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Competition Policy in the U.S. Telecommunications Industry 1877-1995

There was a time, not too long ago, when most Americans took "plain old telephone service" for granted. It was a rather straightforward proposition. The American Telephone and Telegraph Company (AT&T) had a virtual monopoly on local as well as long-distance voice communications. As an entity, AT&T was organized much like a corporate pyramid. The base consisted of 22 local Bell operating companies (BOC) on top of which was built a long-distance division ("Long Lines") and equipment manufacturing firms, including Western Electric. The local operating companies held state government franchises that effectively barred potential competitors from entering into the "local loop." Long-distance service, from one state to another, was regulated and protected by the Federal Communications Commission (FCC), which derived its authority from the *Communications Act of 1934*.

Beginning in the 1950's, a series of technological advances, such as microwave transmission of voice communications, started to threaten AT&T's land line-based monopoly. In 1959, a series of judicial and regulatory rulings further eroded AT&T's legal protection over manufacturing rights. Over the next 20 years, scientific advances in equipment and computers continued to narrow the scope of AT&T's tight grip on the industry. By 1980, the FCC had opened the interstate long-distance telephone market to competition.

The move to a truly competitive telecommunications environment in America, however, gained irreversible momentum in 1982 with the settlement of an eight year antitrust suit against AT&T by the U.S. Department of Justice. AT&T agreed to divest itself of all the Bell operating companies by January 1, 1984. Seven newly formed independent regional firms - commonly referred to as Regional Bell Operation Companies (RBOC) - were given monopoly control of the local exchanges but were required to provide equal access to homes and business to all competitors in the long-distance market. The settlement also prohibited the RBOC's from providing long-distance service and from manufacturing telecommunications and terminal equipment.

The decree that broke up the AT&T monopoly replaced it with a disaggregated telecommunications system and heralded a whole new regulatory environment which would be further complicated as technological advances continued to change the face of the industry. Satellite technology and wireless communication erased territorial domains. Fiber optics and digital switching created integrated transmissions of voice, data and video over the same lines and brought in new play new providers such as the cable TV companies.

This case was written by Samuel Passow, research associate at the Center of Business and Government for Roger B. Porter, IBM professor of business and government and Michael D. Watkins, professor of public policy at the John F. Kennedy School of Government, Harvard University. (06/97)

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By the early 1990's, an industry which began by stringing wires along railroad tracks from the Atlantic to the Pacific oceans, had been transformed into a global information superhighway. The expanding multi-player, multi-level structure of the industry increasingly was challenging Congress to redefine the notion of affordable, universal telephone service - a telephone in every home - that had long promised the American people. But the patchwork of regulatory policy through statute and court rulings created inherent tensions between federal and state authorities, corporations and consumers, and between dominant players and new entrants into the market. Regulation in the phone industry was nothing short of protectionism, but who were the main beneficiaries, the consumers or the carriers? Above all, could the economic efficiency of the industry, in whatever shape it took in the 21st century, be improved through regulatory means?

Creating the AT&T Monopoly

On the eve of the invention of the telephone in 1876, Western Union dominated the telegraph industry in the United States. With lines strung alongside railroad tracks, its network spanned the nation. As holder of the Morse patents, Western Union enjoyed a virtual monopoly in the business. Nevertheless, the company identified two potential threats to its continued primacy: (1) attempts by financiers to organize the existing smaller competitors into a single system, and/or (2) the development of major technological innovations not controlled by Western Union.¹

The telegraph company had strategies in place to counter such challenges. With small companies that were viewed as potentially serious competitors, Western Union first engaged in price wars and then offered favorable merger terms. The company also purchased the patents to those technological inventions that were identified as posing a risk to its dominance. For example in 1868, the company purchased for \$250,000 a patent from one J.B. Stearns for a device that would permit the transmission of more than one message at a time on via wire. In 1877, however, the President of Western Union, William Orton, turned down an offer from Alexander Graham Bell to purchase for \$100,000 his patent on a method of "electrical transmission of articulate speech and sound of every kind"² with the observation, "what use could this company make of an electrical toy."³

Rebuffed by Western Union, Bell formed his own company. He began leasing telephones to customers who strung their own wires to connect with those telephone lessees of their choice. In this way, each telephone lessee created a private line between two points. Despite the awkwardness of this arrangement, Bell's telephone leasing business proved successful. In fact, many of Bell's first customers had been customers of Western Union. Hoping to stem the loss of its business base, Western Union hired Thomas Edison to improve on Bell's invention. He devised a transmitter that greatly improved the quality of voice transmission.

Bell countered by creating the first exchange company - a switching center through which each subscriber line passed in order to connect to all other subscribers. In addition, he invented his own transmitter which equaled the quality of Western Union's. As competition

¹ Gerald W. Brock, *The Telecommunications Industry*, Harvard University Press, Cambridge, MA. 1981, p.85

² Paul E. Teske, *After Divestiture - The Political Economy of State Telecommunications Regulation*, State University of New York Press, NY. 1990, P.1. Western Union refused the Bell patent because it believed that Elisha Gray, founder of its subsidiary, Western Electric, had superior patent rights on a similar invention. Alexander Graham Bell patented his invention of the telephone on February 17, 1876, one hour before Gray applied for a caveat announcing his intention to file a claim for the same invention within three months. *The Britannica Encyclopedia CD, 1996* notes that when Bell first transmitted the sound of human voice over wire, he used a liquid transmitter of the microphone type previously developed by Gray and unlike any described in Bell's patent application to that date. Bell also used an electromagnetic metal-diaphragm receiver of the kind built and publicly used by Gray several months earlier.

³ Catherine Mackenzie, *Alexander Graham Bell - The Man Who Contracted Space*, Published by Grossett-Houghton-Mifflin, USA, 1928, p.158 .

between the two companies became heated, Bell decided to take Western Union to court in 1878 for patent infringement. A year later the two parties agreed to a settlement. Western Union withdrew from telephone service, sold its network of phones to the Bell company, and transferred its telephone-related patents to Bell. For its part of the bargain, Bell agreed to stay out of the telegraph business.⁴

From 1879 until 1894, Bell controlled all aspects of the telephone industry. In 1881 it purchased Western Electric, which became its exclusive manufacturing arm. In 1885, Bell established AT&T to operate long-distance lines to interconnect the local exchange areas. Five years later, it became the parent company of all Bell's operations.

Bell concentrated its development in the major cities, largely ignoring rural areas and small towns. When two of Bell's basic patents expired in 1893 and 1894, the doors of competition were suddenly thrown open. From 1895 to 1900, over 1,500 new telephone systems were created.⁵ By 1907, Bell's dominant status was in danger. Total market share had dropped to 49 percent.⁶

When patent infringement suits failed to stem the competition⁷, AT&T's president, Theodore Vail⁸ teamed up with financier J.P. Morgan and began buying them out. Those who would not take Bell's offer found themselves cut off from interconnection with the other independent companies that had merged with Bell system and from the long-distance lines of AT&T. The merger policy reached its peak in 1909 with the purchase of a controlling interest in Western Union.

America at the time (1896-1920) was going through what was known as the Progressive era of government. Presidents William McKinley, Theodore Roosevelt and Woodrow Wilson used the Sherman Antitrust Act of 1890 to tackle business tycoons such as John D. Rockefeller of the Standard Oil Company and George Eastman of Kodak who tried to buy out or ruthlessly force the close down their competition in an effort to maintain their dominant market share. Some of the disconnected independent telephone companies began to fight AT&T's merger plans by filing complaints with new state regulatory bodies and by suing Bell under state and federal laws. Recognizing the anti-big business social and political temper of the times, Vail decided to negotiate a settlement of federal antitrust suits with the U.S. Department of Justice. Under the 1913 agreement known as the Kingsbury Commitment⁹, AT&T agreed to sell its Western Union stock, allow interconnection with independent companies and refrain from acquiring any directly competing companies. In return, it was allowed to consolidate its holdings.¹⁰

The wheeling and dealing days of unfettered commerce which sparked off America's industrial growth were coming to an end. Under Vail and Morgan, AT&T began developing a modern, vertically integrated corporation with the explicit goal of becoming a regulated monopoly. "I am not only a strong advocate for control and regulation," Vail said in a speech in

⁴ Brock, pp. 91-95.

⁵ Teske, p.2. notes that many of these new telephone companies developed as small farmer's cooperatives, some of which still exist today.

