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# **A New Direction In Telecommunications Policy**

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## **Is It In The Public Interest?**

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## 1. BASIC POSITION

The Federal Communications Commission is promoting what it calls "competition" in certain parts of the telephone industry. But what is actually developing is a government-contrived division of markets.

In the markets for intercity private line services and terminal equipment, competitors may pick and choose the areas and customers they will serve, "skimming the cream" from the most profitable. As "common carriers," however, the regulated telephone companies must serve *all*, regardless of profit or location.

### **Most customers will lose**

Some communications customers — mainly large businesses—stand to gain from such competition. Most users, however, will lose.

For many years the industry and its regulators have pursued the goal of universal, high-quality, low-cost service, as set forth in the Communications Act of 1934. To promote this goal, basic home telephone service has been priced as low as possible. Revenues from long distance calls and from optional and business services have been used to cover substantial costs of facilities used in common to provide both these services and basic home telephone service, thus helping keep the price of home telephone service within the economic means of most people.

In addition, the averaging of prices for long distance calls has helped assure the development and availability of long distance calling throughout the country.

### **The bottom line**

These pricing policies that have helped the industry achieve universal service now make it vulnerable to competitors who seek to capture only its most profitable parts. As a result, the telephone companies will be forced to depart from these policies which favor home users, and to shift to more cost-related "competitive" pricing.

This shift will reduce the revenues available to hold down the price of home telephone service. And to the extent that revenue support from other services is lost —because of losses to competition or repricing to respond to competition—monthly rates for home phones will have to be raised (see chart).

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In addition, the industry will be made less efficient because of needless duplication of facilities and the fragmentation of service responsibility.

The record shows that the U.S. telephone industry provides communications service of higher quality, at lower prices, to more people, than in any other country. The telephone industry believes that this service should not be dismantled in piecemeal fashion by FCC attempts to create "competition." Rather, the industry believes that Congress should act promptly to consider this issue before the current regulatory course cannot be reversed.

## 2. PROPOSED LEGISLATION

The Consumer Communications Reform Act of 1976 (S.3192) was introduced in the U.S. Senate on March 23 by Sen. Vance Hartke of Indiana. It is an amendment to the Communications Act of 1934. The intent of Congress in passing this Act was set forth in Section I: ". . . to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges . . ."

The purpose of the proposed amendment is to reaffirm this intent and to apply the policy goal of universal service to current efforts to introduce selective competition in the telecommunications industry. Specifically, the amendment would:

- find that traditional ratemaking policies have helped keep rates for basic telephone service low through revenue contributions from other services;
- state that the duplication of interstate services and facilities is contrary to the public interest because it will raise basic telephone rates, impair the quality of service and entail wasteful use of resources;
- reaffirm the integrated interstate network as a natural monopoly;
- reaffirm the States' jurisdiction over the regulation of terminal equipment used for local exchange service, even though the equipment also may be used for interstate services;
- require that before any specialized common carrier be permitted to construct interstate facilities, it would have to meet certain standards—for example, that it would not duplicate existing telephone company facilities or services and would not raise the cost or lower the quality of service for telephone users; and
- permit telephone companies to charge at levels that equal or exceed incremental costs.

The amendment is supported by independent telephone companies, the U.S. Independent Telephone Association (USITA), the Bell System, and unions representing telephone workers.

### **3. TELEPHONE PRICING PRINCIPLES**

Pricing principles developed by the industry and its regulators have been largely responsible for achieving near-universal service, as sought by the Communications Act of 1934.

#### **Value of service pricing**

Value of service pricing has helped make local service available to virtually all customers at prices they can afford. Under this principle, for example, business customers have been charged more than residence customers because they generally use their phones more and receive greater economic benefit from them.

In addition, many discretionary services—like business terminal equipment and premium telephones (e.g., Trimline® and Touch-Tone® phones)—have been priced above direct costs in order to help cover the common costs of the business and help hold down local rates.

#### **Separations**

Interstate long distance calls, in particular, have helped hold down local rates through the "separations" process which allocates the cost of plant used for both local and long distance calling between federal and state regulatory jurisdictions for ratemaking purposes. Regulators have allocated an increasing share of these costs to the interstate jurisdiction, thereby reducing the portion which must be covered by intrastate rates. As a result, the average interstate call today contributes 55 cents to help hold down local and other intrastate rates.

#### **Nationwide cost and rate averaging**

Nationwide cost and rate averaging has helped make interstate calling more widely available than otherwise possible. Long distance calls over lightly trafficked, costly-to-serve routes have been priced at rates equal to those charged for calls over highly trafficked low-cost routes of equal distance.

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Competition will force more cost-related pricing and the abandonment of these principles. The result? Basic residential rates will go up. In addition, interstate rates may have to be de-averaged. If this occurs, interstate rates would no longer be uniform for calls of equal distance.

## 4. ECONOMIC IMPACT

Telecommunications competition may lower the price of service for some large business users, but it will raise the price of basic home service for 67 million households.

In addition, if current trends persist, a long distance call between two rural areas will be priced higher than a call of equal distance between urban or suburban areas; and competition that duplicates facilities will raise the overall cost of service for the nation.

### **Basic service rates**

To promote the Communications Act's goal of universal, high-quality low-cost service, basic telephone service has been priced as low as possible.

Revenues from long distance calls and from optional and business services have been used to cover substantial costs of facilities used in common to provide both these services and basic home telephone service—thus holding down rates to the local residence customer.

Many services, however, are now offered by competitors who are free to set their prices strictly on the costs they incur in serving their selected markets and can, consequently, undercut the telephone companies' present rates.

To the extent competition takes business away from the telephone companies or forces them to lower their own prices, the revenue contributions that allow low rates for basic residential service will be reduced. The common costs of the business will remain, however, and will have to be covered—by higher basic rates (see chart). The impact of any increase will fall most heavily on low-income families and those on fixed incomes.

### **Interstate rates**

Competitors offering intercity private line services have chosen to serve only the high-volume, low-cost routes. But because they can set their prices strictly on the costs of these lower-cost routes, they have been

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able to undercut the telephone companies' prices which are based on nationwide average costs.

This already has forced the telephone companies to move away from nationwide average rates, so that private line customers along heavily trafficked routes linking major cities are paying less than averaged rates, and customers using lightly trafficked routes are paying more.

Because competitive private line rates attract business users away from regular long distance calling, the telephone companies may ultimately be forced to de-average these rates, too. Although long distance customers today pay the same rates for calls of equal distance regardless of location, de-averaged rates would mean that calls along rural, more lightly used routes would cost more than those along heavily used routes linking urban or suburban areas.

### **Overall cost**

Multiple suppliers of communications services will lead to the duplication of costly telecommunications facilities. This duplication will mean higher telecommunications investment and higher overall telecommunications cost without proportionate added value. Such wasteful use of resources makes little economic sense—especially when the nation faces a long-term capital shortage.

## 5. SERVICE IMPACT

The telecommunications network is an incredibly complex system composed of trillions of parts which must work on demand to produce any one of 10 million billion possible connections among 144 million telephones.

It is a dynamic system, too, that is being constantly expanded and adapted to integrate new and often radically different technology.

The complexity, scale and essential social, economic and national defense objectives it serves demand unified planning, operation and maintenance—a "systems" approach where all who help manage and operate it share a common purpose and responsibility.

### **Intercity competition**

Since its initial decisions authorizing intercity competition, the FCC has ordered that the private line facilities of specialized common carriers be interconnected with the network.

But as these facilities are woven deeper and deeper into the telephone system, they will produce an administrative and technological thicket in which responsibility for design, operation and maintenance is increasingly fragmented among suppliers with competing interests and various levels of expertise, accountability and technology.

Network unity will be destroyed as the network is consequently subjected to increasing congestion and malfunction, poorer maintenance, and a slower pace of technological improvements that assure high-quality service.

### **Terminal competition**

The interconnection of customer-provided terminal equipment fragments the telephone companies' end-to-end responsibility for service which traditionally

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has insured that every segment of the network—including the terminal equipment—is designed, operated and maintained to work together in harmony.

Telephone company tariffs have attempted to protect the quality of service by requiring physical interfaces between most customer-provided terminals and the network. And the National Academy of Sciences told the FCC in 1970 that either such physical protection or effective, enforceable standards for design, manufacture, operation and maintenance of customer-provided equipment are essential to protecting service.

Even so, the Commission has adopted a registration program permitting the direct electrical connection of terminal equipment, without physical protection. Because this plan appears to lack adequate standards and means of enforcement, the telephone companies believe that it will lead to a deterioration in the quality of service.

## 6. HISTORICAL THRUST OF REGULATION

Telephone service was a highly competitive business through the early 1900's. Two or more phone companies often served the same community without interconnecting. The results were poor service, high charges due to wasteful duplication of facilities, and public inconvenience.

It soon became apparent that effective, efficient telecommunications service, like the provision of water and electricity, is a "natural monopoly." And the telephone industry began moving toward a single unified system.

### **Mann-Elkins Act, 1910**

In 1910, without disturbing the industry's integrated structure, Congress moved to regulate the industry in the public interest by extending the Interstate Commerce Commission's jurisdiction to telephone and telegraph companies through passage of the Mann-Elkins Act.

By 1919, 45 states and the District of Columbia had enacted similar legislation granting regulated monopoly status to telephone companies while subjecting competitive entry and price control to government authority. All states have such statutes today.

### **Willis-Graham Act, 1921**

In 1921, Congress passed the Willis-Graham Act which actively encouraged mergers and acquisitions in the telephone industry when declared in the public interest by the Interstate Commerce Commission—even though such mergers might eliminate competition and thus otherwise conflict with other state and federal laws. This act helped forge a truly nationwide, end-to-end telephone system free of wasteful duplication.

### **Communications Act, 1934**

In 1934, federal regulation of the telephone industry was transferred to a newly created Federal Communications Commission with the passage of the Communications Act, whose purpose was to achieve high-quality universal service at reasonable cost. The Act affirmed Congressional intent that such broad public interest considerations—rather than competitive concepts alone—should govern regulatory policy.

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Pervasive federal and state regulation has permitted the telephone companies to serve the public as monopolies without the classical monopolist's power to control prices or competitive entry. And, as a result, the joint, non-competitive efforts of Bell and Independent telephone companies—working under government regulation—have virtually achieved the Congressional goal of universal service as set forth in the Communications Act.

## 7. COMPETITION/REGULATORY EXPERIMENTS

In the late 1960's, the Federal Communications Commission permitted the introduction of competition in the terminal equipment and intercity private line markets. The idea was to serve the public interest by encouraging more customer options and lower prices.

### **Terminal equipment**

Following the FCC's *Carterfone* decision in 1968, telephone customers were able to connect their own terminal equipment—private switchboards, automatic answering sets, even regular telephones—to the telephone network.

The Commission recognized, however, that the network could be harmed and telephone company revenues reduced by the sale and interconnection of competitive equipment. As a result, it permitted the telephone companies to specify means for protecting the network, and it pledged to keep an open mind toward future evidence of economic harm.

Since that time, however, the Commission has failed to recognize the telephone companies' mounting evidence of economic harm. It has also adopted a registration program to permit the direct connection of registered terminal equipment without the physical protection previously required in most cases by the telephone companies.

In so doing, the Commission has claimed primary jurisdiction over the interconnection of terminal equipment, even though the Communications Act of 1934 leaves jurisdiction over local service and facilities to the states.

### **Intercity services**

With its *MCI* decision in 1969, the Commission began letting so-called "specialized common carriers" provide intercity private line services—that is, communications services over channels between cities that are leased for the exclusive use of certain customers, mainly large businesses—that were not linked to the nationwide switched network.

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In this and its subsequent *Specialized Common Carrier* decision, the FCC said it expected that such suppliers would provide services different from those already offered by the telephone companies.

In practice, however, the FCC has allowed these carriers simply to duplicate existing telephone company services and routes, and it has required the telephone companies to interconnect the specialized carriers' private lines with the switched network.

To protect the new carriers from the effects of true competition, the Commission has restricted telephone company efforts to compete. For example, it delayed the telephone companies' introduction of de-averaged (Hi-Lo) private line rates for 15 months, permitting their competitors to respond on one-day's notice; it prohibited the Bell System from providing private line services over its domestic satellite system for three years; and it delayed the Bell System's introduction of Dataphone® Digital Service for months, eventually requiring the System to set rates higher than necessary.

## 8. QUALITY AND PRICE OF SERVICE

Telephone service in the United States is widely available, reasonable in price and of high overall quality. On all three measurements it outranks telephone service in other parts of the world.

### Availability

Ninety-four per cent of all American households and virtually every American business have telephone service—more than in any other country.

The U.S. also outranks all other countries in the number of telephones—68—per 100 people, compared to 63 in Sweden, the next highest. Other comparable figures are 37.9 in Japan, 36.3 in the United Kingdom, and 23.5 in France.

### Price

Telephone prices have risen much less than both income per capita and the price of most other goods and services. The Consumer Price Index rose 83 per cent during the past 15 years and income per capita 162 per cent, but the price of residence telephone service rose only 36 per cent and interstate long distance rates about 8 per cent.

A 1973 Department of Commerce study concluded that the average American industrial worker works less than 26 hours a year to pay for basic telephone service, the lowest of 15 industrial nations surveyed. Figures for other nations ranged from a low of 30 hours in Canada to a high of 179 hours in France—including 39 hours in Sweden, 68 hours in Germany, 76 hours in the United Kingdom and 175 hours in Japan.

### Quality

The American telephone industry also provides the highest quality telephone service in the world.

- Almost all U.S. telephones are dial, and 97 per cent of them are equipped for direct distance dialing.
- The network can handle about 95 per cent of all dialed calls on the first try during the busiest hour of the day, and virtually all of them at other times.

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- Bell System customers receive a dial tone within 3 seconds of lifting the receiver 99.5 per cent of the time and can expect installation of a new phone when promised 95 per cent of the time.
- Trouble reports on Bell System phones have dropped 30 per cent in the past 25 years, and the average new phone remains trouble-free for 20 months.

The 1968 report of the President's Task Force on Telecommunications Policy said that "the United States has the finest telephone service in the world." A 1975 study by McKinsey and Company evaluated 29 measurements of service quality here and abroad and reached the same conclusion.

## 9. RECORD OF INNOVATION

The U.S. telephone industry's impressive record of technological innovation has produced the world's finest communications system.

### **The network**

Calls—whether voice, data or video—travel a system that has grown in less than 100 years from a few telephones connected by pairs of wires to a nationwide switched network of 240 million circuit miles of wire and cable, 435 million circuit miles of microwave, and 19,000 switching centers capable of completing 10 million billion different connections among the nation's 144 million telephones.

### **Service and equipment**

This system has progressed from manual service to the direct dialing of local, nationwide and overseas calls. The telephone itself has progressed from dial, to push buttons, to Picturephone®. And business services have gone from simple manual switchboards to sophisticated push-button systems, special-purpose lines and networks, and data transmission systems.

### **Switching and transmission**

The art of telephone switching has progressed from operator-switched calls to electromechanical methods to today's high-speed electronic systems capable of handling 550,000 calls an hour. And transmission capabilities have advanced from a pair of wires able to carry a single conversation with considerable noise and distortion to today's coaxial and microwave systems carrying thousands of calls simultaneously and virtually distortion free.

Bell Telephone Laboratories has been the source of much of this innovation, working closely and systematically with AT&T, the Bell operating companies and Western Electric to convert science into useful tech-

nology. This technology, in turn, has been made widely available to the rest of the telephone industry through patent licensing arrangements.

Telephone innovation has unusual and demanding characteristics. Generally it's not a matter of simple product differentiation or self-contained improvement of an isolated product. Rather, telecommunications innovations often have complex, system-wide implications because of the interrelated nature of the network.

### **Rate of innovation**

Even so, the rate of innovation in telecommunications has consistently outpaced that of the rest of industry. Approximately 40 per cent of Western Electric's 1976 sales to the Bell System are estimated to be from products introduced since 1972, while the average for business generally is 13 per cent. R&D expenditures of Western Electric alone equaled 6.2 per cent of its net sales between 1963 and 1972, compared to 2.1 per cent for manufacturers generally.

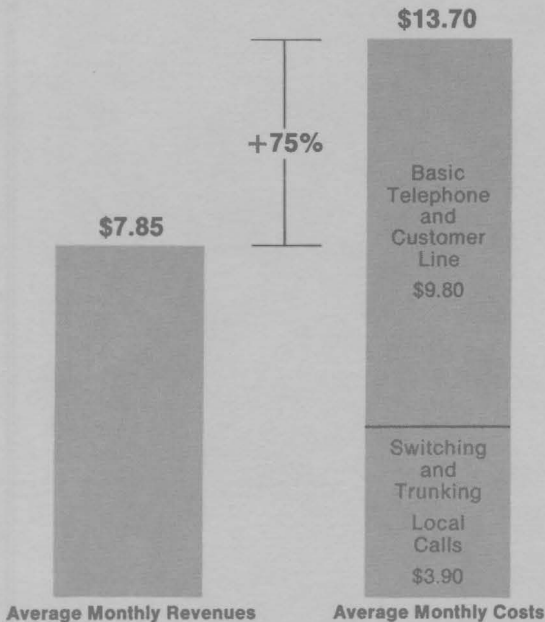
The development of electronic switching, for example, required the investment of 4,000 man-years, and the latest electronic switching system for long distance calling required an investment of \$400 million to introduce.

### **Effect of competition**

Competition will tend to slow, rather than spur, innovations that are only practical where there is aggregation of demand. For example, the introduction of higher-capacity switching and transmission systems may be retarded as intercity competition fragments demand among suppliers.

