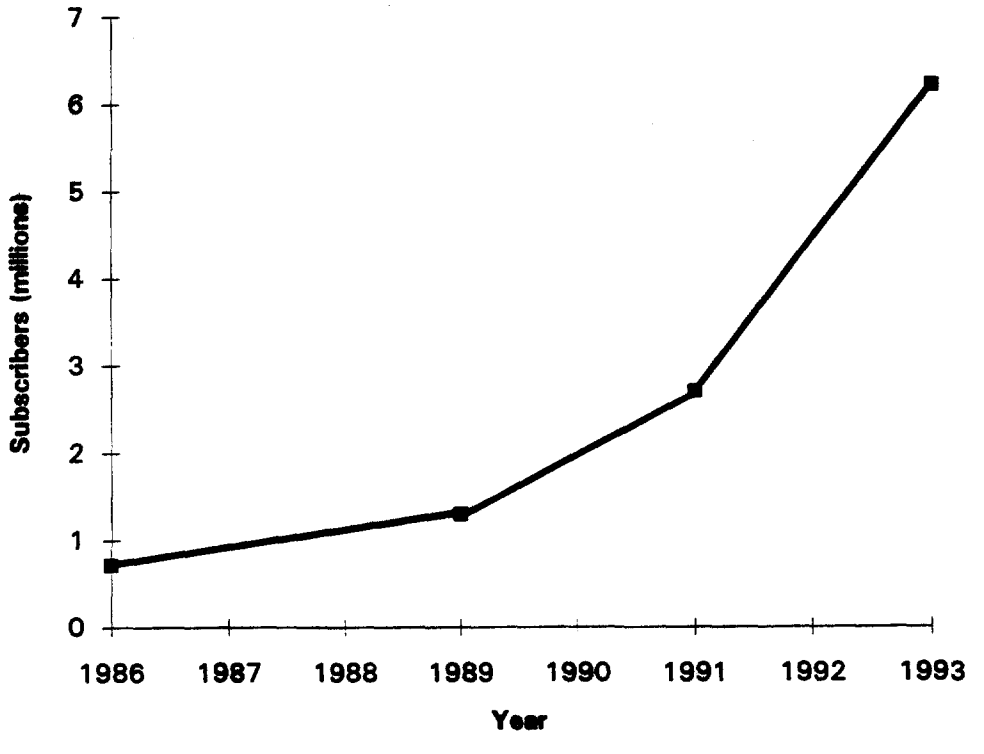
What has happened since? The videotex and gateway markets are flourishing as never before. Total subscribership to all videotex gateways has increased from 715,000 in 1988 to 6.2 million in 1993;[280] output is growing at a rate of 15 to 20 percent each year.[281] FIGURE 12. CompuServe and Prodigy remain the largest providers of these services, together accounting for more than 75 percent of the market. In the six years that BOCs have now been permitted to provide gateway services, they have gained nothing remotely close to a dominant share.[282] Two of the four BOCs that entered the market have since abandoned it. FIGURE 13.

Figure 12. U.S. Videotex Subscribers[283]



[280]U.S. INDUSTRIAL OUTLOOK 1994, at 25-2.

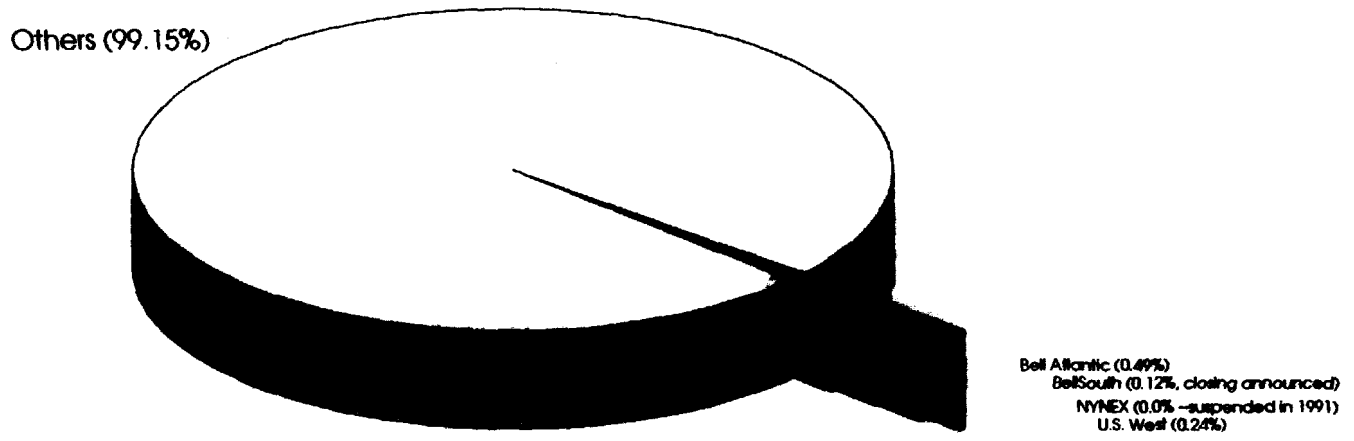
[281]*Ibid.*

[282]In the 1988-90 time period, the BOCs combined had only 27,200 subscribers.

[283]Source: DEP'T. OF COMMERCE, U.S. INDUSTRIAL OUTLOOK 1987 (1987), DEP'T OF COMMERCE, U.S. INDUSTRIAL OUTLOOK 1990 (1990), U.S. INDUSTRIAL OUTLOOK 1994 (1994).

Figure 13

Videotex, Share of Total Users (1991)



Sources: U.S. Industrial Outlook 1992 at 26-2; NATA, 1992 Telecommunications Market Review and Forecast at 63. Data for US West does not include Minneapolis/St. Paul.

Across the board, electronic information services remain one of the fastest growing segments of the U.S. economy; the market is projected to increase from an estimated $13.6 billion in 1993 to $15.6 billion in 1994.[284] In 1979, there were 300 electronic databases worldwide.[285] Today, there are 5,210, provided by 2,221 different companies.[286] On-line services have increased from 59 to 824.[287]

The market is doing so well that it is easy to forget every doleful prophecy of doom made in 1988 and again in 1991, when BOCs were allowed in. The authors of the AT&T/MCI Report plainly number among those who have forgotten, for they repeat identical prophecies as if the post-1988 tests of their theories had never been conducted at all.

Customer Premises Equipment. -- At Judge Greene's insistence, the BOCs have been permitted to market and distribute CPE ever since divestiture.[288] CPE includes private branch exchanges, telephone sets, facsimile equipment, answering machines and so on.[289]

The distribution of PBXs provides perhaps the most rigorous possible test of the theories advanced in the AT&T/MCI Report. The BOCs provide their own private exchange service (Centrex), and Centrex competes *directly* with PBX systems. According to the theory of the AT&T/MCI Report, Centrex should have completely eclipsed PBX sales by now. Nothing of the sort has happened. **FIGURE 14 AND FIGURE 15.**

Experience in other CPE markets is no different. According to a 1990 assessment by a leading trade association of non-BOC CPE providers, all the BOCs combined have achieved sales of only $1.8 billion -- about 10 percent of the entire CPE marketplace.[290]

---

[284]U.S. INDUSTRIAL OUTLOOK 1994, at 25-1.

[285]U.S. INDUSTRIAL OUTLOOK 1994, at 25-2.

