4-1-1973

Federal Communications Commission Regulation of Domestic Computer Communications: A Competitive Reformation

Barry Taub

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INTRODUCTION

Croesus, King of Lydia, when in doubt as to national policy some 2,500 years ago sent his ambassadors to Delphi to catechize the Oracle of Apollo. The Pythian priestess who delivered the oracles uttered the words "Croesus, having crossed the Halys, will destroy a great empire." Croesus blindly accepted this response as meaning that he would destroy the Persian Empire. He thereupon immediately launched a full-scale campaign across the Halys, resulting in his defeat and capture.

Contemporary society, much like Croesus, but with far more reliable results, also queries a superinformation source—the computer. Within the past twenty years, the computer has matured from a laboratory curiosity to the world's fastest growing industry. We have entered the Second Industrial Revolution where the labor of the human brain is both implemented and replaced by the computer. As early as 1964, Martin Greenberger predicted that

"Computing services and establishments will begin to spread throughout every sector of American life, reaching into homes, offices, classrooms, laboratories and businesses of all kinds."

2. See, e.g., H. Sackman, Computers, System Science and Evolving Society 29 (1967). The growth of computer installations has been phenomenal as indicated by the table below.

Growth of Computer Installations and Cumulative Computer Investment Costs in the United States

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Installation</th>
<th>Cost—Billions of Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>1955</td>
<td>1000</td>
<td>.7</td>
</tr>
<tr>
<td>1965</td>
<td>30,000</td>
<td>7.8</td>
</tr>
<tr>
<td>1975</td>
<td>85,000 (estimate)</td>
<td>31.5</td>
</tr>
</tbody>
</table>

Id. The table has been edited for clarity.

Today computers are being used for writing music and poetry, diagnosing the ills of patients, directing space vehicles, reapportioning voting districts, finding the law, analyzing and predicting judicial decisions, and for numerous other purposes. It has been suggested that we will see in the near future a new monetary system wherein each individual will be identified by a universal credit card or "money key" which will replace both the check and most normal currency as a medium of exchange. All transactions, from the simple purchase of groceries to the complex preparation of detailed corporate tax statements, may become a matter of automatic electronic transfer of information within the memory banks of a computer. It is also believed that the totality of the world's knowledge can be deposited in a computer's memory banks and then be made available on demand. Out of this availability will flow wide-ranging opportunities for human development and social change that may well alter contemporary society almost beyond recognition.

As the computer is a device which has had and will continue to have profound effects upon the body politic, its utility raises a germane issue as to whether it should be governmentally controlled. This paper will attempt to analyze the nature of contemporary computer regulation, which has been entrusted to the FCC. More particularly, it will delineate how the impact of recent technological advances has caused the Commission to rethink its traditional natural monopoly rationale in favor of a procompetitive approach in the telecommunications field.

I. The Advent of Time-Sharing

In 1954, the first computer designed for commercial use, the "Univac I," was delivered to General Electric. This "analytical en-

5. Lawlor, Law and Society: Where Do We Go From Here, PRAC. LAW., Mar. 1967, at 10, 11.
7. D. Parkhill, supra note 6, at 172.
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gine" and its progeny for the next several years were in-house, free-standing devices. Generally, their utility was restricted to the isolated plant or office where they were installed. During the late 1960's a momentous event transpired. Computers became linked with communication services, thereby extending their potential usefulness to the general populace on a shared basis. The impetus for the marriage between computers and communications came from both industries.

The computer itself is a giant communications system with complex switching techniques. As the power and utilization of computers increased, it was only natural to connect the internal communications circuits of the computer to existing external communications circuits and thus provide wide geographic dispersion to the capabilities of a computer.

Within the communications industry, the sheer growth in message volume . . . required increasingly sophisticated control mechanisms. The computer was the natural choice.

This symbiotic relationship between computers and communications seems irresistible. It is estimated that more than sixty percent of the computers used in the United States will be tied into the public communications systems by 1975, and as much as ninety percent by 1984.

Today's computer system has three basic components: the computer unit; user terminal equipment; and communication lines connecting the two. The terminal—a mechanism by which computer

9. The Stanford Research Institute indicates that only one percent of all computers sold during 1965 were connected to any kind of data communications system. See COMPUTERS AND COMMUNICATIONS: TOWARD A COMPUTER UTILITY 64 (F. Gruenberg ed. 1968) [hereinafter cited as COMPUTERS AND COMMUNICATIONS].

10. In 1967 time-sharing constituted a $50 million market; by 1968 it had climbed to $180 million; and by 1972 it was expected to rise to nine hundred million dollars. In re Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities, 28 F.C.C.2d 291, 298 (1970) [hereinafter cited as Computer Tentative Decision].


12. Note, Computer Services and the Federal Regulation of Communications, 116 U. Pa. L. Rev. 328 (1967). See also COMPUTERS AND COMMUNICATIONS, supra note 9, at 13, stating: "It appears likely that by 1980 there will be few free standing computers. Nearly all computers will be embedded in and integrated with the communications systems."

13. During 1969, several companies began producing minicomputers ranging in cost from $3,000 to over $100,000. This development has made it possible to use them directly without communication lines in homes, offices, on board ships and aircraft, and in a variety of other situations. Of course, they do not take the place of
information is received and supplied—ranges in complexity from the simple teletypewriter to the highly complex visual display devices. The Touch Tone Telephone is perhaps the most common, permitting a user to transmit digital information over ordinary telephone lines and receive a voice response.

The communications linkage most widely used is the common carrier line, although alternative microwave and satellite systems are being developed and have great promise of becoming prevalent in the future. A microwave radio system can be constructed along any transmission route with relay stations being installed every twenty to thirty miles. The cost of such an enterprise would be relatively minimal compared with the expense of laying cable. Data transmission via domestic satellite provides a second alternative to the traditional terrestrial cable lines, with the cost of such communications being nearly independent of distance once the system is operational.

Such a combination of computers and communications may provide us with the means of establishing a national computer utility, with computer consoles in every home, on an Orwellian model. It is predicted that by the end of this decade data communications will exceed voice communications and the volume of communications among computers will exceed that among humans.

II. THE REGULATORY ENVIRONMENT


14. COMPUTERS AND COMMUNICATIONS, supra note 9, at 1. See also Davidson, Access to a Computer for Every Person—A Prediction, 18 COMPUTERS & AUTOMATION, Mar. 1969, at 13; Greenberger, supra note 4, at 67. Barring unforeseen obstacles, an on-line interactive computer service provided commercially by an information utility may well be as commonplace by 2000 A.D. as the telephone service is today. Id.

15. Nolan, Moving Business Data is Big Business, 1 RUTGERS J. COMPUTERS & L., Fall 1970, at 2, 4. The number of data terminals installed in the United States during 1970 was about 185,000 and by 1974 the figure is anticipated to reach 820,000. The number of data transmissions will jump from an estimated 14.3 billion in 1970 through 47.8 billion in 1974 and hit 248 billion by the decade's conclusion. Id.
been adopted with other objectives in mind. These include: the Federal Communications Act of 1934; the Communications Satellite Act of 1962; and a triumvirate of antitrust statutes—the Sherman Antitrust Act, the Clayton Antitrust Act, and the Robinson-Patman Act.

A. The Federal Communications Act of 1934

This statute created the Federal Communications Commission which was charged with “regulating interstate and foreign commerce in communication by wire and radio . . . .” Essentially, the Act was intended to regulate the fledgling radio industry, although the language used was broad in scope and capable of application to a host of other activities. The Commission was given responsibility for supervising schedules of charges filed with it, for licensing new entrants, and for issuing certificates of public convenience and necessity on the extension of existing lines. The agency can execute these functions by formulating policy either legislatively through rule-making or judicially through adjudication. Rule-making has been defined as the “process for formulating, amending or repealing a rule.” It entails publication in the Federal Register of a general notice of the proposed rule and a subsequent agency hearing in which all interested persons are given an opportunity to participate through the submission of written data, views, or arguments. Frequently the agency will issue a tentative decision which is open to comment by interested parties, enabling an informed final decision to be rendered.

16. But see The Automatic Data Processing Equipment Act of 1965, 40 U.S.C. § 759 (1970) (often called the Brooks Bill). This statute was designed to provide for the economical and efficient purchase, lease, maintenance, operation, and utilization of automatic data processing equipment by the United States governmental agencies and departments.

26. Id. § 553(b), (c).
Adjudication, on the other hand, has been denoted as the "agency process for formulation of an order," and typically involves an adversary hearing to resolve a dispute routinely handled by the agency. Each party is given the opportunity to submit its facts and arguments before a hearing examiner, whose decision, absent an appeal, becomes the decision of the agency without further proceedings.