⁶ David S. Evans, *Breaking Up Bell: Essays on Industrial Organization and Regulation*, Elsevier Publishing Co., New York, Holland. 1983, pp.12-13.

⁷ Brock, p.115. notes that AT&T owned hundreds of different patents regarding the telephone and filed five patent infringement suits against independents in 1894 and 23 in 1895.

⁸ Theodore Vail was President of AT&T from 1885-1887 and from 1907-1917. He was brought back to the company by financier J.P. Morgan who seized control of AT&T in 1902.

⁹ The Kingsbury Commitment was a letter from AT&T Vice President Nathan C. Kingsbury to Attorney General J.C.Reynolds.

¹⁰ Brock, p.155.

1915, "but I think I am one of the first corporation managers to advocate it. It is as necessary for the protection of corporations from each other as for protection to, or from, the public."¹¹

Vail's enthusiasm was shared by Congress who in 1910 amended the Interstate Commerce Commission Act of 1887, originally drawn up to regulate the railroads, to bring interstate telephone companies under the jurisdiction of the Interstate Commerce Commission (ICC).¹² Combined with newly emerging state laws on utilities designed to prevent pricing abuses by the rapidly growing electric and telephone companies, a two-tier system of telephone regulation was established which still remains in place.¹³

To Vail and Morgan, regulation stabilized the industry, ended rate wars, curtailed new entries and placated the public critics, while allowing AT&T to maintain its earnings and growth. By 1934, AT&T controlled 80 percent of U.S. telephones, a level which would remain constant until its break-up in 1982.¹⁴

Vail saw on the horizon the fulfillment of his dream. A telephone system that was "universal, interdependent and intercommunicating, affording opportunity for any subscriber of any exchange to communicate with any other subscriber of any other exchange." This goal of universal service could not, Vail believed, be "accomplished by separately controlled or distinct systems nor [by] competition in the accepted sense of competition."¹⁵

The Regulatory Environment

With the passage of the 1934 Communications Act, the goal of universal and affordable telephone service became enshrined in U.S. law. Federal institutional involvement in telephone regulation shifted from the ICC to the newly created Federal Communications Commission (FCC). The Act also retained the dual federal-state regulatory system.

States began regulating telephone companies in 1907, with New York and Wisconsin establishing the first public utility commissions (PUCs). Most states formed PUCs soon afterward. Early regulatory legislation focused on the conditions under which a telephone company could operate in the state. Typically, legislation required a company to apply for and receive a Certificate of Public Convenience and Necessity from the appropriate state regulatory body prior to beginning operations. Because telephone service required heavy investment in rights of way, equipment and wire, it was frequently thought of as a natural monopoly. Most states, therefore prohibited competitive entry, emphasizing the importance of protecting the investment of the incumbent phone companies and the goal of universal service.

To control the intrastate rates of the monopoly telephone companies, state regulators turned to a formula of rate-based/rate-of-return (ROR) regulation. According to this system, companies set their rates to recover their reasonable expenses and earn a fair return on their investment in the property used in the telephone business, i.e., the exchange, switching equipment and lines. The state PUCs determined the allowable rate of return which in effect allocated the cost of the carrier among its customers. Typically, rate-of-return regulation used costs from the previous year as the basis for setting future prices, so if a carrier succeeded in reducing costs, it was affected in two ways. First its prices were reduced so as to pass its lower costs on to the customers, and secondly, it was required to rebate the excess of its revenues over costs since the last review.

¹¹ Theodore N. Vail, "Some Truths and Some Conclusions," speech to Vermont State Grange, December 14, 1915.

¹² The amendment was known as the Mann-Elkin Act, June 1910.

¹³ Teske, p.2

¹⁴ Ibid.

¹⁵ Harry M. Shooshan III, ed., *Disconnecting Bell: The Impact of the AT&T Divestiture*, Pergamon Press, NY. 1984. P.10.

$$\text{ROR} = \frac{\text{revenues} - \text{expenses}}{\text{state (net) property investment}}$$

$$\text{RATES} = (\text{ROR} \times \text{state net property investment}) + \text{expenses}$$

Although seemingly straightforward, hidden in the formula, it transpired, was the far more complicated and unanswered cost-of-service problem.

An explanation of the problem must begin with a description of how telephone service operated before World War II. Suppose a man who lived in New York, wanted to make a call to his wife in the same city. He would take a receiver off the hook and then a light would flash in front of a switchboard operator indicating that someone wanted to make a call. The operator would plug in her answering cord into the jack and obtain the number called by the man. She would then plug in the calling end of her cord circuit into the jack associated with the called party's line and ring. When the conversation ended, and both sides hung up their receivers, the line lamps would re-flash and the operator would disconnect the cords.

If the man wanted to make a call from New York to his brother in Los Angeles, the same procedure would occur, but with the additional need to access a toll office. In this case the local operator at the local originating switchboard in New York would plug into an idle outgoing connecting trunk line which terminated at the toll switchboard. The toll operator recorded the details of the call on a ticket and completed the interstate connection by jacking into another trunk line to the inward toll operator in Los Angeles, who in turn, plugged into the local switchboard there which connected the call to the man's brother. When the call ended, the toll operator in New York wrote down the time of the call on a ticket and disconnected the line.

Thus, while the trunk lines and toll switchboards were only used for long-distance calls, the local plant and all its equipment and connections were used for both local service and long-distance calls. This shared use of the local plant created problems for regulators in determining what portion of the joint costs for the local plant should be covered by interstate toll rates and by intrastate local service rates. The debate centered on two basic concepts of pricing, known as board-to-board versus station-to-station:

- Board-to-board pricing followed naturally from the historic development of the network. Local exchanges were constructed first and then linked by long-distance connections. A long-distance call was viewed as having only one cost element, from the toll switchboard of one exchange to the toll switchboard in another exchange. Under this system of incremental costing, the long-distance rate should be set as to cover only the cost of the separate toll connecting equipment and switches.
- Station-to-station pricing held that the cost of a long-distance call was traced from telephone to telephone because it required the use of local exchanges on both ends for connection. Under this system of distributive costing, the long-distance rate was calculated to include a proportion of the overall operating costs of the local exchange.

Because rates were set to produce revenue sufficient to allow the phone company to recover its expenses and a fair return on the property used in its regulated business, the choice between the pricing theories had a significant impact on the consumer:

- If the board-to-board theory was used, long-distance rates would be minimized at the expense of higher local rates because the total operating cost of the local exchange would serve as the basis for establishing recovery costs. In effect, local users would be subsidizing toll callers.
- If the station-to-station theory was used, local rates would be reduced (or maintained without increase) because the revenue from higher long-distance charges could be used to reimburse the local exchanges.

In 1931, the U.S. Supreme Court handed down a ruling in *Smith vs. Illinois Bell* which affirmed the principle of station-to-station pricing. As a result of that decision, regulators developed the practice known as separations and settlements. It was a complex accounting system, whereby the costs of the local Bell Telephone plants were apportioned between AT&T's interstate long-lines business and Bell's intrastate business. At the end of each accounting period, a fraction of the total interstate toll revenues was pooled and divided among the local exchanges. The formula was¹⁶:

$$\text{SPF} = .85 \times \text{SLU} + 2 \text{SLU} \times \text{CSR}$$

- **Subscriber Plant Factor (SPF)** was the proportion of local exchange costs assigned to the interstate jurisdiction.
- **Subscriber Line Usage (SLU)** was the fraction of the telephone minutes in the local area that are interstate.
- **Composite State Rate (CSR)** was the ratio of the nationwide average interstate initial three minute charge to the total toll traffic for the telephone industry.

As long as intrastate and interstate telephone service remained in the hands of the AT&T monopoly, the separations-and-settlements process basically constituted a system of internal transfers of costs and revenues.

The procedure created tensions, however, between states and the federal government. The *Smith vs. Illinois Bell* ruling emphasized the federal-state jurisdictional nature of the separations process and extended federal jurisdiction over what had been solely state costs under the board-to-board theory. Consequently, many state regulators refused to adopt station-to-station principles, recognizing that to do so would threaten their exclusive regulatory authority over local exchange rates.¹⁷

As a result of increased federal regulatory surveillance over its rates and rates of return, AT&T began to see the wisdom of the station-to-station theory. It reasoned that its rapidly growing Long Lines interstate business would be less vulnerable to forced rate reductions triggered by depreciated operational costs for toll exchanges, for which the FCC had oversight, if it absorbed the property base and some of expenses of its local Bell exchanges.¹⁸ In 1943, AT&T filed its interstate tariffs using station-to-station principles, resulting in a \$22 million transfer of revenue to the local Bell companies. In 1950, the local Bell companies also adopted station-to-station principles in filing their intrastate tariffs.