[286]*Ibid.*

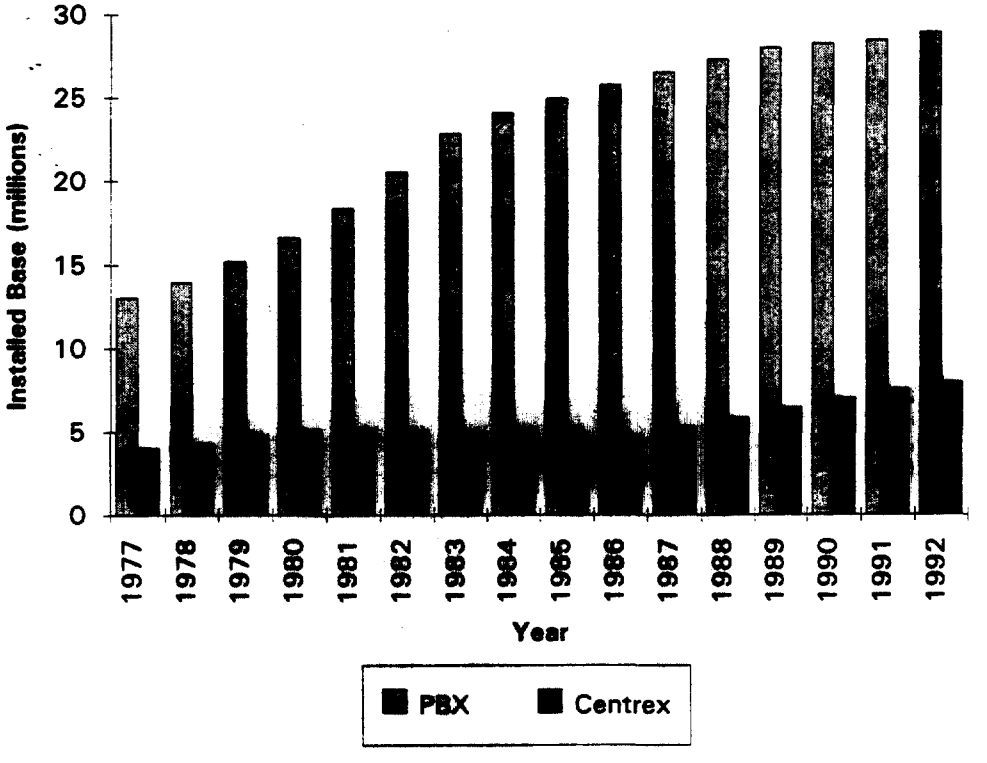
[287]*Ibid.*

[288]552 F. Supp. 131, 231.

[289]A PBX is a private exchange system located at the customer's premises. Its primary function is to route or switch calls within a business complex, campus, government agency or apartment building and to and from the public network. A PBX connects to the local network by way of a trunk line which runs from the local network to the PBX.

[290]NATA, 1990 TELECOMMUNICATIONS MARKET REVIEW AND FORECAST 59 (1990).

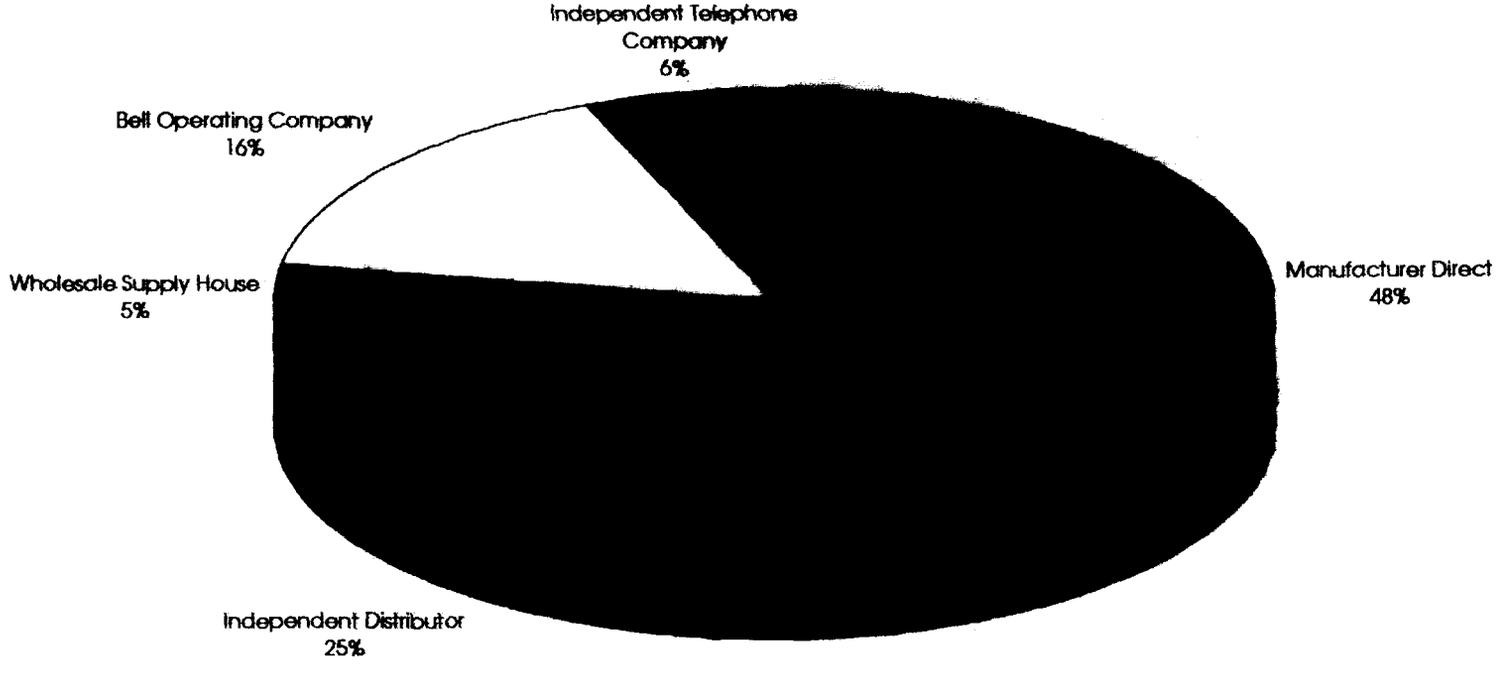
Figure 14. PBX vs. Centrex 1977-1992[291]



[291]Source: NBI, U.S. PBX AND RELATED MARKET 1993, at 68, 74.

Figure 15

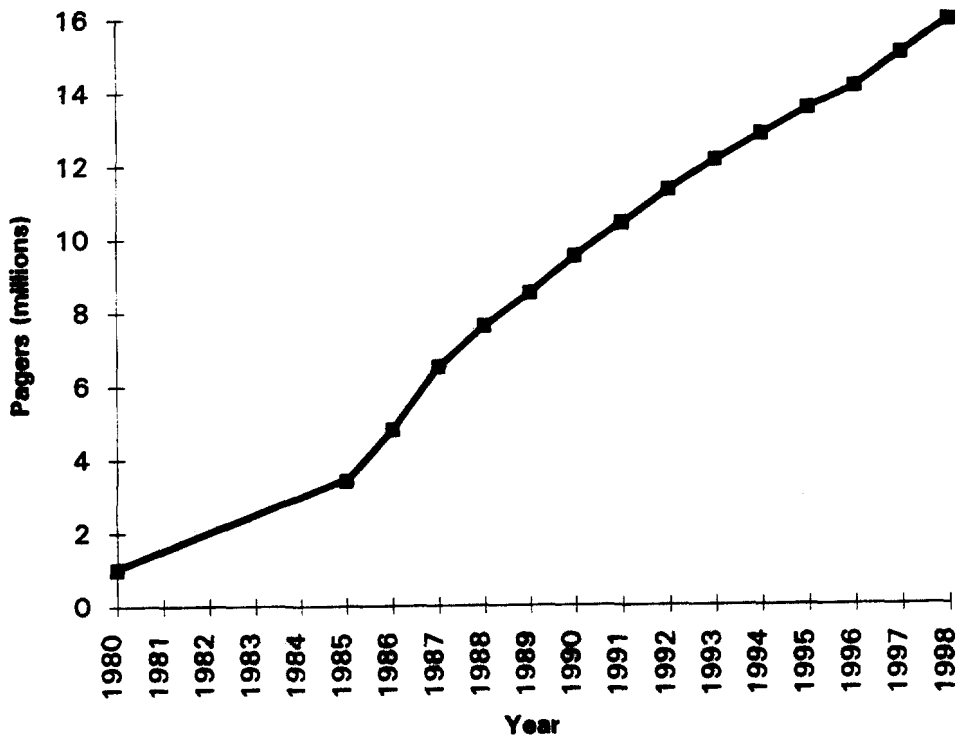
PBX and Key/Hybrid Market by Distribution Channel, 1993



Source: NATA, 1993-1994 Telecommunications Market Review and Forecast at 220.

Wireless. -- BOCs have been permitted to provide paging and cellular services since divestiture. Here too, market output has steadily risen and prices have fallen. If the theories advanced in the AT&T/MCI Report were correct, the BOCs should have been gaining market share; they should now own the market. But they don't. Between 1988 and 1992, the BOCs' combined share of cellular subscribers decreased from 55 percent to 51 percent.[292] The two largest cellular providers in the U.S. are not BOCs: they are McCaw (which AT&T is attempting to purchase)[293] and GTE Mobile Communications.[294] Far from withering under the blight of BOC participation, the wireless market has expanded at a pace unmatched in almost any other market. FIGURE 16 (*see also* Figure 8, *supra*).