Congress has conferred on the United States Courts of Appeals jurisdiction to review only the final orders of the Commission. An order is final where a party is aggrieved or adversely affected by a determination of the agency or where the order denies a right or imposes an obligation. The task of the Court of Appeals in reviewing an action of the FCC is limited to determining whether the Commission has fairly exercised its discretion within the "vaguish penumbral bounds" expressed in the Act, and the courts will not overrule a decision unless it is arbitrary as a matter of law. It is not at all uncommon for an appellate court in an adjudicative proceeding to reverse where the result has seemed to it unsatisfactory; but the agency's judgment regarding rule-making has seldom been disturbed.

Congress, in addition to legislation, has used a variety of subtle techniques to regulate FCC decisions. Standing committees which subpoena the Federal Communications Commissioners for testimony have a significant impact on agency determinations. During the Ninety-First Congress, over twenty-five committees and subcommittees attempted to oversee virtually every aspect of the FCC's activities.

The Executive Department also exerts an acute influence over

27. Id. § 551(7).
28. Id. § 554(b), (c).
33. Id. at 103. Other subtle ways of congressional control over the Federal Communications Commissioners includes a legislative fixing of their tenure and the requirement of Senate confirmation of appointments to the Agency. Further, the Commission is required to submit an annual report to Congress concerning its activities for the purposes of an appraisement of the volume, quality, and character of the agency's accomplishments. See Communications Act, 47 U.S.C. § 154(a), (g), (k) (1970).
agency determinations. The President of the United States has the duty to appoint the seven Federal Communications Commissioners. Additionally, the chief executive has, in the past, authorized the creation of various task forces to study particular communication problem areas, and has invested these groups with power to make recommendations to the Commission. In 1970, President Nixon created an agency in the Executive Department, known as the Office of Telecommunications Policy, which has been given the function of supervising overall national communications matters. This new office was not intended to usurp the prerogatives or functions assigned to the FCC by Congress, and it was believed that the new department and the Commission would cooperate in achieving reforms in the telecommunications field.

B. The Communications Satellite Act of 1962

This second major piece of legislation was designed to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network....

This Act created a uniquely structured private corporation, known as Communications Satellite Corporation (COMSAT), owned half by the general public and half by the overseas carriers. COMSAT has been viewed as a "carrier's carrier": a wholesaler of international satel-
lite circuits to the conventional carriers.\textsuperscript{40} The Act further stated it did not "preclude the use" of communications services if required in the national interest.\textsuperscript{41} In sum, the statute instituted a scheme for the regulation of international telecommunications satellites, while it left the domestic satellite issue to be resolved at a later date.

C. \textit{The Antitrust Acts}

The third type of regulatory legislation consists of a progression of antitrust statutes designed principally to regulate monopolies and prevent undue concentration of industry. The Sherman Act, a relic from the Roosevelt trust-busting era, was aimed at destroying monopolies by outlawing every business contract, combination or conspiracy in restraint of trade.\textsuperscript{42} The Clayton Act of 1914 marked an attempt by the government to strengthen the Sherman Act by declaring illegal specific practices of big business that tended "to lessen competition" or "create a monopoly."\textsuperscript{43} It is presumed that the FCC enjoys the full reach of these statutes in proscribing tying agreements or exclusive dealing arrangements in the telecommunications field.\textsuperscript{44} The Robinson-Patman Act rounds out the trio of antitrust statutes by making price discrimination unlawful in the purchase of commodities of like grade and quality.\textsuperscript{45}

III. \textit{The Harbinger of Government Regulation}

A. \textit{The Participants}

At present there are three groups of competitors vying for control of the data processing field. The first faction, the computer industry, is intrinsically separated into two basic areas—hardware and software.

\textsuperscript{40} In re Authorized Entities \& Authorized Users, 4 F.C.C.2d 421, 425 (1966). For a very good discussion concerning the merits of the satellite legislation, see Schwartz, \textit{Comsat, the Carriers, and the Earth Stations: Some Problems with "Melding Variegated Interests"}, 76 Yale L.J. 441 (1967).
\textsuperscript{43} Id. § 18.
\textsuperscript{44} Irwin \& McKee, \textit{Vertical Integration and the Communication Equipment Industry: Alternatives for Public Policy}, 53 Cornell L. Rev. 446, 472 (1968) [hereafter cited as Irwin]. A tying agreement, within the prohibition of the Clayton Act, involves a sale of two or more commodities on the condition that all must be purchased or none will be sold. Hence, it coerces the buyer to purchase the tied-in commodity in order to secure the desired one.
The hardware segment includes the manufacture of the machines themselves, their component parts, and related peripheral equipment.\textsuperscript{46} This sector is under the suzerainty of International Business Machine (IBM) which accounts for approximately seventy percent of the hardware output.\textsuperscript{47} IBM has built more than ten times as many computers as its nearest competitor.\textsuperscript{48} To eliminate a threat from the Justice Department's Antitrust Division, IBM entered into a consent decree in 1956, requiring it to transfer its time-sharing subscriber services to an independently operated subsidiary.\textsuperscript{49} Despite this decree and other pending public and private antitrust suits,\textsuperscript{50} IBM's growth has not been stunted and its stranglehold on the computer hardware field remains intact.\textsuperscript{51} A dozen other competitors have thrived by entering

\textsuperscript{47} See, e.g., K. Stehling, \textit{supra} note 3, at 286.

\begin{center}
\textbf{COMPUTER INDUSTRY LEADERS}
\end{center}

\begin{tabular}{|l|c|c|c|}
\hline
& 1969 & & \\
Hardware & Installed & Shipments & Software—1969 Sales & \\
& % & % & Millions of Dollars & \\
\hline
IBM & 70.5 & 69.2 & 35 & IBM \\
UNIVAC & 6.7 & 5.6 & 26 & Computer Sciences \\
Honeywell & 4.2 & 4.7 & 17 & Planning Research Corp. \\
CDC & 4.1 & 3.6 & 14 & Computing & Software \\
RCA & 3.6 & 3.2 & 13.5 & Computer Applications \\
Burroughs & 3.2 & 4.2 & 12.5 & Control Data \\
GE & 4.0 & 4.0 & 11 & Leasco \\
NCR & 2.4 & 2.7 & 10.8 & Informatics \\
XDS & 0.8 & 1.0 & 10.7 & Computer Usage \\
DEC & 0.2 & 0.8 & 35.3 & Nine Large Others \\
Others & 0.3 & 1.0 & 74.2 & Systems Development \\
\hline
\hline
100.0 & 100.0 & 450 & \\
\end{tabular}

\textit{Id.}

\textsuperscript{50} See B. Gilchrist & M. Wessel, \textit{Government Regulation of the Computer Industry} 168 n.203 (1972), listing over a dozen antitrust suits, most of which are pending against IBM.
into specialized hardware areas where IBM has chosen not to mass its resources. 52

The software subdivision of the industry can be defined as everything other than the hardware. Principally it consists of the program which directs the computer's activities. This sphere is essentially competitive in character, with many smaller firms having their share of the market. During the late 1960's, several hardware manufacturers offered a single price for the entire unit, thus tying the purchase of hardware to software. Such "free software" foreclosed competition in that sector as it was impossible to compete in the marketplace against a zero dollar price. 53 The Justice Department's Antitrust Division and a number of private software firms filed several antitrust suits which resulted in substantial unbundling in the hardware division, and an accompanying increase in price to the consumer. 64

A second contingent of competitors is manifest in the service bureau industry, which consists of an active group of organizations which performs data processing on a fee or contract basis. These firms lease or buy computer hardware and in turn sell time on a shared basis to their subscribers. It is estimated that in 1972 there were more than eight hundred service bureaus in the United States offering data processing services, and that sales reached 1.2 billion dollars to some one hundred thousand customers. 55 IBM's wholly owned subsidiary is by far the largest service bureau, with National Cash Register and International Telephone and Telegraph's Data Service Division among the larger competitors. 56

An offshoot of the service bureau industry, consisting of a group of specialized subscription services, was recently conceived as a result of the interconnection of computers and communications. These organizations cater to the particular needs of the various segments of the business world and offer, for example, legal, medical, credit, or stock

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quotation services. It has been suggested that these hybrid services are forming a new type of business quite distinguishable from either the computer field or the communications industry.57

The third and final entrant in the time-sharing enterprise consists of the communications common carriers. Traditionally, all communications requirements have been met by the authorized carriers—the Bell System and the Western Union Telegraph Company. The Bell System includes American Telephone and Telegraph Company (AT&T), twenty-four Bell operating companies, the Western Electric Company, and Bell Telephone Laboratories.58 Most of the Bell operating companies are wholly owned by AT&T, and offer communications services in a particular state or region. The Western Electric Company is the manufacturing affiliate, and supplies virtually all of the equipment used in the Bell System. The Bell Telephone Laboratories represents the research arm of the system.

