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THE COMMUNICATION INDUSTRY AND THE POLICY OF COMPETITION†

MANLEY R. IRWIN*

I. INTRODUCTION

THE communication common carriers and the American Telephone and Telegraph Company have been fighting to preserve their monopoly of long-distance communication facilities. This competition has arisen because new technology has made it feasible for customers to build and operate their own communication systems—systems known as private microwave. The rivalry between private microwave and the communication carriers has erupted in several cases before the Federal Communications Commission. The Commission, in disposing of these cases, has evolved a policy that may well determine the depth of competition in this industry for several decades. A reading of recent decisions reveals that the Commission has attempted somewhat cautiously to sponsor more diversity in long-distance communication. The effect of this policy, however, has been amended by a combination of a lag in the adjudicatory process of the Commission coupled with the basic structure of the communication industry. Pending the resolution of these two problems, competition in this industry will continue to remain, at best, potential.

The locus of rivalry of this industry is the private line or bulk communication market. This market consists of commercial and government entities who lease telephone or telegraph size circuits from the common carrier industry. This class of users possesses unique communication requirements. Generally they rent telephone size channels from the carriers on an exclusive private lease basis. These channels may be adapted for either private voice or non-voice service.

A decision by an end user to take his requirements to the common carriers necessarily carries with it the obligation to lease communication equipment as well. The tie-in between service and equipment is a policy long invoked by the carriers, particularly the Bell System. Not only do the carriers refuse to lease channels without leasing equipment, but they also prohibit the interconnection of their circuits with customer-owned equipment. In this manner, the leasing decision by the private-line user holds competitive overtones in the manufacturing of communication apparatus and is particularly relevant for those carriers who also hold ownership interest in manufacturing affiliates.

Changes in the state of the communication art have yielded to customers requiring large volumes of communication channels an additional option to that of taking their requirements from the carriers. Users of these broad-band circuits are now in the position of exploiting the use of high-frequency radio techniques known as microwave radio relay.¹

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1. Microwave techniques were innovated on a large scale during World War II by the

Radio relay stands in marked contrast to conventional wire-line communication. The latter technique is associated with the acquisition of private-line rights of way as well as pole lines. Traditionally, these rights of way had conferred the status of public utilities to firms engaged in rendering communication service to the public. Microwave radio relay, on the other hand, is a method of transmitting information exempt from both the construction of pole lines as well as private rights of way. Radio relay transmits messages via a series of relay towers spaced some thirty miles apart, each repeater amplifying and transmitting the communication signal.²

An additional break-through associated with radio relay technique makes available large quantities of channels that can be used to send a variety of communication signals. This capacity accords the user a flexibility formerly unavailable in leasing circuits. Private microwave users, for example, are able to transmit their telephone messages during the day by their private microwave, switching to computer operations at night. Moreover, the capacity of private microwave can be expanded through alterations in the terminal radio equipment. All in all these inherent economies of radio relay reduce the cost of transmitting voice or data information and hence have prompted private lease customers to look into the possibility of owning private microwave. This search has proceeded in spite of the existence of carrier owned circuits and in spite of the fact that the carriers themselves had introduced microwave into their own communication plant.

The opposing interests of private microwave and the common carriers have clashed in a series of adversary proceedings before the Federal Communications Commission. These proceedings have turned on the question of four rather complex but interrelated issues. They include the size of the frequency spectrum, cost structure of the common carriers, the pricing decisions of the carriers, and the feasibility of competition in the manufacture of communication equipment.

II. THE ISSUES

Inasmuch as private microwave operates on bands of radio frequency, the supply and hence availability of this resource is crucial to its existence. The first issue, that of frequency adequacy, transcends the related problems of cost or pricing. The allocation of bands of the radio spectrum falls under the jurisdiction of the FCC. Its view of the supply relative to existing and potential

Army Signal Corps. See Office of the Chief Military History, Dep't of the Army, United States Army in World War II—The Technical Services, the Signal Corp, the Test, December 1941 to July 1943, 371-72 (1947).

2. Trienens, *Current Problems in the Pricing of Telephone Services to Meet Competition*, 72 Pub. Util. Fort. 117 (1963): "No longer is a right of way necessary to provide intercity transference of messages. A plot of ground every 30 miles or so for a microwave relay tower is all that is needed to construct a microwave system. As a result, any industry can physically construct a private intercity communications system and such private systems are no longer confined to industry such as railroads and pipelines having their own rights of way. The only problem is to obtain the necessary license for use of microwave frequency."

use governs the viability of competition in the volume communication market. If the Commission, for example, regards the spectrum as a finite and limited resource, then its utilization would be restricted to the common carrier industry alone. If, on the other hand, the Commission regards the number of microwave frequency bands as more than adequate, then use of the spectrum will be liberalized beyond the occupancy of the common carriers. Thus spectrum supply governs spectrum rationing, which in turn determines the market entry of private microwave.

The cost structure of the common carrier industry, a second issue, is somewhat removed from the frequency resource problem. By the nature of the industry the rendition of communication messages necessarily requires heavy investments in telephone plant and equipment. The greater number of long-distance subscribers tends to yield cost economies because the overhead cost of the carrier is shared by each customer. Under these conditions, is competition feasible in this industry, or does it fall within the status of a "natural monopoly?"

A third issue confronting the FCC has been the problem of communication tariffs. What effect would private microwave have upon the level of communication tariffs—would these tariffs tend to rise or would they fall? Moreover, if the Commission decided to promote competition in the bulk communication market, would it, by the same token, permit the carriers to engage in competitive pricing in order to hold their customers to the lease option?