Figure 16. Pagers Sold[295]



[292]EMCI, U.S. CELLULAR MARKETPLACE 1993, at 96 (1993).

[293]*Some Big Deals Along the Information Highway*, THE ASSOCIATED PRESS, Oct. 13, 1993.

[294]CTIA, THE WIRELESS SOURCEBOOK 56.

[295]Source: INSIGHT RESEARCH CORP., COMPETITION IN THE LOCAL LOOP: TELCOS, CABLE TV, WIRELESS IN THE EMERGING TELECOMMUNICATIONS NETWORK 1993-1998, at 46 (Feb. 1993).

Public Pay Phones. -- The divestiture decree allocated to the BOCs ordinary coin and "charge-a-call" (credit card) public pay phones.[296] The number of installed pay phones has increased steadily since 1984. **FIGURE 17.** Independent providers have accounted for 63 percent of the installations since 1986.[297] Since 1988, BOCs' real revenues per installed pay phone have declined.[298] **FIGURE 18.** The BOCs' competitors consist of large numbers of small entrants.[299] Here, yet again, market forces and the FCC's open entry policies and regulatory protections against cross subsidy have done the job.

GTE and United Telecom. -- GTE is a local telco with total revenues considerably in excess of those of any Regional Bell. It serves more access lines in the United States than NYNEX, Pacific Telesis, U S West and Southwestern Bell.[300] **TABLE 2.** But GTE, unlike the RBOCs, is not barred from long-distance, equipment manufacturing or information service markets. If the Report's assertions are correct, GTE should have taken over these adjacent markets long ago. The Report, however, does not mention any of GTE's successes in taking over competitive markets adjacent to its local exchange operations.[301]

---

[296]569 F. Supp. 990, 1102 n.195.

[297]NATA, 1993-1994 TELECOMMUNICATIONS MARKET REVIEW AND FORECAST 69.

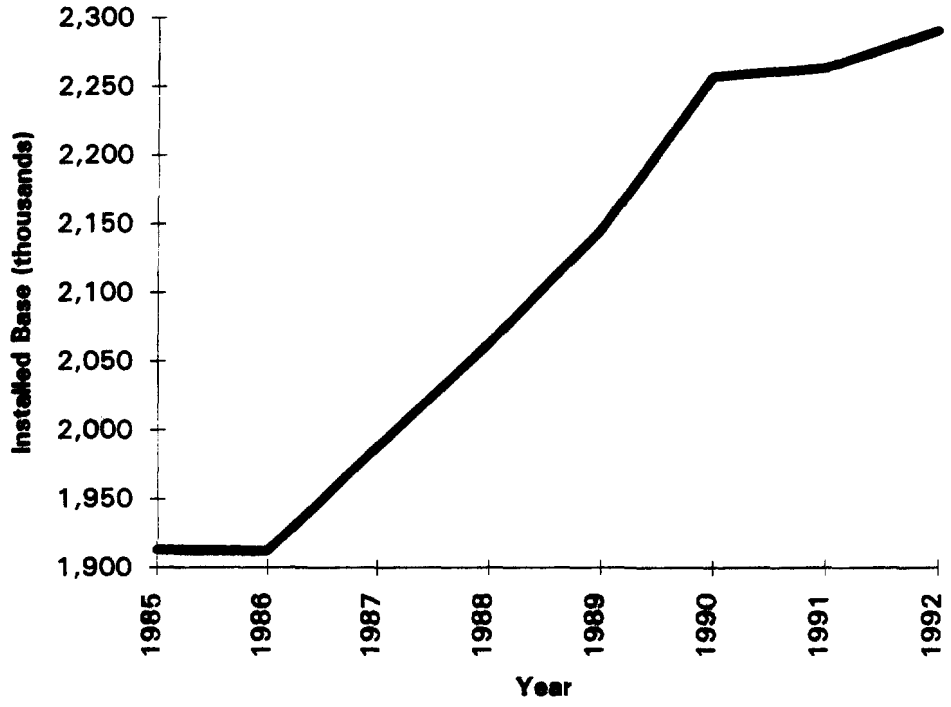
[298]*Ibid.* Note that actual revenues are deflated by the all-item Consumer Price Index. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 1993, at 480-482 (1993).

[299]There are, for example, an estimated 140 independent pay phone providers in Texas and 124 in Illinois. *See* Alan C. Kaniss, *Profits, Not Progress, Move Phone Companies*, HOUSTON CHRONICLE, Apr. 23, 1993, at A29; Peter Kendall, *Independents Nibble on Bell Pay-Phone Pie*, CHICAGO TRIBUNE, Feb. 21, 1993, at C1. Peoples Telephone is estimated to be the largest IPP in the U.S., operating in 38 states. *See* John A. Jones, *Peoples Telephone Expands Its Pay and Cellular Networks*, INVESTOR'S BUSINESS DAILY, Aug. 26, 1993, at 32.

[300]USTA, PHONE FACTS 1993, at 21.

[301]The D.C. Circuit has recently recognized GTE's experience as relevant to predictions of RBOC behavior. U.S. v. Western Elec. Co., 993 F.2d 1572 (D.C. Cir. 1993). The court criticized the district court for "dismiss[ing] the GTE experience on the ground that GTE had no ability or incentive to discriminate due to its dispersed geographical base," and said that, "GTE itself is not the totally scattered entity envisioned by the district court. As this court has previously noted GTE controls local exchange service in the entire state of Hawaii as well as in large portions of the Tampa and Los Angles markets. . . . . The evidence assembled by Professor Fisher shows that none of the anticompetitive consequences hypothesized by the district court have come to pass with GTE or other independent telephone companies, despite their entry into the information service market." *Id.* at 1579 (citations and internal quotations omitted).

Figure 17. Public Payphones, Installed Base, 1985-1992[302]



[302]Source: NATA, TELECOMMUNICATIONS MARKET REVIEW AND FORECASTS, 1992, 1993-1994.

Figure 18. BOC Payphone Revenue Per Installed Payphone, 1984-1991[303]

[303]Note: Actual revenues deflated by the all-item Consumer Price Index (1991 = 100). Source: NATA TELECOMMUNICATIONS MARKET REVIEW AND FORECASTS, 1991 and 1992; U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS.

Table 2. Total Access Lines[304] (in millions)	
Local Telcos	Total Access Lines
Bell Atlantic	18.2
BellSouth	18.1
Ameritech	17.0
GTE	16.2
NYNEX	15.7
Pacific Telesis	14.6
U S West	13.3
Southwestern Bell	12.6
Sprint (post-Centel acquisition)	5.7
Southern New England Telephone Co.	1.9

There have been no such successes. Until recently, GTE's manufacturing business included CPE, digital switching and transmission equipment and defense communications systems;[305] in 1989, such products accounted for 16 percent of the company's total revenue.[306] In recent years, however, GTE has sold off an increasing portion of its telecommunications manufacturing operations. It sold 80 percent of its transmission system business to Siemens in 1986,[307] and all of its PBX manufacturing operations to Fujitsu in 1988.[308] The company will transfer all of its central office switch manufacturing to AT&T.[309]

GTE has had equally little success in interexchange markets. In 1983, it acquired the Southern Pacific Communication Company, which it renamed GTE-Sprint.

---

[304]USTA, PHONE FACTS 1993, at 21.

[305]GTE also manufactures unrelated electrical products such as lighting and precision materials.

[306]GTE, 1989 ANNUAL REPORT 33-34 (1990).

[307]*Fujitsu Buys GTE PBX Share,* ELECTRONIC NEWS, Sept. 12, 1988, at 1.

[308]*Ibid.*; Stuart Zipper, *GTE to Sell PBX Business to Fujitsu in Venture Deal*, ELECTRONIC NEWS, Mar. 16, 1987, at 1.

[309]Joanne Connelly & Stuart Zipper, *AT&T, GTE Set CO Switch Deal*, ELECTRONIC NEWS, July 25, 1988, at 1. The transaction will be completed by 2004. *Ibid.*

Sprint was (and remains) the third-largest interexchange carrier, after AT&T and MCI. GTE-Sprint led the race in introducing fiber-optics to the long-distance network.[310] And leveraging theories notwithstanding, GTE-Sprint still lost money steadily from 1986 to its final sale in 1992.

