeed long distance rates are likely above the competitive level, and that consumers will benefit substantially from new entry and increased competition.

VI. A COMPARISON OF AT&T'S PRICES AND COSTS

A. Introduction

77. We examine AT&T's costs for two specific reasons. First, we wish to see if these costs are reasonable or not and thus whether significant new competition will erode price levels through reducing excessive costs. Second, we utilize estimates of total service long run incremental cost (TSLRIC) for AT&T in order to determine whether AT&T's prices available to resellers are at TSLRIC—AT&T's view of how competitive markets should set prices⁶¹.

78. We find that costs are high, with AT&T's marketing, administrative and overhead costs far exceeding the costs of operating and amortizing AT&T's infrastructure. We also find that prices available to resellers are multiples of reasonable estimates of TSLRIC.

79. In the FCC proceeding, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 (CC Docket No. 96-98), AT&T argued that the price of unbundled network elements to competitors of incumbent LECs should be the wholesale TSLRIC of each element. The measure of TSLRIC that AT&T proposes is one based on a “greenfield” network, using the most modern technology currently available. According to AT&T, such pricing will “approximate the performance of competitive markets”⁶² resulting in economically-efficient purchasing decisions by end users and equally-efficient investment decisions by competitors and incumbents alike.

⁶¹ This is not our view. In the long distance business, as in the local exchange business, there may be other fixed costs and marketing costs that must be recovered in prices.

⁶² Affidavit of Baumol, William J., Janusz A. Ordover and Robert D. Willig, para 12.

80. In 1995, the Commission declared AT&T to be non-dominant in domestic long distance markets because it found that "... AT&T has demonstrated that it lacks market power in the overall interstate, domestic, interexchange market..."⁶³ Therefore, the interLATA market is now viewed by AT&T and the FCC as effectively competitive and therefore AT&T's rates, especially its wholesale rates to resellers, should be at its own TSLRIC if AT&T's theory is correct. In this section, we provide various estimates of AT&T's incremental cost of providing long distance service and examine how this relates to its pricing of services to resellers and consumers.

B. Estimates of AT&T's Incremental Costs

81. As far as we know, AT&T has never provided estimates of its own TSLRIC for long distance service although it has provided estimates of its long-run incremental costs (LRIC). In this section and sections C and D which follow, we attempt to use public information to construct estimates of AT&T's long-run incremental costs as proxies for TSLRIC even though LRIC is likely to be greater than TSLRIC because TSLRIC is not constrained by past network investment decisions. We have constructed estimates of AT&T's long run incremental cost in the following ways.

82. First, we have taken existing estimates of the incremental cost of long distance service from a Bellcore study⁶⁴ and a subsequent study by MacAvoy that references 1990 AT&T estimates.⁶⁵ Second, we develop new estimates of LRIC for AT&T. We begin by providing two new estimates of incremental capital costs. The first is established from an engineering-economic analysis performed by Strategic Policy Research which is based on the prices of switching equipment and contract prices being charged for long-term high-capacity transmission service.⁶⁶ The second uses AT&T's own data to estimate the incremental cost of expanding long- distance capacity.⁶⁷ To these we add our own estimates, based on AT&T accounting data, of incremental operating and administrative costs.

⁶³ See *AT&T Non-dominance Order*, at para. 163.

⁶⁴ As quoted in WEFA, *Economic Impact of Eliminating the Line-of-Business Restrictions on the Bell Companies*, July 1993, pp. 20-21.

⁶⁵ MacAvoy, Paul W., *op. cit.*

⁶⁶ Jackson, Charles L., *A Bottom-Up Estimate of the TSLRIC of Long Distance Calling*, Strategic Policy Research, September 23, 1996.

⁶⁷ Brand, et. al., *op. cit.*

83. We then compare these two estimates of LRIC with AT&T's wholesale prices taken from its SDN and DNS price schedules with maximum discounts available to determine if one could reasonably conclude that AT&T's pricing to competitors is at TSLRIC.