## 10. ECONOMIC IMPACT CHART

Long distance and other services now cover substantial costs of facilities needed to provide local telephone service. To the extent this support is eroded because of regulatory policy, charges for local home phone service will be forced upward.



NOTE: Corporate overhead costs are not included; if they were, the 75% differential would be higher. The customer line and basic telephone are used for both local and long-distance services. (Based on a study of individual-line residence service submitted in testimony by the Bell System to the U.S. Senate in July, 1974.)

# Bell System Views on Communications Policy



*"It is not technology that will shape the future of telecommunications in this country. Nor is it the market. It is policy—and policy . . . was never more a matter of contention than it is right now."—John D. deButts, Chairman, AT&T*

#### FOREWORD:

There is growing national concern about the ultimate effect of a series of FCC decisions introducing "regulated competition" into the telecommunications industry of the United States. The Bell System believes that the communications policy of this country is too important to resolve in this piecemeal fashion. It is policy that Congress must decide for the American people.

Following an introduction by E. B. Crosland, AT&T senior vice president, this booklet presents excerpts from two statements on the need to reaffirm and clarify national policy, which were made on behalf of the Bell System to the Subcommittee on Communications of the House Committee on Interstate and Foreign Commerce.

# Bell System Views on Communications Policy

November, 1975

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# Bell System Views on Communications Policy

*... the more that competition forces a closer relationship between prices and costs, the greater the cost burden that must be borne by the residential customer.*

E. B. Crosland

EDWARD B. CROSLAND  
Senior Vice President of AT&T

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## Policy and the Public Interest —Let Congress Decide

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The Bell System fully recognizes it is not for it to determine whether competition in certain segments of the industry would benefit the public. These questions address themselves solely to the wisdom of governmental authorities—regulatory, judicial and legislative, both state and federal. Nonetheless, we would be remiss in our obligation to the consumers we serve if we failed to express to the public and to government our deep concern over the deleterious results we are convinced will follow from present and proposed policies regarding competition . . .

Manifestly, should appropriate governmental authorities determine, after careful consideration of all the relevant evidence, that genuine competition in the furnishing of telecommunications is in the public interest, the Bell System stands ready to operate in a competitive environment.

Should competition be decreed to be the way of life in the future of communications, we strongly insist, however, that it be *real* competition in the economic sense and not selective, contrived or “pick and choose” competition. Otherwise it would not allow for price flexibility, to weed out the inefficient firms, to achieve the most economic utilization of resources, and to benefit consumers generally in terms of lower prices and better services which genuine competition is supposed to accomplish.

The final decisions . . . should depend not upon abstract maxims or automatic assumptions but upon practical results. Competition is not the end in itself. The basic objective is a telecommunications system that will bring the best service at the lowest cost to the largest number of consumers. While competition serves well for most American business, economists, lawmakers, courts and regulators have long recognized there are exceptions—special cases—where competition hurts rather than helps the average consumer. Telecommunications is one of these exceptions.

We submit that a policy of injecting competition into telecommunications would reverse the judgment reached by federal and state authorities many decades ago. After very unhappy experiences with competition in the early days of this business, government authorities concluded that the public interest is best served when a single telephone company is held responsible for all aspects of service to all customers within an exclusively franchised territory, under close government regulation. This concept has provided this country over many years with the finest communications system in the world, and has remained essentially inviolate until recent years.

The Bell System has grave reservations about the philosophy underlying the introduction of multiple sup-

pliers into this industry. We believe that while altering the structure of certain segments of the communications business might bring lower rates to a relatively few customers, mostly large business firms, it would result in higher rates for millions of households.

And we seriously question that such a shift in regulatory policy is in the broader public interest because it threatens to undermine the integrity and manageability of the totally integrated telecommunications network that provides high quality, reasonably priced communications services to the American people.

Let us review how consumers have fared under past policy.

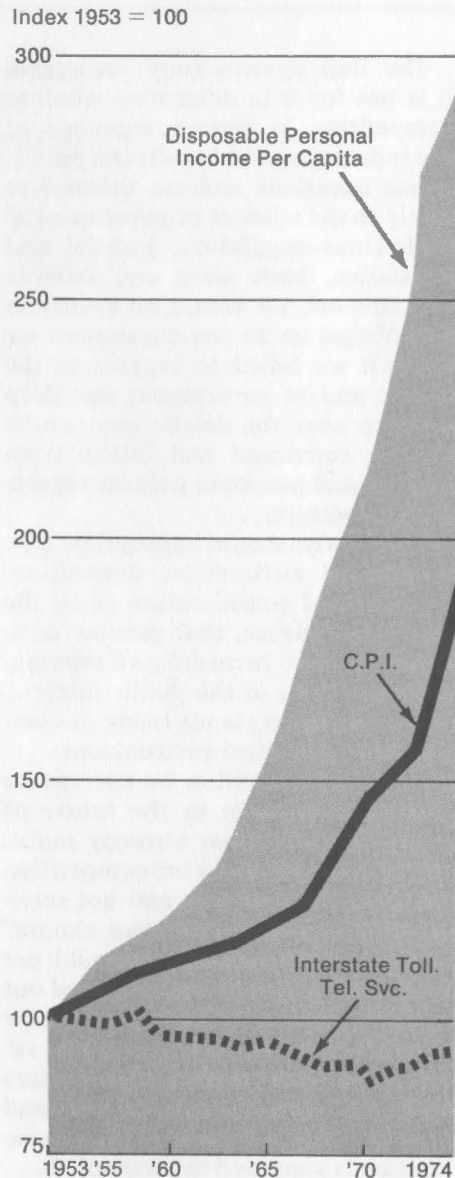
This chart illustrates the record with respect to interstate telephone rates from 1953 through 1974:

- The Consumer Price Index for all items increased during this period by more than 84 per cent.
- Disposable personal income per capita increased almost 192 per cent.
- Against this background, it is remarkable that the overall level of interstate telephone rates has increased not at all—rates today are approximately 7 per cent lower than in 1953.

This record is even more remarkable when one considers that—over the same period of time—the Bell System's materials costs increased 90 per cent and its labor costs increased 190 per cent.

Although the trend naturally has been toward rate increases in the past few years of unprecedented inflation, over the last two decades

### Charges for Telephone Service vs Income per capita and consumer prices . . .



there have been twice as many rate decreases as increases. When all these changes—including the rate changes permitted to become effective in March of 1975—are translated into current volumes of business, the decreases exceed the increases by more than \$260 million a year.

By any measure, I think it is fair to say that our price performance has been outstanding. The same case can be made for the quality of telephone service in this country. It is generally recognized that we set the standard for the world.

But, in light of recent FCC decisions, we are concerned for the future. The Commission's registration program, providing for the direct connection of many types of terminal equipment to the nationwide telephone network, is a case in point.

The Commission's plan has technical and administrative shortcomings. As a result, we have serious reservations about the ultimate impact of this decision on the quality and cost of telephone service in this country.

Our reservations stem from one overriding consideration: the FCC's plan is deficient in some aspects of network protection—and the protection of customers and telephone company employees—that the National Academy of Sciences (NAS) deemed essential in its report submitted five years ago at the Commission's request.

Our concern is not only with the need to protect the technical integrity of the nationwide network. We are deeply concerned with the economic effects of the FCC's recent decisions on consumers.

I would like to explain how in-

creased competition in intercity services and terminal equipment will lead inevitably to substantially higher rates for basic local service to more than 60 million residential customers.

To appreciate why this is true, we must first understand the present pattern of telephone rates and why they evolved as they did. The basis for this pattern developed in the earliest days of the industry and was set forth emphatically by Congress in the Communications Act of 1934. Congress proclaimed the public-interest goal of telecommunications policy, and the task of the FCC, as follows: "to make available . . . to all the people of the United States a rapid, efficient, nationwide . . . communications service . . . at reasonable charges."

So the primary thrust of government policy for many decades has been the attainment of a universal service, a telephone in almost every home. The objective obviously has great social and economic value for the nation; as more people become connected to the telephone network, it becomes more valuable to all. The telephone is widely available to summon help in emergencies, to knit families together, to transact business quickly and conveniently. The telephone has become virtually indispensable to many households.

But the goal of telephone service for almost everyone can be achieved only with rates that almost all consumers can afford. Accordingly, with the encouragement and, indeed, the insistence of regulatory agencies, rate patterns have been structured over many decades to achieve this basic objective. Under this pattern, revenues



from the more discretionary services—long-distance calls, the more complex services and equipment for business—have been priced to help hold down charges for local residential telephone service.

Many people seem to be unaware, or do not seem to appreciate the magnitude, of the contributions made by other services to hold down the cost of local residential service. The fact is that the average residential customer pays about \$7.85 a month for his basic local telephone service. Yet the average cost to provide this same basic service is about \$13.70 monthly.

Now obviously, this difference of almost \$6 between the cost of local service and the revenues derived from that same service must be made up by revenues from other services. It is equally clear that as competition forces down the price of these other services, then the contribution they make to local residential service will be reduced—and millions of households will be forced to pay more for their local service.

To put it another way, if basic local service were to be priced according to costs, and all contribution from the more profitable services were to be eliminated, then the monthly bill for basic local service for millions of residential customers could be increased by up to 75 percent, or several billion dollars a year.

Now, I am not predicting this will happen immediately or in precisely these dimensions. However, these facts point to a basic problem that cannot be wished away: the more that competition forces a closer relationship between prices and costs,

the greater the cost burden that must be borne by the residential customer.

It is often suggested that the segments of the business subject to competition are a relatively small part of the total, and thus the consequences should not be too severe. These statements overlook a very important point, namely, the impact of competition on traditional rate patterns and the manner in which that impact is magnified because of the shifting of customer demand between services as prices change. For example, as competition brings down rates for intercity private line service offered by Bell and its competitors, business firms switch to that service rather than continue to pay a separate charge for each long distance call they make. For every interstate long-distance call that is lost because of the shift to private line service—whether to Bell's private lines or to our competitors—there is a loss on the average of about 55 cents in contribution that otherwise would help to pay for local service. So, what starts out as an attempt to bring competition into a relatively small part of the business becomes an encroachment on a major portion of the business.

The point is that competition forces fundamental changes in long-standing pricing patterns that have been strikingly successful in achieving a national objective set forth by Congress. More than 94 percent of American homes now have telephones—a proportion that is the envy of most of the rest of the world—a percentage that is two or three times higher than that of most advanced industrial nations.

We most seriously question whether the Commission should undertake such a fundamental change in policy without first completing a thorough study of the ultimate economic consequences. The Commission has underway such a study (Docket 20003)—six or seven years *after* its basic decisions on competition. And we most seriously question whether the Commission should launch such a far-reaching new direction in telecommunications policy without completing its study and bringing the matter to the Congress for resolution.

The net effect of the changes instituted by the Commission may be to lower rates for business firms that use the competitive services—but this would be at the expense of higher rates for millions of homes. It cannot be denied that pricing local residential service on the basis of costs—reducing the support it currently derives from other services—would impair the goal of universal service. And those most seriously affected would be the many people on marginal incomes who have been of special concern in our national policy.

We do not wish to be misunderstood. It is not regulation to which the telephone industry objects. Indeed, the common carriers themselves historically have argued that the services they provide are so uniquely affected with the public interest as to require stringent regulation.

What is at issue is that the Commission appears to have substituted a set of different criteria for the public interest standard that should motivate the regulatory process. These criteria may originally have been intended to

inject true competition in the telecommunications industry. However, in fact what has evolved is an alternative that affords the public the virtues neither of competition nor regulation, but the disadvantages of both—that is regulated competition, a division of the market arbitrarily imposed and artificially maintained.

We recognize it is not within our province, or that of any other segment of industry, to make the ultimate decisions as to what constitutes the public interest in these matters. We respectfully suggest, however, that the recent trend of FCC decisions on competition do *not* reflect the intent of Congress as expressed in the Communications Act. And it seems to us inevitable that the Congress itself will have to decide where the public interest lies and to determine whether the goals of the Communications Act of 1934 would be better served by a fragmented industry, or, as we believe, by a reaffirmation of the common carrier principle that has governed the development of telecommunications in this country thus far.

# Bell System Views on Communications Policy

*I believe . . . that the Congress should urgently undertake a study in depth of the incipient crisis in the industry brought about by the FCC's departure from its initial rulings on competition in the intercity market and in the market for terminal equipment.*

*Eugene V. Rostow*

**EUGENE V. ROSTOW**  
Professor of Law and  
Public Affairs at Yale University;  
Former Undersecretary of State and  
Chairman of the President's Task Force on  
Communications Policy

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## Policy Decisions Gone Awry

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I can outline my argument in these five propositions:

1. The initial decisions of the FCC with regard to competition in the intercity market and the market for terminal equipment were tenable interpretations of the Communications Act when they were made, although they rested, like our Task Force Report (of President Johnson's Task Force on Communications Policy), on expectations which have turned out to be wrong.
2. The early FCC decisions released dynamic forces which have proved to be extremely powerful. As a result, the Commission has lost control of its experiment. It has been drawn, step by step, into positions contrary to its early policy statements—indeed, into positions which were rejected by the Commission when the process began.
3. As a result, the Commission has now adopted rules which violate the most fundamental policy of the Communications Act of 1934, that of preserving the unity and viability of the basic telephone network. In reliance on these deviant FCC rulings, large business firms are seriously planning to enter some of the most profitable parts of the industry. A Gold Rush is in the making. The effect of this process cannot be confined to one or two sectors of the industry. Unless it is

promptly checked, the real costs of telephone service will increase, through the duplication of expensive communications facilities; the rate of improvement of the network will slow down; the historic rate pattern will change; and telephone rates will increase, in the first instance for household subscribers.

4. The Commission seems firmly committed to its present course. For reasons inherent in the normal relationship between courts and administrative agencies, the courts are unlikely to correct these erroneous FCC decisions, certainly not in time to prevent irreparable and irreversible injury to the network and its users. I believe, therefore, that the Congress should urgently undertake a study in depth of the incipient crisis in the industry brought about by the FCC's departure from its initial rulings on competition in the intercity and terminal equipment markets.

5. The Commission's failure effectively to implement the principles announced in its *Specialized Common Carrier* and its *Carterfone* decisions has not been due to inadequacies in the Commission's procedures, or legal or other constraints on its ability to act. In my judgment, the FCC has ample authority under the statute to have done a more effective job. The Commission's problem has been in a different realm altogether. The FCC has become a prisoner of the process

# Bell System Views on Communications Policy

*I believe . . . that the Congress should urgently undertake a study in depth of the incipient crisis in the industry brought about by the FCC's departure from its initial rulings on competition in the intercity market and in the market for terminal equipment.*

Eugene V. Rostow

**EUGENE V. ROSTOW**  
Professor of Law and  
Public Affairs at Yale University;  
Former Undersecretary of State and  
Chairman of the President's Task Force on  
Communications Policy

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## Policy Decisions Gone Awry

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### I

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I can outline my argument in these five propositions:

1. The initial decisions of the FCC with regard to competition in the intercity market and the market for terminal equipment were tenable interpretations of the Communications Act when they were made, although they rested, like our Task Force Report (of President Johnson's Task Force on Communications Policy), on expectations which have turned out to be wrong.
2. The early FCC decisions released dynamic forces which have proved to be extremely powerful. As a result, the Commission has lost control of its experiment. It has been drawn, step by step, into positions contrary to its early policy statements—indeed, into positions which were rejected by the Commission when the process began.
3. As a result, the Commission has now adopted rules which violate the most fundamental policy of the Communications Act of 1934, that of preserving the unity and viability of the basic telephone network. In reliance on these deviant FCC rulings, large business firms are seriously planning to enter some of the most profitable parts of the industry. A Gold Rush is in the making. The effect of this process cannot be confined to one or two sectors of the industry. Unless it is

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it started with the *Carterfone* and *MCI* decisions. It has allowed the quest for competition as an end in itself to become the controlling theme of its decisions in these two areas, at the expense of the concept of the public interest which dominates the Communications Act, that of the unity of the integrated national telephone network.

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## II

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I shall start, if I may, with the recommendations on these two subjects offered in the Final Report of the 1968 Task Force on Communications Policy. In many ways, those recommendations parallel the positions taken by the FCC in its initial decisions on specialized common carriers and terminal equipment interconnection, although I believe the Report rests on a more realistic definition of the network than that used in the FCC's initial decisions.

The central thesis of this part of the Report was that national policy should continue to be based on the concept of the integrated switched telephone network, managed as a unified system by the Bell System in cooperation with the Independent Telephone Companies. We took that idea to be the major premise and the essential policy goal of Title II of the Communications Act of 1934 and its predecessor statutes, and the key element in the notion of the public interest embodied in the statute. We concluded that both technological and economic developments since the Act was passed in 1934 made the case for network unity more compelling than

ever. We fully accepted the unified network doctrine of the Communications Act as sound, and built this part of our Report on it as a foundation.

Therefore, the twin principles of the Task Force Report were, on the one hand, that the integrity and viability of the telephone network as an integrated system should be maintained, and, on the other, that competition should be encouraged beyond the limits of the network, in order to release potentialities for improvement which might not otherwise become available.

While everyone agrees that the Communications Act requires an integrated and unified network, there is considerable diversity of opinion as to the reach of that rule. Where does the network end? Does it extend only to voice services? Only to voice, record, and data services which "have to go through the switching facilities of the network"? To "traditional" or "conventional" services, as distinct from "new" services? To all the services the network is capable of providing? Should the network be defined as the transmission lines and switching facilities of the system, or does it necessarily include the research, development, manufacturing, and systems management resources on which its operations, maintenance, and improvement depend?

In the Task Force Report, we adopted a broad and dynamic view of the network, which I believe is still realistic.

By 1968, the distinction between voice and record services had disappeared, as a matter of technological fact.