The buyer was United Telecom, which then renamed itself Sprint. The new Sprint is a vertically integrated company that also serves about 6 million local access lines.[311] Sprint is still third in the long-distance market, where it will almost certainly remain for the foreseeable future. The record is clear yet again: No discriminatory interconnection, no cross subsidy, no strategy of any kind, legal or illegal, has helped either GTE or United Telecom overcome competitors in the long-distance market.

The Efficacy of Regulation

Market forces alone have undoubtedly provided the main defense against BOC hanky panky in the many adjacent markets in which they already compete. Regulation has provided a second independent tier of protection.

Access Charges. -- To begin with, regulators have steadily pushed down access charges, thus sharply reducing the economic impact of whatever market power may still exist. In 1984, AT&T paid 59 percent of its long-distance revenues straight back to local carriers.[312] But ever since divestiture, the FCC has overseen major reductions in the access charges paid by interexchange carriers to local exchange carriers. Flat-rate federal "line charges," ranging from $3.50 for residential phones[313] to $25 a month for private lines connected to PBXs,[314] have replaced a substantial portion of the usage sensitive access charges that local exchange carriers once charged long-distance carriers.

The total access charges paid by AT&T, in 1993 inflation adjusted dollars, has fallen from almost $29 billion in 1985 to about $14 billion in 1993[315] -- a difference of more than 50 percent. During this same period, AT&T's total traffic volume

---

[310]Robert Grieves, *Sorry, Wrong Number*, FORBES, Aug. 22, 1988, at 10.

[311]USTA, PHONE FACTS 1993, at 21 (Centel's access lines were added to those of Sprint).

[312]FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS 24, Table 14 (1984).

[313]Alfred E. Kahn & William B. Shew, *Current Issues in Telecommunications Regulation: Pricing*, 4 YALE J. ON REG. 191, 196-97 (1987).

[314]47 C.F.R. § 69.115(c) (1992).

[315]*AT&T Urges Customer to Join Local Access*, FIBER OPTICS NEWS, July 26, 1993.

increased by 60.5 percent.[316] Whereas AT&T's access charges represented almost 60 percent of its total long distance revenues in 1984, today, the amount AT&T pays to the LECs constitutes only 39 percent of such long distance revenues.[317] TABLE 3. FIGURE 19.

Table 3. AT&T Access Charges as a Percentage of Long-Distance Revenue.[318]

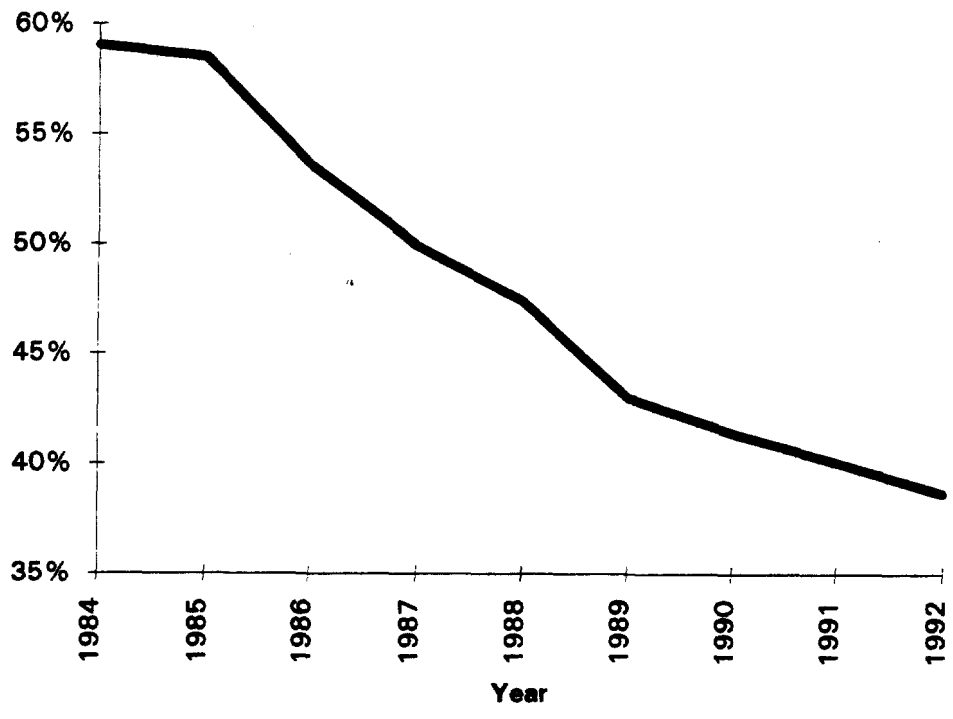
Year	AT&T Long-Distance Revenues ($1993 in millions)	Access Charges ($1993 in millions)	Access Charges as a Percentage of Revenues
1984	48,515	28,654	59
1985	49,310	28,861	59
1986	48,175	25,849	54
1987	44,787	22,365	50
1988	43,287	20,513	47
1989	40,291	17,334	43
1990	37,503	15,537	41
1991	36,471	14,623	40
1992	36,572	14,136	39

[316]FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS 310, Table 8.10 (1992/1993).

[317]*Id.* at 39, 41.

[318]FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS 1984-1992/1993.

Figure 19. AT&T Access Charges as a Percent of AT&T Long-Distance Revenues[319]



Equal Access. -- The AT&T/MCI Report gives little attention to regulation that forbids discriminatory interconnection. In its strained attempt to analogize telephones to airlines, the Report ignores equal access regulation completely.[320] Yet the regulatory facts are simple: Equal access to the local exchange is now assured by a comprehensive body of regulation that protects interexchange carriers, information

[319]Source: FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1984-1992.

[320]The Report describes the regulatory developments in the airline industry as requiring "***passengers*** unrestricted interconnection among their respective route networks," but not "***carrier*** interconnection," which it claims "generally does not occur, other than at an administrative level." AT&T/MCI REPORT at 42 (emphasis added and omitted). The equal access regime in telephony, however, requires equal access for *both* passengers (end-users) and carriers (CAPs and interexchange carriers).

service providers, CPE providers, providers of wireless services and competitive access providers.[321]

Section II(A) of the divestiture decree requires BOCs to provide equal access to all interexchange carriers and information providers. By 1985, scarcely a year after divestiture, the FCC had adopted and implemented equal access rules of its own, requiring all local exchange carriers (not just BOCs) to undertake equal access conversions.[322]

The Commission has promulgated very similar access rules for the benefit of wireless carriers.[323] Comparable rules, in place since 1975, assure equal access for independent providers of CPE.[324] The Commission requires telcos to file compliance plans setting out the procedures they use to prevent discrimination and annual

---

[321]AT&T has in fact praised the Commission's equal access policies: "The Commission's equal access policies, together with the equal access and non-discrimination provisions of the Decree, offer assurances that all interexchange carriers will be able to obtain equal, nondiscriminatory interconnection to the local exchange facilities, now owned by the BOCs." Comments of American Telephone and Telegraph Company at 8, In the Matter of Policy and Rules Concerning Rates for Dominant Carriers, No. 87-313 (Oct. 19, 1987). This statement was made *before* equal access had been fully implemented, before the collocation orders of the last two years, and before the entire body of regulation concerning equal access which has sprung up over the last seven years.

[322]In the Matter of MTS and WATS Market Structure, Phase III, 100 F.C.C.2d 860, 877 (1985); Investigation into the Quality of Equal Access Services, 60 Rad. Reg.2d (P & F) 417, 419 (1986). *See* In the Matter of Investigation of Access and Divestiture Related Tariffs, 101 F.C.C.2d 911, 927-34 (1985) (establishing customer allocation plan to implement equal access requirements). And whereas Judge Greene permitted AT&T to retain those customers who failed to respond to interexchange carrier balloting, the FCC required that such customers be allocated among all carriers. *Compare* United States v. Western Elec. Co., 578 F. Supp. 668 (D.D.C. 1983) *with* In the Matter of Investigation of Access and Divestiture Related Tariffs, 101 F.C.C.2d 911, 924-926 (1985). In the same vein, the Commission has prohibited pay phone owners from blocking customers from accessing their chosen long distance carrier and guaranteed the "portability" of 800 numbers from one interexchange carrier to another. In the Matter of Policies and Rules Concerning Operator Serv. Access and Pay Tel. Compensation, 6 F.C.C. Rcd 4736 (1991) (pay phones); In the Matter of Competition in the Interstate Interexchange Marketplace, 6 F.C.C. Rcd 5880, 5904 (1991) (concluding that number portability is essential to competition in 800 market); In the Matter of Provision of Access for 800 Service, 6 F.C.C. Rcd 5421 (1991) (ordering BOCs to deploy 800 databases by March 1993).