C. Long-Run Incremental Costs of Long Distance Service from Bellcore and MacAvoy

84. The Bellcore estimate of the long-run incremental cost of transporting traffic from an originating local switching office through the trunking network and its tandem switches to a terminating office is 0.48 cents per minute, based on NCAT (Bellcore's Network Cost Analysis Tool).⁶⁸ This estimate assumes a fixed network. WEFA adopts this value in its analysis of long distance costs but rounds the value to 1.0 cents per minute to be conservative. MacAvoy adopts WEFA's 1.0 cents per minute for his estimate of the incremental cost of MTS traffic but uses AT&T testimony on WATS costs of 1.0 to 1.3 cents per minute for his estimate of the incremental cost of WATS traffic.⁶⁹ Thus, our first estimate of LRIC is 1.0 to 1.3 cents per minute.

D. The Incremental Cost of Long Distance Service—New Estimates

85. We now produce new estimates of LRIC for AT&T by estimating incremental capacity costs and adding operating costs. We begin with capacity.

1. AT&T's Incremental Capacity Costs

86. The first of our new estimates of capacity costs are developed by Strategic Policy Research. These estimates are based on a network architecture consisting of a switch in each LATA with calls being routed directly from the originating to the terminating switch. Using a \$250 cost per switch per circuit, a 0.5% monthly maintenance allowance, a 20% annual return on capital before taxes and an amortization period of five years, the estimated cost of switching based on two switches is about \$15 per month.⁷⁰ Incremental cost for usage of 8,000 Minutes Of

⁶⁸ See Bellcore estimates contained in WEFA, *op. cit.*, p. 21

⁶⁹ Direct Testimony of John Sumpter on Behalf of AT&T Communications of California, Inc., Application of AT&T of California Inc. (U 5002 C) for Authority to Provide Intrastate AT&T 800 READYLINE Service, June 18, 1990.

⁷⁰ Jackson, *op. cit.*

Use per month per circuit is 0.19 cents per minute. For a usage of 10,000 MOU/mo. the cost is 0.15 cents per minute.

87. The incremental cost of transmission is based on the AT&T charge for a connection between Atlanta and Orlando, which are about 350 miles apart. Based on a \$45,561 charge per month and a 45% discount for DS-3 service, the estimated cost is \$44 per voice circuit per month. At 8,000 minutes per month the cost is 0.56 cents per minute and at 10,000 minutes per month it is 0.45 cents per minute. Signaling and OA&M costs are estimated to be about 10% of the transport network costs. The total incremental capacity cost, as shown in Table 5, ranges from 0.81 cents per minute for a usage of 8,000 minutes per month to 0.65 cents per minute for a usage of 10,000 minutes per month.

Table 5
Estimated Incremental Cost of Long Distance Service

Cost Element	Cents per Minute	
	8,000 min. / mo.	10,000 min. / mo.
Switching	0.19	0.15
Transmission	0.56	0.45
Ancillary Networks	0.056	0.045
Total Incremental Cost	0.81	0.65

88. Our second estimate of AT&T's LRIC is based on data supplied by the FCC and AT&T. The FCC provides data on the average costs per mile of fiber in the ground.⁷¹ AT&T has provided information on the cost of upgrading existing fiber to expand capacity.⁷² The incremental cost of long distance capacity includes the costs of laying fiber and the costs of adding electronics, switching capability and systems to increase capacity on an existing long distance network. The capital costs are converted to annualized costs per minute-mile by using a cost of capital of 15% and estimates of loading given by AT&T.⁷³ This approach, shown in Table 6, results in even lower estimates of the incremental cost of capacity than those give in

⁷¹ *Fiber Deployment Update*, 1994

⁷² Brand, et. al., *op. cit.*.

⁷³ *Ibid.*

Table 5. Both approaches therefore suggest that the long-run incremental cost of constructing the long distance network is low.