Finally, the Commission was impelled to deal with the market structure of the common carrier industry. The two major carriers, the General Telephone System and the American Telephone and Telegraph System are vertically integrated. As holding companies they control the ownership of operating carriers as well as hold ownership interest in manufacturers of communication equipment.³ Is this relationship justified by the economies of size or scale? And if so, would not a policy promoting the entry of independent manufacturers of microwave equipment tend to rescind the lower cost inherent in the utility-manufacturer relationship? In response to these four issues the carrier industry and sponsors of private microwave offered diverse policy recommendations to the FCC.

3. Cal. Pub. Util. Comm'n, Investigation on the Commission's own motion into the rates, tolls, rules, charges, operations, practices, contracts, service and facilities of the Pacific Tel. and Tel. Co., Decis. No. 67369 in Case No. 7409 (filed July 26, 1962) 33: "Western is by far the largest manufacturer, installer, and procurer of telephone equipment in the United States, accounting for 80% or more of the total business. Respondent, like other Bell System companies (Pacific Telephone and Telegraph) makes most of its purchases from or through Western under a standard supply contract. The prices under this contract are fixed by Western." See *United States v. Gen. Tel. & Electronics Corp.*, Civ. 1912 (S.D.N.Y. June 19, 1964) 5: "The manufacturing facilities of the General System encompass at least 46 manufacturing plants and 38 laboratories in the United States as well as affiliated sales companies. The major domestic manufacturing facilities include Automatic Electric Company, Lenkirk Electric Company, Inc., and Sylvania Electric Products, Inc. Also Leich Electric Company."

III. ALTERNATIVES TO POLICY

Restriction of Private Microwave

The common carrier industry opposed the market entry of customer-owned private microwave. This opposition was epitomized by their attitude regarding the licensing of frequencies in the microwave region of the radio spectrum. Prior to 1960, licenses to operate microwave relay systems was limited to the Government and to the common carrier industry alone. Both groups were granted frequencies on a regular basis. A third group, the so-called right-of-way companies (railroads, power utilities and so forth) were issued licenses on a developmental basis. Permission to operate under these circumstances was granted with the understanding that the Commission could at any time reallocate these bands. Beyond these groups, eligibility to exploit the radio spectrum was prohibited. Manufacturing entities, for example, could not and did not operate their own radio relay systems. They leased their communication requirements from the common carriers. Those firms who could not afford the prices of this service simply went without it.

By the middle 1950's several firms heretofore excluded under the FCC rule of eligibility applied for frequency licenses to operate their own radio relay systems. These applications challenged a rationing policy of some ten years and in fact ignited a controversy designated as Docket No. 11866 or what has come to be known in the industry as "Above 890 Docket" (in reference to the frequencies in the microwave region).⁴ Fundamental to this controversy was the determination of supply and hence the availability of microwave frequencies for private use.⁵

The common carriers united in opposing any change in frequency policy. Viewing customer-operated communication systems as a threat to their own facilities, they defended the FCC's existing rationing policy by emphasizing the paucity rather than the abundance of frequency bands in the microwave region. AT&T, the most articulate member of the industry, submitted that the public interest resided in the direction of reserving the disputed bands for the future needs of the common carriers. Bell reminded the FCC of its increasing

4. In the Matter of Allocations of Frequencies in the Bands Above 890 Mc.—Report and Order 27 F.C.C. 359 (1959). (Hereinafter cited as Above 890—Report.)

5. Testimony of Francis M. Ryan, American Telephone and Telegraph, Docket No. 11866, 1957, pp. 2218-19: "It has been claimed by some that there is a more than ample supply of microwave frequency space and that conservation is not necessary. The spectrum above 890 MC properly utilized has great capacity and is capable of taking care of the country's needs for radio communications facilities for a long period ahead. It is not inexhaustible, however; indeed, unless proper methods of utilization are employed much of its potential capacity will be lost and shortages of frequency space will be encountered. It is our belief that it has been due only to the Commission's policy of limiting such authorization to certain safety and special services which it has judged essential that such chaos has been avoided."

Above 890—Report, *supra* note 4, at 388: "The licensing of private systems to compete with the common carriers would unnecessarily increase the demand for the use of radio frequency as contrary to the need for conservation in the public interest of the limited amount of spectrum space available."

utilization of radio relay techniques for domestic communication. Reservation of these bands, then, was important to the growth and viability of the carrier industry and permitting any enterprise to operate radio relay would tend to degenerate an overcrowded spectrum into one of congestion—a condition that would impede the obligations of the carriers to conduct their services to the public.

AT&T also reminded the FCC of the new development of communication space satellites. Space satellites, essentially microwave repeaters hoisted into orbit by a rocket, operate most effectively within a limited range of the microwave spectrum—the very bands in fact desired by domestic, private microwave users. These channels are required by the international common carriers in order to meet the growth requirements in supplying their overseas messages. Bell, as the carrier rendering overseas voice messages had committed itself to satellite relay as a new technique in meeting this growth.⁶ With a vested interest in adequate frequencies, AT&T was apprehensive that a Commission decision to liberalize the domestic application of the microwave bands could very well frustrate a pending and crucial development in overseas communication. In this regard AT&T also cautioned the FCC against the advisability of sharing these frequencies between the overseas carriers and domestic microwave. Such sharing was unworkable in populated North America.⁷

The cost economies associated with common carrier operations added impressive support to the continued restriction of private microwave. The carriers as a capital-intensive industry exhibit a high ratio of overhead cost in relation to their operating cost. These costs tend to fall as more customers share the overhead burden. The declining cost nature of carrier operations according to Bell ruled out the desirability of competition or duplication of communication facilities. Indeed, the carrier submitted that competition in long-distance circuits would lead to excess or redundant capacity and economic waste.⁸ Public

6. "Frequency Needs for Space Communication," Testimony and Exhibits of American Telephone and Telegraph Company. Testimony of James B. Fisk, FCC Docket No. 11866, 1959, p. 16. "We firmly believe that it is clearly in the public interest at this time for the Commission to conserve the use of the frequency spectrum and to maintain its earlier policy of restricting the licensing of private microwave systems, in order to minimize the coming problems of allocation and interference in meeting frequency needs for space communications. The problem of space communications revolves around the so-called 'space window' which is the most feasible range for space satellites relay." See also Tyson, *Microwave Communications: Commercial Possibilities in the '60's*, 37 (1961): "Pressure is constantly being placed on the FCC to have large chunks of frequencies set aside permanently for these uses. (Space Satellite) On January 18, 1961, the FCC denied AT&T's petition to have 200 MC in the 6425 MC to the 6925 MC band so set aside."