[323]In the Matter of Inquiry into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Sys., 86 F.C.C.2d 469, 496 (1981), *modified*, 89 F.C.C.2d 58, 80-82 (1982), *further modified*, 90 F.C.C.2d 571 (1982), *appeal dismissed sub nom.* United States v. FCC, No. 82-1526 (D.D.C. Mar. 3, 1983); Need to Promote Competition and Efficient Use of Spectrum for Radio Common Carrier Servs., 2 F.C.C. Rcd 2910 (1987); Need to Promote Growth and Efficient use of Spectrum for Radio Common Carrier Servs., 4 F.C.C. Rcd 2369 (1989).

[324]AT&T Co.'s Proposed Tariff Revisions in Tariff F.C.C. No.263 Exempting Mebane Home Telephone Co. of North Carolina from the Obligation to Afford Customers the Option of Interconnecting Customer-Provided Equipment to Mebane's Facilities, 53 F.C.C.2d 473 (1975). North Carolina Util. Comm'n v. FCC, 552 F.2d 1036 (4th Cir. 1977).

affidavits attesting to compliance with such practices.[325] Since divestiture, the FCC has likewise enacted rules to assure equal access for providers of on-line information services.[326] In its *Computer III* proceeding, the Commission conducted a thorough investigation of the industry and promulgated industry-specific rules governing equal access.[327] Comparably Efficient Interconnection (CEI) requirements assure information service providers "equal and efficient access to those basic services that * * * the BOCs would use in providing their own enhanced services."[328]

The Commission's Open Network Architecture (ONA) rules go further. Local telcos are required to make available unbundled basic service elements (BSEs) so that competing information service providers can "use network services in a flexible and economical manner."[329] These requirements, in the Commission's view, "constitut[e] an effective safeguard, helping to ensure that independent [enhanced service providers] obtain nondiscriminatory access to BOC basic services."[330]

The AT&T/MCI Report argues that the current ONA proposals are insufficient because "the sheer complexity, interactivity and fundamentally centralized nature of an intelligent network/common channel signalling environment also offers the potential for strategic manipulation of the network interface points in a way that would severely limit and constrain competitive entry."[331] The Report further contends that "the

---

[325]In the Matter of Furnishing of Customer Premises Equipment by the Bell Operating Tel. Cos. and the Ind. Tel Cos., 2 F.C.C. Rcd 143, 155 (1986), *modified*, 3 F.C.C. Rcd 22, 26 (1987), *aff'd*, Illinois Bell Tel. Co. v. FCC, 883 F.2d 104 (D.C.C. 1989).

[326]In the Matter of U.S. v. Western Elec. Co. *et al.*, Appeals of Pacific Telesis, et al., Nynex, U S West, AITC, BellSouth, The PSC of D.C., State of California, Southwestern Bell and Bell Atlantic, 900 F.2d 283, 307 (D.C. Cir. 1990).

[327]*See* In the Matter of Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), 104 F.C.C.2d 958, 1080-1086 (1986), *vacated on other grounds*, California v. FCC, 905 F.2d 1217 (9th Cir. 1990).

[328]Filing and Review of Open Network Architecture Plans, 4 F.C.C. Rcd 2449, 2453 (1988).

[329]Bell Operating Co. Safeguards and Tier 1 Local Exchange Co. Safeguards, 6 F.C.C. Rcd 7571, 7598 (1991).

[330]*Id.* at 7599. To aid in enforcement, the BOCs must file quarterly non-discrimination reports, enabling the Commission to compare the quality and cost of the basic local exchange services the BOCs afford themselves against the quality and cost of comparable services they offer to competing enhanced service providers. These reporting requirements, the Commission has concluded, "adequately protect against discrimination in the installation, maintenance, repair, and quality of basic services." *Id.* at 7602.

[331]AT&T/MCI REPORT at 13 (emphasis omitted). Hatfield has repeatedly espoused before the Commission a vision of network design that provides for a complete "physical[] and logical[] interconnec[tion]" and which encourages the common use of resources. Notice of Inquiry, In the Matter of Intelligent Networks, 6 F.C.C. Rcd 7256, 7259 (1991). However, the Commission has

'intelligent network' in principle does not offer the potential for a truly open network" and that "fulfillment of the 'open network' vision is still many years in the future."[332] The FCC, however, has reached quite different conclusions. The Commission recognizes that ONA is "not a short-term fix, but rather a long-term evolutionary process,"[333] but points out that its initial plans for ONA "provide sufficient near-term protections to prevent the BOCs from discriminating against their [information service] competitors, and will afford [those competitors] increased opportunities to use the BOCs' networks in new and more efficient ways."[334] In fact, any drag time in implementing ONA has not been a result of the "seemingly endless litigation and delay"[335] that the Report claims, but, rather, in the Commission's own words, the fact that "a number of long-term ONA issues are not yet ripe for resolution."[336]

Finally, and most recently, the FCC has set in place equal access standards for competitive access providers (CAPs) that compete directly within the local exchange.

---

viewed Hatfield's recommendations as "costly," "disruptive," and based on a "disaggregated, and as yet unspecified, architecture." *In re* Filing and Review of Open Network Architecture Plans, Phase I, No. 88-2, slip op. at 42 (F.C.C. Nov. 17, 1988).

[332]AT&T/MCI REPORT at 13 (emphasis omitted).

[333]Memorandum Opinion and Order, In the Matter of Filing and Review of Open Network Architecture Plans, Phase I, at 3105, No. 88-2 (F.C.C. Apr. 12, 1990).

[334]*Ibid.*

[335]In fact, the Report's sponsors have been apparently engaged in their fair share of dilatory tactics throughout the ONA debate. For example, MCI claimed that it would be arbitrary and capricious for the Commission to grant structural relief while relying partly on the federal tariffs US West filed for initial ONA services because the federal tariffs did not properly implement ONA goals. MCI contended that interstate ONA tariffs do not provide access tariffs useful to interexchange carriers. MCI continued, arguing that US West's state tariffs undermine fundamental ONA objectives because the states are still developing ONA rules, notably in the area of pricing. MCI claimed that US West's pricing practices for state-tariffed services may not be cost-based in some states. In the Matter of US West Notice and Petition for Removal of the Structural Separation Requirement and Request for Waiver of Certain State Tariffing Requirements, Memorandum Opinion and Order, 7 F.C.C. Rcd 3639 (1992). In the long run, however, the Commission agreed with U S West and granted waivers of state tariffing requirements for Information Access, Automatic Circuit and Trunk Monitoring Service, Surrogate Client Number, Tandem Routing and Line Alert. It dismissed the comments of MCI, as they failed to "set forth any new substantive reasons why U S West's petition should not be granted." *Id.* at 3639, 3640.

[336]Memorandum Opinion and Order, at 2, In the Matter of Filing and Review of Open Network Architecture Plans, Phase I, No. 88-2, (1990). The Commission continued that there is "no doubt that additional issues will arise in the future. We will continue to oversee ONA development through further proceedings addressing outstanding ONA issues, to be convened as needed. Each of these further ONA proceedings will resolve specific issues that are ripe for resolution at that time, and may identify issues for future resolution." *Ibid.*

On September 17, 1992, the Commission set out detailed rules permitting expanded interconnection for special access (i.e., private line) customers of the CAPs and other bypass providers.[337] The Commission concluded that expanded interconnection should be made available to all parties that wish to terminate their own special access transmission facilities at telco central offices, including competitive access providers, interexchange carriers and end users.[338] And the Commission required local telcos to provide physical collocation if space is available,[339] unless state regulators mandate virtual collocation instead.[340] If physical collocation is not offered, virtual collocation must be.[341] These requirements not only establish a right of interconnection with local exchange carriers, but also govern the type, quality and cost of such connections.[342]

On August 3, 1993, the Commission followed with expanded interconnection requirements for switched access services. This ruling mirrors the previously promulgated rules for special access. It requires carriers to provide physical collocation upon request, although they are free to negotiate virtual collocation agreements. In return, local carriers are granted pricing flexibility in the form of density zone pricing and volume and term discounts for their switched transport services.