Bell operates under a consent decree which prohibits it from offering non-communication services.59 Its affiliated companies supply eighty-four percent of the local exchange telephone market, but cover only fifteen percent of the geographical area of the United States.60 The remaining market, encompassing eighty-five percent of the land area of the United States, is served by some 1,800 independent or non-Bell Telephone companies. For example, General Telephone and Electronics Systems, the largest independent, renders telephone service to some fifty percent of the non-Bell market, while United Utility, the second largest non-Bell system, supplies fourteen percent of the independent market.61 In the narrowly defined message service telegraph industry, the Western Union Telegraph Company (Western Union) has had a complete monopoly since 1943.62

57. Hyde, The Role of Competition and Monopoly in the Communications Industries, 13 Antitrust Bull. 899, 909 (1968).
59. United States v. Western Electric Co., 13 R.R. 2143, 1956 Trade Cas. 68, 246 (D.N.J. 1956). In this antitrust suit the Justice Department sought to divest Western Electric from the Bell System and to require the operating companies to purchase all equipment in a competitive market. The consent decree resulted, as the Justice Department believed it could not win the case. See M. Irwin, The Telecommunications Industry: Integration vs. Competition 50 (1971) [hereinafter cited as Telecommunications Industry].
60. Telecommunications Industry 25.
61. Id. at 26.
62. In that year Congress amended the Communications Act of 1934 (47 U.S.C. § 222 (1970)) to permit a merger of the Postal Telegraph & Cable System and the
B. The Issues

An examination of the participants reveals that they function under divergent economic philosophies. The common carriers—the telegraph and the telephone industries—are regulated monopolies which are assigned franchised markets and fixed rates. The service bureaus, and to some extent the computer hardware industry, display varying degrees of competition, and their prime regulator is the force of the market. The convergence of computers and communications has made possible the offering of many new services in the gray area between the two. As technology has blurred the traditional lines which had formerly separated the industries, the question was posed whether these hybrids were to be governed by the principle of monopoly or by competition.

America has long been committed to the free enterprise system, regulation being limited to those areas where a "natural monopoly" existed, as in the utilities industries. During the late 1950's, the natural monopoly argument was so pervasive in these fields that one commentator concluded:

\[\text{It is of course elementary that the prevailing philosophy in this country is to have public utility services rendered by monopolies. This so generally prevails that there would be no point in arguing for or against it.}\]

The characteristics of a natural monopoly are threefold: (1) high capital expenditure; (2) decreasing costs per unit; and (3) a public convenience or necessity in the area regulated. Economists rely on the second criteria, in stating that a natural monopoly exists where the lowest cost per widget can be satisfied by one firm. In such a rele-

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Western Union Telegraph Company, with the latter emerging as the sole dominant company. For legislative history, see Congressional Comments, U. S. CODE CONG. SERV. 2.2 (1943).

65. For a more detailed analysis, see D. PARKHILL, supra note 6, at 145-48.

Under persisting decreasing costs for the firms, one or a few of them will so expand their q's [widgets] as to become a significant part of the market for the industry's total q [widgets]. We shall then end up with one of the following three cases:

(1) a single monopolist who dominates the industry. (2) a few large sellers who together dominate the industry and who will later be called
vant market, if more than one firm exists, the others will dissipate through a series of mergers or failures. Where such economies of scale predominate, the forced imposition of a competitive structure would prove a "costly and idle gesture."67 Competition in these situations is thus not a viable regulatory mechanism, and direct controls are necessary to ensure economic performance.68 Yet, it must be kept in mind that the goals of regulation and competition are identical—efficiency, progressiveness, reasonable prices, and satisfaction of diverse needs.69

The answer to the question whether "new data services operate in the best interests of the public in a competitive environment or should . . . be brought under the same regulations and restraints as communications utilities"70 hinges on whether they function under decreasing costs, entail a heavy initial expenditure, and serve a vital public convenience or necessity. Most commentators are of the opinion that the broad range of diverse computer information services does not satisfy the conditions for a natural monopoly,71 except perhaps for a few specialized areas such as a national case law data bank or medical information network.72

The next critically important issue was whether the monopolist should be permitted to lever his way into competitive markets. Western Union began a program of large scale diversification into the data processing industry during the early 1960's, under the strategy of developing a national information utility. It established a seventy-seven

"oligopolists." (3) some kind of imperfection of competition that, in either a stable way or in connection with a series of intermittent price wars, represents an important departure from the economists model of "perfect" competition wherein no firm has any control over industry price.

See J. BONBRIGHT, PRINCIPLES OF PUBLIC UTILITY RATES 14 (1961) which argues that the declining cost segment is not necessary to justify a claim to natural monopoly status.


70. Hyde, supra note 57, at 908.


72. See Irwin, The Computer Utility: Competition or Regulation?, 76 YALE L. J. 1299, 1313-17 (1967); Smith, supra note 71, at 855.
city hookup of Dunn and Bradstreet offices, in what promised to be a nationwide credit information service. In a second venture, Western Union provided computers and communications for the Law Research Services, Inc. of New York in an attempt to develop a legal data bank.\textsuperscript{73}

The offering of a similar service by both a regulated carrier and non-regulated service bureau creates unique problems.

It would seem that fairness and consistency require the Federal Communications Commission regulation of all entities offering a particular service or of none. For example there would be obvious discrimination if communication common carriers were required to file tariffs on computer/communication services thereby restricting their pricing practices and marketing efforts, while similar services by computer manufacturers and service bureaus were left largely unregulated.\textsuperscript{74}

Furthermore, an entity straddling two markets could adopt a cost-plus philosophy if permitted to pass unwarranted manufacturing expenses into its utility base rate.\textsuperscript{75} Operating under a fixed rate of return, cross-subsidization from the regulated to the non-regulated activity would enable a carrier to crush competition without injury to itself.

The crucial third issue was whether the common carriers should continue to be the sole provider of communications lines for the new time-sharing entities. Over the past decade the cost of computers had dropped about twenty-five percent per year, while the communications costs had remained relatively fixed. If this trend continues the communications component will become the dominant expense.\textsuperscript{76} This consideration, in conjunction with the fact that voice telephone lines have only a limited capacity to handle data,\textsuperscript{77} would make any superior alternative communications system, such as microwave or domestic satellites, a welcome addition in the computer world. Furthermore, carriers operating in a dual capacity, offering lines to both themselves and their competitors, might be tempted to engage in forms of direct or covert discrimination.

\textsuperscript{73} C. Barnett 64-75.
\textsuperscript{74} Smith, supra note 71, at 837.
\textsuperscript{75} Irwin, \textit{Vertical Integration and the Communications Industry: Separation of Western Electric and AT&T}, 3 Antitrust L. & Econ. Rev. 125-26 (1969); Irwin, \textit{supra} note 44, at 448.
\textsuperscript{77} Telephone bandwidths can transmit data at speeds of 2000 bits per second, while microwave transmission speeds of 1.5 million bits per second are attainable.
C. The Bunker-Ramo Dispute

The above issues came to a head in the Bunker-Ramo episode. The Bunker-Ramo Corporation provided a stock quotation service, "Telequote III," throughout the United States on lines provided by the common carriers. In 1965, the company attempted to engraft a message-switching function that would permit a broker to place buy and sell orders with other brokers on the same lines that furnished the information. The carriers stated collectively that such an additional service poached too far into their traditional communications monopoly. They ended the controversy by simply denying Bunker-Ramo access to the necessary communications lines. Bunker-Ramo then filed a letter of complaint with the FCC, charging that the routing of communications between buyer and seller was not a communications service, as it amounted to only two percent of the total offering. The impasse was finally resolved when Bunker-Ramo withdrew its proposed message offering and FCC petition.78

Notwithstanding its refusal to lease lines to Bunker-Ramo, Western Union filed a tariff before the Commission in 1967, in which it offered to provide the identical service that it had denied to Bunker-Ramo. A Bunker-Ramo objection was dismissed,79 and the tariff was approved by the Commission with the following caveat:

[S]ubstantial and different questions would be raised with respect to the propriety of the tariff if there should be any broadening of the SICOM offering . . . whereby [Western Union] would perform . . . noncommunications data processing as a part of the packaged SICOM service.80

Thus, the carriers were permitted to offer this hybrid service exclusively; however, the scope of their victory was quite limited—they had won only a battle and not the war. The FCC decision has been criticized,81 and indeed to this day, the substance of the Bunker-Ramo question continues to plague the FCC.82

78. See Duggan, supra note 71, at 7-8; Telecommunications Industry 184-87; Comment, Computer Services and the Federal Regulation of Communications, 116 U. Pa. L. Rev. 328 passim (1967).
79. In re Western Union Tel. Co., 11 F.C.C.2d 1, 12-13 (1967). The FCC, in denying the Bunker-Ramo petition to suspend the SICOM offering, specifically stated that it was neither approving nor disapproving the tariff, and that its validity was subject to challenge upon the submission of a properly supported petition.
80. Id. at 12.
82. Bunker-Ramo has filed a complaint with the Commission that it has suffered
IV. THE COMPETITIVE REFORMATION AND THE CARRIER COUNTER-REFORMATION

The Federal Communications Commission has come under "frequent attacks for its passive performance and seeming willingness to avoid controversy." A report in 1963 stated:

The Federal Communication[s] Commission presents a somewhat extraordinary spectacle. Despite considerable technical excellence on the part of its staff, the Commission has drifted, vacillated and stalled in almost every major area. It seems incapable of policy planning, of disposing within a reasonable period of time the business before it, of fashioning procedures that are effective to deal with its problems.