7. In the Matter of Allocation of Frequencies in the Bands Above 890 Mc.—Memorandum Opinion and Order, 29 F.C.C. 825, 845 (1960). (Hereinafter cited as *Above 890—Memo.*) "AT&T concluded that such sharing was not feasible." See also "Frequency Needs for Space Communications," Testimony and Exhibits of AT&T, Testimony of Brockway McMillan, FCC Docket No. 11866, p. 33.

8. "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

policy should be directed to promoting the economies already identified with a declining cost industry, economies that ruled out market rivalry.

In terms of the third issue—communications tariffs—the carriers justified a policy of entry restriction based on the carrier pricing system. These rates were determined on the basis of averaging costs. Some services provided by the industry were supplied over facilities that were high-cost or low-profit routes. Other services were provided the subscriber over low-cost routes. The final charge levied to the public was a flat rate derived as an average of both high and low cost facilities. AT&T submitted that owners of private microwave would be tempted to provide their own communication requirements over low-cost routes but then would turn to the carriers and lease requirements over the more expensive routes. Private microwave, would, in short, pre-empt the high cost routes in a form of cream skimming which would consign the expensive runs to the common carriers.⁹ The net effect of this cream skimming would be to lift the average cost of communication services for all customers and hence increase the general price to the consuming public. In the name of lower communication prices, then, AT&T concluded that the public interest was best served by a continued policy of restricting use of subscriber-owned radio systems.

Finally, would not a policy promoting private microwave flaunt the economies associated with the common ownership of both equipment and a communications message market? Both the Bell Telephone System and the General Telephone System are organized as vertically integrated entities. The Bell System is not only central in the ownership of long-distance facilities, accounting for some 90 per cent of them, but its manufacturing subsidiary, Western Electric, dominates the equipment market as well. (Western Electric has accounted for some 80 to 90 per cent of the equipment industry for over thirty years.)¹⁰ The Associated Bell companies are not required to purchase their hardware needs from the manufacturing affiliate of their parent company, AT&T. The fact that they do so is attributed to several considerations. First, Western Electric's high volume yields lower manufacturing costs and thus is regarded as the most efficient source for their equipment. (Invariably any studies submitted by Bell based on price comparisons document Western Electric as the superior source.)¹¹ Second, Western Electric does not incur

of the extent to which the common carrier utilizes its communication 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 facilities are constructed and operated and maintained to meet the communication requirements of only that licensee." Above 890—Report, *supra* note 4, at 852. See also Herber, *Telephone Industry Reaction to Microwave Competition*, 70 Pub. Util. Fort. 627 (1962).

9. Above 890—Memo, *supra* note 7, at 830.

10. Cal. Pub. Util. Comm'n Decis. No. 67369, *supra* note 3, at 33.

11. FCC Report, Investigation of the Telephone Industry in the United States, H.R. Doc. No. 340, 76th Cong., 1st Sess. 311 (1939). See Sheahan, 70 Q.J. Econ. 258 (1956): "Detail cost comparisons by the FCC before the war made it fairly clear that Western was then the lower cost producer for most equipment." See also *Competition versus Regulation as a Policy Aim for the Telephone Equipment Industry*, unpublished Ph.D. Thesis, ch. 6 (Harvard University, 1951).

advertising or credit costs, both reflecting a lower equipment cost billed to the associated Bell companies. Moreover, the coordination of equipment design on one side, and the equipment requirements on the other result in lower costs yielded by this cooperative effort.

With these economies in mind the decision by the Commission to expand private microwave would promote competition of independent suppliers who would be unable to secure the economies of the carrier-manufacturer relationship. This type of rivalry could lead to higher costs in the final service of communication. Moreover, the treatment of competition is dependent upon one's definition of the relevant market. In this regard, AT&T suggested that the proper market definition should be broadened so as to embrace the entire field of electronics, rather than microwave equipment alone.¹²

To summarize the policy recommendation of the common carriers, restriction of customer-owned systems was justified because it tended to conserve a natural resource, the frequency spectrum; it tended to promote efficiency in existing use of carrier facilities; it tended to result in lower prices to the consumer for its communication service; and it encouraged inherent economies of the utility-manufacturing relationship.

Promotion of Private Microwave

If outright rejection of microwave systems operated by private users resided as one policy choice, then unqualified entry stood as its alternative. Arguments supporting liberalization of supporting systems generally took exception with the position held by the common carriers. On the question of spectrum size, for example, proponents of private microwave noted that the changes in the state of the communication art had enlarged the usable part of the microwave region. The Electronic Industry Association, a trade association of electronic manufacturers and others, pointed out that some 30 per cent of the region was currently occupied by radio relay systems.¹³ EIA contended that although the spectrum was not unlimited as a resource, its supply was more than ample to meet the needs of all users, the carriers and customer-owned systems alike.

"Respondent presented evidence to the effect that a manufacturing division utility could do a better job manufacturing which would result in lower unit cost for any one of the operating units of the same utility. In the field of installations, the respondent presented evidence to the effect that a trained installation organization working in close coordination with the manufacturing division possessing specialized experience and working with a nation-wide market can do a better job of installing telephone equipment than an organization without these advantages." Cal. Pub. Util. Comm'n Decis. No. 67369, *supra* note 3, at 35. For a recent criticism of Western Electric's comparability studies, see testimony of Richard Gabel in Western Electric Prices, Western Electric Study in Chesapeake & Potomac Tel. Co., Case No. 494 (D.C. Pub. Util. Comm'n, 1963) 4-5: "The index of price advantage of purchases through Western tells us nothing. The independent supply price is a function of independent volume, not Western volume. This fact, together with the lack of comparability pointed out in my previous answer, vitiates the worth of all price comparisons undertaken."