The notion of limiting the network to "traditional" or "conventional" services seemed absurd. In the first place, the services "traditionally" or "conventionally" offered by the established telephone companies included not only public switched message services, but private line and specialized voice, record, and data services of many types as well. In the second place, why should the nation confine a developing system, whose capabilities were constantly and rapidly expanding, to the services it happened to provide at an earlier stage of its technological evolution? We could imagine no ground of law or policy that would justify arresting the development of the network at a given point, and denying the nation the advantages of its future improvement.

Use of the switching facilities of the network proved to be an equally unsatisfactory touchstone for establishing the outer limits of the network. Like public switched message services, the private line services offered by the established telephone companies used and depended upon the transmission or switching facilities of the network, and increasingly on both. In the years since the Task Force Report was drafted, the line between private line services and those offered through the switched network has become more and more blurred, as a matter of technology, of practice, and of economics.

In an area of exploding technology and creative ferment, facing what we thought were dazzling new opportunities based on new technological developments, however, we were reluctant in 1967 and 1968 to recom-

mend a policy which would close the door to the possibility of genuine innovation developed outside the established telephone industry itself. The Report, therefore, said "we see a host of potentialities emerging for yet more cost-reducing innovation, for new services, and for market growth in many directions. Policy must be designed to exploit as fully as possible these potentialities, while maintaining the integrity and viability of the public message telephone network which constitutes the core of our national system."

Our view was that since no single rule-of-thumb test could define the outer boundaries of the network in advance, the market might be trusted to determine which new services, proposed as novel and innovative, really did go beyond the services the network could economically provide. We recommended, therefore, that the FCC experiment with liberalized policies for services "supplementing" those of the network, particularly in the rapidly expanding field of private line services, provided that such developments were carefully limited in the overriding interest of preserving the technical integrity and economic viability of the network itself. We recognized that the entry of new carriers promising to provide novel and innovative services could well generate some competition between the established telephone companies and the new specialized telephone companies. We recognized also that an uncontrolled proliferation of private line communications systems could raise serious problems for the integrated network.

The sound response of policy, the Task Force concluded, was to authorize some entry by such companies, matched by a policy of allowing the established carriers enough pricing flexibility to respond economically and quickly to the challenge of the new services. A policy of liberal entry should be balanced by one of liberal exit, we said, in order to prevent the regulation of competitive price responses from becoming a protective "umbrella" restraining competition, rather than encouraging it. The minimum price standard appropriate to this process, the Report said, was that of "long-run incremental costs" for the particular service. That phrase was, I think, an error in our Report, and one I regret. I well remember the pressures to accept this language as one of the final compromises which made the Report possible. I should now say that the minimum price standard defining the appropriate limit for such responses to price competition should be short-run or intermediate-run incremental costs, not long-run incremental costs, which cannot, in any event, be measured or estimated. As Keynes once remarked, all we can really say about the long-run is that in the long-run we shall all be dead.

The approach of the Task Force Report to the problem of terminal equipment was similar, and was based on the same twin ideas. While sympathetic to the potentialities for innovation outside the established telephone company research and manufacturing affiliates, the Report recommended liberalized interconnection policies under rules which

fully respected the policy of maintaining the technical integrity and economic viability of the network, the necessity for preserving the capacity for unified management, and the national security interest in preserving a unified and integrated national telecommunications system.

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### III

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The early decisions of the FCC took the same approach as the Task Force Report, both with regard to the licensing of specialized common carriers and the interconnection of terminal equipment. While experience in recent years has not supported the optimistic assumptions on which both the Task Force Report and the initial FCC decisions were based, the reasoning of the Commission in these cases was an appropriate and plausible interpretation of the Act. While the purpose of the laws is to provide a public utility system of interstate telecommunications on a unitary basis, it has never been supposed that the existence of the integrated network prohibited all communications systems in the United States not offered by the established telephone companies. For example, military communications systems, railroad and right-of-way company communications systems, and other purely private systems not connected to the network have existed for a long time.

Thus it was necessary for the FCC to find in its initial decisions that they involved only specialized and distinctive services, beyond the natural, convenient, or customary reach of the general-service telephone companies,

and the capabilities of their network. No other ground could justify its decisions under the Act.

The *Specialized Common Carrier* decision depends upon the assumption, indispensable to its legality, that private line intercity services constitute a distinct market, separate from those served by the telephone network. Relying on that assumption as a predicate, the *Specialized Common Carrier* decision, like the *MCI* decision which preceded it, would have confined the licensing of specialized and domestic satellite common carrier telephone companies to novel and innovative private line services not linked to the network, and would have allowed the general-service telephone companies to meet such competition fully and fairly in the few marginal areas where it was then expected. The Commission properly expressed its concern to make sure that the development of specialized private line companies would not adversely affect the rate patterns of the industry, lead to a general abandonment of historic price and cost averaging practices, or undermine separations procedures. And it indicated its willingness to allow new entrants to fail, or to merge with stronger companies, if their hopes were disappointed.

On the problem of interconnection, the Commission in *Carterfone* expressed meticulous concern for preserving the technical integrity and economic viability of the network as decisive factors in the public interest.

The *MCI* and *Specialized Common Carrier* decisions would probably not have had a revolutionary impact on

the existing telecommunications system if the FCC had adhered to its original rulings in subsequent cases, particularly to its statement of policy about confining entry to companies which promised new and distinctive services not provided by the network; and that which assured the existing telephone companies that they would be allowed to respond fully and fairly to the lower rates of the new companies, and to establish competitive rates which reflected advantages inherent in the existing companies' plant and operations. Save for services which were genuinely novel, and could meet the test of the market place, entry into the field would not have been attractive if the established telephone companies had been free to reduce their rates normally in order to meet competition.

Similarly, the doctrine of *Carterfone* would not have offered a major threat to the network if the Commission had adhered to its *Carterfone* rulings with regard to technical safeguards and economic impact.

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### IV

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But the balanced rules of *Carterfone* and the *Specialized Common Carrier* decision have disappeared.

Although the Commission has complained about it from time to time, and issued warnings and admonitions on the subject, the services provided by the specialized telephone companies are not novel or innovative, but duplicate those provided by the general-service companies. Moreover, the specialized companies are no longer confined to the provision of private

line services not linked to the network. Virtually all the new specialized services depend upon transmission and connection facilities provided by the Bell System and the Independent Telephone Companies; some also depend—sometimes in very ingenious ways—on network switching facilities as well.

Instead of allowing the general-service companies to compete with their new competitors fully, fairly, promptly, flexibly, and directly, like warm-blooded businessmen of normal instincts, the Commission has placed a blanket of regulatory protection over the new specialized telephone companies which it treats as an "Infant Industry." In a series of decisions the Commission has systematically and consistently sought to limit and delay the competitive response of the general-service companies to the emergence and rapid growth of the specialized carriers. It has restricted the entry of the general-service companies into new aspects of the business, and their service offerings. It has sought to limit and delay their capacity to reduce rates in order to meet competition. In its Interim Decision in the *Hi-Lo* case, the Commission has gone further. The approach of that decision would result in complex, unsound, and unworkable minimum rate standards which would be a formidable restraint of competition in themselves. On the other side of the coin, the FCC has insisted that the general-service companies must provide their specialized competitors with the same network interconnection facilities they use in providing their own pri-

ivate line services — an astonishing idea, which stands the original *MCI* and *Specialized Common Carrier* decisions on their heads. There, the FCC justified its decisions precisely because the specialized companies' offerings were different from the private line services provided by the general-service companies. It is hard to imagine a result which more completely denies the general-service companies that competitive advantage inherent in their plant and structure—the test announced in the *Specialized Common Carrier* case.

The Commission's record on terminal equipment parallels the history of its policy on intercity private line telephone services. One by one, the qualifications of the *Carterfone* case have vanished. *Carterfone* left the problem of safeguarding the technical integrity of the network to the carriers. And it recognized the economic viability of the network as a genuine public interest factor in interconnection cases. The Commission has now taken a long step towards authorizing interconnection by certification or registration, which will surely encourage competition, but, in the opinion of many experts, constitutes an unnecessary and excessive technical risk. And in recent years the FCC has simply ignored the economic aspect of the interconnection problem, most notably in the *Mebane* case.

The trends which have gained in momentum because the FCC has failed to implement its *Carterfone* and *Specialized Common Carrier* decisions threaten not only the structure and efficiency of the network, but the pattern and level of telephone

rates throughout the United States. The "new competition" sponsored by the FCC cannot be confined to private line services and the sale of terminal equipment. As was noted earlier, private line services do not constitute a "market," in the antitrust or any other sense. The distinction between private line and MTS and WATS services is already an artificial one. As Chairman Wiley of the FCC has recently noted, it is likely soon to disappear altogether. And competition in the sale of terminal equipment does have an impact on revenues which could well become serious, particularly for the smaller general-service companies. The first effect of these pressures will be reduction of rates by existing carriers in areas of competition.

These linked processes of change are having other effects on the telephone system, beyond reducing rates in areas of competition, thus requiring rate increases for the household subscriber in order to permit an adequate over-all level of return. They are also causing a wasteful duplication of expensive capital facilities. They complicate the task of network planning and management, by adding new problems of accommodation. And, if long extended, they will surely slow up the improvement of the network at an optimal rate. The rate of introduction of new generations of high-capacity low-cost technology is determined by the growth of demand for the services of the network.

In the long run, the most important lesson of this experience is that the major premise of the *Specialized Common Carrier* decision has turned

out to be mistaken. It is now beyond dispute that private line services are not a separate market, hermetically sealed from the markets for network services. It can no longer be said that competition for intercity private line services or in the sale of terminal equipment will not have an effect on rates and rate structures, national averaging, or separations procedures.

Nonetheless, the Commission continues to act and speak as if it had the authority to allow competition for its own sake in the intercity and terminal equipment markets.

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The development which began with the FCC's *Carterfone*, *MCI*, and *Specialized Common Carrier* decisions raises questions about the future of communications policy which only Congress can answer.

I hope the present hearings will prove to be the first stage of a fundamental study. The issues at stake are of genuine importance. They can only be resolved by an informed public opinion which has carefully considered all sides of the controversy.

The key issue in this related group of controversies is to define the scope of the national public utility franchise granted to the general-service telephone companies under the Communications Act of 1934 and its predecessors. All the participants in the recent debate agree that if a service or a function falls within the boundaries of the network, it should be left to the Bell System and the Independent Telephone Companies, which are charged under the Act with the re-

sponsibility for maintaining and improving the network as a public utility. Under the Act, the FCC has no power to do otherwise. No one contends that the Commission has the power to decree a regime of competition in this or that segment of the industry, or the industry as a whole, by its own fiat.

The commentators divide, however, on how the boundaries of the network should be drawn.

The history of the *Specialized Common Carrier* and the *Carterfone* decisions illustrates the nature of the problem. Those decisions were properly framed by the proposition I have just stated: that under the Communications Act functions properly assignable to the network must be left to the network. The Commission believed that although the established telephone companies provided some private line services, the rapid development of new technologies, particularly those in the computer field, made it possible to discern a large, "latent," heterogeneous, and growing "market" for specialized and novel private line services not using the facilities of the network, and that this area was a "market," distinct from the market for "conventional" or "traditional" switched network services. However plausible this view may have been five or six years ago, it is not possible to defend it today.

Like every other test which has been suggested for drawing a boundary line around the network, the attempt of the FCC to isolate a market for interstate private line services, and to treat it as outside the legal limits of the central network, has

proved to be illusory. The network is in fact indivisible. Experience now demonstrates that the FCC policy of deliberately encouraging and protecting competitive entry into private line services, and into the provision of equipment to subscribers, inevitably has cumulative effects on the rate structure for all communications services, through the pressures it generates on price-averaging and on separations procedures.

I conclude that the only realistic definition for the scope of the integrated network is that it should be used to provide the many kinds of communications services of which it is capable—not only public switched network services, but special private line voice and data services as well. For doubtful cases on the periphery of the network, the boundary should be drawn by the market, as we suggested in the Task Force Report.

The principle of network unity suggests four conditions which should be met before the FCC authorizes a specialized common carrier to offer services which can also be provided by the network. All four of these criteria are stated in the FCC's First Report and Order in Docket No. 18920, on *Specialized Common Carrier Services*:

- (1) that the services offered will in fact be novel, and will reach sectors of the market hitherto unserved or inadequately served;
- (2) that its equipment be compatible with that of the network, and minimize the risk of damage to its technical integrity or safety;
- (3) that the development of its services not adversely affect the economic

viability of the network, or require significant changes in price averaging and separations procedures long supported by state and national policy, and

(4) that the existing common carriers have full and normal economic freedom to respond to (or to anticipate) competition through price reductions, so long as their prices are not discriminatory or predatory. This criterion of the *Specialized Common Carrier* case should be interpreted to mean that no price be deemed predatory if it covers the actual marginal or incremental cost of providing the service in question.

Until the FCC is directed by Congress to return to these rules, the Bell System and the Independent Telephone Companies will be in an unfair and untenable position. They are in the posture of Gulliver among the Lilliputians. Some of their most profitable business is being taken from them, and they are not being allowed to respond. This is an absurdity which would give the nation the worst of both worlds. It is not a policy of competition, but of its opposite—of market sharing, restrictive rules, cartellization, and mercantilism.

Even if the existing telephone companies are finally allowed a full and fair opportunity to compete with the specialized private line telephone companies, the process of rate changes initiated by the FCC's decisions on the two subjects before us raises fundamental questions of policy.

Does Congress wish to allow the FCC to move away from value-of-serv-

ice pricing, based on the economic principle of welfare maximization, and force the telephone companies towards cost-oriented pricing for services subject to competition—a trend which would reduce the share of common costs now borne by intercity rates, and thus require sharp increases in the telephone rates of households?

Does Congress wish the FCC to pursue a policy of encouraging much more competition in the provision of telecommunications equipment for subscribers, at the cost of weakening the network managers' control of its technical quality, and at the cost also of economic harm to the network, generating further pressure for rate increases in other areas?

Does Congress wish the FCC to take over, by preemption, an important part of the existing jurisdiction of the state regulatory commissions?

One thing is certain: the nation cannot have it both ways. It is impossible to preserve relatively low rates for the household subscriber, based on value-of-service pricing, nationwide averaging, and existing separations procedures, and at the same time pursue the goal of encouraging the entry of new specialized companies supplying intercity telephone services and equipment, and then protecting them against competition.

Congress must choose, before the course of events makes it too late to choose.

# Bell System Views on Communications Policy

*Decisions are being made by the FCC that substantially alter the social, political and economic groundrules, without agreement on the overall goals and objectives . . . it is the prerogative and responsibility of the Congress to provide policy direction. . . .*

R. R. Nathan

**ROBERT R. NATHAN**  
Consulting Economist and  
President of Robert R. Nathan Associates

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## The Need for a Telecommunications Policy

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The focus of these hearings is to be on the effectiveness with which the FCC has implemented its decisions involving the introduction of competition into segments of the telecommunications industry and the conditions regarding full and free competition expressed in the decisions. In order to assess the effects of the decisions, it is necessary to identify the controlling objectives and the public interest in them. It is my judgment that this has not been done and that as a consequence the Commission has been drawn into some untenable regulatory postures and some questionable economics.

To begin with, it is necessary to distinguish policy, as it would be made by Congress, from *ad hoc* decisions made by the regulatory agency. Policy requires an understanding and conception of an overall purpose and, a clear definition of the public interest in the efficient and beneficial functioning of the telecommunications industry. In my view, no such clear understanding and conception has been articulated in recent years. Absent a clearly articulated policy with respect to competition in the industry to guide the FCC in deciding under what circumstances, and for what purposes, and how it is to be implemented and accommodated, there has been and will continue to be confusion as to both objectives and consequences. This is because decisions

are being made by the FCC that substantially alter the social, political and economic groundrules, without agreement on the overall goals and objectives. In my judgment it is the prerogative and the responsibility of the Congress to provide policy direction appropriate to the technology, the economics and the public stake in telecommunications in the 1970s and 1980s.

I have some concerns about the workability and about the economic basis of the FCC's decisions in regard to competition. Clearly, the FCC's decisions with respect to *Carterfone*, *Specialized Carriers* and *Domestic Satellites* represent a significant change—a departure from the fully regulated status of the telecommunications industry. I interpret these decisions, and those based on them, as attempts to combine regulated monopoly with competition in some segments of the industry. As an economist, I am convinced that this co-existence model will be extremely difficult to implement, both technically and economically, as experience to date already illustrates. Even now, years after its decisions, the FCC is still inquiring into social and economic consequences it should have foreseen.

These difficulties explain in large part the long delays, expensive litigations, and onerous regulatory requirements that have characterized



many proceedings before the FCC in recent years. In spite of the FCC's professed intention to allow "full and free competition" in those segments of the industry affected by its decisions and to allow Bell to price its services so as to reflect the advantages inherent in its plant and operations, the effect of the decisions and the ensuing regulatory proceedings has tended to bring about *de facto* a state of cartelized competition, in which supposed competitors seek regulatory protection from the consequences of true competition. As I explain in this statement, however, from an economic standpoint, this is not unusual where monopoly and competition are supposed to coexist in a regulated environment. The tendency of regulators may be to ensure that the professedly open competitive segments will in fact be protected from competition. Such protection, of course, is self-defeating and leads only to uneconomic partitioning of the market, to the detriment of the public interest. By attempting to allocate markets and services and fix prices, as between new would-be competitors and the established carriers, rather than leaving that function to the competitive marketplace, the FCC further impedes its own ability to act effectively. Examples of what happens under such circumstances abound in the transportation industry.