Customer Information. -- While Section II(B) of the divestiture decree merely forbids the BOCs from discriminating in the dissemination of network information, FCC regulations go beyond simple prohibitions. Under the Commission's "All Carrier Rule,"

---

[337]Report and Order & NPRM, Expanded Interconnection with Local Telephone Company Facilities, 7 F.C.C. Rcd 7369, 7381 (1992).

[338]*Id.* at 7403.

[339]The Commission concluded that LECs should be required to offer interconnection at serving wire centers (SWCs), end offices, remote distribution nodes and any other point that the LEC treats as a rating point (a point used in calculating the length of interoffice special access links). *Id.* at 7417. In the interest of saving time and resources, the Commission later amended its Order to allow LECs to limit their initial tariffs to only those central offices in which expanded interconnection is most likely to be requested. Expanded Interconnection with Local Telephone Company Facilities, 8 F.C.C. Rcd 127, 128 (1993) (Memorandum Opinion and Order). The Commission also held, however, that LECs must include in their tariffs provisions establishing procedure to add central offices upon receiving a bona fide request for interconnection; such tariffs must provide that tariff revision adding central offices will be filed within 45 days of receipt of a bona fide request, to be effective upon 45 days notice. *Id.* at 129.

[340]7 F.C.C. Rcd 7369, 7391.

[341]*Id.* at 7407.

[342]*See* 47 C.F.R. § 64.1401(a) (1992); 7 F.C.C. Rcd 7369, 7379 (special access); Expanded Interconnection With Local Tel. Co. Facilities Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board, 8 F.C.C. Rcd 7374, 7396 (1993) (switched access).

carriers must make any information necessary for inter-carrier connections available in a timely manner and on a reasonable basis.[343]

The Commission also has adopted more specific rules governing disclosure of information for the interconnection of customer premises equipment[344] and enhanced services.[345] The rules not only prohibit BOCs from designing new network services or changing network technical specifications to favor their own enhanced service or CPE operations, but also require the BOCs to announce technical changes far in advance of implementation.[346]

There is no basis for concluding that such regulations are insufficient to ensure nondiscrimination. To the contrary, after three years of experience with its network disclosure regulations for enhanced services, the Commission determined that they "provide the enhanced services industry with critical network information in a timely fashion, and thus serve as an effective safeguard against discrimination in the provision of basic services to competing [enhanced service providers]."[347]

FCC regulations also govern access to information concerning customers and their equipment. Under the Commission's rules, BOCs must make Customer Proprietary Network Information (CPNI) available, upon customer request, to unaffiliated enhanced service providers and CPE suppliers; prevent their own enhanced service and CPE sales personnel from accessing CPNI if the customer so requests, and notify multi-line business customers of their CPNI rights each year.[348] In 1991, the Commission reviewed those rules and adjusted them, prohibiting BOC enhanced service personnel from accessing CPNI for customers with more than twenty lines without that customer's prior consent.[349]

Cross-Subsidy. -- The AT&T/MCI Report dutifully acknowledges that "[a]ny discussion of cross-subsidization in a regulated public utility industry must be made in the context of the regulatory processes and practices to which such companies are

---

[343]Computer and Business Equipment Mfrs. Ass'n, 93 F.C.C.2d 1226, 1228 (1983); *see also* 104 F.C.C.2d 958, 1080-1086.

[344]47 C.F.R. §§ 68.110(a), (b) (1992).

[345]*Id.* at § 64.702.

[346]6 F.C.C. Rcd 7571, 7601-7603 (enhanced services); 104 F.C.C.2d 958, 1086 (1986) (enhanced services); Furnishing of CPE, 2 F.C.C. Rcd 143, 149-51 (1987).

[347]6 F.C.C. Rcd 7571, 7603.

[348]Amendment of Section 64,702 of the Commission's Rules and Regulations (Computer III), 3 F.C.C. Rcd 1150, 1161 (1988); 2 F.C.C. Rcd 143, 151-53.

[349]6 F.C.C. Rcd 7571, 7609.

subject."[350] It then proceeds to ignore that body of regulation entirely.[351] In fact, a comprehensive regulatory framework, of proven efficacy, protects against cross-subsidization.

To begin with, the FCC has replaced rate-of-return regulation with "price caps" or "incentive" regulation.[352] Since 1987, 37 states and the District of Columbia have adopted similar plans.[353] Rate-of-return regulation may perhaps tempt

---

[350]AT&T/MCI Report at 194.

[351]The Report focuses on "some of the various opportunities for cross-subsidization in competitive and potentially competitive adjacent markets." *Id.* at 187. It inveighs against "two sources" of cross-subsidization: benefits directed at adjacent markets that *do not* disadvantage consumers of the core LEC services (*e.g.*, *efficiencies* stemming from economies of scope and joint production); and benefits directed at adjacent markets that *do* disadvantage consumers of the core LEC services. *Id.* at 190-92. With respect to the former, the question of whether they are even cross-subsidies is debatable. Indeed, the Report contradicts Dr. Selwyn's earlier pronouncements on the phenomenon of cross-subsidization. If consumers of LEC services are not disadvantaged by these efficiencies, they do not pass Dr. Selwyn's cross-subsidy "acid test" and are not cross-subsidies:

> [I]t is essential that the source of the subsidy be identified as an "acid test" for the presence of any subsidy at all; if no other customer or class of customers is made worse off for the present of terminal equipment services, then no subsidy exists.
>
> * * *
>
> The "Acid Test." No subsidy can be found to exist unless it is affirmatively shown that some other service must carry a higher price than it otherwise would or that some other ratepayer must pay a higher amount than he otherwise would if the service in question did not exist. Unless either of these conditions is shown to be present, then we are not dealing with the presence of cross-subsidization.

Lee L. Selwyn, *Pricing Telephone Terminal Equipment Under Competition*, PUBLIC UTILITIES FORTNIGHTLY, Dec. 8, 1977, at 14-16. With respect to the latter, the Report fails to present a single instance in which consumers of core LEC services have been disadvantaged by BOC cross-subsidization. There may be "a large number of situations in which actions pursued by BOCs * * * have the effect of imposing costs and/or other burdens upon customers of the BOC's core monopoly services." AT&T/MCI REPORT at 193. Unfortunately, the authors found it "rather difficult * * * to trace precisely the manner in which shareholder benefits translate into ratepayer burdens" because "much of the joint activity does not involve formal book entries or specific events that occur during the same accounting period." *Ibid.* Rather than focusing on explicit examples of cross-subsidization, the Report attempts to "depict a consistent and pervasive pattern" by way of theory and a smattering of "examples" of "*de facto*" cross-subsidization. *Id.* at 215.

[352]Policy and Rules Concerning Rates for Dominant Carriers, 5 F.C.C. Rcd 6786, 6787 (1990), *reconsidered*, 6 F.C.C. Rcd at 2637 (1991).

[353]NARUC, UTILITY REGULATORY POLICY IN THE U.S. AND CANADA, COMPILATION 1992-1993, at 366 (1993).

regulatees to divert costs to the regulated side of the ledger. Price caps do not,[354] as both the Department of Justice and the FCC have pointed out on numerous occasions.[355] Price-cap regulation may not be perfect, but the decisive shift toward price caps has much reduced incentives for cross-subsidy.