Antitrust Challenges

The Communications Act of 1934 empowered the FCC to regularly investigate the industry and make recommendations for further legislation if needed. The regulators in Washington took their task to heart and in 1938 issued the Walker Report, which criticized the close ties between the Bell operating companies and Western Electric, especially the agreements covering the purchase of telephone equipment. The report urged that the operating companies be required to buy their telephone equipment through competitive bidding. The report

¹⁶ Nina W. Cornell & Roger G. Noll, "Local Telephone Prices and the Subsidy Question" Stanford University Working Paper, 1985. This was known as the 1971 Ozark Plan. It increased the amount of non-traffic sensitive costs to interstate tolls. From 1970-1984, average monthly local rates fell from \$12.14 to \$8.61 in constant 1980 dollars.

¹⁷ Ibid. Between 1936 and 1940, the FCC lowered interstate rates four times. One of the side effects of those decreases was a disparity between interstate and intrastate toll service. The growing divergence in rates jolted state regulators out of their lethargy. In 1941, a group of state regulators and representatives of the National Association of Regulatory Utilities Commissioners (NARUC - a quasi-governmental non-profit organization of regulators in 50 states, the District of Columbia, Puerto Rico and the Virgin Islands), met with the FCC to discuss the disparity in toll rates. The outcome of the meeting was an agreement to begin a comprehensive, cooperative investigation of separations problems.

¹⁸ Ibid. p. 43.

drew widespread criticism and a year later the FCC backed away from its pro-competition recommendations.

However, 10 years later the Department of Justice, using information gathered from the FCC investigations, filed its second antitrust suit against AT&T. It requested the divestiture of Western Electric by AT&T and a ban against restrictive agreements among AT&T, the Bell operating companies and Western Electric. In 1956, the parties agreed to a settlement, known as a consent decree, which limited the activities of AT&T and the Bell operating companies in the following ways:

- AT&T would not engage directly or indirectly in any business other than providing common-carrier communication services (e.g. AT&T could not enter into the computer information market),
- All patents owned by the Bell system had to be licensed to others on request.

The decree allowed existing agreements among the companies of the Bell system to continue in force.¹⁹

Although AT&T's vertically integrated corporate structure emerged untouched from the antitrust law suit, other developments were brewing that would ultimately lead to the company's breakup. Competition, in the form of attachments to Western Electric telephones, new services offerings in specialized markets and later in the public service network, technological advances, entrepreneurial challengers, a shift in federal regulatory policy, and judicial activism all played a role in the process.

The final legal effort towards restricting AT&T's monopoly status and deregulating the communications industry culminated in a third antitrust suit filed by the Department of Justice in 1974.²⁰ A key concept in the government's lawsuit was its theory of "bottleneck monopoly" - a monopoly over a necessary part of a larger economic process. According to this theory, the market power of the local Bell operating companies in the bottleneck was easily expanded to other markets by:

- charging high prices for access to the bottleneck,
- setting unreasonably strict conditions for access, and/or
- refusing access entirely.

According to the government's theory, AT&T had engaged in all three practices at one time or another to foreclose competition in the long-distance market. The government's case was aimed directly at the heart of AT&T's integrated structure. Structural reform - severing one or more of AT&T's vertical or horizontal limbs - was the only relief acceptable to the Department of Justice.

The case dragged on for eight years, but once again, AT&T recognized the changing social and business nature of America and settled with an eye towards the future. While the agreement of August 24, 1982 pruned AT&T's power at the local exchange, it allowed AT&T to offer hybrid communications-computer services and to enter the computer and electronics fields without restriction. AT&T retained Long Lines, Western Electric and the Bell Labs, and agreed not to enter into the electronic publishing business for seven years. January 1, 1984 was set as the date for divestiture, by which time AT&T had to sell off all the Bell operating companies.

AT&T's divestiture of the 22 Bell operating companies resulted in the creation of seven regional holding companies known as Bell Atlantic, Bell South, Pacific Telesis Group, US West, Southwestern Bell, Nynex and Ameritech (See Exhibit 1). The map of America was divided into

¹⁹ Brock, pp. 191-193

²⁰ In addition to the antitrust suit by the Department of Justice, there were approximately 45 private antitrust suits against AT&T.

160 sections known as Local Access and Transport Areas (LATA) which roughly corresponded to metropolitan areas or area codes. (See Exhibit 2), which delineated the service areas, or

markets, between the local exchanges and the inter-exchange carriers.²¹

Under the terms of the antitrust agreement the RBOC's:

- had to provide equal access to all inter-exchange carriers.
- could not provide interstate services.
- could not offer information services, but could market the Yellow Pages.
- could not manufacture telecommunications or terminal equipment, but could sell such equipment.

The restrictions on the RBOC's arose from their continuing status as "bottleneck" monopolies, as most calls emanate from local markets. To counterbalance that position, the settlement gave AT&T and the other common carriers²² (OCC), such as MCI and Sprint, the right to handle all interstate traffic as well as intrastate inter-LATA service.

Revisiting the Pricing Issue

The settlement called for the BOC's to "provide access services to inter-exchange carriers and information service providers which were equal in type, quality and price to the access services provided to AT&T".²³ Growing competition was forcing the industry to become more transparent in its pricing policies. This required state and federal regulators to replace the opaque separations-and-settlements process used by AT&T before the divestiture with a new set of published access charges to the local network. Once again, regulators tried to grapple with the cost-of-service problem.

While telephone calls in America were now no longer made through exchanges where an operator physically plugged one call into another, the principle behind how a phone conversation was routed remained the same. All that changed was the technology. Microchips and digital switches replaced humans. A long-distance call from a man in New York to his brother in Los Angeles which seemed instantaneous because he dialed direct, still went through a local exchange.

However, the efficiencies of switching technology which had increased volume while reducing costs, created new distinctions in the board-to-board v. station-to-station argument. A local exchanges' plant could more easily be divided between traffic sensitive (TS) and non-traffic sensitive (NTS) components (See Exhibit 3). The NTS components of the local exchange were so defined because the costs associated with them did not vary according to usage - they were in a sense, fixed costs. These included the actual exchange and inside wiring, drops and blocks²⁴, the subscriber line outside plant (OSP) with its corresponding circuit equipment and a portion of the back office. The TS components were variable costs which depended on usage. They

²¹ The boundary of a LATA was not identical with that of local service areas. The phrase "local service area" or "exchange" described the geographical boundaries of a local (non-toll) telephone call. For example, single LATA states could contain several exchange areas, and multi-LATA states might have one or more exchange areas within each LATA. Most LATAs did not cross state boundaries.

²² The seven largest OCCs are MCI, Western Union, Sprint, Tymshare, US Transmission Systems, RCA Communications and US Telephone.

²³ US v. American Tel. & Tel. Co., 552 F. Supp. P.196 (D.C. Cir. 1982)

²⁴ Drops are the lines which run from the telephone pole in the street to the subscribers home or office, and blocks are programs done within the central office of the exchange, such as blocking a residential phone line so that children cannot make long distance calls.

included the bulk of the back office operations of the local exchange, other switching offices²⁵, exchange and inter-exchange trunk lines and transmission facilities.

In theory, the access charges were similar to the separations-and-settlements system in that both methods relied on the concept of joint costs. The inter-exchange carriers had to pay some portion of both the traffic sensitive (TS) costs and the non-traffic sensitive (NTS) plant costs because an inter-exchange toll call could not be completed without using the local exchange facility. Both NTS and TS costs were classified as either interstate or intrastate. Like the separations procedure, jurisdiction over access charges was split between the FCC and state regulators. Because this process used station-to-station principles, an increase in costs assigned to the interstate jurisdiction should have resulted in an increase in the interstate telephone rates in order to recover those costs, thereby keeping local rates down, as was the case prior to divestiture. But this didn't happen.