The consequences of *ad hoc* decisions made in the absence of clearly understood and articulated policy can be very costly. In previous testimony in 1974, I described the very impressive performance of the telecommuni-

cations industry over recent decades. There are few industries, regulated or unregulated, that have done as well, in terms of continuous growth, improving technology, and moderate pricing. We have too much at stake not to consider carefully the consequences of changing the fully regulated telecommunications system.

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### **The Need For Clearly Identified And Articulated Policy In The Telecommunications Industry**

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The distinction between national policy and the regulatory function is important. National policy defines the public interest in relation to specific or general aspects of national life and to governmental programs or actions. Policies provide the criteria by which both public and private actions can be evaluated in terms of the public interest. Policy guidance from Congress is needed before charting new courses not contemplated when the basic statutory guidelines for the industry were established in 1934.

The Communications Act contained statements of purpose that were applicable to the industry as it was perceived in 1934. After 40 years of explosive technological development and massive investment, and a quintupling of the national economy, a re-examination and reinterpretation of the Act's original purposes may be in order. Technological achievements have created new demands and new uses for communications over the intervening years.

Considered policy formulation can only occur after careful study. However, the FCC's approach to these

changes has tended to take the form of piecemeal *ad hoc* regulatory reactions to specific problems forced to their attention. Not only were policy objectives unclear, but the consequences of the decisions were not analyzed in advance or evaluated fully in terms of the public interest. As a result, it appears that the FCC now has been pulled far beyond its original intentions. That this could happen is not surprising, given the dynamic changes that have occurred in the industry during the past three and a half decades. Many of the original statutory proposals were fulfilled because of the industry's performance as a well regulated "natural monopoly" and at the same time as a progressive enterprise.

Through regulatory encouragement and approvals, the industry's performance *de facto* defined the policy: the universalization of telephone access by low-priced basic services, made possible not only by improvement in technology and productivity, but also by a rate structure which assigned to business and toll services a relatively large and systematically increasing share of the total cost burden. By the 1970's, the technology and the market had proliferated so fast and so far as to generate a vast array of new uses and new services, thereby creating a greatly diversified market. Not surprisingly, that part of rate structure which had been assigned the heaviest share of the joint and common costs, and which therefore appeared to have relatively high ratios of revenues to direct costs, became most attractive to would-be competitors.

Given these developments it would seem that if competition was to be introduced, its technical and economic consequences should have been determined first, as should its implications for re-ordering the rate structure. Yet this was not the sequence of the FCC's decisions. Instead, it first opened the door to competition. Only now, some 4 to 6 years later, it is investigating some of the consequences, economic implications and technical problems which its decisions precipitated.

As we stand on the threshold of new technologies, with far-reaching implications for system characteristics and economies of scale, the Commission is still mired in the mechanics of regulating competitors when it should be concerned with the shape of telecommunications for the future. These problems will continue to arise with increasing frequency so long as we allow *ad hoc* decisions to shape policy. It is a matter of great concern that continuation of this practice will cause the industry to slip into a pattern of contrived or cartelized competition, with damaging consequences to the system.

Signs of this danger are already evident in the apparent double standard being applied in the regulatory process where the FCC demands the most detailed analyses and the most voluminous (sometimes impossible) proof (requiring months or even years to examine) from the Bell System before it can make tariff revisions to be competitive with those that the specialized common carriers have been allowed to put into effect on a

few days notice without hearings.\* Having authorized the entry of competitors in specialized services without adequate consideration of the consequences to the telecommunications system, the FCC now has on its hands an infant industry which may or may not be competitively viable, but which apparently is to be kept alive to justify the earlier decisions. The Commission has done this by imposing competitive handicaps on Bell and has strongly supported the competitive specialized services without requiring that they share common costs of furnishing total communications services.

Up to now these forays by newcomers into regulated competition have been marked by proceedings of great complexity and interminable length (judicially noticed by a recent Court of Appeals decision) as the Commission has tried to find a way through the thicket of issues raised by its decisions. Either the Commission did not foresee the implications of its earlier commitment to "full and free competition" (which clearly includes permitting the Bell System to compete) or it is unwilling to live with these implications. This explains in large part why the FCC now finds its

\*Bell System data show that of 29 tariff filings with the FCC made by other common carriers between December 30, 1971 and April 3, 1975, 15 were allowed to take effect within 2 days or less; 11 were allowed to take effect within 30 days or less; and the other 3 within 90 days or less. In contrast, a substantial number of Bell's filings have been suspended for the maximum statutory period and then subjected to formal docket proceedings.

dockets congested and itself increasingly unable to implement its *ad hoc* decisions.

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### **Regulatory Decisions Made Without Policy: The Transportation Example**

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We have witnessed, in recent times, what disastrous consequences can follow from regulatory decisions made without regard to public policy and economic consequences. I am referring to the regulated transportation industries, in which poorly conceived and piecemeal regulation resulted in cartelization, inefficiencies, excessive costs, misallocation of resources, and stifled progress. Let me state at once that it was not the regulation *per se* that was so costly, but it was the lack of policies and programs that are prerequisites for effective regulation.

Over the past twenty years I have participated as an analyst and expert witness in a variety of proceedings in rail, air, and water transportation concerning certifications, rates of return, subsidies and other issues. I have seen what happens when decisions are arrived at one by one in response to short-term pressures brought to bear on specific situations or mode by mode, without regard to the characteristics and requirements of a national transportation system or to the public interest in assuring efficiency and serviceability.

In spite of the proclaimed goals of the National Transportation Act of 1940, we have never had an effective national transportation policy which recognized and effectuated the "inherent advantages" of the several modes

of transportation. The result is that the efficiencies that might be realized from an integrated system largely have been lost. Railroads have been restrained from exploiting their system efficiencies for fear of competitive injury to trucks and waterways; motor carriers are restrained from efficiencies for fear of injury to other motor carriers. Intra-modal competition is stifled to protect inefficient competitors.

It needs to be restated that regulation *per se* has not been the culprit, but rather it has been the lack of policy and effective regulation in relation to serving the public that largely explains our present plight.

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### **The Contrast: The Telecommunications Industry**

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In telecommunications we still have the opportunity to opt for policies reflecting the public interest in an efficient, low-cost system that not only applies the best of present technologies but can exploit and assimilate new technologies as they are developed. Because of the clearly manifest and substantial economies of scale, the telephone industry evolved as a natural monopoly. It evolved as an integrated system, linking research and development with manufacture, installation, operation, and maintenance of service. This development of a comprehensive system proved very successful, from the point of view of both the public interest and the regulators charged with protecting the public interest. The public interest coincided with the Bell System's objectives of expanding service, advanc-

ing technology, and reducing prices, at least until rampant inflation forced increases in charges. Consequently, for many years there prevailed a policy complex which was implicit in the consensus and coincidence of regulatory objectives and Bell performance.

The value of this pattern and performance should not be taken lightly. I had occasion to look into the post-war performance of the telephone industry as a public utility and as an enterprise for Senator Hart's Subcommittee on Antitrust and Monopoly last year, and to compare it with other industries, both regulated and unregulated, both natural monopolies and competitive. The conclusion was inescapable that by any standard of what we expect in our enterprise economy the telephone industry has performed very well indeed. In the period of 1947-1971, the industry increased its output faster than all but 2 of 12 comparable industries and twice as fast as the U.S. private economy. Its productivity (output per man-hour) increased faster than 7 of the 12, and 75 percent faster than the U.S. average. Its prices increased only half as fast as the average and less rapidly than all but 2 of the 12 comparable industries. And its rate of return on stockholders equity investment was lower than all but 2 of the 12. From 1940 to 1973 the net investment in telephone plant increased from \$3.4 billion to \$58.4 billion, and the percentage of households with telephone service increased from 37 to 94 percent. Telephone usage increased from 26 billion to 143 billion conversations annually, and telephone revenues from \$1.2 billion to

\$23.5 billion. In terms of the national purposes of penetration and use set forth in the Communications Act, "... to make available to all the people of the United States a rapid, efficient, Nation-wide . . . communication service with adequate facilities at reasonable charges..." this is a very impressive performance.

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**The FCC's Apparent Policy:  
Coexistent Regulated Monopoly  
With Competition in Some  
Segments**

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In recent years, the FCC has made decisions which have changed the telecommunications industry substantially, giving access to new entrants in certain segments previously served by a regulated single carrier. The full impacts and implications of these major changes are not fully reflected or understood as of the present. Yet, as could have been anticipated, there are increasingly insistent demands for a greater degree of freedom of entry and competition in this large and growing industry. Partly this is the result of the telephone industry's success in achieving virtually universal telephone service throughout the United States as contemplated by the Communications Act of 1934. Partly, it is the result of proliferation of telecommunications technology and the equipment and services it makes possible, much of which can be attributed to scientific and engineering advances that came from within the industry itself. But probably most important of all, it is the result of the way in which system-wide rates over the past several de-

acades under regulation have been structured and averaged in relation to their costs. This structuring and averaging, of course, has facilitated the achievement of virtual universal telephone service since a principal objective was to provide basic exchange service at rates lower than would otherwise be possible.

Because the FCC did not in advance of its decisions attempt to resolve economic and technical problems which could have been anticipated from its decisions, problems have continued to compound at a much faster rate than the Commission's apparent capacity to deal with the issues, thereby making it even more difficult for the Commission to resolve them in the future. These decisions do not add up to a national telecommunications policy nor do they define the public interest in it. The most we can say for them is that in recent years there have been a number of decisions which add up to a general kind of implicit policy to encourage some uncertain degree of competition in some not prospectively defined parts of the telecommunications system. Order and certainty have been displaced by a whole complex of rather vaguely determined directions and indefinite measures that do not chart a clearly conceived set of purposes, goals, policies and programs.

Just what is the intent of the FCC's implicit policy? As I view it, I believe that it is an attempt to gain the benefits of both regulated monopoly and competition. Its decisions inviting competitive entry have been limited to discrete segments of the business.

For example, the FCC evidently concurs in the generally accepted fact that the entire switched voice network enjoys inherent economies of scale and should therefore remain a regulated monopoly. Recently, FCC Chairman Richard E. Wiley stated his concept of this "co-existence" model:

"While the FCC believes that competition is feasible in these discrete areas, there is absolutely no question in my mind that the basic MTS and WATS services involve monopoly characteristics and public interest considerations which dictate regulation rather than competition."\*

Thus, the Commission appears to favor a telecommunications system based on the coexistence of a natural monopoly along with competition in some segments. Nevertheless, as to that segment opened to competition, the FCC stated in its *Specialized Carriers* decision that existing carriers would have the opportunity to compete fully and fairly in the provision of private line services and would be permitted to price such services to reflect inherent advantages in their plant and operations.

What seems to be developing in the industry, is a pattern of contrived competition or cartelization—a model which has all of the detriments of monopoly without the advantages of competition. Instead of regulated monopoly as in the past, we see de-

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\*Address of the Honorable Richard E. Wiley, Chairman, Federal Communication Commission, before the 87th Annual Convention of the National Association of Regulatory Utility Commissioners, Boston, Mass., November 3, 1975.

veloping a system within which competitors are restricted in number and activity, and are protected by regulation from the full consequences of competition in service, price, quality and efficiency. Either competition should be free and effective or there should be regulated monopoly. There should not be "regulated competition." This kind of contrived competition is not in the public interest. Indeed, the Commission stated in its *Specialized Carriers* decision and in later decisions that "... there should not be any protective umbrella for the new entrants, or any artificial bolstering of operations that cannot succeed on their own merits." Such an unwanted and uneconomic system, nonetheless seems to be developing as a result of the FCC's *ad hoc* resolutions of problems. The Commission's actions and practices do not fit those principles which it presumably espouses.

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**The Difficulties of Achieving  
Coexistent Regulated Monopoly  
With Full and Free Competition**

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There are a number of economic reasons why the Commission's efforts have not brought into being the kind of system of which its statements indicated to be its intent, namely, natural monopoly combined with fully competitive segments, and why I think such a system will be difficult to achieve in the future.

If full and free competition on those segments of the telecommunications system opened to competitive entry by the FCC is to be realized, then the FCC must implement what it

says its policies are to be. It must recognize that competition requires the interplay of the marketplace in determining marketing arrangements and prices. While some of the FCC's decisions appear to recognize this economic principle, the Commission generally has either failed or has delayed in implementing it. Thus, the increasingly time consuming and expensive proceedings now accumulating before the FCC are due to its failures to adopt well thought-out policies in advance of its new "entry decisions," as described above, and to its refusal to accept economic realities in the telecommunications industry. Even assuming, theoretically, that the FCC's designed co-existence system could be achieved there are severe constraints which have their basis in economic realities. These constraints are as follows:

(a) No competition can or should be established where major economies of scale are present.

(b) Given the rate and cost averaging inherent in the price structure of the regulated monopoly, and the policy of having rates for services other than basic exchange service contribute substantially to the coverage of common costs, the mere fact that there are would-be entrants to certain segments of the system is no proof in itself that competition is appropriate.

(c) Protection against predatory pricing is a legitimate regulatory function. However, it must be expected that new competitors in the sector designated for competition may raise endless allegations of unfair competition which may have the

intent, or at least the effect, of bringing long and expensive investigations which in themselves can actually dampen competition and delay the realization of any benefits that newly introduced competition might otherwise produce.

(d) Technical change and a further realization of economies of scale may tend to reestablish a single carrier, assuming that it is permitted to price its services to reflect advantages inherent in its plant and operations. Full and free competition therefore may produce some failures among new competitors.

The FCC must not let the threat of failures among the new "competitors" reinforce its tendency to overprotect them. The essentiality of recognizing these economic constraints and the penalties of ignoring them are examined below.

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### **Economies of Scale**

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In a situation where there are large economies of scale at current and anticipated levels of output, the public cannot be served best by competition. One firm can serve such a market best since it can produce the full output required at less cost than could a number of firms. This surely applies to the basic telecommunications system. The resulting monopoly is regulated in the public interest to restrict its prices and profits to approximately those that would obtain in a competitive market if one existed. Where scale economies exist, competition can only be maintained by some form of protective umbrella, and the resulting higher costs produce higher

prices for users than would be charged by an effectively regulated monopoly.

The substantial reduction in telephone charges relative to earnings and to other prices over a period of 35 years are certainly based in part on the effect of such economies of scale within the telecommunications industry as a whole. These scale economies have been combined with economies gained from technological breakthroughs, which, in turn, have often depended on the large and growing market to make their introduction possible. (The development of these new technologies may also depend in part on economies of scale in research as well.)

The price reductions made possible by such economies have been greatest in the interstate intercity services. Charges to users for interstate toll services are approximately 7 percent lower than in 1953, while at the same time, the intercity services have borne an increasing proportion of the costs for the basic exchange services.

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### **The Impossibility of Rate and Cost Averaging Under Competitive Conditions**

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The prices charged for various services by the regulated monopoly reflect a system-wide rate structure designed to facilitate the provision of basic exchange services at rates lower than would otherwise be possible.

When an attempt is made to introduce competition into regulated monopoly price structure which has developed over several decades, it will attract competitors to those segments

of the market which have the most favorable revenue-to-cost ratios to new entrants, whose revenues are not burdened by any contribution to the basic local services. Sheltering these entrants from the competition of rate adjustments by the existing carriers to de-average or otherwise align their rates more closely to relevant costs is neither true competition nor in the public interest.

Competition would be most appropriate where costs for increased production by the monopoly carrier were constant or rising (rather than decreasing because of economies of scale) or where a new firm could offer lower prices because of its superior efficiency. It would appear, however, that the FCC has mistaken for innovative or lower cost services the new carriers' offerings aimed at exploiting rate structures created under regulation to achieve low rates for basic exchange service.

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### **Proceedings Aimed at Protecting Against Predatory Pricing Must Not Serve to Dampen Competition**

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It is most difficult to fashion a system combining inherent natural monopoly with competition in some segments of an industry. Competition in the competitive segment can be thwarted by predatory pricing or by cross-subsidization in which the monopoly uses revenues from its monopoly markets to subsidize rates in the segment open to competition. Competition can also be thwarted if new competitive firms raise numerous but spurious claims of predatory pricing by the regulated monopoly (as, for

example, when the regulated monopoly attempts to make price readjustments that reflect inherent advantages in plant and operations).

Both of the above situations present potential anticompetitive dangers; it is a legitimate regulatory function to guard against them. In doing so, however, the regulatory agency must be careful in distinguishing the problems, i.e., it must not confuse the low costs of inherent advantages of the monopolist with predatory pricing. For example, the nationwide switched message network can be, and is, used to provide private line services economically. Pricing based on the sharing of these inherent advantages is efficient, not predatory.

It is almost prohibitively expensive and difficult to determine by investigation and regulation the adjustments of competitive pricing which are normally achieved through the interplay of market forces. Yet this is what the FCC is attempting to do. Rather than let the competitive marketplace be the arbiter and allocator of goods, services and prices in those areas open to competition, the FCC is attempting in effect to perform these market functions itself. The very attempt to resolve such issues through regulatory investigation rather than through the market mechanism seems to throw the deliberations into a kind of economic wonderland.

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### **Technical Change and the Future Realization of Economies of Scale Will Tend to Reestablish a Single Carrier**

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Fast changing technology and further realizations of economies of scale will continue the historical trends in the telecommunications industry. Added economies of scale at current and future levels of output can bring changes, thereby putting pressure on the FCC to protect the "competitors" who may not be in a position to survive under free competition. If the FCC succumbs to such pressure, its protective actions will thereby reinforce the unmanageable cartelization under which the public cannot gain the full benefits of the introduction of technology that allows the further realization of economies of scale.