12. Above 890—Report, *supra* note 4, at 394.

13. Electronic Industries Association (EIA) Exhibit, FCC Docket No. 11866, p. 3: "Only one-third of this [frequency between 890 MC-13,000 MC] has been allocated to point to point use. The balance of this spectrum is allocated for other types of radio service or to the Federal Government."

Accordingly, they minimized the issue of frequency congestion and supported a policy of expanding the eligibility of subscriber-operated systems. Several organizations joined in endorsing the position of the Electronic Industry Association including the National Association of Manufacturers, the National Trucking Association, the American Railroad Association, the National Retail Dry Goods Association, to mention a few.

Granting that microwave bands were to be liberalized for commercial use, would not the utilization of these frequencies interfere with communication via satellite relay? To this query supporters of private microwave submitted that both the overseas industry as well as domestic private microwave could, with proper engineering precautions, share and occupy the same frequency channels.¹⁴ Thus, communication satellite requirements or frequencies would not be compromised by domestic microwave and the employment of both systems would lead to a more efficient use of the radio spectrum.¹⁵

Proponents of the private microwave option addressed themselves to the cost problem of common carrier circuits. Would the use of customer owned channels tend to rescind the decreasing cost economies associated with common carrier circuits? Potential users of microwave conceded that their "thin routes" or what they termed their low-capacity microwave systems could hardly compete with the volume trunk lines of the common carrier industry.¹⁶ Nevertheless, these bulk users held that they should be accorded an opportunity to choose between operating their own systems and leasing carrier channels. Furthermore, they cited cases where common carrier circuits were simply unavailable and under these circumstances the question of capacity redundancy was simply not an issue.

But more importantly those supporting private microwave testified that radio relay represented the innovation of a new technology in communication. In their view, public policy should enhance the application of this new communication art rather than protect conventional wire-line circuits from any alleged excess capacity. The dual ends of economic growth and innovation would be served by liberalizing the use of private microwave.

The third issue, the level and derivation of communication tariffs, was also challenged by those manifesting an interest in owning microwave. The Bell System had expressed the fear of rampant cream skimming, with customer-owned channels taking advantage of low-cost routes. These channels would ultimately increase the price of communication services to the public. Proponents of private microwave rebutted this argument by asserting that the utilization of radio relay would reduce their own communication expenditures. This cost

14. Above 890—Memo, *supra* note 7, at 845: "EIA concluded that such sharing was feasible if reasonable engineering care was exercised by all concerned."

15. Testimony of D. E. Noble on behalf of Motorola, Inc., FCC Docket No. 11866, 1957, p. 35: "I am convinced that only through free-wheeling, competitive challenging opportunities characterized by our free enterprise industrial pattern of the economy will we achieve the rapidly expanding use of the radio spectrum. . . ."

16. *Id.* at 19-20.

reduction would be translated into lower prices to the consumers of their manufactured products. The railroads, for example, were particularly vehement in asserting that their costs could no longer remain competitive if impediments prevented them from exploiting microwave to the fullest.¹⁷ Moreover, these firms contended that private microwave would enable them to purchase not less but greater quantities of leased circuits from the common carriers.¹⁸ This expanded purchase would result from cost savings incident to providing their own communication requirements. And even granting for the moment the absence of substituting additional leased circuits, suppliers argued that the economic loss to AT&T's private lease market would be negligible. Motorola, a microwave equipment supplier, submitted a study suggesting that under the most pessimistic assumptions less than 3 per cent of AT&T's projected revenues would be affected.¹⁹

The question of the ability of the carriers to respond to the rivalry of private microwave was related to the general problem of pricing. In the event that the Commission liberalized private microwave, could AT&T compete by established tariffs whose revenues included something less than the full cost of this service? This question tended to divide and separate two coalitions who had supported the private microwave cause. Potential customers on one hand defended any price reduction by the carriers as consonant with the public interest.²⁰ On the other hand independent suppliers of radio equipment challenged any carrier tariff that would generate revenues less than the average cost of supplying the service.²¹ They argued that this standard would permit the carriers to discriminate between their volume and non-volume customers. Implicit in this charge was the fear that the carriers would be tempted to indulge in internal subsidization between the competitive private line market and their non-competitive public message market.²²

Finally, proponents of a liberalized policy pleaded for the opportunity to engage in the manufacturing of communication apparatus. In this context they issued a direct challenge to the economies of vertical integration argument

17. *FCC Interconnections Hearings Over*, 54 *Railroad Signaling and Communications* 58 (1960). Reference is made to *In the Matter of American Telegraph and Telephone Company Regulations Relating to Connections of Telephone Company Facilities with Certain Facilities of Customers*, FCC Docket No. 12940.

18. 54 *Railroad Signaling and Communications* 21 (1960).

19. Exhibit No. 142 by Motorola, Inc., "Effect of private microwave installations on 1966 Bell Telephone potential gross revenues," FCC Docket No. 11866, p. 1. See also Above 890—Report, *supra* note 4, at 389.

20. In the *Matter of AT&T Regulations and Charges for TELPAK Services and Channels*, FCC Docket No. 14251, 1961, p. 1. (Hereinafter cited as *TELPAC Docket*.) *TELPAC* subscribers who have taken issue with the FCC's tentative decision include the General Services Administration, the American Trucking Association, Bethlehem Steel, Xerox Corporation, Olin Matheson Chemical Corporation, National Association of Motor Bus Owners, Lockheed Aircraft Corporation, Douglas Aircraft Company, United States Steel Corporation, and Aeronautical Radio, Inc.