New End User Charges

In December 1982, a little over a year before the divestiture was to take place, the FCC adopted a plan whereby each telephone subscriber would pay a monthly minimum flat rate (\$2 per residential line and \$4 per business line) which would cover the non-traffic sensitive portion of the interstate access charges. In total, this amount to 25 percent of all local exchange NTS costs. Initially, the FCC contended that only a portion of the NTS charge would be recovered through the flat rate, with the remainder to be paid directly by AT&T and the other long-distance carriers to the RBOC's from fees for interstate calls. Over time, the FCC had planned to increase the subscriber line charge to cover the total interstate allocation, doing away completely with any payments by the long-distance carriers. The effect of the FCC access charge plan would be end the cross-subsidization of the local service by the long-distance carriers. As a result it would increase the overall rates of local telephone subscribers.

In 1983, 84 percent of all call minutes on the Bell system were local and 16 percent were toll calls.²⁶ Thus, to the telephone subscriber, the new flat rate subscriber line, or end user charge looked and acted like an increase in their local rates and a return subsidizing long-distance users. The plan drew heavy criticism from state regulators, consumer groups and Congress. The critics charged that the imposition of a flat rate subscriber line charge without regard to interstate service use, or the extent of such use, was a disguised attempt by the federal government to set local rates, it reduced consumer welfare and threatened the principle of universal service.

Meanwhile, most state regulators decided not to recover the intrastate NTS costs for inter-exchange carriers through a flat rate subscription charge on consumers. Instead, they charged carriers either a fixed monthly rate for each customer they served or a rate based on use.²⁷

The FCC modified their plan and scrapped the idea that all interstate NTS charges would be covered on a flat rate system. In June 1985, the first subscriber line access charges took effect.²⁸ A cap of \$3.50 per month was set on all residential and single-line business subscribers. A multi-line business charge of \$6 per line was set, but was not permanently capped. TS costs appeared as common carrier charges and were passed along by the inter-exchange carriers to

²⁵ The tandem dial inter-exchange switch is used for intraLATA toll as well as for interLATA and interstate toll calls. The inter-exchange outside plant is used only for interLATA and interstate calls.

²⁶ Peter Huber, *The Geodesic Network, Report on Competition in the Telephone Industry* (Washington, DC: US Department of Justice, Antitrust Division, 1987) pp.2-3.

²⁷ Roger G. Noll, *State Regulatory Responses to Competition and Divestiture in the Telecommunications Industry*, in Ronald E. Grieson, ed., *Antitrust and Regulation*, Lexington Books, Lexington, MA, 1986. P.189. States determined usage based on either the number of calls made or the minutes used on toll calls.

²⁸ The plan was similar to one used by the British government when it privatized its telecom network

the consumers according to the actual use of the service. The NTS charges were paid off through a combination of the flat rate end user charge and a portion of the TS fees charged by the inter-exchange common carriers. The average change in prices could not exceed the increase in the consumer price index, less three percentage points.²⁹ For AT&T and the OCC, the access charges amounted to corporate welfare for the regional companies. It was a concept they would spend the next decade challenging.

Regulators and economists in Washington were convinced that an increase in the rate for basic telephone service was a small price to pay in an ever increasing regional and global free-market economic structure which would greatly benefit from low cost long-distance communication services. Their justification for their policy was:

- True competition required that prices be matched to costs. Accordingly, NTS costs should not be recovered through TS services like interstate toll calls.
- If prices correspond to costs, the price of interstate service would decrease, and consumers would come out the same.

Critics of the subscriber line charge policy, chiefly the RBOC's, asserted that it was based on the erroneous assumption that local facility costs were truly non-traffic sensitive and were incurred primarily for the provision of local telephone service. They claimed that many of their costs were directly related to interstate toll calling and intrastate inter-LATA services and should be treated as part of the marginal costs of enhancing those services and as such, should not be recovered in the flat charge for basic service³⁰. Among the examples they cited were:

- The replacement of copper wires, traditionally used to connect residential subscribers to local exchanges, with higher speed and greater capacity fiber optic cables.
- The replacement of analog switches with digital ones were related to the provision of enhanced services offered through the network, such as voice mail, video and text services.³¹

Consumer advocates asserted that the goal of affordable universal service would be thwarted by a policy that required all subscribers to pay increased monthly rates for long-distance service they may never use. They believed that the frequent users of long-distance services, such as large business subscribers were in a better position to pay for rate increases attributed to interstate access charges.

Such arguments were countered by the FCC who feared that unless NTS costs were taken away from long-distance common carriers enabling them to offer their services in a more cost effective manner, comparable investment in new technology would eventually enable them to bypass the public switched network service altogether³². For example, MCI installed their own microwave towers to bypass AT&T's long-distance monopoly service in 1969. The analysts reasoned that if this were to occur, the significant loss of customers in the local switchboard network would result in an increase in the rates of the remaining subscribers to cover the cost of the local plant. This was especially worrisome in urban markets. Efforts to find a solution to the potential bypass threat were hampered by the failure of the interested parties to agree on a

²⁹ Roger G. Noll, *Telecommunications Regulation in the 1990's*, in *New Directions in Telecommunications Policy*, ed. By Paula R. Newberg, Duke University Press, Durham, NC, 1989. P.37.

³⁰ *New York Times*, 11/5/89

³¹ Alfred E. Kahn & William B. Shew, *Current Issues in Telecommunications Regulation: Pricing*, Yale Journal on Regulation 4, 1987, pp.191-220. The authors argued that the decision to install fiber-optic cables was driven by its lower capital and maintenance costs. In contrast, they noted, that the replacement of analog with digital switches may have inflated inefficiently the incremental costs of subscriber access.

³² The FCC was concerned that heavy interstate corporate users, such as IBM would set up their own switchboard system that could bypass the local exchange and connect directly to a long-distance carrier. In fact, three percent of all long-distance users accounted for 30 percent of the total traffic.

definition and a lack of relevant data on the extent of the problem³³. Some like Judge Harold Greene, who presided over the antitrust case and its eventual settlement, doubted it was a problem at all. In a 1987 ruling he wrote:

"Exchange telecommunications is characterized by very substantial economies of scale and scope...A regional company could easily aggregate the one per cent of total calls that represent potentially competitive special access traffic with all of its 99 percent monopoly traffic and achieve lower unit costs than could any bypass system. In other words, objective economic conditions entirely preclude the provision of local distribution function at a lower or equal economic cost than could the established local exchange carrier."³⁴

New Incentives

Following the divestiture, both state and federal regulators began to question the validity of rate-base/rate-of-return regulation. In the new pro-competitive telecommunications environment it was considered economically inefficient and a restraint on innovation. In a market economy, prices were dictated by consumer demand and a company's costs and profits were inversely related. Yet under rate-of-return regulation, an RBOC seeking to increase earnings often could do so by merely increasing its aggregate investment on which it earned a return. Thus, profits went up as investment went up. It was a powerful incentive for carriers to "pad" costs³⁵. The FCC claimed that local carriers were also encouraged to manipulate their reported cost allocations, assigning the greatest amount of costs to their least competitive services, thereby "cross-subsidizing" the more competitive ones.³⁶ For example, assigning higher overhead costs to non-competitive residential services such as call waiting & call forwarding to cover charging lower rates in the competitive business market for a paging system. And finally, if a carrier attempted to produce the same service at a lower cost, rate-of-return regulation negated any future benefit for the carrier by forcing a rate reduction. Thus carriers had little incentive to bring new services to the market because they were denied the economic gains of successful innovation.³⁷

After January 1984, AT&T was the only long-distance carrier subjected to rate-of-return regulation. It claimed that such regulatory discrimination resulted in increased costs and harm to consumers. In July 1989, the FCC replaced the ROR formula with an incentive based, price-cap regulatory scheme for all dominant inter-exchange carriers³⁸. While the new rules only applied to AT&T, it was the first step in creating a level playing field in the long-distance market. Under the FCC plan:

- The affected services were grouped into one of three baskets: residential and small businesses, 800 service, and all other AT&T business services.
- Each basket was subject to an aggregate price cap; that is the weighted average of the group of services within each basket had to remain below the price cap applicable to the basket.
- All regulated services were subject to the aggregate price cap and service category price bands. A band was a range within which the carrier could raise or lower any individual rate element in any year.

³³ Carol L. Weinhaus & Anthony G. Ottinger, *Behind the Telephone Debates*, Ablex Publishing, Norwood, New Jersey, 1988, p.153.