In addition, the FCC has substantially changed and strengthened its accounting rules and monitoring process. In 1986, the Commission issued its *Joint Cost Order*, to ensure that all costs are properly allocated between regulated and unregulated services. These new accounting safeguards require BOCs to file, for public comment and Commission approval, detailed cost accounting manuals that establish procedures for assigning costs to regulated and nonregulated activities, based on a uniform accounting system and prescribed cost-allocation principles.[356] Independent

---

[354]Under this regulatory regime, the FCC simply sets a maximum price for a service or combination ("basket") of services, allowing the carrier to select a rate at or below that price. "Because cost-savings do not trigger reductions in the cap, the firm has a powerful profit incentive to reduce costs. Nor is there any reward for shifting costs from unregulated activities into regulated ones, for the higher costs will not produce higher legal ceiling prices." National Rural Telecom Ass'n, 988 F.2d 178 (1993). *See also, Accord*, Policy and Rules Concerning Rates for Dominant Carriers, 4 F.C.C. Rcd 2873, 2924 (1989) (incentive regulation "substantially curtails the economic incentive to engage in cross-subsidization"); 993 F.2d 1572, 1580 (shift to price caps "reduces any BOC's ability to shift costs from unregulated to regulated activities, because the increase in costs for the regulated activity does not automatically cause an increase in the legal rate ceiling"). Costs attributable to administrative, judicial, and legislative changes ("exogenous costs") may lead to adjustment of the price cap level. *See* Policy and Rules Concerning Rates for Dominant Carriers, 4 F.C.C. Rcd 2873, 3002 (1989). Being outside the carrier's control, *ibid.*, and unrelated to allocating common costs of regulated and unregulated operations, exogenous costs do not create any significant opportunity for cost-shifting. Moreover, exogenous cost adjustments are rare enough that regulators can pay close attention to each request: since application of FCC price caps to AT&T's interexchange services in 1989, for instance, AT&T has relied on exogenous costs to seek price-cap increases only three times. *See* AT&T Communications, Tariff F.C.C. Nos. 1 and 2, Transmittal Nos. 5460, 5461, 5462 and 5464, 8 F.C.C. Rcd 6227, (1993) (access charges and transitional benefit obligations); AT&T Tariffs F.C.C. Nos. 1, 2, and 13, 5 F.C.C. Rcd 3680, 3680 (1990) (accounting requirements for post-employment benefits).

[355]Reply Comments of the United States Department of Justice at 24-25, Policy and Rules Concerning Rates for Dominant Carriers, No. 87-313 (F.C.C. Dec. 11, 1987). In testimony before a House subcommittee, former FCC Chairman Sikes explained that "[u]nder price caps, regulated firms have virtually no ability to pass along cost increases that are within their control. Consequently, concerns regarding anticompetitive cost-shifting and unfair burdening of monopoly ratepayers are drastically reduced." *FCC Local Exchange Co. Price Caps and Regulation and Competition in the Long-Distance Tel. Industry: Hearings Before the House Subcomm. on Telecommunications and Finance of the Comm. on Energy and Commerce*, 101st Cong., 2nd Sess (1990) (Statement of Alfred Sikes, Chairman FCC).

[356]*See* 6 F.C.C. Rcd 7571, 7591-93; Separation of Costs of Regulated Tel. Serv. from Costs of Nonregulated Activities, 2 F.C.C. Rcd 1298, 1318-19 (1986) (general principles for cost allocation), *reconsidered*, 2 F.C.C. Rcd 6283 (1987), *further reconsidered*, 3 F.C.C. Rcd 6701 (1981), *petn. for review denied sub nom.* Southwestern Bell Corp. v. FCC, 896 F.2d 1378, 1379 (D.C. Cir. 1990); 2 F.C.C. Rcd 1298, 1326-28 (cost allocation manuals); 47 C.F.R. Part 32 (1992) (Uniform System of Accounts).

auditors annually review BOC accounts and provide the Commission with "an opinion on the carrier's cost allocations in light of the requirements of the cost accounting manual approved by the Commission as well as of [FCC] joint cost rules and other pertinent regulations."[357] Commission auditors, in turn, review these independent audits. The FCC also uses an automated system to track BOC accounts over time and to compare the accounts of different BOCs.[358] Public review of BOC filings and on-site audits provide additional protection against cross-subsidization.[359] In 1990, the D.C. Circuit Court of Appeals upheld the cost accounting rules as "reasonably designed to prevent systematic abuse of ratepayers."[360] The Department of Justice likewise has concluded that current FCC cost allocation rules "alleviate the concern that the [Bell Companies] will engage in anticompetitive cross-subsidization of unregulated activities with ratepayer revenues."[361] For its part, the Commerce Department has assessed the adequacy of FCC rules as competitive safeguards and found them "extensive and effective in controlling cross-subsidy."[362]

---

[357]6 F.C.C. Rcd 7571, 7593; 2 F.C.C. Rcd 1298, 1329-33.

[358]6 F.C.C. Rcd 7571, 7593.

[359]*Id.* at 7594. These rules address both the problem of common costs and that of transfer pricing. Common costs are grouped into homogeneous cost categories and allocated between regulated and nonregulated activities based on direct analysis of their origin, when possible. 2 F.C.C. Rcd 1298, 1313. Once allocated to a nonregulated use, investments may not be reallocated to regulated use, even if nonregulated use of the input decreases or never materializes. 3 F.C.C. Rcd 6701, 6705 (1987); 2 F.C.C. Rcd 6283, 6291. This ensures that investment risk incurred in nonregulated ventures is not shifted to the regulated side. In contrast, if demand for a nonregulated service exceeds original forecasts, both the baseline cost and interest must be reallocated. 3 F.C.C. Rcd 6701, 6705. With respect to transfers of assets between regulated and nonregulated affiliates, FCC rules require that such transactions be recorded on the carrier's books at market or tariff price, if such a price can be determined. Otherwise, transactions must be recorded at the higher of net book cost or fair market value whenever the transfer is from the carrier to the non-regulated entity, or at the lower of the two when the transfer goes the other way. 2 F.C.C. Rcd 1298, 1300. Thus, the rules always favor allocating costs toward the unregulated side, *id.* at 1312, ensuring that, in cases of doubt, the unregulated activity will subsidize the regulated one.

[360]Southwestern Bell Corp. v. FCC, 896 F.2d 1378, 1379 (D.C. Cir. 1990).

[361]Statement of [former Assistant Attorney General for Antitrust] James F. Rill, Hearings Before the Senate Subcommittee on Antitrust, Monopolies and Business Rights 101st Cong., 1st Sess. 6 (May 21, 1991).

[362]U.S. DEP'T. OF COMMERCE, THE NTIA INFRASTRUCTURE REPORT: TELECOMMUNICATIONS IN THE AGE OF INFORMATION 233 (Oct. 1991).

VI. A THEORY IN SEARCH OF FACTS

Beginning in the early 1980s, most notably in the landmark writings of William J. Baumol, John C. Panzar and Robert D. Willig, economists studying market power began to recognize potential entry as an important factor in determining the reach of "the beneficent sway of the invisible hand."[363] The *potential* for competitive entry, research established, can discipline incumbent behavior every bit as much as competition itself. In so-called contestable markets, "the threat posed by potential competition will determine the behavior of firms and will tend to push them toward the adoption of sustainable prices."[364]

The AT&T/MCI Report ignores or rejects this accumulated learning. The Report instead devotes some 40 pages to abstract economic theory on network externalities, concluding that "connectivity is key to control of the market."[365] "Modern economic theory [no authorities are cited here] supports the view that where an interconnection or exchange function is a primary element of an industry's production activity, one principal firm will tend to dominate the market in a given geographic area, subject to the onset of 'congestion' and/or of high transportation costs."[366] There are inexorable "static gains arising from scale and scope economies."[367] Those who doubt the immutability of this economic verity are guilty of "modern skepticism."[368] Even if every legal barrier to local competition is removed, the AT&T/MCI Report maintains, competition will still violate the natural law of economics.[369]

According to this theory, however, AT&T should have been the sole sponsor of the Report. One of the Report's authors has all but said so himself. In 1984 -- when AT&T was already declaring that the interexchange market "has become intensely competitive"[370] -- Dr. Selwyn warned that "[t]he provision of intercity

---

[363]WILLIAM J. BAUMOL, JOHN C. PANZAR, AND ROBERT D. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE 13 (1982).

[364]*Id.* at 12.

[365]AT&T/MCI REPORT at 58.

[366]*Id.* at 57.

[367]*Id.* at 21.

[368]*Ibid.*

[369]According to the Report, market contestability is a "far simpler standard for the incumbent monopolies to satisfy," seeking "to portray the absence (or removal) of legal barriers to entry equivalent to the absence of economic barriers." AT&T/MCI REPORT at 36 (emphasis omitted).