21. Proposed Findings and Conclusions of Motorola, Inc., FCC Docket No. 14251, pp. 97-98. Western Union, although introducing an offering comparable to *TELPAC*, stands opposed to AT&T's tariff.

22. *Id.* at 129.

propounded by the integrated carriers. As indicated earlier, studies sponsored by the telephone carriers had asserted that economies of purchasing and buying reside in favor of the integrated status. These studies documented by cost savings, compared prices charged by independent suppliers and those charged by integrated suppliers. Nevertheless, critics have taken issue with the validity of these studies.²³ They have noted, for example, that the captive suppliers face a certain and stable market for their products. Moreover, Western Electric does not include research expenditures in establishing costs competitive with the independent suppliers' costs. This cost, nevertheless, is incorporated into the final service charge to the consuming public. Skeptics of the carriers' cost studies argued that the vast discrepancy in volume between a firm producing 90 per cent of the industry's equipment and a firm producing 5 per cent renders price comparisons almost meaningless. But, if empirical studies have failed to conclusively affirm or deny the virtues of vertical integration, then proponents of private microwave argued that they at least challenge the alleged economies of the common carriers; for a decision by the consumer to own is a vote for the non-affiliated rather than the integrated supplier of microwave equipment. In this sense, the equipment pricing policy of the carrier's affiliates should be subject to the external judgment of a competitive market.

To summarize, proponents of private microwave suggested that the supply of frequencies was adequate to justify liberalization, held that private microwave would reduce communication costs, submitted that the impact on user-operated systems on carrier prices would be minimal, and maintained that competition in the hardware market was both feasible and desirable.

IV. ACTUAL POLICY

The development of public policy in this field has not been as clear cut as perhaps suggested by the alternatives recited. Nevertheless, private microwave scored a victory on the frequency licensing issue. In 1959, the FCC concluded in its *Above 890* decision that the supply of frequencies was more than adequate for all users, or to quote the Commission:

We are of the view that there are now available frequencies above 890 megacycles to take care of the present and reasonably foreseeable needs of both the common carriers and private microwave users for point-to-point communication systems (radio relay systems).²⁴

This was a remarkable decision by the FCC, given its historical bias. (The decision was also encouraged by the Department of Justice.)²⁵ Not only did the Commission rule that a sufficient supply of frequencies obviated the neces-

23. "Comparability of manufacturers and suppliers was not established and the reasonableness of other company prices, even assuming comparability, was not demonstrated." Cal. Pub. Util. Comm'n Decis. No. 67369, *supra* note 3, at 35.

24. "The Commission is of the opinion that the sharing of spectrum space is feasible provided adequate care is taken in the in-system design and in the coordination of day-to-day changes in circuitry of the sharing systems." *Above 890*—Memo, *supra* note 7, at 847.

25. Letter From Department of Justice, FCC Docket No. 11866, March 28, 1957.

sity of rationing those frequencies, but the FCC concurred with the private microwave position that radio bands could be shared between domestic and international users.²⁶ Nevertheless, the FCC initiated an inquiry into the future frequency requirements of communications satellites.²⁷ In another sense the Commission hedged on its decision by prohibiting private users from banding together and operating a private microwave system jointly.

By sanctioning the competitive entry of private microwave, the FCC appeared to have challenged the cost assumptions advanced by the common carriers. The FCC observed that the economies of trunk line circuits tended to favor carrier operations. A volume customer when confronted with the choice of owning his channels or leasing them would necessarily choose the former because of these economies. Indeed, the FCC cited additional factors countervailing the wholesale adoption of user-operated radio systems. In the first place, investment in private microwave is of sufficient magnitude to deter many users from getting into the communication business themselves.²⁸ In the second place, commercial entities, as indicated above, could not operate cooperatively a microwave radio relay system. (Certain exceptions do exist such as right-of-way companies.)²⁹ And finally, the FCC noted that the carriers have prohibited the interconnection of customer-owned equipment to the carriers' toll and local telephone lines. Of course, if the bulk consumer elects to take all of his communication requirements from the carrier industry, the interconnection issue becomes nonexistent. Private lease subscribers are granted access to telephone toll facilities automatically.³⁰ Thus, it is only when the

26. Above 890—Report, *supra* note 4, at 404-05.

27. In the Matter of an Inquiry into the Allocation of Frequency Bands for Space Communications, FCC Docket No. 13522, 1960, p. 1.

28. Testimony of D. E. Noble on behalf of EIA, FCC Docket No. 11866, 1957, p. 18: "A very liberal and open licensing policy for microwave communications systems is not such a radical suggestion as it might seem to be at first glance. If microwave systems were very low in cost and easy to maintain and operate, there might be some reason for concern about the number of systems which would be activated under an open licensing policy. Microwave systems are costly and the dollar discipline will limit the systems placed in operation to those which will contribute substantially to the customer's business." See also p. 19: "The cost of connecting two factories together by microwave over a distance of 250 to 300 miles would be somewhere between \$350 and \$500,000, depending upon the systems, the terrain and the reliability required. Such systems can pay off for the purchaser only if the need for communications is great enough to utilize a substantial portion of the channel capacity."

29. Above 890—Report, *supra* note 4, at 407-08: "We have carefully considered the requests by some of the private users . . . to share frequencies on a cooperative, nonprofit cost-sharing basis with similar users in the same service. . . . Accordingly, on the basis of the record herein, it does not appear, at this time, that the public interest would be served by generally authorizing such . . . arrangements for private point-to-point microwave systems. Consequently, except for . . . organizations whose rates and charges are regulated by a governmental entity, authorizations will not be issued for the cooperative use of private microwave systems."