³⁴ U.S. v. Western Union Company, 673 F.Supp. p. 538 (D.C. Cir. 1987).

³⁵ FCC, *Price Cap Proposal*, June 6, 1988. p.11.

³⁶ *Ibid.*, p.63

³⁷ *Ibid.*, p.62

³⁸ FCC, *In The Matter of Policy and Rules Concerning Rates for Dominant Carriers*, CC Docket No.87-313, 1989. Pp.8-9. The FCC classified dominant carriers as those who were considered to have "market power sufficient to exploit consumers by charging excess rates or discriminating unreasonably in the provision of service."

- Initially, the aggregate price cap for each basket would be set in relation to AT&T's existing rates for the services included in each basket. AT&T was allowed to raise its initial rates by 22 percent within the first four years, thereafter, it was limited to an annual 5 percent limit on price increases.
- The rates would be adjusted each year pursuant to a formula that reflected economy-wide cost changes as measured by the Gross National Product Price Index. Rates would also be adjusted for cost factors beyond AT&T's control, such as changes in tax laws and jurisdictional separations.
- AT&T had to adjust its rates downward each year by 2.5 percent to reflect the productivity gains that AT&T had historically experienced, and by another 0.5 percent in order to ensure that consumers received a guaranteed share of "the additional efficiencies flowing from the improved incentives created by price cap regulation"³⁹

The appeal of price-capping regulation was twofold. First, in contrast to the rate-of-return regulation, which was essentially a cost-plus formula, price caps divorced a carrier's prices from its costs. This uncoupling of prices and costs presumably would create incentives for the regulated carrier to produce more efficiently and innovate more aggressively. Second, given that prices were initially set by regulators and could not be raised except by the agreed to adjustment formula, the fear of monopoly prices was attenuated under this system.⁴⁰

The National Association of Regulatory Utilities Commissioners (NARUC), a quasi-governmental non-profit organization, claimed that the FCC plan would lead to a decline in the quality of service because price caps created an incentive for corporations to reduce operating costs in an effort to improve earnings.⁴¹ That argument failed to sway the FCC or many state regulators. By the time the federal government had acted, 19 states had removed rate based/rate-of-return regulations for inter-exchange services; 15 states allowed price flexibility for all or most inter-exchange services; two states allowed partial pricing flexibility for some services, and one state, Nebraska, deregulated phone services entirely in 1986.⁴² The FCC was considering extending the plan to include the seven regional Bell holding companies.

This was consistent with the FCC's pattern of trying to preempt state regulation of the intrastate telecommunications market. Following the divestiture, it argued that state regulations were inconsistent with the need for uniform national policies to stimulate investment and innovation. It was a view that was often upheld by the Circuit Court of Appeals.⁴³ Although the Supreme Court formally upheld the rights of states to regulate their local phone industries in a 1986 case known as *Louisiana Public Service Commission v. FCC*,⁴⁴ it did not halt the federal government's drive to try and foster a uniform nationwide system of regulation to encourage competition.

³⁹ Congressional Record, 7/13/88. Statement by FCC chairman Dennis R. Patrick before the House Committee on Telecommunications and Finance.

⁴⁰ Congressional Record, 3/2/95. Statement by David L. Kaserman, professor of economics at Auburn University, and John W. Mayo, professor of economics at the University of Tennessee, before the Senate Committee on Commerce, Science and Transportation. p.192

⁴¹ NARUC, *Comment on FCC Price Cap Proposal*, in 1988 Report of the Administrative Director on Litigation, pp.154-156.

⁴² Advisory Commission on Intergovernmental Relations, *Intergovernmental Regulation of Telecommunications*, July 1990. P.25

⁴³ See for example, *NARUC v.FCC (Inside Wire)*, Case No. 86-1678, D.C. Circuit Court of Appeals, July 7, 1989.

⁴⁴ US Supreme Court Case No. 1890 (1986)The case involved the right of the FCC to preempt state regulations of depreciation rates for interstate telecommunications property. The Supreme Court overturned a lower court ruling in favor of the FCC, in which the Commission claimed that different state depreciation methods frustrated the federal goal of designing an efficient nationwide telecommunications service.

The fundamental argument between regulators in Washington and those in state capitals centered on quantifying the benefits that accrued through competition. Many state regulators took the view that although competition could benefit all users, it had a differential effect on different customer classes. They cited as proof of their theory the national effect of FCC rate policy on interstate long-distance service. Between December 1983 and November 1986, local telephone charges went up 26.1 percent, while interstate long-distance charges dropped 23.5 percent⁴⁵ (See Exhibit 4). The primary beneficiaries of the large rate reductions in interstate service were the few very large business customers⁴⁶, who were the principal users of long-distance service. Evidence from AT&T statistics seemed to confirm that residential and small business users found little benefit from the FCC policies. For example, in 1984 only 10 percent of residential customers made more than \$25 worth on long-distance calls per month, and only 14 percent made business users made more than \$50 worth on toll calls.⁴⁷

The task of government regulators was to balance those differential effects. If the natural constituency of the FCC were large businesses who dominated the expanding interstate market, residential and small business subscribers came to rely on state regulators to protect their interests. The dual regulatory system set up by Congress, attempted to preserve that balance of competition in the face of market forces few could adapt to let alone foresee.

Restructuring the Industry

By the mid 1990's, the FCC, state utility commissions, represented in Washington by NARUC, and more importantly, consumers, felt that the 1982 break up AT&T failed as the promised panacea to create a truly competitive environment in the telecommunications industry. In fact, many were coming to the frustrating conclusion that all that was really accomplished by the divestiture was that the monopoly of one company was replaced with an oligopoly of three firms in long-distance and regional monopolies in local service.

While many small firms had entered the \$76 billion long distance market, true competition was stifled because new entrants had little chance of capturing a significant share of the market. By the end of 1994, AT&T had 58 percent of the market, followed by MCI with 20 percent, Sprint with 9 percent and the remaining, approximately 420 companies with 13 percent. The story was almost identical in the \$96 billion local phone market. The seven RBOC's had 85 percent of the market, with the remaining 15 percent going to 1,300 small operators - mostly in rural communities.⁴⁸

Industry projections were forecasting that the total US phone market would be worth \$235 billion by the year 2005. But while the volume of total traffic was expected to grow by 250 percent, revenues were only expected to rise by 30 percent. That meant that much greater efficiencies were needed if carriers were to be profitable. Above all, consumers were promised that increased efficiency would result in dramatically lower telephone bills - some by an estimated 70 percent.⁴⁹ The outstanding question was whether or not economic efficiency could be improved through regulatory means.

⁴⁵ Department of Labor, Bureau of Labor Statistics Report: "Current Issues in Telecommunications Regulation:Pricing" Washington DC,1987. Pp. 191-196

⁴⁶ Examples of large end-users include financial organizations, such as Citicorp and Merrill Lynch; "Fortune 500" types of distributors or manufacturers with either national or international distribution networks, such as Westinghouse and Ford; aerospace industries such as Boeing; the transport industry such as United Airlines and Amtrack; large scale educational institutions such as the State University system in California, and most importantly, the Federal government, whose departments such as Justice, Defense, the FAA and FCC, are all dependent in interstate telephone traffic.

⁴⁷ Robert Britt Horwitz, *The Irony of Regulatory Reform*, New York: Oxford University Press, 1989, p274.

⁴⁸ Ibid.

⁴⁹ *The Economist*, 1/20/96

A mood was growing in Congress that the existing regulatory structure offered little incentive for carriers to make major investments in new technology and services. There was a growing fear, shared by the Clinton Administration, that private sector American telecommunication firms were quickly falling behind state-owned international competition in providing access to the information superhighway, which would be the cornerstone of an advanced, high income society. If a truly competitive market place was to be established in order to meet that goal, it was felt that all carriers should have access to each other's market. The challenge for Congress therefore was threefold⁵⁰:

- Take away the laws that supported monopolistic practices.
- Write rules that permitted competitors to enter previously monopolized markets.⁵¹
- Create a deregulated, competitive market which benefited consumers.

By 1995, There were five legislative bills in the House of Representatives and one in the Senate to overhaul the telecommunications industry. The first hurdle legislators had to overcome was to consolidate the divergent views of industry lobbyists and special interest groups - such as consumer advocates, a spectrum of political think tanks, and business round tables - expressed in the various proposals. Eventually, the basic battle lines developed.