The regulatory problems in pricing telecommunications services in a competitive situation go not only to the overall level of rates, but also, importantly to the distribution among classes of users. If the market for Bell services were to shrink in the competitive segments, what price changes in other services will be necessary to cover Bell's joint and common costs, and will the rate base and capital requirements be reduced commensurately? These are very difficult regulatory problems, spread among FCC and 50 state jurisdictions. Unless the total market in the competitive segment is stimulated by competition to grow as fast as Bell's competitors, an absolute decline in Bell's revenues would shift additional revenue requirements to the natural monopoly

segment—a result which the state regulators, at least, will find most unwelcome.

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### **The Regulated Competition/ Cartelization Model: The Worst of Both Worlds**

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If the FCC fails to achieve the co-existent state (of competition and regulation) and instead slips into the mode of cartelized competition (as the evidence thus far suggests it is doing), then the public interest is certain to suffer. A system of protected competitors tends to distort the allocation of resources, to raise costs and prices, and to dampen the efficiency of "inherent advantages" of the several carriers. The FCC has already taken disquieting steps in this direction with its "infant industry" attitude toward entrants who claim inherent competitive advantages for their services as their reasons for seeking entry, but once they are admitted, they offer no new or different services and want protection as against Bell, against each other and against any new entrants. A clear policy directive is needed to correct this kind of "regulation." Otherwise we face the prospect that the Bell System will be precluded from competing in services in which it is well able to compete (perhaps at lower cost) and will be more or less confined to the regulated monopoly activities. The regulatory agencies should not be placed in the role of handicapper, attempting to allocate or maintain market shares which, in a genuinely competitive market would be allocated by competition. We have only to look at

the history of railroads vs. trucks vs. waterways to know that this is not a route we want to travel.

Regulated partition of the market may also reduce any single share below the threshold of volume required to further realize economies of scale, and could inhibit the introduction of new technologies, such as optical transmission, which is rapidly approaching feasibility. In a truly competitive market, a carrier (whether Bell or another) able to exploit the competitive advantages of such an innovation might achieve the volume necessary to make it economic; not so perhaps if competition is regulated to preserve market shares, at least not without long time lags.

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### **Impacts of Competition on the Telecommunications System**

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There is a clear burden of proof to be borne by advocates of change in the basic system arrangements. The system has worked too well in the past to be tampered with by change for the sake of change. Change should be accompanied by clear showings of benefits and clear understandings of costs and the relations of one to the other.

As I believe I demonstrated before the Hart Subcommittee last year, the system has indeed performed well, notwithstanding its monopoly character and multi-level regulation, by any test of good performance in an enterprise economy: market penetration, technology, quality, and price. Any alternative has to perform at least as well. If it does not, it should be required to offer countervailing

benefits. It has not up to now been demonstrated that opening the field to competition will do either.

The Bell System, though contesting the need for the entry of competition and in some respects the feasibility of competitive service and equipment, has made clear that it intends to compete vigorously in specialized common carrier and vertical services in accordance with FCC decisions and is positioning itself to do so. The Commission should not stand in the way of this goal. The onerous requirements and long delays in dealing with filing of tariffs and applications to construct facilities have made it most difficult for Bell to compete.

Lacking a policy frame of reference, the Commission has allowed itself to be drawn step by step into murky areas of competition it does not itself profess to understand and still has under investigation. First it approved competitive entry in private line service proposed as "economical" and "innovative" to meet needs ostensibly not being served. Then in order to validate that decision, it mandated interconnection with the Bell switched network until now the "innovative" competitor is providing only in selected higher volume areas, what is in effect a duplication of intercity services provided by the existing established carriers. Similarly, while the Commission repeats that it will allow "full and free competition" by the established carriers, it has treated the new entrants as "infant industries" entitled to protective nurture and placed a variety of roadblocks to shelter them from Bell System competition. Each decision, in turn, has

recited the putative virtues expected to flow from competition—innovation, wider customer choice, lower prices—but it remains to be determined what these so-called competitive arrangements will do; what will be their economic effects; and how competition will improve the overall performance or reduce the overall cost of telecommunications services.

**The Case for Congressional Action  
to Safeguard the Telephone Network  
as a Universal and Optimized System**

**by  
Eugene V. Rostow**

**Memorandum for the  
American Telephone and Telegraph  
Company**



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\*Sterling Professor of Law at the Yale Law School, and Chairman of the President's Task Force on Communications Policy, 1967-68. Professor Rostow is a specialist on the economic and legal problems of industrial organization, and has written widely in the field. Although this memorandum was prepared for the American Telephone and Telegraph Company, which Professor Rostow serves as a consultant, the views expressed herein are those of Professor Rostow.



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## SUMMARY

In a series of recent decisions, the Federal Communications Commission has been led, step by step, into a pattern of rules which violate one of the fundamental policies of the Communications Act of 1934 and its predecessor statutes, — that of assuring the maintenance and improvement of the integrated switched telephone network, managed as a unified system by the American Telephone and Telegraph Company and its affiliates, in partnership with the Independent Telephone Companies.

This development has taken place during the last seven years in ways which were unforeseen, and indeed rejected by the Commission when the process began.

Starting in 1968, the Commission launched an experiment in its regulatory policies, involving (1) liberalized rules for the connection of consumer-owned equipment to the telephone network; and (2) the licensing of what are called, in the vocabulary of the FCC, "specialized common carriers," "miscellaneous common carriers," and "domestic satellite common carriers," offering private line services primarily to larger business firms on selected high-volume, lower-cost routes. Experience has shown that the services offered by these carriers duplicate those already provided by the regulated general-service telephone companies. In order to clarify the policy problems raised by this development, the new telecommunications companies should therefore be called "specialized common carrier telephone companies," as distinguished from the general-service telephone companies offering a wide variety of telecommunications services to the public at large.

The dynamic forces released by these trends in FCC decision-making have proved to be extremely powerful. As a result, the Commission has lost control of its experiment. It has been drawn into positions contrary to its early policy statements on the issues.

The Commission has undertaken the regulatory protection of the specialized telephone companies against the fair and normal competitive responses of the general-service telephone companies, thus denying to the public the advantages of the economies inherent in the plant and the operating methods of the telecommunications network viewed as an integrated system.

Similarly, with regard to the connection of customer-owned terminal equipment to the network, the Commission has taken a first long step, in its decision of October 31, 1975, in Docket 19528, towards regulations which, in the opinion of many experts, could jeopardize the technical integrity and efficiency of the network, and adversely affect its economic viability as well.

As they have evolved, these twin lines of FCC decisions are now inconsistent with the FCC's initial expectations and rulings, and with the standards of the Communications Act. The initial rulings of the FCC would have confined the licensing of specialized and domestic satellite common carrier telephone companies to novel and innovative services not linked to the network, and would have allowed the general-service telephone companies to meet competition fully and freely, in the few areas where it was then expected, in ways which assured the public the advantages inherent in the plant and operations of the Bell System and the Independent Telephone Companies. Similarly, in its first rulings on interconnection, the Commission showed scrupulous concern for preserving the technical integrity and economic viability of the network as decisive factors in the public interest.

These qualifications have now been largely swept away. If current trends are allowed to continue, they will be entirely swept away. The FCC's pattern of decisions has encouraged the emergence of business pressures which threaten the technical and economic viability of the network as a system capable of optimized operation and development, and capable also of providing universal service at rates which are reasonable for each class of subscribers. In reliance on these deviant FCC decisions, a veritable Gold Rush is in the making. A number of companies have entered or are seriously planning to enter the most lucrative parts of the telephone business, naturally attracted by the opportunities the FCC has created to participate in the provision of telecommunications service. Unless the process is promptly checked, two major consequences can be expected. First, the real costs of telephone service for the American economy will increase, through a wasteful duplication of facilities and slowing up or preventing the introduction of lower-cost high-capacity technological innovations. Second, telephone rates for the many millions of household subscribers will be raised sharply, and increases in other rates will also occur. Such a development would be in conflict with the overriding national policy of providing a universal telephone service at reasonable rates through a unified telephone network.

The FCC seems firmly committed to its present course. For reasons inherent in the normal relationship between courts and administrative agencies, the courts cannot be expected to correct these erroneous FCC decisions, certainly not in time to prevent irreparable and irreversible injury to the network and its users, and large increases in telephone rates for household users. In view of the familiar judicial policy of deference to the expertise of administrative agencies, it is possible, though by no means certain, that the courts will ultimately uphold most of what the FCC has done as a permissible exercise by the agency of its discretion in implementing broad and general Congressional policies in a highly technical field.

Congress should therefore act promptly to reaffirm the policy of network unity which has dominated its decisions in this field at least since 1921, and apply that policy to a number of the critical problems which have been the focal point of controversy since 1968. An amendment to the Communications Act should provide that:

- (1) the unified network should provide the services within its capabilities;
- (2) specialized telecommunications companies should be authorized only if the FCC is convinced they are offering novel and innovative services not readily available through the network, under conditions which do not threaten the technical or economic viability of the network;
- (3) the right of the general-service telephone companies to meet such competition fully and fairly should be clarified, and
- (4) the jurisdiction of the state regulatory authorities should be reiterated.
- (5) Furthermore, the prevailing rate policy — based on nationwide averaging practices and state-federal separations procedures — should be restated as a public interest standard; that policy is the predicate for the relatively low rates of household subscribers, even in remote rural areas.

## I. INTRODUCTION

One of the fundamental policies of the Communications Act of 1934 and its predecessor statutes was to assure the maintenance and development of the integrated switched telephone network, managed by the Bell System in cooperation with the Independent Telephone Companies, now some 1600 in number. The conception of the unitary network, whose facilities are available in common to all users, is inherent in the mandate of Section 1 of the Communications Act, which is "to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide and world-wide wire and radio communication service with adequate facilities at reasonable charges . . ."

The unitary switched network is the means chosen by Congress for achieving the goals of the Act. It is the backbone of our telecommunications system. It was as familiar in 1911, 1921 and in 1934, when Congress passed communications statutes, as it is today. It was the reality to which both the 1934 statute and its predecessors were addressed. It was their overriding policy goal that telephone service be provided through a unitary network linking every public message telephone to every other such instrument in the land, and in the world. Both economic and technological developments in recent years make the reasons which led Congress to elect the policy of network unity in 1911, 1921, and 1934 even more compelling today. The basic mission of the network, resting on complex and intricately reticulated systems of transmission, switching, and management, has been and is to provide the many kinds of communications services of which it is capable — not only public switched network services, but special private line, voice, data, and program services of many types as well. Both public message and private line services use and depend upon the transmission or switching facilities of the network, or both, on its managerial procedures, and on its resources for research, development, planning, manufacture, and maintenance. The development of switching technology is rapidly eroding any possible distinction between private line and switched services; as a matter of economic reality, they are direct substitutes for each other, and are parts of the same market.

The management of the network as a unified system is the key to optimization — that is, to the development and adaption of technology and management methods for network use at minimal costs to the system as a whole. Unified management of the network as a system has made it possible to provide telephone service directly to more than 94 percent of American households, at rates which by any standard are among the lowest in the world.

Congress reached the conclusion that the telephone network should be organized, improved, maintained, and managed as a unified entity and regulated as a public utility, as early as 1911.

That decision was confirmed, after a full review of experience under the earlier legislation, and a full consideration of alternatives, in the Communications Act of 1934. It is a significant fact that Congress considered the Communications Act of 1934 at the same time it was studying what ultimately became the Public Utility Holding Company Act of 1935. It expressly rejected for the telecommunications industry the solution of divestiture and decentralization it adopted for the electric and gas utilities industry, and reserved for itself, through Section 215 of the Communications Act, the issue of whether changes in the structure of the telecommunications industry should be made in the future. The essential Congressional judgment embodied in the 1934 Act is that the public interest will be best served by a unified telephone network, as the most efficient and progressive way to meet the defense needs of the nation, and to provide basic interstate and international telephone services of high quality "to all the people of the United States . . . with adequate facilities at reasonable charges."

Congress has consistently reaffirmed that decision as the first principle of this branch of our communications law and policy. I know of no challenge to the principle of the unified network as a general concept, nor to the proposition that it is the major premise of Title II of the Communications Act of 1934. It has been taken as an axiom in the decisions and opinions of the FCC and the courts, and in the popular and academic literature on the subject, that the integrated network is a "natural monopoly," to be regulated as a public utility.

Congress reached this view for the same reasons which led the state legislatures to the same conclusion some years before: the inconvenience and economic waste which result when telephone service is provided by competing communications systems rather than by a unified system connecting each subscriber to all other subscribers through a series of telephone exchanges. The necessity and convenience of connecting telephones to each other for two-way communication is the technological imperative requiring unity throughout the telephone system. The heart of the matter was summed up a generation ago by Dr. Walter M.W. Splawn, an outstanding economist and lawyer in his day, Professor of Economics, member of the Interstate Commerce Commission, and author of one of the most influential basic studies on the organization of the telecommunications industry. Contrasting the electric power industry with the telephone system, Dr. Splawn said that unified management was essential to the telephone industry because to be most useful the telephone "must be connected through switchboards with every other switchboard in the entire country."<sup>1</sup>

1. Hearings on S. 1725, Senate Committee on Interstate Commerce, 74th Congress, 1st Session 75 (1935); Hearings on H.R. 5423, House Committee on Interstate and Foreign Commerce, 74th Congress, 1st Session 180 (1935).

In 1921, recommending the legislation which became the Willis-Graham Act, the House Committee on Interstate and Foreign Commerce found that the duplication of telephone facilities "greatly increases the burdens which must be borne by the telephone users," and concluded that "the best telephone service can be rendered by one company, under proper regulation as to rates and service."<sup>1</sup>

The courts have recognized the fact that the public interest standard of the Communications Act presupposes, and contemplates, a highly regulated telecommunications industry, for which public policy does not, and cannot, require competition for its own sake. Competition is certainly one possible component of the public interest which the Commission may consider, the Courts have ruled, but never as an end in itself. Competition must yield to the more fundamental goals of the Act, and above all, to its overriding concern for the effectiveness of the network. As the Supreme Court said, in 1953 in FCC v. RCA Communications, Inc.:

*. . . The very fact that Congress has seen fit to enter into comprehensive regulation of the communications embodied in the Federal Communications Act of 1934 contradicts the notion that national policy unqualifiedly favors competition in communications . . .*<sup>2</sup>

The same rule controls the holding and opinion in Hawaiian Telephone Co. v. FCC in 1974. There the court said:

*The whole theory of licensing and regulation by government agencies is based on the belief that competition cannot be trusted to do the job of regulation in that particular industry which competition does in other sectors of the economy. Without in any way derogating the merits of the competitive free enterprise system in the economy as a whole, we cannot accept the action of the FCC here in a tightly regulated industry, supported by an opinion which does no more than automatically equate the public interest with additional competition.*<sup>3</sup>

As will appear later in this memorandum, the FCC accepts this rule as binding on it. It is repeatedly invoked by the Commission in explaining its policies in this area.

Over the years, factors of technological and economic change have reinforced the case for network unity. The development of the economy increased the relative importance of interstate and

1. H.R. Rep. 109, 67th Congress, 1st Session 1 (1921).

2. FCC v. RCA Communications, Inc., 346 U.S. 86, 93 (1953).

3. Hawaiian Telephone Company v. FCC, 498 (D.C. Cir., 1974) at 777.

international telecommunications. The rate of change in technology increased rapidly, especially after the Second World War, thus making research, innovation, and the flow of change in telecommunications methods more and more important as an element in network development, maintenance, and management. As the modern American economy took shape, it became more obvious than ever that there was no feasible alternative to a unified system of network management if the nation wished to achieve a telecommunications system capable of optimal performance.

Under modern conditions, the task of managing the network on which all communicators ultimately must depend has become a formidable one. The network must process a daily volume of more than 30 million intercity calls, through switching equipment which also handles about 426 million local calls and other demands on its capacity. The control of this flow of messages can be accomplished efficiently only through planning and management procedures which view the network as a single interactive system, not a loose aggregate of independent parts. If one route is crowded, calls must be transmitted through alternative routes. The network managers must be informed at all times about the volume and prospective volume of traffic on every route of the system. To obtain optimal efficiency as well as reliability of service, both investment in new capacity and the maintenance of old capacity must be planned in ways which minimize costs for the system as a whole. One piece of equipment, for example, may be cheaper than another in performing a particular function, but require larger outlays than the other in cables or other supporting facilities. In order to minimize the real cost of communications service for the economy as a whole, such decisions about system design must be made on an overall, not a piecemeal basis.

Similarly, to maintain enough capacity, but not too much, the continuous flow of capital investment required to improve and maintain the network as a viable entity must be geared to a reasonably accurate plan for growth, based on the best possible economic and demographic forecasts for every part of the nation.

Both ordinary maintenance and the task of coping rapidly with occasional breakdowns often require action as well as continuous surveillance on a system-wide basis.

These goals — planning for future growth; determining and achieving an appropriate but not excessive level of capacity; developing and introducing new and improved technologies compatible with the existing facilities of the network; and protecting and restoring the network — involve an endless flow of technical and economic decisions.

The Bell System now requires approximately \$10 billion a year for capital outlays, and the Independent Telephone Companies approximately \$2.5 billion. Obviously, large and unnecessary

costs will be incurred if decisions to invest in communications plant depart significantly from the norm of optimization, that is, of minimizing the real costs to the economy of providing high-quality service. Duplicate facilities and excess capacity carry a heavy price, a matter of major concern in an era of intense competition for capital.

Above all, policies that would fragment the network, or reduce its capacity to provide telecommunications services as cheaply as the progress of science permits, would deny the American economy the advantages of clear and obvious economies of scale, of complementarity, and of efficiency in using a vast aggregation of capital.