"No other federal agency has been the object of as much vilification and prolonged investigation by Congress." The FCC has often been accused of representing the interests it was supposed to be regulating, and indeed regulation has often been dubbed an exercise in frustration. These criticisms have lead to a variety of proposals to reshape and reorganize the agency to meet the problems posed by the changing technology.


[M]ost regulation is either very superficial or does what the regulated industry really wants to be done anyway . . . . Moreover regulation has to a large extent been taken over by personnel representing the thinking and interests of those supposed to be regulated.

87. Proposals include a separation and assignment of the adjudicatory and administrative functions of the FCC to a Communications Court and a Communications Administrator, respectively. See Marks, supra note 84, at 14; Letter from Newton N. Minnow to President Kennedy, May 31, 1963, in 15 AD. L. REv. 146, 153 (1963). For proposals to establish a new federal agency or executive branch department to handle the related problem areas, see Task Force Report, supra note 35, ch. 9, at 27-29; Bigelow, Some Legal and Regulatory Problems of Multiple Access Computer Networks,
The impact of the rapid technological innovation during the past decade has given the FCC an opportunity to reevaluate its former practices. Through a series of adjudicative and rule-making proceedings, the agency has drafted a procompetitive policy in the domestic telecommunications industry. Its activities can roughly be divided into two major denominations, the "old competition" and the "new competition," respectively referring to the dates of the decisions and the views of the policy makers.

A. The Old Competition

This era commenced in 1959 when the FCC announced what has become known as the Above 890 Decision. This case was hailed as a remarkable decision, and given the Commission's historical bias, one that "may well determine the depth of competition" in the communication industry for several decades to come. As has already been suggested, computer data is capable of being transmitted via microwave technology. Although the commercial use of microwave commenced after World War II, its growth and application was singularly dependent on the FCC and its allocation of microwave frequency bands for transmission. The FCC had generally assigned frequencies only to communication carriers and government agencies until the mid-1950's, when numerous corporations applied for licenses to operate their own microwave systems. The Commission consolidated the applications and in the Above 890 Decision announced its policy of broadening entry into

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For proposals to enact a new national telecommunications statute or amend the Communications Act of 1934, see Rowe, Antitrust and Monopoly Policy in the Communications Industries, 13 ANTITRUST BULL. 871, 872 (1968); Werner, A Lawyer Looks at Our Communications Policy, 11 JURIMETRICS J. 81 passim (1970).

88. See pp. 966-82 infra.

89. In re Allocation of Frequencies in the Bands Above 890 Mc., 27 F.C.C. 359 (1959) [hereinafter cited as the Above 890 Decision].


By 1951 AT&T had spent more than $100 million in microwave relay facilities in some 65 cities, and had complete control over the microwave market. Beelar, Cables in the Sky and the Struggle for Their Control, 21 FED. COM. B.J. 26, 33 (1967).

92. For example, during the 1950's the Semiautomatic Ground Environment (SAGE) System for continental air defense linking remote terminals to a central computer, via microwave, was assigned a frequency.
the private microwave field, over the objections of the traditional common carriers. The FCC proceeded to assign to each applicant a portion of the radio spectrum, in the bands above 890 Millicycles, for transmission purposes. While the agency granted the applications, it cynically reaffirmed its adherence to the natural monopoly thesis, stating:

We doubt that our proposed policy of liberalized licensing of private communications systems will be economically destructive to Western Union, or to the other segments of the common carrier industry, because, as a general rule, a common carrier should be able to furnish a given quantum of like communication service more economically and more efficiently than a member of the public who undertakes to do the job himself. This is so because of the extent to which the common carrier utilizes its communications plant and operating personnel to serve, in common, a large number of users with a variety of services, with the result that the cost per unit of service by the common carrier should be materially below the cost per unit of service to a private licensee whose facility is constructed, operated, and maintained to meet the communication requirements of only that licensee.0

The FCC cited, in addition, several other arguments mitigating against the large-scale entry by independent firms into the private microwave field.94 Furthermore, the agency refused to permit several independent users to share in the construction or use of a private system, stating that such arrangements were not in the public interest.95 Thus while the Commission seared an indelible scar on the natural monopoly rationale by licensing an alternative means of transmission, it nevertheless publicly predicted that the traditional carriers would be able to successfully maintain their position vis-à-vis their new competitors. Other commentators, however, did not share the Commission's position.

The immediate result [of the Above 890 Decision] was the creation of a vast new "potential" for competition to the established common carriers. . . .

. . . .

Since microwave allows transmission of nonvoice communications as well as voice communications, the established telegraph industry is as seriously threatened by the new competition . . . as is the established telephone industry.96

94. Chiefly, firms would be deterred from entry by the large initial investment required for construction of stations, and by the refusal of interconnection by the established carriers.
95. 29 F.C.C. at 407-08.
96. Herber, supra note 91, at 219.
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By 1962, more than ten million dollars had been spent by competitors in preference to services that could have been supplied by the Bell Systems.97

The traditional carriers also believed that as a result of the *Above 890 Decision* they faced a severe competitive challenge to their monopoly power in the communications field, and thus launched an inquisitional competitive counterattack. Their most puissant weapon was “Telpak,” a new offering of bulk service at rates which represented a cost discount of up to eighty-five percent of their former charges.98 This tariff was filed with the Commission a few months after the *Above 890 Decision*, and automatically took effect since it was not explicitly disapproved or suspended.99 Another weapon in the Bell arsenal was the Wide Area Telephone Service (WATS) offering. This service permitted a customer to talk as often and as long as desired for a flat monthly charge. A similar service, Wide Area Data Service (WADS), in effect offered for data what the WATS offered for voice. In addition, Bell began an innovative research campaign and developed a series of dataphone services that would be offered over the regular telephone network. The Western Union Telegraph Company similarly introduced a telpak-type of communications offering and began to improve and expand on its existing services.

Although Bell suffered some reversals at the Commission’s proceedings,100 it nevertheless was extremely effective in countering the private microwave competition.101 While over four hundred organizations employed private microwave, as of 1968 their total of 2.5 million

97. Id. at 220, quoting *The Competition Squeeze*, 38 *The Ohio Bell*, June 1961, at 22.
98. See *In re American Tel. & Tel. Co.*, 38 F.C.C. 370, 379 (1964), listing Telpak reductions as follows:
   - Telpak A 12 voice grade channels  51% price cut
   - Telpak B 24 voice grade channels  64% price cut
   - Telpak C 60 voice grade channels  77% price cut
   - Telpak D 240 voice grade channels  85% price cut
99. Under the Communications Act, any new service or change in existing service takes effect automatically following a statutory prohibition period of ninety days, unless disapproved by the Commission. 47 U.S.C. § 204 (1970).
100. After conducting an inquiry into the Telpak offering, the Commission held Telpak A and B unduly discriminatory and ordered them discontinued, while permitting classifications C and D to remain in effect. *In re American Tel. & Tel. Co.*, 38 F.C.C. 761 (1965). Other provisions of the WATS and WADS tariffs were also declared invalid. *See In re American Tel. & Tel. Co.*, 38 F.C.C. 475 (1965); *In re American Tel. & Tel. Co.*, 35 F.C.C. 149 (1963).
circuit miles was less than two percent of Bell's total of 150 million circuit miles.\textsuperscript{102} Hence, it again appeared that the common carriers had been victorious in the age of the "old competition.”

**B. The New Competition**

The seeds of competition originally planted by the *Above 890 Decision* remained essentially dormant for the next several years. They eventually flowered, however, in 1968, and have since flourished in a series of four "new competition" landmark decisions that redesigned the structure of the established carrier industries.

1. *The Carterfone Decision.* During the last half of the nineteenth century the Bell System and Western Union enjoyed a pure duopoly in their respective voice and digital communications fields under their patents.\textsuperscript{103} The expiration of the telephone handset patent in 1893 marked the beginning of the independent telephone industry.\textsuperscript{104} At the height of the Darwinian struggle for survival, the numbers of Bell and non-Bell stations were approximately equal.\textsuperscript{105} However, by employment of various strategems, Bell was ultimately able to achieve domination over the industry. One tactic used was the interconnection prohibition, or refusal to interconnect not only with strictly duplicating facilities, but also with companies in areas Bell had never chosen to serve. Another combative policy was the foreign attachments prohibition against non-Bell products being connected with its lines. Long after the Bell victory, these tariffs remained an integral part of the Bell philosophy. A modern version of the foreign attachments tariff, operative in 1968, provided:

\begin{quote}
No equipment, apparatus, circuit or device not furnished by the
\end{quote}

\textsuperscript{102} *Task Force Report,* supra note 35, ch. 6, at 11-12.