The RBOC's View

The RBOC's contended that creating a level playing field of competition had to include the immediate lifting of the line-of-business restrictions that were imposed on them in the 1982 divestiture. This would allow them to manufacture their own equipment, provide long-distance telephone service and to enter information services. Yet legislators knew that allowing the immediate entry of the RBOC's into those areas of competition was not a straightforward proposition.

As monopolies, the RBOC's enjoyed a hold on their local customer base that many experts contended was virtually impossible to break. Analysts claimed that if the Baby Bells were given immediate access to long-distance service, they would capture 25 percent of the market within three years.⁵² In short, they would have the ability to reestablish a structure that paralleled the old AT&T in their regions. Congressmen from mainly rural states, and most state regulators tended to agree with the RBOC's position because the old structure allowed for cross-subsidization which succeeded in holding down basic service prices, which were the ones that counted politically.⁵³ Another rationale for this argument by conservative lawmakers, was that by relaxing or revoking line-of-business restraints on the RBOC's, Congress would be in part endorsing the prevailing attitudes expressed in court rulings which poached on the FCC's jurisdiction, thus limiting federal control over state affairs, for example, through such plans as price-capping.

The RBOC's had another advantage. They were cash rich, and they could easily acquire a long-distance carrier, rather than go through the time and expense of building one, and once again dominate the total market. This worried some legislators who feared that while such a merger wave could create the necessary economies of scale for carriers to offer more efficient across-the-board services, it might once again reduce competition and thereby choice for the consumer.

⁵⁰ *Time Magazine*, 6/9/97 Interview with Reed Hundt, chairman of the FCC.

⁵¹ This included the question of foreign ownership of US phone companies and rules for cross-border operations.

⁵² *Business Week*, 10/7/96

⁵³ Roger G. Noll, (Supra note 27, p.43)

The Long Distance Carrier's View

The long-distance carriers, led by AT&T, contended that because of the overwhelming competitive advantage enjoyed by the RBOC's in the local market, a level playing field was only possible if Congress adopted a phased-in approach to across the board competition. They asked for a head start in the intrastate markets before the RBOC's were given the green light to provide interstate services. In what became known as the "facilities based-argument", the long-distance carriers proposed that they be allowed to initially move into the local markets by reselling capacity on the local Bell lines until they had an opportunity to invest and build their own local networks. By immediately deregulating the local market, AT&T contended that consumers would be given "number portability" - the ability to switch local service providers as easily as they could already switch long-distance carriers. Over 90 percent of all phones in America had that capability in 1994.⁵⁴

AT&T's idea of a phased in approach to competition meant that Congress should still regulate the long-distance market by requiring the RBOC's to begin by offering long-distance service outside their immediate areas where they had a marketing advantage, giving them time to build a wider competitive base while demonstrating that they could in fact compete on an equal footing with the long-distance companies.

The Consumer Advocates' View

Consumer advocates favored reduced costs through competition and quality improvements through choice of service. But they were concerned, however, as to how Congress was going to continue to ensure affordable, universal service, and what that concept meant to legislators in the context of the 21st century. Clinton administration officials, such as Commerce Secretary Ron Brown, were equally as anxious that the growing economic disparity in the country between the have's and have not's would be transferred in the new information age into a gap between the information rich and the information poor.⁵⁵

The Legislative Challenge

The industry's proposals posed problems for legislators as well. The long-distance companies had over a 10 year advantage over their local counterparts in operating in a competitive environment. The fact that long-distance carriers were already paying 45 cents of each dollar to the local Bells in access fees⁵⁶ made it imperative that their operations were leaner and more efficient. Most of all, they had developed competitive pricing strategies. By 1994, 25 million Americans had moved from AT&T to other long-distance carriers and call charges had fallen by 50 percent.⁵⁷ It was also claimed that many people in America still associated the name AT&T with the old basic phone service, so if they were to have immediate access to local markets, it was felt that this would give them an unfair competitive advantage. This argument was supported by the fact that AT&T spent \$1 billion a year on advertising in the United States, and already had 80 million long-distance customers - which was four times as many as the biggest regional Bell operating company. Indeed, one study suggested that more than a third of Americans still thought AT&T was their local carrier⁵⁸.

By comparison, the RBOC's were novices to competition, and it could take them years to develop the right corporate culture necessary to operate in such an environment. As virtual

⁵⁴ Congressional Record, Kaserman & Mayo, p.173.

⁵⁵ *Congressional Record*, Testimony of Larry Irving, Assistant Secretary for Communications and Information, US Department of Commerce, before the Senate Committee on Commerce, Science and Transportation, 3/2/95, p.40.

⁵⁶ *The Economist*, 4/6/96

⁵⁷ Anne K. Bingaman, Assistant Attorney General, US Department of Justice Antitrust Division, in testimony before the Senate Committee on Commerce, March 2, 1995.

⁵⁸ *The Economist*, 1/20/96

monopolies in their operating areas and had little incentive to develop competitive practices and pricing strategies. In addition, by 1995, they were collecting some \$23 billion a year in state and federal subsidies through access fees⁵⁹, which assured them of profitability and compensated them for the cost of service to small cities and rural areas which were as much as 10 times higher than in large metropolitan areas.⁶⁰ The net effect of the subsidies was to reduce the average monthly residential local phone bill to \$19 a month compared to an average monthly residential toll bill of \$31.⁶¹

Finally, even if AT&T, MCI and Sprint, and the seven RBOC's won equal shares of each other's markets, the balance would probably favor the long-distance carriers because the total value of local market was 50 percent bigger than the long-distance one. In addition, price cutting was likely to hit the more competitive long-distance market harder making it less attractive for local companies to invest in. In short, equal access, even phased in, would not create a level playing field.

Congress was aware that any compromise of the conflicting views would probably entail transition arrangements. For example, in a truly competitive environment, subsidies would not exist because they would be considered an inefficient use of resources. Yet some arrangement had to be made to ensure that all existing households which had phone service continued to do so until market conditions which allowed affordability prevailed. The FCC suggested the establishment of a universal service fund, to which all local carriers, old as well as new, would contribute to. The subsidies would then be paid out directly to the qualifying households by a non-governmental agency overseeing the fund.⁶²

But perhaps the hardest transitional issue Congress had to grapple with was in determining the time period for any change. In the divestiture of 1982, the time frame was a mere 16 months. But then it was a question of reorganizing and partially maintaining a monopolistic structure with the same players. In a deregulated environment, all carriers had to reach certain level of parity for there to be effective competition. How long would this process take? There were guidelines from other deregulated industries, such as the airlines, but none had every been considered a utility.

Then there was the question of who would regulate the industry. Unlike most other countries, the US did not have a national communications policy. The Constitution clearly defined in the 10th Amendment that activities that remained within the borders of a particular state should be regulated by that state. Federal powers only came into play when activities crossed interstate lines. That constant jurisdictional tension between regulators had been played out for over 60 years in the pricing battles over long-distance and local telephone services. State regulators claimed that the separation of power was the most effective protection of consumer welfare. The FCC viewed it as a form of corporate welfare and as an impediment for establishing policy for an evolving internationally competitive industry whose future lay in the borderless environment of cyberspace.

Legislators were also concerned about the potential impact of new wireless and cable technologies. In 1992, Congress enacted legislation which allowed all telephone carriers to own cable TV companies and use their lines as an alternative method of phone transmission, completely bypassing the local exchanges. This expanded phone carriers technological capabilities, as well as their potential for greater revenue, by enabling them to economically

⁵⁹ *The New York Times*, 5/30/97

⁶⁰ *International Herald Tribune*, 6/14/97. In an open market, the value price per phone line of a RBOC was between \$1,400-\$1,700.

⁶¹ *The Economist*, 4/6/96

⁶² *New York Times*, 5/30/97

bundle together with "plain old telephone service" new interactive video services⁶³ such as home shopping and the Internet. By 1994, 95 million homes in America were wired for cable and the service was used by 64 million of them. New subscriptions in cable service was growing at a rate of 2 percent a year. Meanwhile, the World-Wide Web of the Internet had a reach of 15 million users in the US and industry analysts were predicting that by the year 2000, 16 percent of all voice traffic in America would be moving over the Internet.⁶⁴ Clearly, the old structure was giving way.