30. Above 890—Memo, *supra* note 7, at 837: "Noting the statements by the carriers that if policy determinations in the report and order are firm, it might be necessary for the carriers to reevaluate their interconnection practices to determine what steps should be taken for their self-preservation, it was stated that the carriers are thereby serving notice that they intend to defeat or obstruct that policy by revising their interconnection practices to impair the usefulness of private microwave systems."

consumer chooses to provide his own communication system that he encounters the obstacle of interconnection—an obstacle that clearly gives the advantage to the leasing option. In a sense then, the Commission attempted to accommodate the opposing arguments on cost. It granted the existence of the potential economies inherent in private microwave but observed that the economies associated with carrier circuits would enable them to hold their private lease customers.

The Commission is currently immersed in the third issue, namely, the effect of private microwave upon the pricing policies of the common carriers. More specifically, will the FCC permit the Bell System to counter the entry of customer-owned systems with new competitive offerings? This problem arose when AT&T innovated the Multiple Channel offering in an attempt to anticipate market rivalry in the mid-1950's. This tariff contemplated a rate reduction of up to 28 per cent to certain volume users of leased channels.³¹ Following the FCC's *Above 890* decision, however, Bell introduced additional private line offerings among which are WATS (Wide Area Telephone Service), WADS (Wide Area Data Service) and TELPAK.

Of these tariffs, TELPAK particularly is surrounded by controversy.³² This offering specifies the leasing of different groups of channels ranging in increasing size from TELPAK A through TELPAK D. These channels may be employed by the subscriber for a variety of uses ranging from voice to data.³³ More importantly TELPAK represents a substantial reduction in communication prices when compared with former private-line rates. (The Bell System denies that such a comparison is valid because TELPAK represents a new and distinctive service to its customers). AT&T insists that the tariff is justified by the competitive nature of the private lease market. It has invoked the incremental pricing standard of rate making in defending it (pricing below full cost).³⁴

The Commission thus far has been less than sympathetic to both the Multiple Channel and the TELPAK tariff. It concluded in the Multiple Channel case that the reduction accorded volume users was not justified by comparable reductions in the cost of rendering service to those customers.³⁵ Indeed, the

31. In the Matter of AT&T Charges, Classification, Regulation and Practices for an Interconnection with Private Line Services and Channels, FCC Docket No. 11645, p. 77. (Initial Decision). (Hereinafter cited as Private Line Docket.)

32. Bell System Exhibit No. 5, testimony of Richard B. Holt, TELPAK Docket *supra* note 20, at 3.

33. *Id.* at 14, Motorola testimony. Motorola claims the reduction in some cases is over 80%.

34. "Thus the determination of the costs of a competitive offering under an incremental or additional cost basis has long been recognized as proper. Competitive rates are compensatory and do not place an undue burden on the users of a carrier service if the rates cover incremental costs." TELPAK Docket, *supra* note 20, at 41. Brief and Proposed Findings and Conclusions of Bell System Respondents. Also, the Bell System submitted to the Docket articles by Baumol, *Cost in the Minimum Pricing of Railroad Services*, 35 Journal of Business 366 (1962).

35. Private Line Docket, *supra* note 31, at 77, "There are no significant references in the carrier's cost in furnishing a multiple number of channels to a single distance between

Commission ruled that this tariff would result in price discrimination against those private lease users not eligible for the price discount.

The FCC has been critical of the TELPAK offering as well. The Commission has declared in a tentative decision that certain groupings of TELPAK, A and B, are not validated by the necessity of meeting private microwave competition. Moreover, other TELPAK groups (TELPAC's C and D) are priced so as to earn less than a compensatory rate of return.³⁶ By casting a jaundiced eye on competitive pricing techniques of the Bell System, these decisions had tended again to favor the private microwave option.

Finally, what policy implications can be read into competition in the equipment market? It is important to note that rivalry in this field resides between the integrated subsidiary on the one side and the non-integrated supplier on the other. In loosening the rationing of microwave frequencies, the Commission indirectly favored the independent supplier of communication hardware. Indeed, the FCC was not entirely unaware of the competitive overtones of its policy for it observed that private microwave would ". . . afford a competitive spur in the manufacturing and development of the communication art."³⁷

If the Commission's decisions in the frequency case implicitly counter the economies of integration defended by the carriers, then a recent decision by the Department of Justice has added support to this thesis. The Department has initiated a suit to block the acquisition by General Telephone and Electronics of several independent companies on the West Coast. The Department contends that this merger will tend to foreclose the equipment market to independent suppliers or,

Competition in the furnishing of telephone service and manufacturing distribution and sales of products used in the furnishing of such services may be decreased to the detriment of actual and potential competition.³⁸

Thus, an overview of public policy in the communication industry suggests that the competitive entry of private microwave has been treated favorably.

a given pair of points as compared with the furnishing of the same number of channels to different customers between the same given points."

36. TELPAK Docket, *supra* note 20, at 30: "AT&T has not justified the discrimination in charges in like communication services found to exist between TELPAK communications on the one hand and the ordinary private line classifications on the other hand."

37. Above 890—Report, *supra* note 4, at 414; see also Above 890—Memo, *supra* note 7, at 854: "We stated that the liberalizing licensing policy would provide impetus in the manufacturing of communication equipment which in turn would result in improvements in the communication art. The evidence in the records shows that the manufacturers of microwave equipment for private users have been reluctant in the past to develop microwave equipment to any substantial extent due to the fact that the licensing of private microwave systems has been on a developmental basis except in the aviation service. With the opening of a new market for microwave equipment it seems clear that a resultant competitive situation among manufacturers would provide the incentive for developing better equipment for meeting the needs of private users and concomitant improvement in the communication art."