Table 6

**AT&T's Estimated Incremental Capital Cost Based on the
Cost of Adding Facilities**

Component	Cost (Cents per Minute)
Laying Fiber	0.004
Electronics	0.013
Switching	0.082
Signaling, Billing	0.008
Total Incremental Cost	0.107

2. Incremental Operating Costs

89. The 0.11 to 0.81 cent per minute estimates of LRIC we detailed above include the cost of capital, but they do not include overheads or operating costs. In its analysis for MCI to estimate TSLRIC prices for unbundled network elements, Hatfield Associates⁷⁴ assign only 20% of the LECs' actual administrative overhead to TSLRIC. In 1994 AT&T's corporate overhead⁷⁵ was \$3.9 billion amounting to 1.9 cents per minute.⁷⁶ Applying the Hatfield Associates methodology to AT&T, which has recently announced large reductions in overhead staffing, provides an estimate of AT&T's 1994 TSLRIC overhead of 0.38 cents per interstate minute (1.9 times .2).

⁷⁴ Hatfield Associates, Inc., *The Cost of Basic Network Elements: Theory, Modeling and Policy Implications*, March 1996.

⁷⁵ SOCCC, 1994/1995, Table 2.9, Acct. no. 710.

⁷⁶ In 1994, AT&T purchased 235.1 billion switched access minutes. (SOCCC, 1994/1995 edition, p. 346. Because AT&T purchases more terminating minutes than originating minutes, we assume that AT&T's 1994 interstate conversation minutes were 140 billion and that two-thirds of its traffic is interstate and therefore that two-thirds of its costs should be assigned to its interstate activities. Data for switched interstate access minutes are not available.

90. AT&T's network operating costs in 1994⁷⁷ were \$4.0 billion (1.9 cents per interstate minute), but the operating costs for an efficient, greenfield TSLRIC-type operation are surely much lower. The Hatfield Associates model estimates operating costs of the unbundled elements offered by the LECs. In its Table 5 ("Economic Cost Compared to Revenue Requirements") for the tier-one LECS, Hatfield Associates includes none of the actual customer operations costs (\$15.3 billion) incurred, as it argues that these are already included in its estimate of total TSLRIC wholesale cost⁷⁸. Entire categories of operating costs are excluded: "Customer operations expenses include billing and account maintenance. Therefore, these expenses are part of the economic cost of existing end-user services. Customer Operations expenses will be minimal in the case of selling unbundled network elements..."⁷⁹ AT&T's actual operating costs of nearly two cents per conversation minute are clearly far too high for a wholesale TSLRIC if we are to follow AT&T's preferred approach to pricing. We assume that one half cent per minute is a reasonable cost for a greenfield wholesaler of long distance services.

3. Total LRIC for AT&T

91. The total LRIC estimates for AT&T based on the Hatfield Associates methodology are given in Table 7. We estimate LRIC to be between 1.0 and 1.5 cents per minute, utilizing estimates of incremental capacity, operating costs and overhead as developed above. These values compare favorably to the Bellcore and AT&T estimates utilized by MacAvoy. All of these calculations of costs per minute are exaggerated since we only use estimated conversation minutes as the denominator. If AT&T's total traffic is substantially greater than its reported switched conversation minutes, then these per minute values should be reduced accordingly.

⁷⁷ These costs would include engineering, network operations, maintenance and other related costs.

⁷⁸ Hatfield Associates, Inc., *op.cit.*, p. 36, Table 5.

⁷⁹ Hatfield Associates, Inc., *op. cit.*, p. 44.

Table 7

**Two Estimates of AT&T's Long-Run Incremental Cost
of Long Distance Services**

	A	B
Cost Category	Cents per Minute ⁸⁰	Cents per Minute
Operating Costs (¶ 89)	0.50	0.50
Overhead (¶ 88)	0.38	0.38
Capital Costs ⁸¹	0.65	0.11
Total LRIC	1.53	0.99

E. Wholesale Prices to Competitors

92. Even prior to divestiture, the FCC had mandated that AT&T make its services available to resellers to increase competition. The FCC did not require that AT&T price products to resellers at TSLRIC, but did require that AT&T make all products available to resellers that were available to commercial customers. Resellers have utilized the services that AT&T offered to its largest customers. In the early 1990s, the product most suitable for resellers was SDN, a “virtual private network” offering that allowed customers to obtain volume discounts on the aggregate traffic volume from multiple sites. SDN also provides for separate billing for each location. SDN tariffs are structured with different prices for calls that originate and/or terminate on the customer’s network (on-net) and those that do not originate and/or terminate on the network (off-net). In addition, rates are lower for calls originating and/or terminating on special access facilities than for those going over the switched network.