\textsuperscript{103} The original Bell patents, filed in 1876 and 1877, were first offered to Western Union for $100,000. The telegraph company rejected the offer, but later realized its mistake and acquired rival patents. While litigation concerning the validity of the patents was pending, a compromise agreement was reached in 1879. Western Union acknowledged the validity of the Bell patents, withdrew from the telephone field, and licensed its own patents to Bell. In turn, Bell agreed to stay out of the telegraph field, and to reimburse Western Union for all royalties on Bell's patent. *FCC, Investigation of the Telephone Industry In the United States,* H.R. Doc. No. 340, 76th Cong., 1st Sess. 123 (1939).


\textsuperscript{105} In 1907 the independents owned 3 million stations while Bell owned 3.1 million. By 1912 there were 3.6 million independent and 5.1 million Bell Stations. The proportion of independently owned stations decreased progressively thereafter. Gabel, *supra* note 104, at 332.
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Telephone Company should be attached to or connected with the facilities furnished by the telephone company, whether physically, by induction or otherwise... 106

The foreign attachments rule was even extended to prohibit the use of such ancillary items as dial advertising disks107 and telephone directory covers. 108 A third Bell restriction prohibited users from sharing or re-selling lines leased from the System, thus effectively preventing those who required only partial use of a line to reduce their costs.

The established carriers maintained incessantly that such tariffs were essential for the protecting of the quality of the system, for fostering innovation in equipment, and for identifying responsibility in service repair and maintenance. Bell's watchword has been "one system, one policy, universal service." 109 However justifiable these practices may have been in the "competitive era," they have recently been challenged by users who seek to both attach and interconnect computers and private microwave systems to the carrier's dial network. Responding to these pleas the FCC began a broad public inquiry in 1966 designed to provide the basis for future policy determinations. Before this administrative decision was tendered, however, the inquiry was partially eclipsed by prior events. 110

The legality of the blanket foreign attachments tariff was first tested in 1956 by the District of Columbia Circuit in Hush-a-Phone Corporation v. United States. 111 The Hush-a-Phone Corporation manufactured and sold a rubber cup-like device of the same name, which snapped onto the telephone mouthpiece and provided privacy of conversation. After the sale of over 125,000 such devices, the telephone companies invoked their foreign attachments tariffs and threatened to


110. See pp. 970-78 infra.

111. 238 F.2d 266 (D.C. Cir. 1956).
suspend or terminate service of subscribers who continued to use the mechanism. The FCC concluded that the use of Hush-a-Phones was "deleterious to the telephone system" and would result in a general deterioration of the quality of the service. The Commission agreed, however, that if the use of Hush-a-Phones did not in fact impair service, then a tariff provision barring its use would not be just and reasonable within the meaning of the Communications Act. On appeal, the circuit court found no such harm to the system and stated:

"The intervenors' tariffs . . . are . . . [an] unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."

The court remanded the case to the Commission to prescribe the necessary changes in the tariff which would permit the use of Hush-a-Phones. The Commission's order on remand, in addition to invalidating the carrier's foreign attachment regulations insofar as they banned the use of the Hush-a-Phone device, stated that "an inescapable consequence of [the] Court's opinion" was to render similar tariff regulations unreasonable where they served the customer's convenience, without injury to the telephone companies. Still, the filed tariffs continued in effect for another dozen years awaiting a further test case.

The foreign attachments restriction was finally resolved in favor of deletion in the Carterfone confrontation. The Carterfone Corporation produced a device which automatically switched on a radio transmitter when a telephone caller was speaking, and returned the radio to the receiving position when the speaker was finished. After the sale of some 3,500 instruments, the telephone companies announced that the use of that device in conjunction with the telephone was prohibited under the foreign attachments tariff. Petitioner Carterfone Corporation filed a private antitrust suit against the telephone companies to determine the validity of the tariff. The court held that the FCC, be-

112. The tariffs gave the carriers authority to remove or disconnect unauthorized attachments, and to suspend or terminate service during the continued use of said attachments. It has more recently been held that the public has no unqualified constitutional right to receive telephone service. Palma v. Powers, 295 F. Supp. 924 (N.D. Ill. 1969).
114. Id.
115. 238 F.2d at 269.
cause of its special competence and expertise in the complex matters of telephone communication, was vested with primary jurisdiction to make that decision, and the case was referred to the agency.\textsuperscript{118}

In this adjudicatory proceeding, the Hearing Examiner approved the Carterfone device for use on the dial telephone network, and ordered the carriers to modify their tariffs specifically to allow for its use.\textsuperscript{110} Upon appeal, the full Commission, without a hearing, upheld this decision but broadened it to include all harmless customer-provided attachments.

In view of the unlawfulness of the tariff there would be no point in merely declaring it invalid as applied to the Carterfone and permitting it to continue in operation as to other interconnection devices. . . . The appropriate remedy is to strike the tariff and permit the carriers, if they so desire, to propose new tariff provisions . . . which will protect the telephone system against harmful devices.\textsuperscript{120}

The Hearing Examiner found the tariff unduly discriminatory under Section 202 (b) of the Communications Act,\textsuperscript{121} as the telephone company permitted the use of its own interconnecting devices while banning Carterfone’s. The Examiner declined to declare the tariff retroactively unlawful, as the harmless nature of the device was not known to the carriers.\textsuperscript{122} The Commission, however, declared the tariff unlawful since its inception, effectively piercing the Bell monopoly. In the future, devices privately beneficial without being publicly detrimental would be allowed on the public communications network.

The carriers, smarting from this defeat, but fearful of further encroachments as a result of the pending inquiry, filed a revised series of relaxed tariffs, permitting the use of non-harmful foreign attachments and interconnection with private microwave systems to take effect January 1, 1969. The tariffs still contained some restrictions—permitting direct electrical connection only through a telephone com-

\begin{flushleft}
\textsuperscript{118} 250 F. Supp. at 192.  \\
\textsuperscript{119} \textit{In re} American Tel. & Tel. Co., 13 F.C.C.2d 430, 441 (1967).  \\
\textsuperscript{120} Carter v. American Tel. & Tel. Co., 13 F.C.C.2d 420, 425-26 (1968). The Bell and General Systems appealed this decision to the Second Circuit, but this appeal was later withdrawn when American Tel. & Tel. Co. and Carter settled out of court. S. Mathison, \textit{supra} note 81, at 86-87.  \\
\textsuperscript{121} 47 U.S.C. § 202(a) (1970) states:  
\textit{It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities or services for or in connection with like communication service . . . .}  \\
\textsuperscript{122} 13 F.C.C.2d at 441.
\end{flushleft}
pany supplied protective arrangement, and an insistence that all network control signaling functions still be performed by the carriers.\textsuperscript{123}

In February 1969, AT&T revised its interstate private line tariffs to permit limited shared use with certain restrictions. Each joint user was required to possess a terminal station on the shared line with communications to or from such user relating directly to his business.\textsuperscript{124} The tariffs enumerated the customers which were permitted to share Telpak lines, while denying this privilege to others. This section of the tariff has recently been declared unlawfully discriminatory, and the carriers are in the process of refiling.\textsuperscript{125}

2. The Computer Inquiry. The growing convergence of computers and communications in conjunction with the entry of the common carriers into the data processing field, triggered a reexamination of the underlying regulatory premises. The FCC, responding to these issues, began a public inquiry in 1966\textsuperscript{126} designed to answer the two following questions:

(1) Under what circumstances should data processing, computer information and message-switching, or any particular combination thereof be deemed subject to regulation pursuant to the provisions of the Communications Act?

(2) Whether the policies and objectives of the Communications Act will be served better by such regulation or by such services evolving in a free, competitive market, and if the latter, whether changes in existing provisions of law or regulations are needed.\textsuperscript{127}


\textsuperscript{124} S. Mathison at 104-05.