38. See *United States v. Gen. Tel. & Electronics Corp.*, Civ. 1912 (S.D.N.Y. June 19, 1964): 8.

On the issue of frequency we have seen that the FCC's decision to unfreeze the microwave bands has tended to sponsor rivalry even though customers may not share the ownership of private microwave. On the issue of cost, the Commission has not denied the economies inherent in the volume of trunk service of the carriers but rather has asserted that these economies may not necessarily be rescinded by the adoption of private microwave. On the issue of carrier pricing, the Commission has ruled unfavorably on two recent attempts by AT&T to invoke competitive tariffs. Both the Multiple Channel decision as well as the TELPAK tentative decision indicate that the Commission thus far at least finds little merit in the pricing rationale put forth by the telephone company. And as to the final issue of equipment market competition, the trend does appear to support the position that competition is a viable environment in the equipment market.

One could conclude in view of this evidence that public policy will lead to greater competition in both the bulk message and the communication equipment markets. The difficulty with such a conclusion is that it fails to consider two additional factors that seriously counteract the substance of these determinations. These pending issues include first, the procedural delay in recent tariff rate hearings before the FCC and second, the fundamental industry structure of the common carriers, namely their vertical relationship.

V. PENDING ISSUES

Protracted Litigation

The Bell System has testified that the timing of its TELPAK offering is an outgrowth of private microwave rivalry, a direct reaction to the FCC's *Above 890* decision. Since its introduction in 1961, customers in the bulk service have welcomed a service whose rates in some cases represent a reduction of 80 per cent of former charges. These rates are directed to a market in which relatively few subscribers account for a major source of revenues. Western Union, for example, estimates that some 50 per cent of its volume of private line revenues flow from less than 5 per cent of its customers.³⁹ That TELPAK has effectively countered the private microwave option is evidenced by the FCC's observation: "Only one major microwave system of the type involved in the *Above 890* decision is in effect."⁴⁰

The problem posed by TELPAK is that as a tariff its legality awaits a decision by both the FCC and the courts. (Bell has hinted that in the event of an unfavorable decision by the Commission it will seek judicial review.)⁴¹ The Commission's task of adjudication is by no means easy. On one side, the Commission is faced with the argument that the offering is justified by

39. TELPAK Docket, *supra* note 20, at 16.

40. *Id.* at 15: "The large bulk communications users (which make up about 75% of the revenues associated with commercial leased private line systems) require communications systems that are far flung geographically."

41. 30 Telecommunications Rep. 1 (Sept. 14, 1964).

new competition in the bulk market and is priced so as to earn a reasonable rate of return. On the other side, opponents of the tariff (Western Union and Motorola in particular) have alleged that TELPAK is a price discount that unnecessarily discriminates between Bell's volume and non-volume customers. Perhaps expediting the FCC's decision in this case would be less crucial if the market impact of the tariff were suspended until the Commission could issue a decision. However, the Communication Act of 1935 specifies that any new service or change of existing service automatically takes effect following a statutory prohibition period of ninety days.⁴² Here is the core of the TELPAK dilemma. The tariff has long outrun its statutory prohibition period. AT&T has been soliciting bulk customers since 1961, even though the legality of the offering is unknown, undetermined and immersed in protracted adjudication.

The FCC is not unaware of the lag in its decision rendering process. In attempting to reinstate the legality first and economic impact second, the Commission has sought two reforms. It has requested that Congress amend the Communication Act so that the withholding period be extended from a period of three to nine months. It has also requested that the carrier introducing a new tariff assume the burden of justifying its cost.⁴³

The Bell System has testified in opposition to these changes. In the first place, AT&T submits that it is unrealistic to assume that what the Commission cannot complete in three months it can accomplish in nine. Bell also notes that each of its three offerings, WADS, WATS, and TELPAK, has exceeded its statutory prohibition period. Finally, the telephone carrier submits that extending the statutory period would pose a burden to the carrier for it would deny to the carrier's private line subscribers new services that are priced at lower costs.⁴⁴

In one sense the telephone carrier's position is valid. The FCC is undoubtedly optimistic in asking for a nine-month extension period. On the other hand, the Bell position that any new offering take effect automatically in ninety days because it benefits its customers assumes the very conclusion of the litigation process—namely, that the new service is lawful. That such a service may, in fact, discriminate is evident in the FCC's previous decisions in the Multiple Channel case as well as a recent private line telegraph rate case. *Each offering was judged to be priced below its cost of service.*⁴⁵ Some commentators, in fact, have hinted that the TELPAK adjudication enables the Bell System to purchase time in which to introduce low-cost transmission facilities.⁴⁶

42. Federal Communications Act, 48 Stat. 1071-72 (1934), 47 U.S.C. 204 (1958).

43. *Hearings on H.R. 80B Before the Committee on Interstate and Foreign Commerce, Amendments to Title II of the Communications Act of 1934, Common Carriers, 88th Cong., 2d Sess. 18-19 (1964).*

44. *Id.* at 101-02. Testimony of George L. Best, Vice President, AT&T.

45. Private Line Docket, *supra* note 31, at 31.

46. Gardner, *FCC Rules Temporary O.K. for AT&T's Telpak*, 9 Control Engineering 27 (1962): "Even if the FCC eventually decides that AT&T can offer TELPAK rates with

Several innovations can be considered in addressing ourselves to the problem of protracted rate-making proceedings. For example, all new or reduced tariffs might be withheld from market effect until the tariffs' legality was established. This suggestion would correlate the statutory freeze period directly with the length of the adjudication period. Undoubtedly the carriers would be unreceptive to this suggestion. It would tend to penalize them for whatever inefficiency resided within the Commission's proceedings. On the other hand, the freeze would redress the problem where market reality outruns the legal status of carrier rates.