⁸⁰ Based on 210 billion intrastate and interstate conversation minutes.

⁸¹ From Tables 5 and 6 respectively.

93. Table 8 provides SDN prices for AT&T's tariffed SDN Schedules A and D. The lowest SDN prices are from Schedule D, which requires dedicated access on both ends. For the shortest distance calls (less than eight miles), the price is in the range of 2 cents to 3 cents per minute.

94. While large customers may be able to take advantage of this price for their "on-net" calling, resellers *cannot* because their customers are typically not concentrated in a way that all calls can both originate and terminate on dedicated access. The lowest tariffed rates available to resellers, taken from Schedule A, are in the range of 14.4 cents to 22.1 cents per minute,⁸² which allows for calls that are off-net at one end. The average price of interLATA access in 1994 was 2.7 cents per minute at each end, thus the lowest rates available to resellers from AT&T were in the range of 11.7 to 19.4 cents per minute excluding access costs. These prices would reflect the cost of billing services.⁸³ Even assuming billing costs of 5%, however, the adjusted price does not approach incremental costs.

95. AT&T created DNS service specifically for resellers to use instead of SDN. Table 8 also provides AT&T's DNS rates which range from 13.9 cents to 19.5 cents per minute including access costs. The prices are slightly lower than comparable SDN service, plus there are some advantages for resellers in DNS service. DNS provides basic 1+ long distance (via the 10-288 network) with many sites billed to a single bill. It allows for the addition of an unlimited number of new sites per month and unlimited total sites. AT&T also provisions DNS service in seven days on average. The disadvantages of DNS include no dedicated access, and no blocking, screening, or routing options. Discounts are based on gross monthly usage and a net monthly usage commitment, both in dollars rather than MOU. Terms are for three or four years, and the discount is the same, regardless. An additional discount may be available when beginning DNS service, especially if switching from SDN.

⁸² Somewhat lower rates may be available through Tariff 12.

⁸³ While AT&T will process the bills for reseller customers, resellers are responsible for collections, so AT&T does not incur those costs.

96. Recently, several RBOCs and other new entrants into interLATA services have been able

Table 8
AT&T's Prices of Products Suitable for Resale In 1996

(Cents per Minute)

Rate ⁸⁴ (cents per minute) For:	SDN ⁸⁵ Interstate Schedule A	SDN ⁸⁶ Interstate Schedule D	DNS ⁸⁷ InterLATA
5,000 Minutes	22.1	3.00	19.50
10,000,000 Minutes	14.4	2.00	13.85

Note: SDN rates are based on domestic day prices for 0-55 miles (0-8 miles for Schedule D). DNS rates are based on interstate domestic day rates within Mainland for 0-55 miles.

to purchase very large amounts of interLATA service from the IXC's at rates that are as low as 1 to 2 cents per minute.⁸⁸ Thus, we already have evidence of the beginning of much more aggressive competition in this market in the wake of the 1996 Act.

97. Our analysis suggests that AT&T's TSLRIC lies in the range of 1 to 1.5 cents per minute of long distance service. As shown in Table 9 this estimate is far below the wholesale rates traditionally paid by resellers, but it is close to the 1 to 2 cents per minute rate now apparently being offered by some IXC's to companies like Bell South since the passage of the 1996 Telecommunications Act. This demonstrates the importance of entry by new, large resellers like the RBOCs since this will give them the ability to compete by reducing rates.

⁸⁴ Based on a domestic, daytime call, 0-55 mile distance.

⁸⁵ AT&T Tariff FCC No. 1, effective March 1, 1996, 4th revised page 158.1.

⁸⁶ *Ibid.*, 24th revised page 162.1.

⁸⁷ Self, Robert, *Long Distance for Less Update*, February 1996.

⁸⁸ "Bell South Corp. Awards AT&T Contract," *Wall Street Journal*, June 20, 1996, D6.