\textsuperscript{127} 7 F.C.C.2d at 17-18. A third issue relating to privacy, raised in the original Notice of Inquiry, was later summarily dismissed with the statement: "The privacy issue in its broadest sense has numerous social and public policy implications which go well beyond the pale of our jurisdiction over communications . . . ." \textit{Computer Tentative Decision, supra} note 10, at 294-95.
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It was anticipated that all interested parties would be forthcoming with data from which the Commission would be able to resolve the issues intelligently. The FCC received over three thousand pages of correspondence from some sixty organizations, and submitted the responses to the Stanford Research Institute (SRI) for analysis.\(^{128}\) SRI reported that the economies of scale of carrier-owned computers might justify their market diversification into teleprocessing. The report concluded that the Commission should consider postponing any decision\(^{129}\) and rely on the threat of treble damage antitrust suits as a short-term arbiter between the regulated and nonregulated firms. An independent study of communications policies conducted by the President’s Task Force also concluded that Western Union should be permitted to offer teleprocessing services under the assumption that its sagging telegram service was hardly in a position for cross-subsidization.\(^{130}\)

The FCC was thus faced with four almost mutually exclusive policy options:

1. To permit common carriers to offer data processing services without restriction.
2. To permit common carriers to offer data processing services as a regulated tariffed activity.
3. To permit carriers to offer data processing services only through a separate subsidiary.
4. To permit carriers to offer data processing services through separate subsidiaries which can neither sell services to the parent nor lease communication channels from the parent.\(^{131}\)

Option one would permit wholesale carrier entry into teleprocessing, with the attendant probability of carrier discrimination in the leasing of communication lines to its data processing competitors. Alternative two is equally unpalatable, as there is an inherent inequality in regulating some firms offering a particular service, while leaving unregulated others offering the identical service. Option three, while

\(^{128}\) The objectives of the SRI study were twofold: (1) to summarize and analyze the material submitted to the FCC by industry and government respondents in the proceeding; and (2) to independently analyze the issues presented by the inquiry and to suggest to the FCC its principal alternatives in each case and the probable outcomes of selecting any particular one. Dunn, *supra* note 76, at 370.

\(^{129}\) Computer Tentative Decision, at 294-95.

\(^{130}\) TASK FORCE REPORT, *supra* note 35, ch. 6, at 46-47. Western Union’s domestic telegram volume dropped between 1945 and 1964 from 236 million to 93 million, a decrease of 60 percent.

\(^{131}\) S. MATHISON 35-40. *See* TELECOMMUNICATIONS INDUSTRY, *supra* note 59, at 199-201 for a similar set of proposals.
eliminating some of the intrinsic dangers of cross-subsidization, nevertheless permits the carrier to establish a vertical integration relationship with its data processing affiliate, much like the Western Electric-Bell System of today. Such a parent-affiliate relationship has a proclivity for abuse on many imperceptible levels.\textsuperscript{132} The fourth choice is the one most calculated to provide a truly competitive environment, as it essentially eliminates the defects inherent in the other three approaches.

In April of 1970 the FCC had published in the Federal Register a Tentative Decision and Notice of Proposed Rule Making, essentially embracing option three.

\textit{[T]he Commission is proposing to establish a policy that communications common carriers, subject to our jurisdiction, should not engage directly in the sale of data processing services, but that such carriers, other than Bell System Companies, may indirectly engage in such services through separate corporate entities subject to certain requirements and safeguards.}\textsuperscript{133}

The safeguards included the maintenance of separate books, personnel, and facilities between the parent and affiliate organizations, and required the public filing of all contracts between those concerns.\textsuperscript{134} While noting the innate dangers in such an approach—the alleged ability of common carriers to favor unjustifiably their own data processing subsidiaries by discriminatory services, cross-subsidization, and improper pricing and related anticompetitive practices—the Commission nevertheless felt that “a full and comprehensive review” of the affiliated organizations would insure “full compliance with the policies promulgated herein.”\textsuperscript{135}

The long awaited Final Decision was released in March of 1971, with the Commission deviating from its initial approach by adopting a modified option four alternative. The Commission, in noting that carrier preferences for affiliates “may be subtle,” stated:

\begin{itemize}
  \item The third option might prove a workable alternative if the requirement of competitive bidding was engrafted onto it. The carriers would be required to purchase the services of the data company offering the lowest price, but meeting specific requirements.
  \item Id. All carriers with annual operating revenues below $1,000,000 were exempt from these requirements. This cut-off proviso would excuse compliance by approximately one-half of all independent telephone companies. \textit{In re Regulatory & Policy Problems Presented by the Interdependence of Computer & Communications Servs. & Facilities}, 28 F.C.C.2d 267, 275 n.7 (1971).
\end{itemize}
[C]arrier[s] shall be prohibited from obtaining any data processing services from its data affiliate. Carrier-related data entities shall be required to employ a corporate name or symbol other than that employed by its carrier affiliate, and such entities are forbidden to promote their products or services . . . .

[C]ase by case resolution of problems . . . is not desirable, . . . to deal with clear-cut, reasonably foreseeable dangers . . . .

While the Commission did not proscribe carriers from leasing communication lines to their data subsidiaries, this factor could, in fact, prove insignificant, as the carrier lines are generally of a uniform quality, and preferential treatment would be difficult to execute. The Commission, in the promulgation of its program of "maximum separation," has adhered to a competitive philosophy by allowing all interested parties to enter the field, permitting the rigors of Adam Smith's marketplace to determine the survivors. The Final Decision was a close one, with a forceful dissent, in part, by Chairman Dean Burch, who disagreed with the majority in denying a common carrier access to the computer services of its data processing affiliate.

The Commission has . . . arbitrarily, without any real showing of actual or even potential abuse . . . imposed this restriction because of some vague and unsupported feeling that a common carrier would not be able to resist the temptation to engage in "improprieties" in managing its relationship with a data affiliate.

136. 28 F.C.C.2d at 275-76. In denying a petition for reconsideration, the FCC stated:

[I]f data processing affiliates serve both their related communications companies and nonrelated companies, they would be in a peculiarly advantageous structural position to absorb the markets now served by other data processing companies. With an assured market . . . it is reasonable to expect that the data processing affiliate would gain a competitive advantage over its non-affiliated rivals and the risk would be that the data processing market would gravitate to communications data processing affiliates and eventually be "captured" by them.


137. But cf. cases cited note 82 supra.

138. Divestiture is a frequently used method under the Clayton Act to arrest the trend toward economic concentration. See, e.g., Pfunder, Plaine & Whittenmore, Compliance With Divestiture Orders Under Section 7 of the Clayton Act: An Analysis of the Relief Obtained, 17 ANTITRUST BULL. 19, 54 (1972), stating:

In order for divestiture to achieve procompetitive structural relief, the assets to be divested must comprise an economically viable going concern—that is, the entity must have the economic capability of surviving and competing effectively in the market. Assets which do not have a profit potential either by themselves, or in combination with other assets available to the purchaser, will be unsaleable in the market. They have no economic value, and an order to divest such assets will provide no structural relief.

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In short, the Commission is here guilty of a classical case of regulatory over-kill.139

The second major thrust of the computer inquiry was to reestablish the boundaries demarcating the communications and data processing industries. As exemplified in the Bunker-Ramo dispute, the question was primarily one of determining whether the message-switching function should be offered exclusively by the regulated common carriers. Four regulatory alternatives were available to the Commission:

1. To maintain the status quo, permitting only the common carriers to offer complete message-switching services.
2. To empower the present communications common carriers with the sole responsibility for the diverse services which the new technology has made possible.
3. To allow message-switching to remain essentially a common carrier activity by permitting other organizations to offer it, only incidentally to a primary, non-communications service.
4. To legitimize specialized message-switching services as unregulated activities—hence permitting non-carriers to resell communications capacity.140

Option one would freeze the situation, permitting the carriers to extend their monopoly markets to new areas that might otherwise go competitive if given the opportunity to develop unhampered by carrier domination. Option two would assign all specialized services created by the new technology to the carrier's exclusive jurisdiction. Option three embraces the primary business test and is a practical alternative. If the message-switching function were the salient feature of the system, then the service would remain a carrier activity. However, if the message-switching activity were an unessential ingredient of the offering, then the specialized service bureaus would be free to employ it. Option four would totally exclude the carriers from engaging in message-switching, an activity they have been engaged in for over half a century. Such a proposal is undesirable, as it would eliminate a unit of competition that is capable, owing to the magni-

139. 28 F.C.C.2d at 289-90.
140. S. Mathison 52-73.
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tude of AT&T's research budgets, of spurring the market with diverse new offerings.

With a commendable desire to be intelligible, the Commission explicitly defined the terms "data processing" and "message-switching," and adopted the primary business test rationale of option three.\textsuperscript{141} Hence, if a hybrid service offered message-switching as a function which predominated over the data processing portion, it would be within the carrier's domain and subject to their jurisdiction. Alternatively, if the message-switching function were only an incidental feature of a packaged offering that was primarily data processing, there would be total regulatory forbearance. The Commission, in announcing this formula, has apparently seized jurisdiction to assert regulatory authority over the data processing services regardless of whether they employ communication facilities. The Commission has, however, chosen not to exercise this newly acquired power as evidenced by the following admonition:

[W]e see no need to assert regulatory authority over data processing services . . . . We believe the market for these services will continue to burgeon and flourish best in the existing competitive environment.