[370]AT&T, 1984 ANNUAL REPORT 7 (1985).

switched services is traditionally, and continues to be, characterized by significant economies of scale and scope * * * as a consequence of major advances in network transmission and switching technologies economies of scale and scope may actually be increasing in magnitude."[371] In 1988, AT&T was again announcing that "[c]ompetition in the long distance business is sufficiently strong that we should be no more regulated than our competitors."[372] Dr. Selwyn was again reporting that "AT&T's principal long distance 'competitors' -- MCI and US Sprint -- have between them amassed something under 10 percent of the market (even less when adjusted for their resale of AT&T and BOC services). Both are known to be in serious financial difficulty."[373]

Over the years, Dr. Selwyn has thus made it clear that he believes that the long-distance market is a natural monopoly, too. He views most telephony that way. In 1991, for example, Dr. Selwyn had occasion to certify the "fundamental monopoly character" of pay phones and operator services.[374] (In fact, these markets are competitive in both theory and practice. *See* Section V, *supra*) In sum, one author

---

[371] *Compare* AT&T, 1984 ANNUAL REPORT 5, 7, *with* Lee L. Selwyn and Patricia D. Kravtin, *Long-Run Regulation of AT&T: A Key Element of a Competitive Telecommunications Policy*, TELEMATICS, Aug. 1984, at 12. Selwyn also predicted that "AT&T may maintain its position of considerable market power and dominance for some time to come." *Id.* at 11.

[372] AT&T, 1988 ANNUAL REPORT 3 (1989).

[373] Lee L. Selwyn, ***Assessing Market Power and Competition in the Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform***, FEDERAL COMMUNICATIONS LAW JOURNAL, Apr. 1988, at 207. While AT&T claimed that price reductions were a sign of competitive health, *see generally*, DR. MICHAEL E. PORTER, COMPETITION IN THE LONG DISTANCE MARKET: AN INDUSTRY STRUCTURE ANALYSIS §§ V(A)(1), (2) (1987). Selwyn was writing that these reductions were entirely due to a reduction in access charges and "in no sense could it be claimed that these rate reductions were driven by economic pressures resulting from competitive marketplace forces." Lee L. Selwyn, *Assessing Market Power and Competition in the Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform*, FED. COMM. L. J. (1988). Selwyn also concluded that, in spite of the dismantling of AT&T, "the dominant positions of the incumbent local and interexchange carriers remain as entrenched as ever." *Id.* at 228. The AT&T/MCI Report sees competitive health in the "[s]maller interexchange carriers" that "actively serve[] approximately 14% of the total interstate toll market." AT&T/MCI REPORT at 31. But Dr. Selwyn argues elsewhere that counting resellers as competitors "[n]ot only [ ] result[s] in a double counting of the total market, it incorrectly treats them as AT&T competitors despite the fact that such "competition," if it exists as all, is occurring only at the limited, retail end of the market." Lee L. Selwyn and Patricia D. Kravtin, *Long-Run Regulation of AT&T: A Key Element of a Competitive Telecommunications Policy*, TELEMATICS, Aug. 1984, at 13 (emphasis omitted).

[374] "The decision to open private pay phones and operator services to competitive entry can only be described as a solution in search of a problem. The *fundamental monopoly character* of these services is not altered by multiple supplier entry, because...the public utility monopoly is simply replaced by local monopolies under the control of the owner of the property (such as a hotel or airport terminal) on which the pay phone or access to the operator service is provided." LEE L. SELWYN, AFTER THE BREAK-UP, ASSESSING THE NEW POST-AT&T DIVESTITURE ERA 160 (1990) (emphasis added).

of the AT&T/MCI Report just doesn't believe that much competition is viable anywhere at all in the telecommunications industry.

Happily, however, the second author, Mr. Dale Hatfield, believes in much more competition than is acknowledged in the AT&T/MCI Report. In 1984, he spoke of "the steady-if not rapid-proliferation of alternatives to telephone company-provided local loops."[375] Mr. Hatfield has recently emphasized the promise of PCS, which he expects to be popular enough to attract "scores (even hundreds)" of providers.[376] He believes that "the capacity of [cellular] spectrum is now greater than ever,"[377] and attributes this to "the strides made in voice encoding/decoding techniques, and the development of more efficient digital modulation techniques." These, he predicts, will "accommodate three and, eventually, perhaps as many as eight or more conversations in the same 30 kHz channel that now carries just a single FM voice signal."[378] Mr. Hatfield also believes that "cable companies could be much more active players in local communications than they are today."[379]

For purposes of the AT&T/MCI Report, Dr. Selwyn and Mr. Hatfield have reached a convenient though perhaps temporary compromise. The story is not all monopoly, and the story is not all competition: It's competition everywhere except where BOCs happen to operate. The local monopoly is impregnable, the Report reasons, because the theory of clubs makes it so. The value of a club lies in connection. The property of interconnectivity creates "externalities with respect both to supply and to demand," the AT&T/MCI Report argues.[380] A telecom club "creates value for network participants" and "confers market power on the network's owners."[381] "[T]he relative benefit from membership in this single large 'club' will easily dominate the absolute benefit that a consumer would obtain by discontinuing membership and instead joining a much smaller club."[382] This "foreclose[s] even

---

[375]Dale N. Hatfield, *Solving the Last Mile Problem, in* TELECOMMUNICATIONS ACCESS AND PUBLIC POLICY: PROCEEDINGS OF THE WORKSHOP ON LOCAL ACCESS 3 (1984).

[376]Dale N. Hatfield, *The Possible Impact of PCS on SMRs and two-way radio dealers*, SMR PLUS, Summer 1991, at 20.

[377]*Ibid.*

[378]Dale N. Hatfield, *Implications of digital radio for the SMR industry*, SMR PLUS, Spring 1989.

[379]Testimony of Dale N. Hatfield at 3657, In the Matter of Alternative Regulatory Frameworks for Local Exchange Carriers, No. I 87-11-033, (Cal. PUC, Jan. 26, 1989).

[380]AT&T/MCI REPORT at x (emphasis omitted).

[381]*Ibid.*

[382]*Id.* at 70.

the *possibility* of competitive development in the [adjacent markets]."[383] Unless, of course, connectivity is assured to those adjacent markets -- as it in fact is in telephony. Equal access assures that no part of telephony is an exclusive club. Telephone companies are not exclusive clubs, they are inclusive common carriers. And that, for all practical purposes, is the end of club theory as applied to telephones.

If the club theory applied here as the authors of the AT&T/MCI Report say it should, the post-divestiture BOCs should easily have maintained their monopoly in the provision of inside wiring, pay phones and all customer premises equipment -- since BOCs have been allowed in all of those adjacent markets since divestiture. If the theory were correct, BOC-supplied Centrex should by now have eliminated competition from PBXs. If the theory were correct, BOC-affiliated cellular companies should have crushed independents like McCaw. If the theory were correct, BOCs should have captured all corridor traffic in the New York/Northern New Jersey and Philadelphia/Camden corridors, where BOCs have been permitted since divestiture to compete head to head with AT&T and MCI in providing interLATA traffic. If the theory were correct, GTE and United Telecom/Sprint -- which operate extensive local exchange networks but are not quarantined by line-of-business restrictions -- should have been able to cannibalize their BOC neighbors in adjacent local exchange markets, as well as AT&T and MCI in adjacent long-distance markets.

But none of this has happened. Call it "club theory," call it "bottleneck," call it "natural monopoly," call it "essential facilities" -- whatever it is called, the theory does not conform to any relevant facts in the first decade of the post-divestiture telecommunications industry.

So the authors of the AT&T/MCI Report write at length about airlines instead. Telephones are like airplanes, the argument runs, at least so far as network economies are concerned.[384] After the airlines were deregulated, they built hub-and-spoke networks that created market power at some airports. Telephone networks use hubs too, and so are bound to suffer a similar fate.[385]

---

[383] *Id.* at 29 (emphasis in original).

[384] "This property of networks and its role in conferring market power on its owner can be readily demonstrated in the post-deregulation US airline industry, where the legal barriers to entry and competition have been largely eliminated and have ostensibly been replaced by competitive market forces." *Id.* at 41 (emphasis omitted).

[385] "[T]he very property of networks that promotes consolidations and cartelization among airlines [the 'hub' structure] will also assure continued market dominance by the incumbent local telephone carriers within their respective market segments for the foreseeable future." *Id.* at 43. In fact, the Report argues that "the pattern of networking and market dominance is likely to be significantly greater" for the RBOCs. *Id.* at 44. "[T]he presence of dominant carriers at specific hub markets is instructive with respect to its impact upon adjacent markets, because the properties of airline hubs can be extrapolated to telecommunications hubs (local telephone networks) operated by the local exchange telephone companies." *Ibid.*