Table 9

Comparison of AT&T's Estimated Incremental Costs and Prices

Estimated Incremental Cost / Price	Cents per Minute
WEFA / MacAvoy	0.48-1.30
Strategic Policy Research	1.53
Accounting & Capital Costs	0.99
SDN (Schedule A, 10,000,000 minutes)	11.7
SDN (Schedule D, 10,000,000 minutes)	2.0
DNS (10,000,000 minutes)	11.2

Note: SDN and DNS rates exclude access costs.

F. The Components of AT&T's Actual Operating Costs

98. In 1994 AT&T's total operating revenue less access costs was \$23.8 billion.⁸⁹ Using only conversation minutes based on switched access minutes, which excludes traffic carried on-net/on-net, average revenue per minute excluding access costs in 1994 was 11.3 cents per minute.⁹⁰ A more conservative estimate would account for these minutes.⁹¹ Even with such a conservative estimate of the total traffic, AT&T's net revenue per minute excluding access charges is 9.4 cents per minute, still between 6 and 10 times the estimates of LRIC shown above. What accounts for the difference?

99. AT&T's largest reported accounting-cost items are the total return to capital, operating income before taxes plus depreciation, of \$8.7 billion⁹² (37% of revenue net of access costs) and customer service and marketing expenses of \$6.9 billion⁹³ (29% of revenue net of access costs).

⁸⁹ SOCCC, 1994/95 edition.

⁹⁰ \$23.5 billion of revenue divided by 210 billion conversation minutes (inter and intra LATA).

⁹¹ The number of special access lines is about 10 percent of the total number of access lines (SOCCC 94/95, Table 2.5). These lines are no doubt used more heavily than the switched access lines but not all of the special access lines belong to AT&T and most of the calls originating on special access will terminate on switched access lines. Therefore an estimate of 20 percent of the total switched conversation minutes should be a very conservative estimate of the on-net/on-net traffic.

⁹² SOCCC, 1994/1995, Table 2.9, Acct. nos. 6566, 6562, 730.

⁹³ SOCCC, 1994/1995, Table 2.9, Acct. no. 700.

100. AT&T's total gross plant in service at the end of 1994 was \$24.5 billion;⁹⁴ thus its cash flow was 35% (\$8.7 billion/\$24.5 billion) of its gross plant. In its estimate of the TSLRIC of local service undertaken for MCI, Hatfield Associates uses a 14% capital charge to amortize the investment of the RBOCs and recover their cost of capital⁹⁵. Applying the 14 percent assumption to AT&T's own book value of capital stock suggests a required return on capital of \$3.4 billion or 1.6 cents per minute, substantially less than the \$8.7 billion or 4.1 cents per minute actually earned. This large differential will surely be driven down by competition from the RBOCs as they enter and strive to build market share and the required level of investment may be reduced as well.

101. In the same year, Ameritech companies reported \$4.9 billion in cash flows on a gross plant investment of \$27.9 billion as compared to AT&T's \$8.7 billion in cash flow and gross plant of \$24.5 billion. Thus, AT&T's total returns on its plant were more than double those realized by Ameritech, a multiple far above that required to cover AT&T's risk premium in the debt and equity markets⁹⁶.

102. Of the \$6.9 billion in customer service and marketing cost, \$4.0 billion, or 2.0 cents per minute, is devoted to marketing⁹⁷ and \$2.9 billion, or 1.5 cents per minute, is devoted to customer service. Marketing "costs" are clearly driven by the large price-cost margins available from current long distance service. We expect these costs to fall substantially when long distance rates decline in response to entry.

103. We therefore conclude that 1) AT&T's comparable LRIC costs for providing service to competitors is likely about 1 cent to 1.5 cents per minute; 2) it is exceedingly unlikely that TSLRIC is above LRIC; 3) in the wake of the 1996 Act, wholesale rates are beginning to fall to 1 to 2 cents—close to LRIC—for very large resellers such as the RBOCs, but retail rates remain far

⁹⁴ SOCCC, 1994/1995, Table 2.9, Acct. no. 260.

⁹⁵ This constant annual capital charge allows the investment to be recovered in 12.5 years with a 10% return to capital.