Because it is a unitary system, the modern American telecommunications network is a notable example of a single technological and economic unit that is able to provide something close to the full array of the telecommunications services required by the economy at real costs which should be lower than those of other possible suppliers. As a matter of engineering, technology, and management, the task of providing switched network and related telecommunications services at minimal real costs requires system-wide planning and management, capable of drawing continuously on continuously available expertise in research, engineering, manufacture, operations, and systems management. The nature of the task permits no other solution capable of optimization. Congress has recognized that fact and built Title II of the Communications Act on it as a foundation. Under the mandate of the Act, these functions are the responsibility of the Bell System, working in cooperation with the Independent Telephone Companies.

Everyone agrees that the Communications Act presupposes and requires an integrated and unified telephone network. But there is a considerable diversity of opinion as to the reach of that rule of law, that is, as to the extent of the Bell System's franchise under the Act. There have been controversies, for example, about whether it is necessary or appropriate for the Bell System to engage in extensive research, development, and manufacturing activities in order to fulfill its basic statutory responsibility for maintaining, improving, and managing the switched network, in partnership with the Independent Telephone Companies. In 1968, the President's Task Force on Communications Policy concluded that the integrated structure of the Bell System was desirable, and I testified at length to this effect before Senator Hart's Subcommittee of the Senate Judiciary Committee in 1974.<sup>1</sup>

1. The Industrial Reorganization Act, Hearings on S. 1167, Hearings before the Subcommittee on Antitrust and Monopoly of the Committee of the Judiciary, United States Senate, 93rd Congress, 2nd Session, Part 6, The Communications Industry (1974) pp. 4009-4061.

More recently, controversy about the scope and dynamics of the integrated network has focused on three categories of problems:

- (1) whether specialized telephone companies as that term is used here<sup>1</sup> — that is, specialized and domestic satellite common carriers, and miscellaneous carriers — should be allowed by the FCC to provide interstate private line voice, data, and message services (now linked to the switched network) which the existing general-service telephone companies do or can provide;
- (2) the extent to which the existing general-service telephone companies should be allowed to meet the competition of such specialized telephone companies, once they have been authorized by the FCC; and
- (3) the technical, economic, and systems-management standards to be enforced with regard to the connection of customer-owned communications equipment to the network.

This memorandum is addressed primarily to the economic and other policy problems confronting the telecommunications industry as the result of the recent decisions of the FCC on these three issues: the proliferation of specialized interstate telephone companies; the restrictions imposed by the FCC on the competitive response of the existing general-service telephone companies to the rates of such specialized telephone companies; and the rules which should govern the interconnection to the network of customer-owned communications equipment in the interest of assuring the adequacy of technical safeguards to assure the technical quality and safety of network services, and of maintaining the economic viability of the network.

My central contention here is that the pattern of recent FCC decisions departs from the FCC's initial rulings on these issues and from the unified network standards of the Communications Act. In my judgment, these decisions go well beyond the Commission's discretion under the statute to interpret and apply the public interest criterion of the Act.

It is not excessive to describe the present posture of the telephone industry as one of incipient crisis. The developments which were initiated and then accelerated by the recent decisions of the FCC on these three subjects threaten the future of the integrated switched network as a viable entity.

The FCC's decisions on specialized and domestic satellite common carriers and related problems are bringing about the erosion of the network through the provision by such specialized telephone companies of services which the existing general-

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1. See p. 1, supra.

purpose telephone companies can and do provide, and they create an umbrella of protection for the specialized telephone companies against the natural competitive response of the general-purpose telephone companies to the lower prices of their new competitors. Together, these two factors foreshadow far-reaching change not only in the scope of the network and its capacity for optimization, but in the pattern of rates — initially, of rates for private line services, and then of rates for all services, with particularly large rate increases for household subscribers. It is not possible, as experience has already demonstrated, to confine experiments in competition to hermetically sealed segments of the market for communications service. Larger business users of communications service, sensitive to price, can and do readily substitute private line for specialized switched network services, and customer-owned for carrier-owned terminal equipment.

As a catalyst designed to stimulate its recent policy of encouraging competition in the manufacture and sale of telecommunications equipment to subscribers, the FCC has taken a long step, in its decision of October 31, 1975, in Docket No. 19528, dealing with the connection of terminal equipment to the network, towards the promulgation of rules which, in the opinion of many experts, could seriously compromise the capacity of the Bell System and the Independent Telephone Companies to preserve the technical integrity and efficiency of the network; they could well have detrimental economic effects as well.

These decisions of the FCC have already had significant economic consequences, especially in the field of rates. If present trends continue without change, their consequences will be severe, and undesirable from the point of view of the public interest.

It is unlikely that prompt and adequate relief can be obtained from the courts, in view of the normal judicial attitude of deference to what may appear to be the exercise by an expert administrative agency of its discretion in implementing broad and general Congressional policies in a highly technical field.

I have therefore reached the conclusion that Congress should act urgently to govern the trends initiated by the FCC's departure from its mandate. It should do so through an amendment of the Communications Act which would reiterate and confirm its original intention to encourage and sustain the development of the national integrated switched telephone network as a unified entity, and would provide up-to-date guidelines for the FCC and the courts in carrying out that policy under present circumstances.

Unless this is done, the effect of recent FCC decisions will be to reshape the American telecommunications industry by ad-

ministrative fiat. The FCC has opened gates which Congress shut many years ago. In reliance on these deviant FCC decisions, large and powerful companies, attracted by the prospect of entry into the most profitable parts of the communications industry — the provision of communications services and equipment to big business — are mobilizing for a modern Gold Rush. The first result of such a mass entry into the telecommunications industry would be to reduce the telephone rates of large business subscribers; to increase the telephone rates of home telephone users; and to raise the level of telecommunications costs, thus ultimately forcing general increases in rates. Inevitably, such developments would slow down — and perhaps reverse — the rate of reduction in the real costs of telephone service which has been brought about by technological and managerial advances during the last thirty years.

## II. THE DEVELOPMENT OF THE INDUSTRY BEFORE 1968

In reliance on the policies of the Communications Act of 1934, and its predecessor statutes, as they had been interpreted and applied before 1968, AT&T and other telephone companies have developed in their present form, and the public has invested billions of dollars in their securities. The telephone system which evolved in that environment has certain well defined characteristics.

The telephone operating companies are organized as public utilities holding franchises under state law, and their intrastate rates and other intrastate activities are regulated by state commissions. The FCC regulates their activities in interstate and foreign commerce. The common carriers are required by the Communications Act to serve their users without unjust or unreasonable discrimination or undue or unreasonable preference or advantage to any particular person, class of persons, or locality; they must charge rates which are uniform, just and reasonable, in each appropriate rate category, subject to review by the Commission; and they are otherwise supervised by the FCC in the familiar pattern of public utility regulation. Under the Act, the construction of a new line by a common carrier, or the extension of an existing line, requires advance approval by the Commission through a certificate "that the present or future public convenience and necessity require or will require" such additional interstate or foreign facilities. Mergers and acquisitions by regulated companies may be approved in advance by the FCC as in the public interest.

### A. End-to-End Responsibility for Service

One of the major corollaries of the principle of network unity has been to hold the telephone companies responsible for every aspect of the service, end-to-end. The Bell System provides maintenance and repair service for all operating company equipment, including terminal equipment, produced or purchased by Western Electric, and provided by that company to Bell System operating companies. It does not provide maintenance service for equipment provided directly by its customers. The public and the regulatory agencies have been accustomed to look to the Bell System and the other general-service telephone companies when telephone service fails for any reason. If that expectation is to be fulfilled, policy requires that customer-provided terminals and systems should be attached to the network only under regulations which fully protect its technical viability. Without such a rule, at a minimum, it would be impossible for long to preserve the policy of requiring the Bell System, in cooperation with the Independent Telephone Companies, to take responsibility for the integrity of the network. A



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departure from that principle would necessarily reduce the capacity of the network managers to achieve optimal performance from the network and an optimal rate of progress in its development.

## **B. The Goal of Universal Service and its Implications for Rates**

The statute puts great emphasis on achieving a universal or nearly universal telephone service. The application of that statutory standard has resulted in a rate pattern based on the value-of-service principle.

The value-of-service principle is the normal guide for pricing policy in regulated industries, where the industry provides discrete services which are worth more to some classes of users than to others. It is the rule posited by economic theory for any market situation of this kind, where an aggregation of capital and other resources is capable of producing products or services whose value in different markets or sub-markets is different.

Under such circumstances, the economic welfare of the nation is maximized, and the capital and other resources committed to the plant are used to best advantage, when the prices charged for different classes of service reflect the respective value of those services to the several classes of users, so long as prices equal or exceed the short-run variable or incremental costs of providing the services in each market. Prices would then reflect the relative intensity of user demand for the services in different markets, even though those prices may, quite properly, bear quite different relations to the full average cost (including fixed costs) of providing them.

To put the matter in another form, some prices for the service would yield far greater contributions than others toward meeting the overhead or common costs of supplying them. This rule involves no "subsidization" of one service by another; a single uniform rate based on full average costs would result in less of the service being sold, in the nature of the differences among the demand curves for different categories of users. Pricing with reference to the value of the service to different groups of users simply represents the application in pricing of ordinary rules of economic efficiency. It pays society just as it pays the individual supplier to use existing plant so long as the revenues produced from the sale of an additional unit of supply cover the additional costs of providing it.

The "value-of-service" principle in pricing is familiar throughout the economy. It is especially obvious where the same or similar products or services, produced under conditions of joint costs, are sold in different markets. It is commonplace, for example, that railroad freight rates for different commodities, while uniform for each commodity, differ in relation to the value

of the product carried and the intensity of competition offered by other means of transport. Petroleum products, produced by the same process of refining, sell at quite different prices in the market, since the demand of consumers for the different petroleum products is pitched to different levels of price. The prices for milk in different markets and for different cuts of meat are other well-known examples of the same principle. Yet it never occurs to anyone to suggest that the price of steak "subsidizes" the price of hamburger.

In the telecommunications industry, the application of this economic principle has resulted historically in rates for household users which are relatively low, in relation to total costs, as compared to the rates for intercity and interstate services and for the specialized communications services of larger business firms. The demand of larger business units for telecommunications services is naturally more intense than that for most households and small business firms. Telecommunications services are simply worth more to large firms than to householders or small firms. The rate system reflects that fact — the fact, that is, that the demand curve of large businesses for communications services is addressed to higher levels of rates than the demand curves of most other users of the service. The fact that ratemaking is addressed to conditions of demand has helped to bring about the great expansion of telephone services for households and small business users during the last thirty-five years — an increase from 37 percent to more than 90 percent of all households between 1940 and 1974. This expansion took place because rates were low enough, in relation to the demand curve for such services, to elicit the increase in demand which has taken place.

The historic rate pattern for telephone rates represents sound economic policy, and sound social policy as well. The achievement of nearly universal telephone service through the network is an economic advantage for everyone who uses it, and for the national economy. It has permitted the emergence of a balanced rate structure under which the telephone companies can earn a fair rate of return on their investment as a whole, and thus attract the capital needed for the development of the network.

This pattern is reinforced by regulatory "separations procedures," developed through the cooperation of the FCC and the state regulatory agencies. The jurisdictional separations procedures determine the way in which the common costs of providing various categories of telephone service are allocated between the intrastate and the interstate segments of the market. Their effect on the ratemaking process is thus basic. At the present time, the separations procedures allocate to the interstate sector of the business a substantial part of the common costs of facilities jointly used to provide interstate and intrastate service.

Adapting the value-of-service principle to the non-discrimination standards of the Communications Act has had another consequence, historically: the practice of nationwide averaging for different classes of rates and costs. That rule has meant that all users of a particular class of service would pay the same rate for the same kind and amount of interstate service over the same distance, without regard to their geographical location or the costs of serving their particular region. Under nationwide averaging, for example, household subscribers in sparsely populated rural areas connected by low-capacity, high-cost facilities are provided with interstate telephone service at the same rates as residents of densely populated urban areas connected by high-capacity, lower-cost transmission and switching facilities.

While these policies have not been immune from criticism, they have had the strong support of the state commissions and of the FCC, and have been vigorously defended in Congress and in the state legislatures.

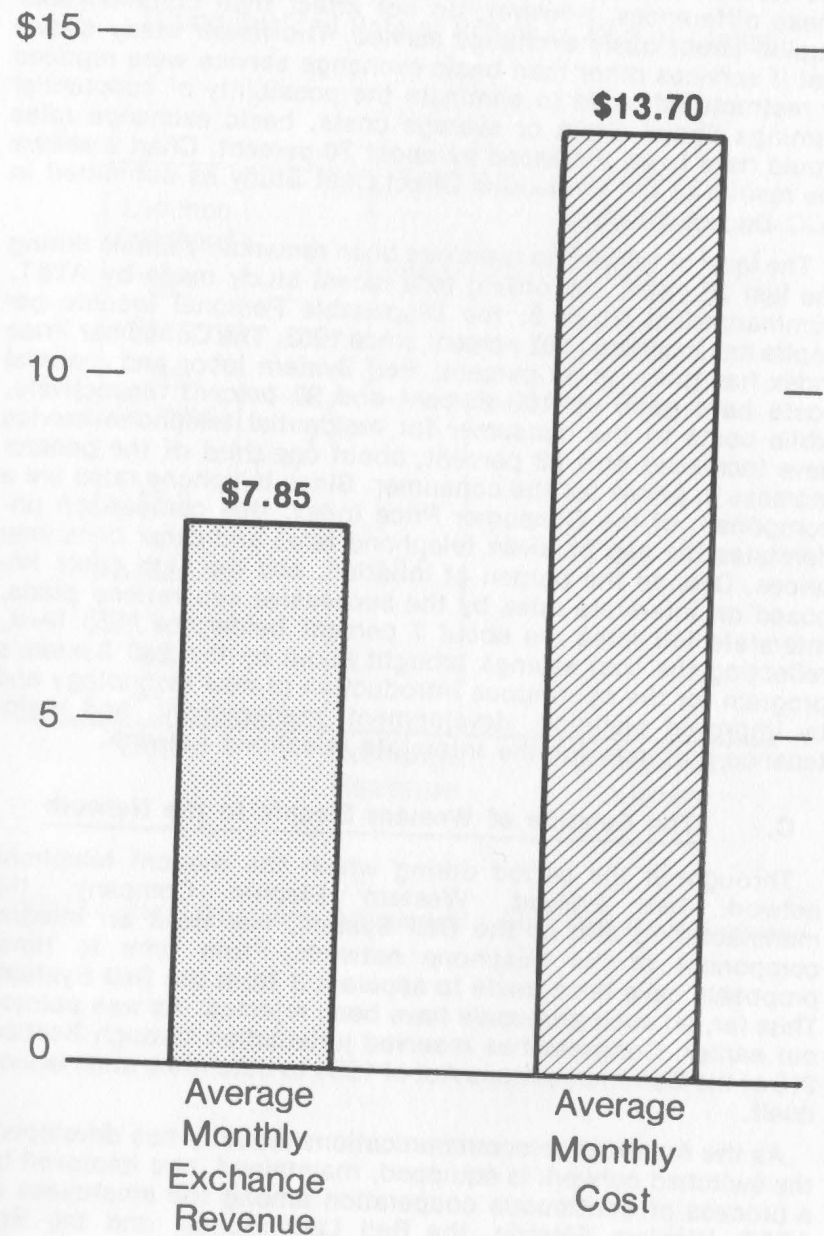
The relation of household telephone rates to costs, as it developed historically, has been measured in several studies prepared by AT&T. While these studies, like all cost studies, necessarily rest on judgments and assumptions, they are useful in indicating the order of magnitude of the problem.

According to one such Bell System study, the Residential Cost Study, the average single line residential telephone user in the United States paid \$7.85 for his basic exchange service in 1973. The average monthly cost of providing that service, if it were the only service provided, would have been \$13.70, including the common costs of jointly used facilities but not the common corporate overheads. This particular calculation of average monthly cost includes the total cost of a plain telephone set and of the access line to the switching center or local exchange, as well as the costs of exchange calling. This analysis is illustrated in Chart 1.

If basic local service were to be priced so as fully to cover estimates of average costs, the monthly bill for basic local service for millions of residential customers would be increased by about 75 percent, plus whatever additional amounts would be needed to cover corporate overheads. This would amount to several billion dollars a year.

Another study prepared by AT&T, an Embedded Direct Cost Study, was submitted as Exhibit 1 in the Bell System filing in FCC Docket 20003 in April, 1975. It examined residence, coin, and business exchange service as a whole, as opposed to single line residence service alone, as in the study just mentioned. It was done for the year 1973.

## Revenues from Basic Residence Service Versus Cost



There are some differences between the two studies, but their conclusions are essentially the same. The Embedded Direct Cost Study estimated the common cost of joint access and the common cost of corporate overheads, as well as exchange use costs, and compared them with basic exchange service revenues.

There are other differences between the methods used in the two studies, particularly with respect to the cost of capital used. These differences, however, do not affect their common conclusion about basic exchange service. The newer study shows that if services other than basic exchange service were repriced or restructured so as to eliminate the possibility of substantial earnings above direct or average costs, basic exchange rates would have to be increased by about 70 percent. Chart 2 shows the results of the Embedded Direct Cost Study as submitted in FCC Docket 20003.

The level of telephone rates has been remarkably stable during the last 20 years. According to a recent study made by AT&T, summarized in Chart 3, the Disposable Personal Income per capita has increased 192 percent since 1953. The Consumer Price Index has gone up 84 percent. Bell System labor and material costs have gone up 190 percent and 90 percent respectively, while costs to the consumer for residential telephone service have increased only 28 percent, about one third of the general increase in prices for the consumer. Since telephone rates are a component of the Consumer Price Index, this comparison understates the gap between telephone rates and other consumer prices. Despite the burden of inflation, and the high costs imposed on interstate rates by the successive separations plans, interstate toll rates are about 7 percent below the 1953 level, reflecting the cost savings brought about by the Bell System's program for the continuous introduction of new technology and by improved planning, development, management, and maintenance methods for the interstate telephone network.