However, if there should develop significant changes in the structure of the data processing industry, or if abuses emerge which require the exercise of corrective action by the Commission, we shall not hesitate to re-examine the policies set forth herein.\textsuperscript{142}

The Commission additionally gave AT&T, along with other carriers, the green light to engage in specialized services which were only incidental to data processing.\textsuperscript{143} Prior to this decision AT&T had not entered the field, as it believed itself constrained by the consent decree.\textsuperscript{144} The effect of an AT&T entry should not prove especially devastating to the fledgling telecommunications industry, assuming compliance with the guidelines announced above.

The carriers reacted by filing petitions for reconsideration which were denied in March of 1972,\textsuperscript{145} exhausting the administrative reme-

\textsuperscript{141} 28 F.C.C.2d at 277-78.
\textsuperscript{142} Id. at 298.
\textsuperscript{143} Id. at 282; Duggan, U.S. Data Processing Subject to Regulation, Rules FCC as it Gives Partial Green Light to AT&T, 3 LAW & COMPUTER TECH., Sept. 1970, at 198-202.
\textsuperscript{144} See note 59 supra and accompanying text.
\textsuperscript{145} 34 F.C.C.2d 557 (1972) (3-2 decision).
dies. Appeals from the Final Decision by a number of concerns are presently pending before the Second Circuit.\textsuperscript{146}

3. The Specialized Common Carriers. Michigan Senator Philip A. Hart noted in 1968:

At present there is a vigorous fight by the telephone companies to protect their rate structure by either stopping parallel systems of transmission or controlling them.

\ldots

The trouble is that no one is anxious to take on the arduous, unrewarding, politically unwise work of doing what really must be done\ldots \textsuperscript{147}

It may be recalled that the FCC did undertake such "work" in the Above 890 Decision, which sanctioned private microwave entry, but denied commercial entities the opportunity to operate relay stations cooperatively.

In 1964, Microwave Communications, Inc. (MCI) applied to the Commission for a permit to provide for lease by business and industrial users a system of low-cost, voice and data communication links between urban centers. The initial proposal was to construct a national microwave network covering forty-one states and linking one hundred sixty-five cities.\textsuperscript{148} The system offered consumers substantial price reductions, complete flexibility in the use of terminal equipment and unqualified sharing of lines, but lacked other restrictions which the carriers normally place over the use of their facilities. For example, MCI offered to erect a communications system between Chicago and St. Louis at rate reductions of fifty-four percent over carrier tariffs. The established carriers forcefully petitioned for dismissal of the license applications, chiefly stressing the same arguments asserted in the Above 890 Decision which had proven so successful in the denial of applications for commercialization of private microwave entities.\textsuperscript{149}

\begin{flushright}
\textsuperscript{146} Appeal docketed, No. 71-1300, 2d Cir., Mar. 22, 1971.
\textsuperscript{147} Hart, \textit{The Congressional Perspective Of Competition in the Communications Industries}, 13 \textit{Antitrust Bull.} 973, 976-77 (1968).
\textsuperscript{148} Nolan, \textit{supra} note 15, at 7.
\textsuperscript{149} S. Mathison 188-89 lists them as follows:
[1] Construction of facilities between cities where a carrier system already exists results in duplication of facilities \ldots

[2] [Duplication of] systems prevents one carrier from constructing the entire point-to-point capacity at the lowest unit cost and achieving maximum economies of scale.

[3] The existence of two systems [would entail resort to price cutting, rate wars}

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The Hearing Examiner approved a limited MCI application for eleven stations, connecting Chicago and St. Louis, on the ground that he found competition in the private line service desirable. The Commission affirmed, stating that the MCI proposal had unique and specialized characteristics which would meet a significant unfulfilled communication need. The Commission commented on the carrier's petitions:

We believe that MCI's offering would . . . tend to increase the efficiency of operation of the . . . subscribers' businesses . . . .

. . . .
In these circumstances we cannot perceive how a grant of the authorizations requested would pose any serious threat to the established carriers' price averaging policies.

The Commission retained jurisdiction over the proceeding to insure prompt interconnection with the common carrier systems. This hotly contested decision was categorized as "a radical experiment with competition" in a concurring opinion. While the proceeding was in progress, a large number of applicants flocked to the Commission with petitions for the construction of commercial microwave systems. In lieu of considering each application on an ad hoc basis, the Commission considered the general licensing question in July of 1970 in the Specialized Common Carrier Services Docket, consolidating a Notice of Inquiry to formulate policy with the Notice of Proposed Rule Making. The most active prospective licensees were MCI and Data Transmission Corporation (DATRAN). MCI had seventeen applications

and service suffers].

[4] Cream-skimming of lucrative markets [serving only profitable areas would upset the nationwide averaging principle].

152. Id. at 959-60.
153. Id. at 976.
154. The FCC reported that as of March 15, 1971 there were 33 applicants with 46 separate proposals for 1,877 microwave stations. In re Establishment of Policies & Procedures for Consideration of Application to Provide Specialized Common Carrier Servs. in the Domestic Pub. Point-to-Point Microwave Radio Serv. & Proposed Amendments to Parts 21, 43, & 61 of the Comm'n's Rules, 29 F.C.C.2d 870, 871 n.1 (1971).
from its associated companies pending before the FCC for segments of the proposed nationwide network. DATRAN planned to establish an all digital communications system serving thirty-five cities, and having two hundred and forty-four microwave stations, on a route between San Francisco and Boston. The carriers made the traditional arguments which had failed to persuade the majority in the \textit{MCI Docket}. The Commission held:

\begin{quote}
\[\text{C}\]ompetition in the specialized communications field is reasonably feasible, there are grounds for a reasonable expectation that new entry will have some beneficial effects, and there is no reason to anticipate that new entry would have any adverse impact on the service to the public by existing carriers such as to outweigh the considerations supporting new entry. We further find and conclude that a general policy in favor of the entry of new carriers in the specialized communications field would serve the public interest, convenience, and necessity.\end{quote}

The Commission reasoned that competitive pressures may encourage some beneficial changes in the Bell System, although only two to four percent of AT&T's existing total market was vulnerable to competitive inroads. The Commission once again ordered the established carriers, upon request, to permit interconnection on reasonable terms with the specialized entities. The FCC, after the above decision, launched a campaign of liberal licensing for commercial microwave services. In October of 1971, it approved the application of Interdata Communications, Inc. for thirteen stations between New York and Washington, D. C. In April of 1972, DATRAN was licensed to construct sixty-three stations linking Palo Alto, California to Houston, Texas.\footnote{156. 29 F.C.C.2d at 920.}  

\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
\textbf{Year} & \textbf{Number of Stations} & \textbf{Location} \\
\hline
1971 & 13 & New York to Washington, D. C. \\
1972 & 63 & Palo Alto, California to Houston, Texas \\
\hline
\end{tabular}
\caption{Licensed Microwave Stations}
\end{table}

\footnote{157. \textit{Id.} at 912. In 1969, when the Bell System had revenues of $16.1 billion, data transmission accounted for only $267.5 million, or 1.7 percent of total Bell revenues. Projected revenues from all MCI carriers will be approximately $55 million annually. DATRAN's initial investment of $350 million could not make any significant inroads on the revenues of a nationwide telephone service with an $8.2 billion investment program for 1972. The Commission also concluded that Western Union would not be vulnerable to competition, as that company had $402.4 million gross operating revenues for 1970. \textit{Id.} at 892, 912-13.}  

\footnote{158. \textit{Id.} at 940.}  

\footnote{159. \textit{In re} Applications of Interdata Communications, Inc. for Constr. Permits in the Domestic Pub. Point-to-Point Microwave Radio Serv. for New Stations, 32 F.C.C.2d 36-37 (1971).}  

\footnote{160. \textit{In re} Applications of Data Transmission Co. for Constr. Permits in the Domestic Pub. Point-to-Point Microwave Radio Serv., 34 F.C.C.2d 306 (1972). Here, the Commission in a terse comment stated that the questions raised concerning the competitive impact of the specialized carriers on the existing telegraph and telephone industries were now moot. \textit{Id.} at 307.}
On June 9, 1972, the MCI-New York West Plan was approved for construction of fifty-three stations between Chicago and New York City. Thus, in scarcely more than a year from the date of the First Report and Order in the Specialized Common Carrier Services Docket, a skeletal national system of commercial microwave has emerged.