With policy makers projecting that access to information in the 21st century would be as vital to society as gasoline was in the 20th century, Congress was pressed for answers to ensure that pathways, not barriers, were erected on the information superhighway.

- How could the government's bi-partisan commitment to universal service - which three successive generations of politicians had upheld - be maintained?
- If there was to be greater federal government intervention, could the FCC find an acceptable pricing formula which would act as a defacto national telecommunications policy? or,
- Would state utility commissions, who traditionally protected the rights of local users, especially in small cities and rural areas, continue to challenge the authority of the federal government through the courts as it had for the past 200 years?

⁶³ *Business Week*, 10/7/96. Cable Industry estimates in 1994 noted that it would take an investment of \$25 billion to upgrade cable lines nationally for phone use before they would pose any significant threat to the existing local exchanges.

⁶⁴ *Ibid.* Telephone calls could be made over the Internet using software such as "VocalTec". In 1994, fewer than 50,000 people made calls via the Internet. Yet, those calls which cost the customer the same local rate, whether it was a local or long distance call, clearly challenged the concept of charging based on distance.

Exhibit 1
Territories of the Regional Holding Companies

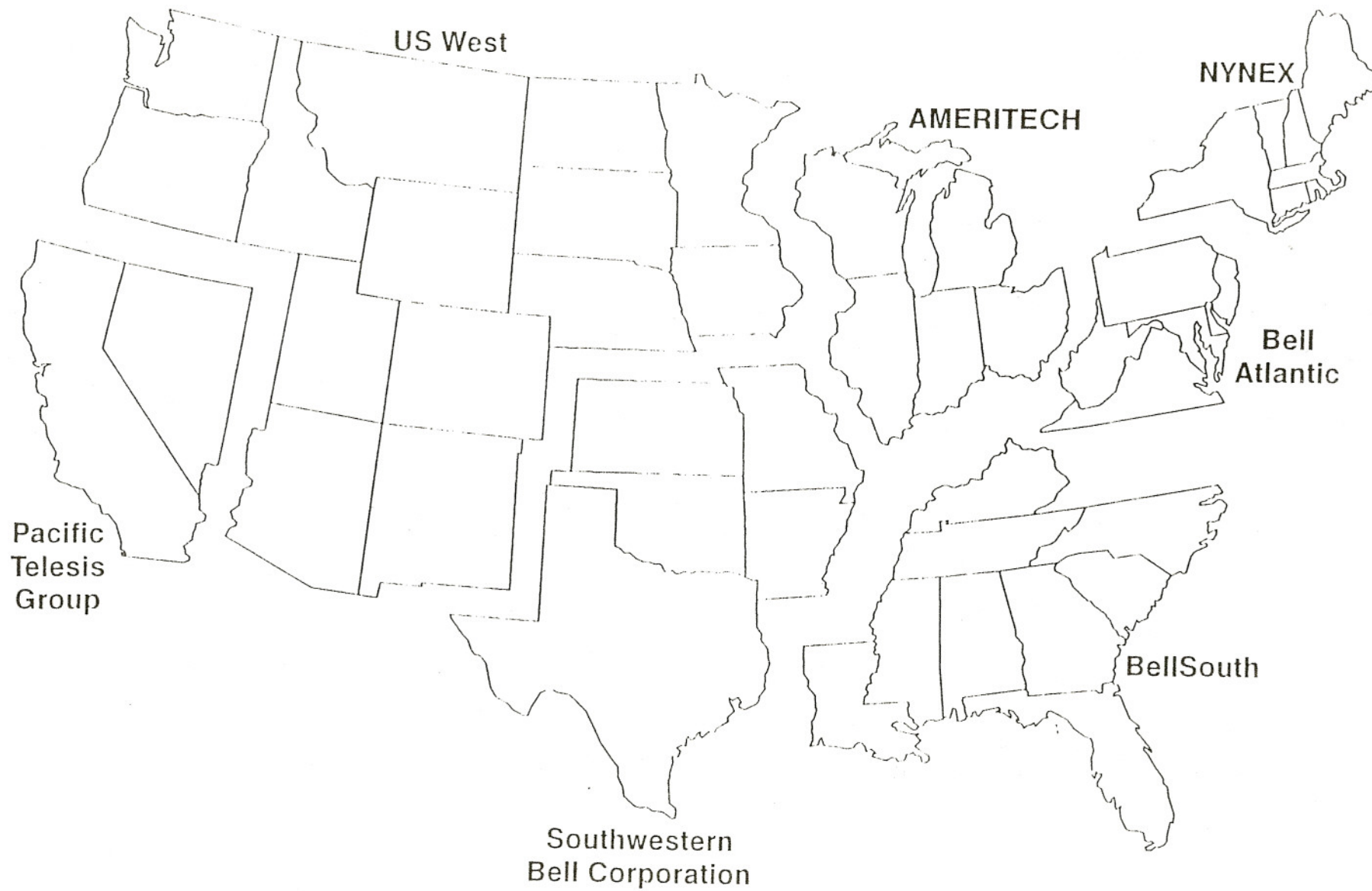
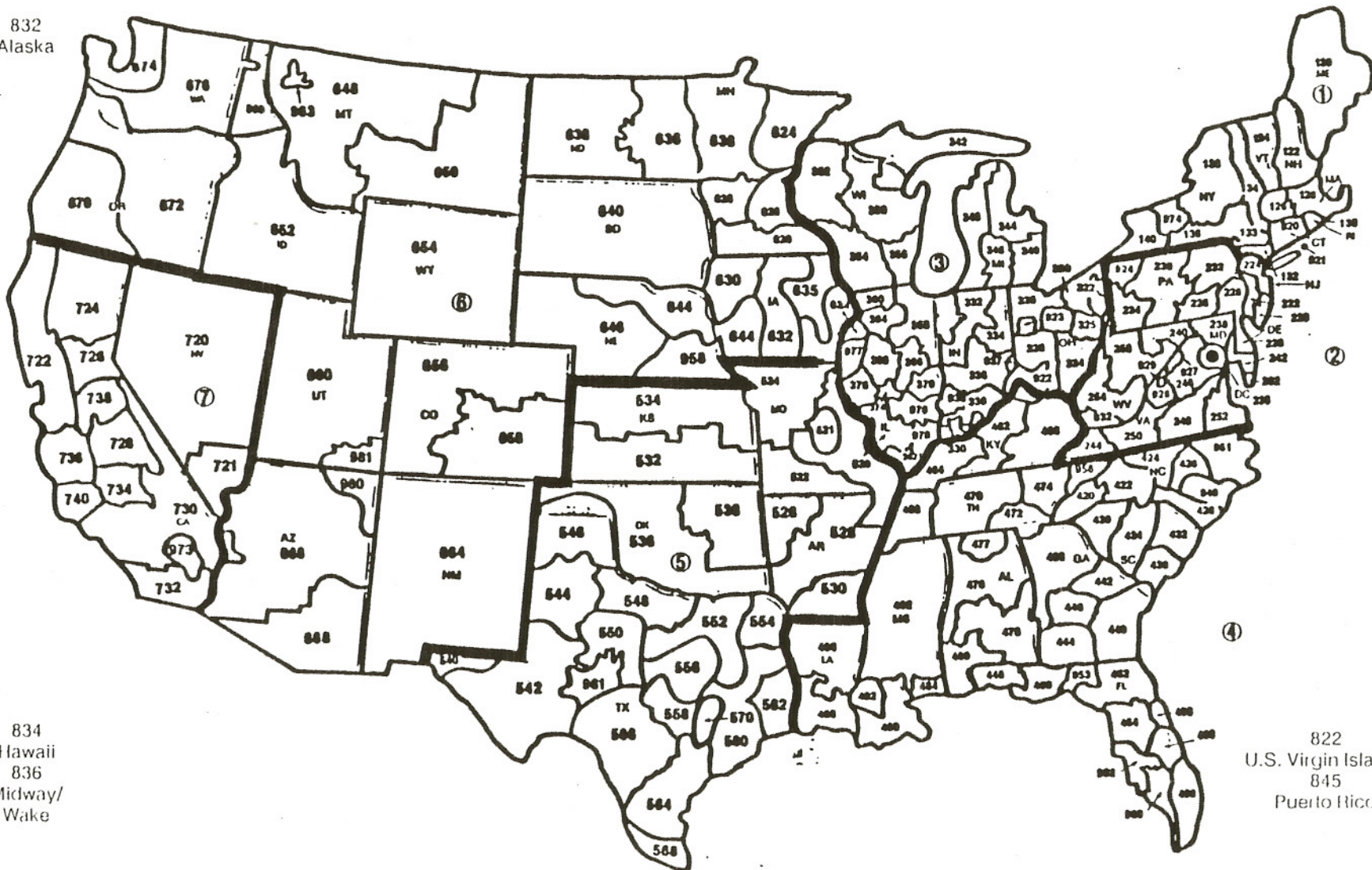