⁹⁶ For this reason alone, AT&T may be slower to expand into Ameritech's local and interstate service marketplace than Ameritech and others will be in attempting to win share in the interLATA marketplace. This suggests that it will be in the IXCs' interests to delay entry by Ameritech and the RBOCs into the long distance business using the legal and regulatory means at their disposal.

⁹⁷ AT&T spent almost 12 cents for every dollar of operating revenue in 1995, almost twice as much as the Phillip Morris Companies spent on advertising per dollar of sales. Sources: SOCCC, 1994/1995 and *Advertising Age*, September 30, 1996, page S51.

above these wholesale rates; 4) entry of additional large competitors, whether through resale or the use of their own facilities, will place substantial downward pressure on rates and stimulate added product diversity; and 5) these pressures will cause existing IXCs to reduce their costs substantially.

VII. THE ANTICIPATED BENEFITS FROM AMERITECH'S ENTRY

104. In previous sections of this affidavit, we have examined entry into four telecom markets—US long distance, Chilean long distance, UK cellular and Connecticut long distance, and two other markets—luxury cars and steel. All six markets have been characterized as small number oligopolies with poor performance—excessive price-cost margins and inefficient operation. Of the six, the US long distance market stands out as having higher price-cost margins today as compared to five years ago. On November 28, 1996, AT&T announced an average 5.9% increase in its long distance rates suggesting that margins are still expanding⁹⁸ What distinguishes the US long distance market from the other five markets analyzed is the absence of any new significant brand-name competitor in two decades. What has kept the oligopoly stable is this lack of a new large brand-name competitor.

105. There are at least four reasons why Ameritech's entry is likely to lead to substantial pressure for competitive pricing in its region. First, the entry by large RBOCs into interLATA services has already reduced wholesale rates for long distance service to between 1 and 2 cents per minute. Even if Ameritech has to spend as much as AT&T on marketing, customer service, and overhead⁹⁹, its costs would be only 6.4 cents per minute to 7.4 cents per minute plus an imputed 5 cents per minute for access charges for a total of 11.4 cents to 12.4 cents per minute. Current rates on average are in excess of 15 cents per minute suggesting a decrease of as much as 3.6 cents per minute or more is possible, assuming no reduction in marketing, customer service and overhead expenses.

106. Second, Ameritech will be able to market its new interLATA service aggressively to its existing small-business and residential customer base. These are precisely the customers that are paying the highest rates for interLATA services from the existing IXCs. Given economies of joint marketing of local and long distance services, Ameritech should be able to lower rates

⁹⁸ *New York Times*, November 28, 1996.

⁹⁹ Marketing cost = 2.0 cents per minute (¶ 101); customer service cost = 1.5 cents per minute (¶ 101); overhead cost = 1.9 cents per minute (¶ 88).

substantially. We have seen that the new Chilean long distance companies are seeking precisely these joint economies as they compete aggressively for business.

107. Third, Ameritech enters this market as a prospective large supplier that is not likely simply to accept the existing oligopoly's umbrella price. Its entry is more like the entry of Toyota and Nissan into the luxury car market than the entry of another small reseller into the interLATA market in, say, 1985 or 1986.

108. Fourth, Ameritech cannot expand the market for local services through aggressive price reductions, even if regulators would allow them to do so due to the low elasticity of demand for basic local services. It can, however, use price reductions to gain a foothold in the long distance market while simultaneously expanding the number of access minutes that it supplies. It benefits substantially from lower long distance rates through the greater sale of access services, a benefit that has not been available until recently to most of its long distance competitors because they have not built local origination and termination capacity in the Ameritech region.

109. Lower interLATA rates will increase toll minutes and therefore access minutes at Ameritech's local exchange facilities. These additional access minutes, resulting from additional minutes on all IXCs, will add to Ameritech's net income. Sibley and Weisman have shown that at plausible prices and market elasticities, an incumbent LEC will prefer offering a lower access price to *all* IXCs over discriminating in favor of its own downstream subsidiary.¹⁰⁰ If there is economic profit to be had in providing access, then the LEC may be better off realizing that profit on *all* interLATA minutes rather than participating in oligopolistic pricing practices that reduce long distance output and therefore, access minutes.