The carrier response, as might be expected, was vigorous and particularly aggressive. Bell announced plans to complete construction of a digital data network for sixty cities by 1975, and estimated that its existing plant would quadruple by 1980. Western Union was granted permission to improve its existing microwave service, and to construct a series of new stations between Cincinnati and Atlanta. Besides these conventional competitive responses, the carriers also resorted to predatory pricing, a tactic that had proven highly successful in thwarting competition after the Above 890 Decision. In April of 1972, Western Union filed a tariff revision designed to reduce its rates for voice and data channels between St. Louis and Chicago to a level exactly matching those currently being offered by MCI. MCI petitioned the FCC to reject the Western Union revised tariff schedules, claiming that it was designed to "exclude or limit competition" in a market in which the Commission had found such competition to be in the public interest. Western Union countered by alleging that it was only meeting, and not underpricing, competitive rate established by MCI. The Commission held:

[W]here services may be in direct competition, departure from uniform nationwide pricing practices may be in order, and in such circumstances will not be opposed by the Commission.

The Agency decided to freeze the situation while it instituted an investigation and public inquiry to determine the cost and other competitive considerations underlying the new Western Union tariff offering. That decision, however, was not unanimous, and in a stinging dissent, Commissioner Nicholas Johnson called the Western Union revised rates a "gimmicky manipulation of the Commission's rules" de-
signed to drive out the new microwave competition. He claimed that Western Union was the "stalking horse" for the Bell System, and that once approval was gained for the revised tariff schedule, "the Commission will be compelled to do for Bell what it has done for Western Union."

4. The Domestic Satellite Proposal. In September of 1965, the American Broadcasting Corporation (ABC) applied to the FCC for permission to construct a domestic satellite system for television transmission. The Commission, in rejecting without prejudice the ABC application, stated that numerous and complex policy determinations were involved, and simultaneously issued a Notice of Inquiry into the Domestic Satellite Operations by Nongovernmental Entities. While the Inquiry was in progress, President Johnson, in August of 1967, appointed an independent task force to study communications policy encompassing the domestic satellite question.

The Commission awaited the Task Force Report which finally became available in December of 1968, recommending the establishment of a pilot domestic satellite program under the tutelage of COMSAT. The report, however, was never officially released as it was not acceptable to the newly elected Nixon Administration. After months of investigation, the White House finally released a memorandum to the FCC favoring competition, and stating that there was no public interest grounds for establishing a monopoly in the domestic satellite communications field.

In March of 1970, the Commission concurrently issued a Report and Order and Notice of Proposed Rule Making. In the Report, the FCC concluded that it possessed jurisdiction under either the Communications Act of 1934 or the Satellite Act of 1962 to regulate domestic satellites. The Commission authorized the technical filing of applications by both carrier and non-carrier entities, stating:

The most important value of domestic satellites at the present time

165. Id. at 982.
166. Id.
appears to lie in their potential for opening new markets, for expanding the beneficial role of competition in the existing markets for specialized communication services, and for developing new and differentiated services that reflect the special characteristics of the satellite technology.¹⁷²

The Notice of Proposed Rule Making requested all interested parties to submit comments on two cardinal questions:

1. What policies should govern in the event of technical or economical conflicts among the applications;
2. Whether AT&T should be limited to satellite facilities for public message service or limited to leasing satellite channels from others, or limited in neither respect.¹⁷³

The Proposed Second Report and Order, prepared by the Chief of the Common Carrier Bureau and based on comments received from the eight applicants and others, was released in March of 1972. This Report recommended that all applicants found qualified and proposing similar satellite technology should be required to consolidate their efforts in a partner-type relationship.¹⁷⁴ The staff felt that this grouping of applicants would reduce the required investment and overhead while leaving each entirely free to innovate. As to the second issue, they believe that the unrestricted entry by AT&T would result in its monopolization of the field.

AT&T's early participation, via satellite facilities, in the competitive markets for specialized services could well result in its preemption of that market to an extent that would make it economically impractical for other entities to become established. The construction and operation of satellite systems require substantial fixed investments and risks. With AT&T's vast economic resources and its ability to load a satellite system with message toll traffic from its monopoly market almost immediately, AT&T will have a distinct advantage over potential competitors who are attempting entry with no established base of communication revenues from monopoly markets. Under these circumstances, the prospect of market preemption by AT&T poses a real deterrent to the entry or viable operation by others in the field of satellite services.¹⁷⁵

The staff recommended that AT&T should, at least in the initial stages, be limited in its utilization of the satellite facilities "to those of its

¹⁷². 22 F.C.C.2d at 95.
¹⁷⁴. 34 F.C.C.2d at 38.
¹⁷⁵. Id. at 52.
services that are essentially monopoly services," such as its message toll or WATS offerings. As to the Western Union Telegraph Co., the Second Report surveyed the plight of the anemic telegraph message service and stated that this factor should be considered relevant as to whether Western Union would be afforded the same opportunity as other carriers engaged in specialized communications services—to own domestic satellite facilities. The Commission’s Final Decision is expected to adopt the staff recommendations.

V. CONCLUSION

During the past dozen years, the pace of technological change has prompted the FCC to reevaluate the natural monopoly thesis as applied not only to the traditional areas where it was prevalent, but to many new services brought about by the rapid confluence of computers and communications. The agency, through a series of aggressive decisions, has injected a competitive serum which has a promise of treating, if not curing, the regulatory ills plaguing the telecommunications industry. In essence, the Commission has attempted to quarantine the contagious “natural monopoly microbes” to areas where the economies of scale have been proven to be truly outstanding, thereby formulating a viable national policy of competition in the burgeoning computer-communications field. The short-lived “old competition” was evidenced in the Above 890 Decision, where the Commission permitted the unrestricted licensing of private microwave facilities which were in direct competition with the established common carriers. The “new competition” witnessed a change in agency attitude towards the scope of the competition authorized and in regard to its policy on interconnection. In the Carterfone Decision, the FCC held the blanket foreign attachments rule invalid, and permitted commercial users to attach their own devices to carrier communications lines, provided they were not harmful to system integrity. The full impact of this decision is as yet uncertain, and the question remains whether it will have application to residential users as well. In the Computer Inquiry, the agency restricted the large-scale entry of the traditional carriers into the field by requiring them to offer data services only through an independent affiliate, which would be prohibited from selling its services to the parent firm. This policy coerced the

176. Id. at 53.
carriers into purchasing data services from their competitors, namely the computer hardware manufacturers and service bureau organizations, hence insuring the latter's continuing prosperity. In the Specialized Carrier Services Docket, the Commission approved the licensing of rival intercity microwave systems, which offer both voice and data communications channels for hire to the public, despite the objections of the common carriers. The agency, furthermore, required the established carriers to interconnect with these fledgling systems upon request, thereby ensuring their survival. Still the FCC must endeavor to establish effective regulatory standards to govern common carrier minimum rates. Absent this, the latter's predatory pricing responses might frustrate the agency's competitive reformation by uneconomically foreclosing entry of otherwise efficient competitors. As the Commission's "new competition" has proven much more resourceful than the old, it is reasonable to believe that such an order might be forthcoming in the recently announced inquiry on the revised Western Union Tariffs. In the Second Report and Order on Domestic Satellites, the FCC explicitly rejected the natural monopoly thesis by confining AT&T's entry into the field to its traditional telephone services. The Report, in requiring the pooling of firms proposing similar technological plans, in effect has made possible entry by some firms which could not otherwise afford the venture.

The overall effectiveness of the FCC as a regulatory agency has recently been acknowledged in a report by the President's Advisory Council on Executive Reorganization. The Council, after making an intensive agency study, recommended far-reaching changes in the structure and regulatory responsibilities of six organizations, but only a reduction in size of the FCC from seven to five members.

The Commission's new competitive perspective has ostensibly been made possible by a flexible interpretation of its powers and functions under the Communications Act. The Agency and numerous courts have repeatedly stated that inasmuch as Congress, in passing the Communications Act of 1934, could not have possibly foreseen the


dynamic developments that have come into existence in the telecommunications field during the last several decades, the FCC was entrusted with a "comprehensive mandate," and possessed expansive powers in coping with new developments in the industry. This concept of the "living" Communications Act has enabled the agency to regulate such recent developments as domestic satellites, and has permitted it to forge a competitive reformation in related fields. It can be anticipated that any new service which might be authorized in the future will also be thrown open to the "new competition." A recent Fifth Circuit decision has held that not only is the Commission permitted to consider the anticompetitive potential of activities which fall within its jurisdiction, but that in certain instances it is required to consider them, and that such antitrust factors may be the sole basis for an agency decision. This view seems clearly inconsistent with the twenty-year old Supreme Court decision, FCC v. RCA Communications, Inc., which held that there was no national policy "unqualifiedly" favoring competition in the communications industry, and that competition per se was not to be "the single or controlling reliance for safeguarding the public interest." The Court went on to state that competition could be considered by the Commission in arriving at its communications policy, provided that it made a finding, supported by the record, that competition would serve some beneficial purpose. While the fate of the Commission's competitive reformation may ultimately reside in the Supreme Court, it must be realized that the case was decided in an era when the natural monopoly rationale was pervasive, and is long overdue for reevaluation.

BARRY TAUB


182. Id. at 93.

183. Id. at 94.