Exhibit 2

National Local Access and Transport Areas (LATA) Map, March 1988

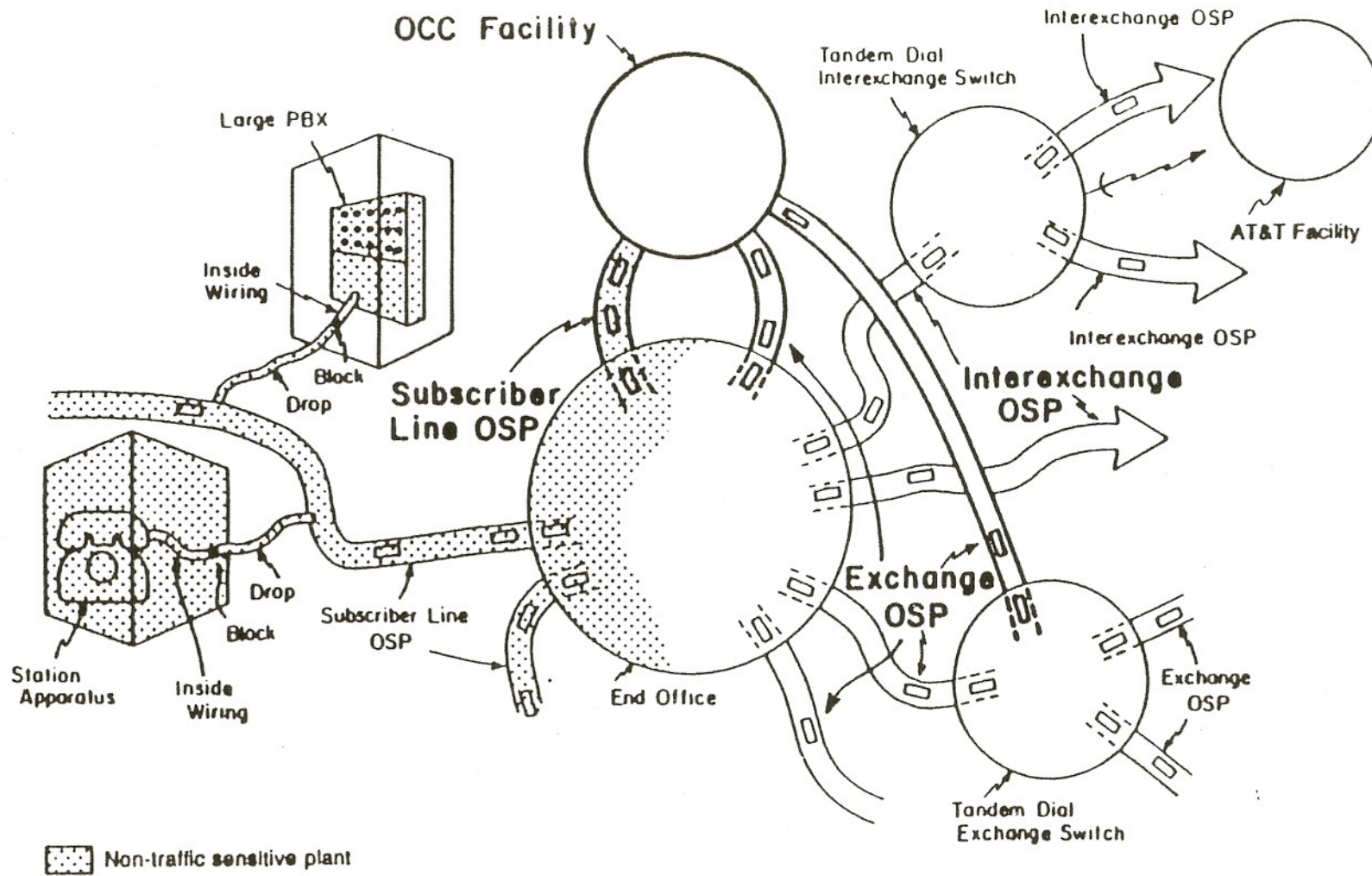
832
Alaska



834
Hawaii
836
Midway/
Wake

822
U.S. Virgin Islands
845
U.S. Virgin Islands
846
Puerto Rico

Exhibit 3
Schematic of Non-Traffic Sensitive (NTS) Plant



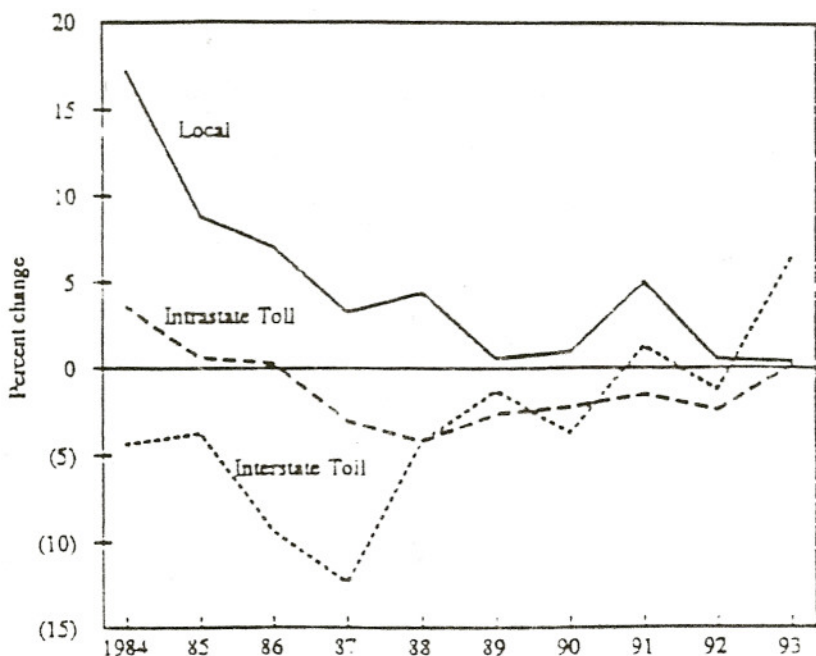


Figure 6. Post-Divestiture Telephone Price Changes

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994

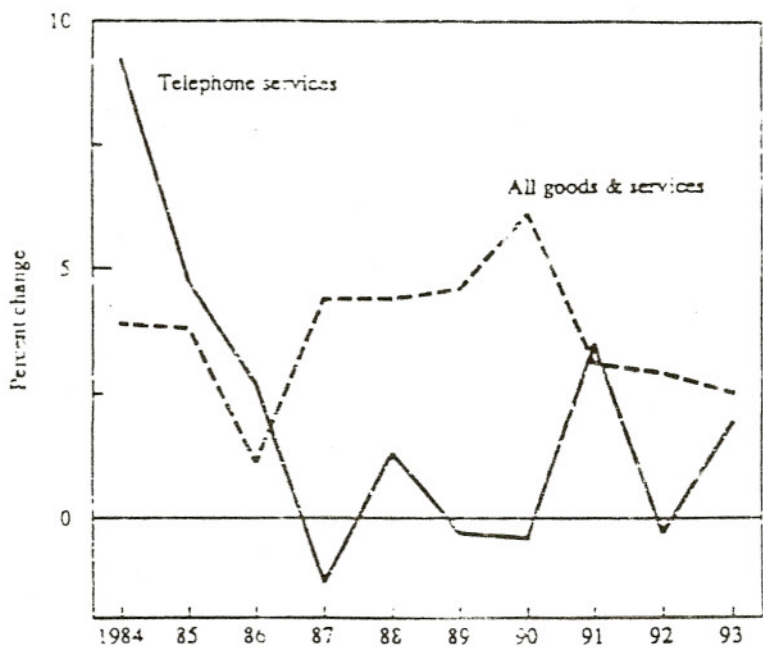


Figure 5. Telephone Price Changes Since Divestiture

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994