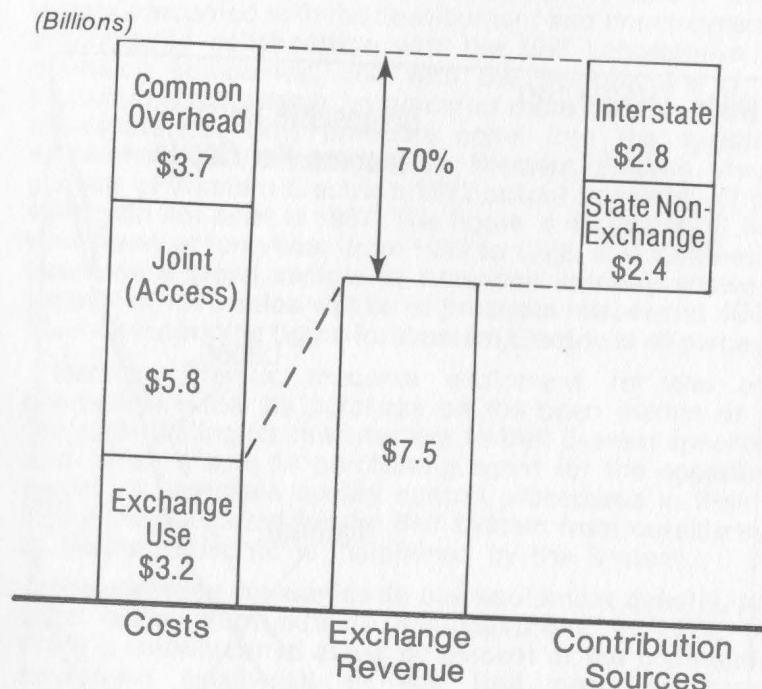
### C. The Relation of Western Electric to the Network

Throughout the period during which the modern telephone network has evolved, Western Electric Company, the manufacturing arm of the Bell System, has been an integral component of the telephone network. From time to time, proposals have been made to separate it from the Bell System. Thus far, all such proposals have been rejected. As was pointed out earlier, Congress has reserved jurisdiction through Section 215 of the Communications Act of 1934 to determine such issues itself.

As the American telecommunications industry has developed, the switched network is equipped, maintained, and improved by a process of continuous cooperation among the employees of AT&T, Western Electric, the Bell Laboratories, and the Bell

## Embedded Direct Cost Study Results\* - 1973

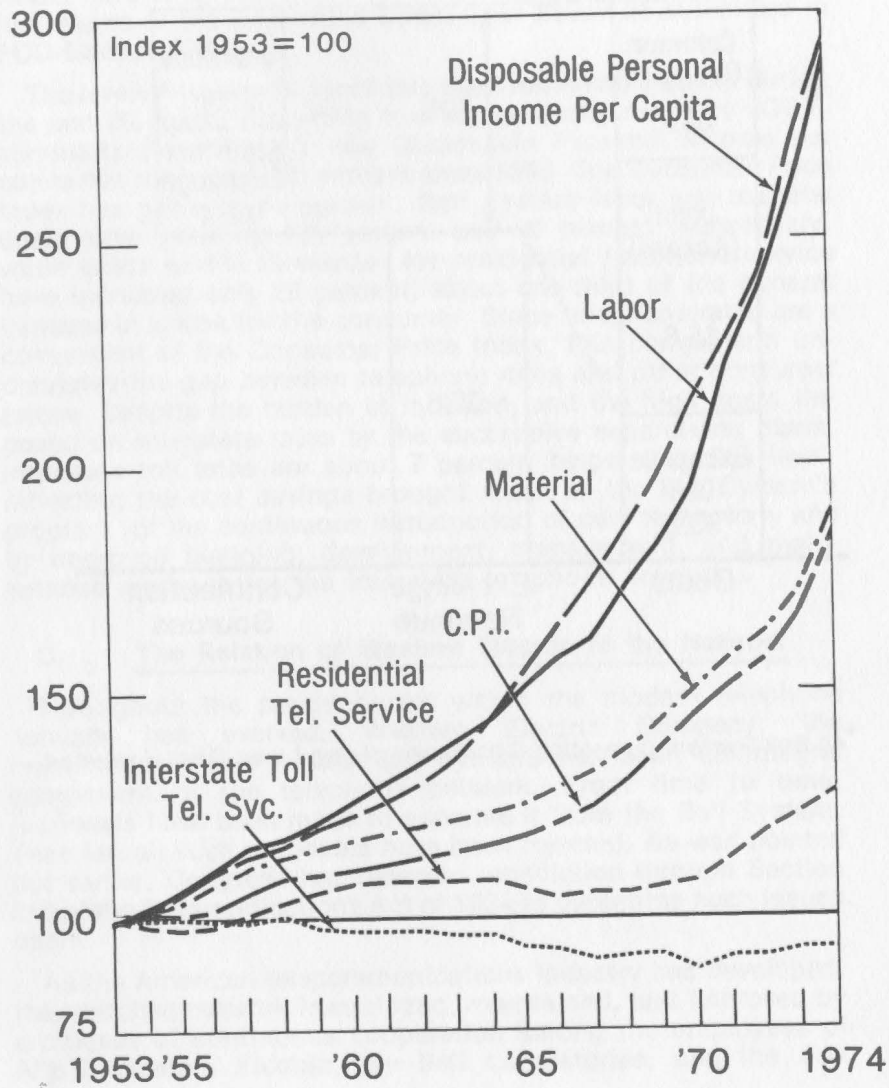
(Using Realized Rate of Return as Cost of Capital)



\*All Bell System Operating Companies: Long Lines Dept Excluded.

Chart 3

## Charges for Telephone Service vs Income per capita, consumer prices and Bell System costs . . .



System and Independent Telephone Companies. The role of Western Electric in this process of cooperation is fundamental to its efficiency, particularly in the development of new products based on Bell Laboratories research, and in the solution of endless equipment problems, large and small, which arise in the functioning, maintenance, and improvement of the network.

Western Electric has never manufactured every item of communications equipment used in the network. Under Bell System policies, the decision to purchase a product from an outside supplier, rather than to manufacture it, is governed by business and technical considerations. Western Electric is largely concerned with the development and improvement of new products, in collaboration with the Bell Laboratories and the operating companies, and with the manufacture of existing products which cannot be procured more cheaply from outside manufacturers. New products come into the system at an astonishing rate. According to Western Electric studies, 22 percent of Western Electric's 1972 output consisted of products which did not exist in 1967. The figure is 49 percent if we take a time frame of ten years, from 1962 to 1972. A McGraw-Hill study based on a broad sample of American industry shows that 13 percent of 1976 sales will be of products introduced since 1972. The corresponding figure for Western Electric is 40 percent.

Western Electric procures equipment for the operating companies either by purchase on the open market or through contracts calling for manufacture to Bell System specifications. And, when it acts as purchasing agent for the operating companies, it exercises quality control procedures in their behalf. Equipment procured for the Bell System from outside suppliers by Western Electric is maintained by the System.

The operating companies do buy equipment directly, and on a large scale, from outside manufacturers. In 1974, Western Electric manufactured about 80 percent of the communications equipment purchased by the Bell operating companies, generating product sales revenue of \$4.2 billion. The operating companies purchased communications equipment through Western Electric from outside manufacturers valued at \$600 million, and bought about \$300 million worth of such products directly.

### III. THE FEDERAL COMMUNICATIONS COMMISSION'S DEPARTURE FROM THE STATUTORY RULE OF NETWORK UNITY

The line of FCC decisions which began with Carterfone,<sup>1</sup> and Microwave Communications, Inc.,<sup>2</sup> has led the FCC, step by step, to depart from several of the most basic features of the unified and integrated network policy of the Communications Act of 1934. This development has occurred in ways which were unforeseen, and indeed rejected by the Commission when the process began. But the forces released by its initial decisions have proved to be extremely powerful. As a result, the Commission has lost control of its experiment. It has been drawn into positions contrary to its early policy statements, and to the mandate of the Act.

#### A. The First Cases

In Carterfone, the FCC said that the connection of customer-provided equipment to the network would be authorized, at the customer's choice, unless it were demonstrated that the equipment caused or would cause actual harm to the network, or to the service as a whole, to employees, or to the utility of the system to the public, or had or would have harmful effects upon the carrier's revenues or rate structure. The Commission recognized that interconnection could have harmful technical or economic effects on the system, and that such effects, if shown, "might well be a public interest question" under the Act.<sup>3</sup> It simply decided that in Carterfone no such effects had been proven; that the particular device was not harmful to the system; and therefore that a tariff prohibiting interconnection was discriminatory and unreasonable, since the tariff allowed the interconnection of comparable equipment provided by the Bell System.

The FCC declared that the telephone companies could set up reasonable standards for interconnection devices in order to protect the technical integrity of the network. And it asserted jurisdiction over rules governing interconnection on the ground that such rules could easily be misused to protect a telephone company's equipment against the competition of harmless equipment of like quality. Following Carterfone, the telephone companies filed tariffs for protective connecting arrangements to facilitate the interconnection of customer-provided terminal equipment.

1. Carterfone, 13 FCC 2d 420 (1968), 14 FCC 2d 571 (1968).

2. Microwave Communications, Inc., 18 FCC 953 (1969), reconsideration denied, 21 FCC 2d 190 (1970).

3. 14 FCC 2d at 573.

In Microwave Communications, Inc., the FCC authorized construction permits for new microwave facilities through which the applicant would become a specialized common carrier telephone company offering its subscribers a limited private line microwave radio service "designed to meet the interoffice and interplant communications needs of small businesses."<sup>1</sup> The service would be available between the company's microwave sites in Chicago and St. Louis, via nine intermediate points.

In the initial MCI case, the connection between the microwave site and the premises of the user was to be provided either by the subscriber or by the local general-service telephone company, but there was no provision for direct connection to the switched network. This aspect of the MCI case is no longer typical of the services offered by the specialized telephone companies. The subscribers to the private line services of these companies and the companies themselves are pressing more and more insistently, and successfully, to be allowed access to the switched network.

In the MCI case, the FCC relied on the representations of MCI that it would not divert business from the Bell System because it was opening up new sub-markets of customers, primarily small businessmen who could not afford Bell System private line services. It distinguished the private line service offered by MCI from that provided by the general-service telephone companies in four particulars: the MCI private line service was not a "through service," telephone to telephone, the FCC pointed out, as Bell System private line services were; it would utilize equipment of lower electronic quality, so that its voice signal would not be so clear; its prices would be lower; and the conditions of its service were thought to be more flexible, particularly with regard to sharing and part-time use. In determining the question of need for the service, the FCC said:

*... the controlling consideration is not whether the existing communications services are being utilized by potential subscribers of MCI, but whether the proposed operation would better meet the particular needs of potential subscribers.<sup>2</sup>*

On the basis of a research study and the testimony of witnesses, the FCC concluded that MCI's offering would permit subscribers "... to obtain a type of service not presently available and would tend to increase the efficiency of operation of the subscribers' business."<sup>3</sup> Despite findings that the ex-

1. 18 FCC 2d at 953.

2. 18 FCC 2d at 959.

3. *Ibid.*

periment would involve duplication of facilities and less than efficient use of the spectrum space,<sup>1</sup> the application was granted on a "demonstration" basis. Since MCI service was deemed to be "new and different," filling "a serious deficiency in the communication services available to the public," by providing "a service intended primarily for interplant and interoffice communications with unique and specialized characteristics,"<sup>2</sup> it could not divert much traffic from the existing carriers, the FCC thought, or "pose a serious threat to the established carriers' price averaging policies."<sup>3</sup>

The MCI decision brought in its wake a large number of applications by MCI and others for authorizations to construct microwave facilities in order to provide comparable specialized common carrier services. In order to deal with these applications quickly, the FCC initiated a special, nonevidentiary proceeding, based on documents and oral argument, in order to establish policy procedures through which to process such applications. In Docket No. 18920, the FCC undertook to resolve certain basic policy questions which appeared common to all applications, prior to the consideration of individual applications.

In the MCI case, and in its correlative First Report and Order in Docket No. 18920 on Specialized Common Carrier Services,<sup>4</sup> the FCC took the position that it was authorizing new specialized telephone companies only because it was satisfied that the new companies would develop genuinely new services and explore areas of demand not reached by the existing telephone companies. The services proposed in Docket No. 18920, the Commission found, have "technical and service features significantly different from those of the established carriers," although the Commission noted, "to be sure," that "the established carriers now provide data transmission and private line services."<sup>5</sup> Moreover, there might well be advantages to the regulatory process through encouraging new entrants into what the Commission regarded as a specialized and rapidly expanding field: more flexibility and a wider range of choices for the user; relief for the Bell System from some of the burdens and costs of enlarging and maintaining its "public monopoly services";<sup>6</sup> stimulating innovation; and developing a competitive-market benchmark for regulation. A finding on these points, the FCC

said, was and would remain the "controlling" factor in its decisions.<sup>1</sup>

It followed, the FCC argued, that the development of specialized interstate telephone companies could not significantly diminish the business of existing companies, and therefore could not threaten the rate and cost averaging system which permits all subscribers of the same class to be treated alike, whether they live in thinly populated or in populous areas. For the same reason, the FCC concluded, the emergence of specialized common carrier telephone companies could not threaten the economic viability of the existing telephone companies. Since for the most part the new companies would be meeting demands presently unsatisfied, by providing services "not now being adequately met by the established carriers" in a large, "latent," growing, and heterogeneous market, the Commission concluded that their business would not be taken away from the existing companies. On the contrary, the development of specialized telephone companies would actually increase the revenues of the general-service telephone companies by expanding the size of the communications market.<sup>2</sup>

*Most significantly, we see no reason whatsoever to assume that the applicants would divert all or even a substantial portion of that comparatively small percentage of existing and projected Bell System business that is vulnerable to competition. [Even assuming a 50% diversion annually (a figure we consider to be unrealistically high) the growth in regular voice service could absorb virtually all the lost channels in one year. (FCC footnote)] . . . The applicants are seeking in large part to exploit latent demands and may well expand the size of the total communications market.<sup>3</sup>*

The FCC did acknowledge, however, that there would be some competition between the new specialized telephone companies and the existing general-service telephone companies, and therefore some impact of the new entries on rates. In facing that prospect, it conceded that some deviation from traditional ratemaking practices might take place. It said:

*Where 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.<sup>4</sup>*

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1. *Id.*, at 955, 964-969.

2. *Id.*, at 960.

3. *Ibid.*

4. Specialized Common Carrier Services, 29 FCC 2d 870 (1971), reconsideration denied, 31 FCC 2d 1106 (1971), affirmed, Washington Utilities and Transportation Commission v. FCC, 513 F.2d 1142 (C.A. 9th, 1975).

5. *Id.*, at 906.

6. *Id.*, at 909.

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1. *Id.*, at 917.

2. *Id.*, at 881-882.

3. *Ibid.*, at 912.

4. *Id.*, at 915.

In its Docket No. 18920 opinion, as in the MCI case, the Commission declared that it was its

*objective to promote and maintain an environment within which existing and any new carriers shall have an opportunity to compete fairly and fully in the sale of specialized services. . . . There is no reason to deny the public the benefits they may derive from active and vigorous participation by the Bell System and Western Union in this market, so long as their participation is not a burden upon or significantly detrimental to their other services. Thus, it is our intention to permit the existing carriers to price their competitive services in a fashion that will realistically and reasonably reflect economic advantages, if any, that are inherent in the plant and operations of those carriers. Moreover, we subscribe fully to the views of our staff, endorsed by the Department of Justice, that there should not be any 'protective umbrella' for the new entrants or 'any artificial bolstering of operations that cannot succeed on their own merits.'*<sup>1</sup>

The Commission also stressed that interconnection between the new specialized common carriers and the network be accomplished in ways which assured the technical integrity of the network, in order to prevent any degradation of service for all users of the network.

Significantly, the Commission noted that if some of the new market entrants were to fail, their bankruptcy could not affect the public at large, and in any event that

*if a weaker entrant should encounter difficulty, a merger with, or a sale of facilities to, a stronger competitor is a more likely fate than bankruptcy or removal of facilities from the field.*<sup>2</sup>

It quoted a Department of Justice view that such mergers would not be barred by the antitrust laws.

The policy announced by the FCC in its early cases, although hardly supported by the factual predictions and assumptions on which it relied, was the only legal footing on which the Commission could reconcile its decisions with the concept of the integrated switched network which dominates Title II of the Communications Act. While it has always been assumed that the purpose of the law is to provide a public utility system of interstate telecommunications service on a unified basis, it has

<sup>1</sup> Id., at 915. See also Paragraph 92 at 916, and Paragraph 119 at 926.

<sup>2</sup> Id., at 926.

never been supposed that the existence of the integrated telecommunications network prohibited all communications systems in the United States not offered by the existing general-purpose telephone companies. For example, military communications systems, railroad and right-of-way company communications systems, and other purely private microwave communications systems have existed for a long time. Most of them are not connected to the network. Thus it was natural for the FCC to claim that its MCI decision and comparable pronouncements of policy in its Reports and Orders in Docket No. 18920 involved only specialized and distinctive kinds of communications, beyond the natural, convenient, or customary reach of the general-service telephone companies, and the capabilities of the network. No other ground could justify its decisions under the Communications Act.

The Commission has offered basically the same justification for its recent decisions authorizing the development of other specialized common carrier communications companies — those which provide mobile radio telephone services, services for cable and network audio and television, and data transmission, both by domestic satellites and by conventional microwave.