A second suggestion is to re-examine the assumptions governing the adjudicatory process itself. The precise nature of these changes must await the recommendations of the President's Administrative Conference.⁴⁷ In any event, some action is needed to expedite rate-making decisions and to reduce the rising backlog of cases in the FCC's Common Carrier Division.⁴⁸ (The Interstate Commerce Commission has recently let a contract to study expediting its decisions.)⁴⁹

Over and above internal reforms, a final recommendation is to strengthen the staff and resources of the Common Carrier Division. The growth of the book assets of the domestic common carriers has far exceeded the relative increase in the budget of the Common Carrier Division.⁵⁰ Indeed a study by the Bureau of the Budget reported that the staff of the Common Carrier Division was entirely inadequate to meet its statutory obligations.⁵¹ In short, the issue is not Big Government shackling the energies of the enterprise system, but rather private governments stifling the very substance and intent of the law.

diversed facilities, the companies will have had time to replace the diverse facilities with special TELPAK facilities. The customers gain with diverse channels would then be charged whatever the FCC finally decided were proper rates for TELPAK." Furthermore, John H. Waters, Western Union's Attorney said, "We are building a private microwave system it is true, but by the time this microwave system is built, AT&T will have acquired all the large users. See also Letter From Walter P. Marshall, President, Western Union Telegraph Company to Newton Minnow, October 5, 1961 in TELPAK Docket, *supra* note 20: "I submit that the situation is so grave and potential damage is so serious that the mere utilization of existing procedure for the orderly disposition of questions which arise from the founding of the tariff will not suffice. If the Commission should now do nothing other than to follow the statutory procedures described for the determination of the lawfulness of the individual tariffs in the very passage of time the apparent end or arriving at such determinations will have brought about an accomplished fact—a virtual complete telecommunications monopoly by the telephone company—before the Commission has had sufficient time to adjudicate the serious issues involved."

47. Subcommittee on Administrative Practice and Procedure of the Committee on the Judiciary, *Administrative Practice and Procedure*, S. Rep. No. 929, 88th Cong., 2d Sess. 4 (1964).

48. *Statistical Data Related to Administrative Proceedings Conducted by Federal Agencies, 1963*, 88th Cong., 2d Sess. 28-29 (1964). (Committee Print prepared for the Senate Committee on the Judiciary, Subcommittee on Administrative Practice and Procedure.)

49. N.Y. Times, Nov. 10, 1964, p. 68C, col. 7.

50. Antitrust Subcommittee No. 5 of the House Committee on the Judiciary, *Consent Decree Program of the Department of Justice*, 86th Cong., 1st Sess. (1959).

51. Booz, Allen & Hamilton, *Organization and Management Survey of the Federal Communications Commission*, Vol. 1, 283 (1962) (for the Bureau of the Budget).

Vertical Integration

If the carriers' pricing response to market entry is a common theme in the adjudicatory problem then it is relevant to competition in the equipment market as well. TELPAK tends to hold the bulk customer to the leasing option; indeed given its purported economies, the bulk consumer would be foolish not to avail himself of these savings. Necessarily the decision to lease circuits reinforces the market position of the affiliated supplier. It is in this sense that the decision to rent communication channels also tends to foreclose diversity in the manufacturing of communication apparatus. Thus, whether TELPAK is determined to be legitimate or illegitimate as a service, competition in the communication equipment market still remains an unanswered policy question.

A detailed history of the vertical relationship of the common carriers is beyond the scope of this paper. Suffice it to note that the relationship was crystallized by a consent judgment entered into by the Bell System and the Department of Justice. This decree has been a center of controversy and congressional investigation.⁵² Much of the notoriety surrounding the judgment was traced to the original position of the government—namely to require AT&T to divest itself of Western Electric. But of more interest is the current ambivalence of the Department of Justice toward competition in this market. The Department supported the FCC's decision on the microwave frequency case and indirectly aided and abetted the position of the independent supplier. The Department has also anticipated General Telephone's attempt to integrate forward. On the question of the *existing* vertical relationship of both the Bell and the General Telephone System, however, policy has been discreetly silent.

If, for policy reasons, a *direct* confrontation of the vertical integration problem is to be avoided, decisions originating in the public sector could, nonetheless, serve to circumvent and dilute the market power of the integrated supplier. To document the frustration of the *indirect* approach it is necessary to recall that the government is a major consumer of bulk communications. It, too, is posed with the choice of leasing carrier circuits or operating private microwave. As a matter of fact, prior to the TELPAK offering, the General Service Administration as well as other agencies did attempt to exploit the economies of radio relay operations. This route was effectively impeded by a directive from the Bureau of the Budget in 1959. The directive stated that in weighing the option between buying from outside sources and purchasing inside services the cost of outside sources should not be regarded as paramount. To quote the Bureau of the Budget:

It may be found to be in the public interest to purchase the product and service *regardless of the cost factors* in order to foster or maintain the development or growth of commercial production capacity to meet

52. *Hearings before the Antitrust Subcommittee No. 5 of the House Committee on the Judiciary*, 85th Cong., 2d Sess. (1958). See also *United States v. Western Elec. Co.*, Civ. 17-49 (D.N.J. Jan. 14, 1949).

alternate government and non-government needs at potentially lower costs.⁵³

It is an open secret that the communications carriers actively lobbied for this directive.

Conceivably, government procurement policy could have been employed as one vehicle in broadening the market opportunities of the nonaffiliated supplier of communication apparatus. The failure of the indirect approach, then, rests upon the refusal to identify vertical integration as the obstacle to competition in the equipment field. One must necessarily conclude that the fundamental barrier to competition in the hardware market is the utility-supplier complex, and it is this relationship that deserves first priority in public policy.

This paper has attempted to document the frustration of pursuing a policy of even limited oligopoly in both the communication message market and the communication equipment market. Despite the FCC's favorable treatment of private microwave on the basis of frequency, costing, carrier tariffs, and the equipment field, the common carrier industry remains practically impervious to these decisions. It is incumbent as a limited first step, that the Commission's adjudicatory procedure must be overhauled, and as a second step, that no carrier continue to hold ownership in manufacturing activities.

53. Bureau of the Budget Bulletin No. 60-2, p. 3, Sept. 21, 1959.