110. For all of these reasons, we would expect interLATA rates in the Ameritech region to fall substantially, within the first two or three years of Ameritech's entry. This rate reduction is not dependent on a price reducing strategy for Ameritech. Even if Ameritech wanted to enter and maintain existing prices and high price-cost margins, its entry will erode prices quickly. Ameritech has a significant brand name and will likely capture a large market share in a short period of time. Utilizing the SNET experience, one can reasonably predict a 25% to 30% market share gain for Ameritech and thus significant market share loss for AT&T, MCI, and Sprint. These oligopolists will then have to fight to retain as much of the market as possible, and price reductions will surely result.

¹⁰⁰ Sibley, David S. and Dennis L. Weisman, "Competitive Incentives of Vertically Integrated Local Exchange Carriers", University of Texas Working Paper (November, 1995)

111. The mandate on the interstate carriers to maintain geographically averaged rates prevents them from lowering interstate rates on traffic originating in the Ameritech region in response to this new competition unless there is concurrent RBOC entry in all regions. However, for the US as a whole, intrastate calls make up 46% of all toll calls. For Michigan, 58% of all toll calls are intrastate,¹⁰¹ thus AT&T, MCI and Sprint can reduce intrastate rates by large percentages to retain overall business. In addition, across-the-board discounts could rise.

112. We have already witnessed the start of aggressive price shopping by several RBOCs in the wholesale market for out-of-region interLATA services. If Ameritech and the other RBOCs intend to win substantial market shares from the entrenched IXCs, they will have to use price and aggressive marketing strategies to obtain customers. As we have shown, the entry of additional players into the cellular, foreign long distance, Connecticut long distance, luxury-car, and carbon-steel markets have been accompanied by substantial downward pressure on prices. We expect the U.S. long distance market to be no different.

113. The entry by Ameritech and the other RBOCs will disrupt the current stable long distance oligopoly in much the same way that equal access and the rapid expansion of MCI and Sprint disrupted AT&T's position in 1984. Between 1984 and 1987, MCI and Sprint offered substantially lower rates than AT&T's rates in order to expand market share. InterLATA rates fell more rapidly than did interstate access charges during this period. After 1987, however, the differences among AT&T's, MCI's and Sprint's rates narrowed; the rate of price decline slowed and even reversed after 1990; and MCI's and Sprint's capture of market share likewise slowed. The entry of Ameritech and the other RBOCs into interLATA services will be a major disruptive event, similar to the MFJ and its equal-access requirements, that will once again place downward pressure on long distance rates and IXC costs. The consumer benefits from this revival of competition should be large indeed.

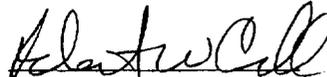
VIII. CONCLUSION

114. The evidence available to us strongly suggests that the interLATA market is far from a competitive equilibrium. While we cannot predict the precise impact of Ameritech's entry into in-region interLATA services, we believe that this entry could reduce rates substantially. The rate reductions will, as noted in Professor MacAvoy's affidavit, generate large gains in consumer welfare and place substantial downward pressure on the incumbent carriers' costs. Moreover,

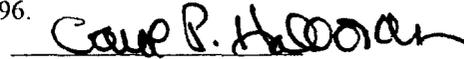
¹⁰¹ SOCCC, 1995.

entry on the scale of Ameritech's will generate improved service quality, new pricing plans, and considerable savings in customer transaction costs resulting in consumer benefits substantially greater than those associated with simple price reductions. The stable three-firm oligopoly that has dominated the interLATA market will be forced to react to Ameritech's entry in a more competitive fashion. Rate increases in the face of cost declines, such as AT&T's November rate increase, will no longer be feasible. InterLATA rates will resume their 1984-90 downward trajectory.

I hereby swear, under penalty of perjury, that the foregoing is true and correct, to the best of our knowledge and belief.


Robert Crandall

Subscribed and sworn before me this 21st day of December, 1996.


Notary Public

My Commission expires ~~My Commission Expires~~ October 31, 1998

My Commission expires: _____