The specialized common carriers of various kinds and the new domestic satellite carriers should be distinguished from another class of new communications companies, the so-called value-added carriers or composite data carriers. These new companies provide specialized data-processing services. They use communications facilities they obtain from the existing general-service or specialized telephone companies in the field of computer-oriented services, news services, and other specialized customer communication services. The development of the value-added carriers does not involve duplicate facilities, rate competition, or the other problems presented by the specialized common carriers, since they use facilities of other carriers for the transmission of their data packets.

The decisions of the FCC in Microwave Communications, Inc., in Docket No. 18920, and in Carterfone, therefore had some plausibility as interpretations of the Act when they were handed down. The specialized common carrier cases probably would not have had a significant impact on the existing telecommunications system if the FCC had adhered to its original rulings in subsequent cases, and particularly to its statement of policy about allowing the existing telephone companies to respond fully and fairly to the lower rates of the new companies, and to establish competitive rates which reflected the advantages inherent in their plant and operations. Save for services which were genuinely novel and could meet the test of the marketplace, entry into the field would not have been attractive if the established telephone companies had been free to reduce their rates normally in order to meet competition.



Similarly, the doctrine of Carterfone would not have offered a major threat to the system if the Commission had adhered to its original rulings with regard to technical safeguards and economic impact.

#### B. A Policy Abandoned: The Fate of Docket No. 18920

It is now apparent that the optimistic expectations of the early FCC decisions have not been fulfilled. It is equally apparent that the factual distinction between private line and network services on which the FCC relied in its Specialized Common Carrier decision — the controlling legal predicate for this entire line of FCC cases — has lost whatever economic significance it may once have had. Today, at any rate, private line, message toll and WATS services are direct substitutes for each other in the same market. For the most part, the new specialized and satellite carriers are not offering private line services within the definition used by the Commission in its MCI case. Interconnection to the switched network is becoming more and more prevalent. Moreover, the services offered by the new specialized companies have not turned out to be novel, in any sense; virtually all of them are indistinguishable from the private line services offered by the Bell System and the established Independent Telephone Companies. Virtually all are equally "telephone" services, exactly like those offered by the general-service telephone companies; all are equally dependent upon transmission and connection facilities provided by the Bell System and the Independent Telephone Companies; most also depend, to a greater or lesser extent, on connection to the Bell System's exchange switching facilities as well. By concentrating their efforts on high-density, lower-cost routes, the new specialized telephone companies are able to offer their services at lower rates than Bell's nationwide average rates.

The FCC has issued warnings and admonitions from time to time, to the effect that it really will insist on genuine novelty before authorizing new specialized common carriers. In its 1973 Opinion and Order in Commission Policies Governing the Licensing and Regulation of Specialized Common Carriers, for example, the Commission said:

*Before concluding we reiterate, at this early stage in the development of specialized carriers and services, our expectation that these carriers will offer services to the public which are differentiated from existing services not only in terms of price, but also on the basis of quality and content. It is therefore our admonition that as all new entrants are freed of the difficulties involved in start-up operations and as they expand their operations, and as appropriate terminal equipment becomes available, we will expect them to address themselves to the introduction of new and different*

*services. For we adhere to the view expressed in our 1971 decision in Docket 18920 (a view premised in large measure upon the representations of aspiring new entrants) that users should be provided with 'flexibility and a wider range of choices as to how they may best satisfy their expanding and changing requirements for specialized communications services.' We of course assume that existing carriers will likewise respond to their competitive environment with innovative services designed to meet evolving and changing demand for services.<sup>1</sup>*

These admonitions continue to be made. Chairman Wiley said on November 3, 1975, in a speech before the National Association of Regulatory Utility Commissioners, that he is "disappointed by the failure of some specialized carriers to fulfill their promise to provide new and innovative services," and expressed the hope that such unique services would emerge, either through the development of superior transmission or switching facilities, or through new entrants using lines leased from the general-service telephone companies. This reiterated the disappointment expressed by Chairman Wiley in his October 15, 1975 remarks at the USITA convention:

*. . . . I frankly have been disappointed that some new carriers — while preaching the virtues of diversity, innovation and specialized offerings in the private line market — have attempted to establish what, to me, are clearly basic message services. In my opinion, these attempts represent something of a breach of faith with the Commission and should be precluded by definitive administrative rulings.*

But the effect of such admonitions has faded away as a practical influence in FCC decision-making. The Commission continues to act favorably on applications which do not purport to offer novel services, as it did in the United States Transmission Systems case in 1974.<sup>2</sup>

The specialized telephone company industry now includes five companies and their subsidiaries.<sup>3</sup> Three other companies have been authorized to provide such service, and propose to do so. According to Mr. Walter Hinchman, Chief of the Common Carrier Bureau of the FCC, their gross revenue was \$1.5 million in 1973, and \$15 million in 1974.<sup>4</sup> These figures correspond closely to

1. Commission Policies Governing the Licensing and Regulation of Specialized Common Carriers, 44 FCC 2d 467 (1973), at 473-474.
2. 48 FCC 2d 859 (1974).
3. Hearings before a Subcommittee of the Committee on Appropriations, U.S. House of Representatives, 94th Congress, 1st Session, Part 6 (1975) at 373.
4. *Id.*, at 370, and Remarks by Walter R. Hinchman before the ICA, San Francisco, California, May 16, 1975.

estimated revenue losses for the Bell System in this field, as presented in Bell Exhibit No. 8, in FCC Docket No. 20003, dated April 21, 1975. Estimates offered by the specialized telephone companies themselves claim very much higher gross revenues for 1975. Some studies, notably one made by the Arthur D. Little Company, indicate the possibility of extremely high rates of growth by 1980, if present regulatory policies were to prevail.

The potential development of communications services offered by specialized common carriers using domestic satellites is of comparable, or even greater, significance. The FCC has authorized four such companies; two, in addition to Western Union, are actually in operation.<sup>1</sup>

#### 1. Restrictions on the Competitive Response of the General-Service Telephone Companies

The ultimate reason for the growth of the specialized common carriers of all types is that the FCC has failed to carry out the assurances of its early opinions that the existing general-service carriers would be allowed to compete with the new carriers "fully and fairly." On the contrary, the FCC has consistently and systematically protected the new specialized telephone companies as an "infant industry." Its policy seems to be that unless the new companies are given a four or five years' head start, under the protection of FCC rules restricting competition, they cannot become economically viable. The Commission has delayed or opposed competitive rate reductions by the established telecommunications companies, even though the competitive rates filed by the existing carriers, save perhaps in one minor aspect of the Hi-Lo Tariff case, were above any possible measure of incremental or even average costs. And it has imposed delays and other special conditions on their ability to initiate or expand comparable services.

In its decision on Domestic Satellites,<sup>2</sup> for example, the FCC ruled that AT&T should be prevented for three years from using its domestic satellite system in providing commercial private line services. In its decision and orders on Land Mobile Radio Telephone Services, during 1974 and 1975, the established telecommunications companies were placed under special restrictions both in the procurement of equipment and the provision of services.<sup>3</sup> And in the important field of digital data transmission, the FCC promptly authorized the applications of Datran, a specialized common carrier, but delayed and restricted

1. Hearings before a Subcommittee of the Committee on Appropriations, House of Representatives, 94th Congress, 1st Session, Part 6 (1975) at 373.

2. Establishment of Domestic Communications-Satellites by Non-Governmental Entities, 35 FCC 2d 844 (1972).

3. 46 FCC 2d 752 (1974) and 51 FCC 2d 945 (1975).

the proposals of AT&T in the same area, both with respect to the number of cities it could serve, and the rates it could charge. It went so far as to require most Bell System rates to be above those of its specialized competitors.<sup>1</sup>

The FCC's record of protectionism is even more striking with regard to prices. While it has given lip service to the principle, originally supported by the Department of Justice, that there should not be a "protective umbrella" for new entrants, or "any artificial bolstering of operations that cannot succeed on their own merit,"<sup>2</sup> the effect of its decisions has been to provide the new entrants with precisely such protective umbrellas and artificial bolsters. The FCC has consistently resisted and delayed the price responses of the general-service telephone companies to competition.

For example, AT&T had to go to the Court of Appeals for the Second Circuit in order to put rates for television customers into effect, and to set aside an FCC ruling requiring special Commission approval for the filing of rates.<sup>3</sup>

And in the important conflict over specialized and satellite common carriers providing private line services, AT&T proposals for revised tariffs (the so-called Hi-Lo tariffs) were delayed far beyond the statutory period of three months, at the request of the Commission. Indeed, while those rates are now in effect, the FCC has not yet finally ruled on the validity of the Hi-Lo tariffs, filed in November, 1973. On September 18, 1975, the Commission filed an Interim Decision and Order in the proceeding, Docket No. 19919, remanding the case to its Administrative Judge on the ground that the record in the case was not sufficiently complete to support a final decision.

The Hi-Lo tariffs for Bell System private line services represent a departure from the principle of nationwide averaging. This step was undertaken in order to permit the System to meet the competition of the specialized and other common carriers offering private line services. The basic idea of the Hi-Lo tariffs was to price facilities in high-density areas at lower rates, reflecting the lower average costs of such services. The tariffs increased charges over low-density routes, reduced charges over high-density routes, and provided separate rates for short hauls.

The Commission placed the burden of proof on AT&T to justify the reasonableness of the charges: In order to determine that the rate differences between high and low-density routes are reasonable, the Commission said, "AT&T must demonstrate that none of the like services is cross-subsidized by other services

1. 50 FCC 2d 501 (1974).

2. 29 FCC 2d at 926.

3. American Telephone Company v. FCC, 487 F. 2d 865, (2nd Cir., 1973).

offered by the company.”<sup>1</sup> In order to justify the Hi-Lo rates as a reasonable response to competition, the Commission ruled, AT&T must demonstrate “competitive necessity,” which the Commission said required a showing that those receiving the lower rate had an alternative source of supply and would in fact shift to the alternative supplier in the absence of the lower rate; that the rate is “just sufficient” to retain the business that would otherwise be lost; and that

*the discrimination benefits the users of the companies' services who are discriminated against, i.e., charges to other users are lower because of the discriminatory rate than they would be without such rates.*<sup>2</sup>

Instead of using the relatively simple tests of incremental costs as the benchmark for judging the reasonableness of a minimum rate, the Commission seems to be adopting complex and nearly meaningless standards which in themselves impose a nearly impossible barrier to competitive rate responses, and constitute a protective umbrella for the specialized common carriers, and a manifest restraint of competition. Under such rules, it would take years to determine the validity of competitive price changes. They are entirely without justification in economics or law.

By way of contrast, the FCC allowed tariffs filed by the specialized private common carriers, in response to the Bell Hi-Lo tariff, to go into effect on one day's notice, despite the fact that the specialized companies' purported “competitive responses” were not supported by data of any kind. They simply undercut the Bell System's Hi-Lo rates across the board.

In this context, the effect of S. 2054, and H.R. 7047, now before Congress, and supported by the FCC, becomes apparent. The Bill would extend from five months to one year the time during which the FCC could delay the effectiveness of rate changes filed by common carriers under the Communications Act. That Bill would make it possible for the Commission to shelter the new specialized common carrier telephone companies against competition for an additional period, and thus give these protected companies an opportunity to gain a position in the market which could not otherwise be attained.

While the FCC's doctrine of “full and fair” competition in what the Commission assumes to be a distinct “market” for interstate private line services has thus far been illusory, so far as the Bell System and the established Independent Telephone Companies are concerned, it has had some important implications for the

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1. Docket No. 19919, Interim Decision and Memorandum Opinion and Order, FCC 75-1043 (1975), at 11.

2: Id., at 26-27.

specialized telephone companies, including the domestic satellite companies.

In order to assure full and fair competition between the new specialized common carriers and the general-service telephone companies, the Commission has decided that the general-service companies are required as common carriers to provide the specialized companies with the same interconnection facilities they use in their own private line services.<sup>1</sup>

The facilities in question permit the connection of specialized common carrier intercity microwave facilities to local and intercity facilities of the Bell System for purposes of local access and local distribution, and also for limited distribution from a second area. One of these connection arrangements, known as Foreign Exchange, uses a private line service to extend regular exchange telephone service. It connects a private line channel directly to the public switched service network. In effect, it allows a businessman in one city to maintain a local telephone in another city for intrastate as well as interstate calls. The phone in the first city is accessible to subscribers in the second city as though it were a local telephone there. The second facility, known as a Common Control Switching Arrangement, establishes an intercity private line switching system through special large switches on the local telephone company's premises, interconnected by private line circuits. These switching systems are shared among other private line customers, linking various offices of a large company by means of private line circuits. In many cases, they are also used for regular Message Toll Service calls of the public switched network.

The FCC's decision in this case stands the original MCI and Specialized Common Carrier decisions on their head. In those decisions, the FCC justified its ruling precisely because the specialized companies' offerings were different from the private line services provided by the general-service telephone companies. Now it says that the general-service companies must provide their specialized competitors with the same network interconnection facilities they use in providing their own private line services. It is hard to imagine a result which more completely denies the customers of the general-service companies of the competitive advantages inherent in their plant and structure — the test announced in the Specialized Common Carrier case.

On July 2, 1975, the FCC issued a warning signal that there might well be limits beyond which it would not go in protecting the development of the new specialized common carrier telephone companies. In a letter based on its own investigation, and an informal complaint filed by AT&T, the Commission

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1. Bell System Tariff Offerings, Docket No. 19896, 46 FCC 2d 413 (1974), affirmed, Bell Telephone Company v. FCC 2d (C. A. 3rd, 1974).

ordered MCI to discontinue its Execunet service, on the ground that it was not a service MCI had been authorized to provide.

The Execunet service is a leapfrog plan, which enables MCI subscribers to make ordinary long distance calls without paying ordinary long distance rates. The MCI subscribers use Bell's local switched network in the cities where they are located to dial the MCI intercity facilities, and then connect to Bell's local switched network in the city they are calling. Execunet subscribers obtain a station-to-station service, through which they can use any telephone provided as part of local exchange service to call any local exchange telephone in distant metropolitan areas. Thus they make ordinary long distance calls between major cities over high-density routes at reduced rates. Execunet utilizes the local exchange units of Bell's switched network, but avoids the regular tariff charges, based on nationwide averaging and separations procedures, for using the intercity parts of the Bell network.

In its Execunet order of July 2, 1975, the Commission recalled that its original statement of policy regarding specialized common carriers had contemplated that they would operate

*only in the private line field, not in the area of switched public message telecommunications service. For example, in discussing the projected growth in telecommunications services, the Commission stated: 'It is clear, moreover, that this projection is based primarily upon the rapidly expanding growth in local interstate use of standard voice communications services of the Bell System — services which the applicants do not seek to provide.' 29 FCC 2d 870, 904 (Emphasis added by the FCC).<sup>1</sup>*

The FCC order was appealed to the Court of Appeals for the District of Columbia by MCI, and its effect stayed by that Court, which has since remanded the case to the Commission.

It is too soon to predict the outcome of the present proceedings before the Courts and the Commission. But it is clear that the controversy sharply defines the nature of the threat the specialized telephone companies offer to the existing rate structure for telephone services, and demonstrates the fact that the services they offer are indeed identical to those provided by the general-purpose telephone companies.

The evolution of FCC policy in this area, highlighted by its Execunet decision, is plain. Having launched the experiment of authorizing some competition in the provision of private line services, which it assumed was a distinct market, separate from the markets for the services provided by general-service

telephone companies, the Commission found that the experiment could not succeed unless the new entrants were sheltered from competition. Thus the Commission was led into precisely the error which the Supreme Court had condemned in the RCA case.<sup>1</sup> The Commission treated the entry of new competitors as the legitimate goal of its action, an end in itself, and lost sight of the overriding policy of the Communications Act, the development and improvement of the integrated switched network as a public utility through which the American people were to be provided with telecommunications services within its capacity.

### C. Customer-Owned Equipment

The FCC has also failed to carry out the policies announced in its Carterfone decision with regard to the connection of customer-owned terminal equipment to the network. That case left the problem of safeguarding the technical integrity of the network to the carriers, subject to Commission review of carrier-filed tariffs, and it recognized the economic viability of the network as a public interest factor which should be taken into account in interconnection cases. In the development of engineering standards to govern the process of interconnection, however, the staff of the Commission has been proceeding on a different footing. It is now opposing strict rules, including those proposed by a special study panel of the National Academy of Science, in favor of easy certification and registration methods which would facilitate interconnection, but at the cost, many experts believe, of greater risk to the technical integrity of the network. On October 31, 1975, the Commission accepted a certification procedure for certain classes of terminal equipment, in a decision in Docket No. 19528.<sup>2</sup> Chairman Wiley has indicated that the Commission intends to extend its certification procedure to PBX, key telephone systems, and main telephones.<sup>3</sup>

The development of the Carterfone doctrine has also led to a conflict between state and federal regulatory policy in the field.

In Telerent Leasing Corp.,<sup>4</sup> the FCC held that its prior decisions, particularly Carterfone, preempted state regulation with respect to the interconnection of terminal equipment for the

1. FCC v. RCA Communications, Inc., 346 U.S. 86, 93 (1953). See quotation supra at 6.
2. Docket No. 19528 FCC 75-1248 (1975) First Report and Order — Adopted: October 31, 1975.
3. Richard Wiley address before the 87th Annual Convention of the National Association of Regulatory Utility Commissioners, Boston, Mass., November 3, 1975 at 5.
4. Telerent Leasing Corp., 45 FCC 2d 205 (1974).

1. Letter Order of July 2, 1975, FCC No. 9510 at 2.

provision of both intrastate and interstate exchange service, despite the provisions of Sections 2(b) and 221(b) of the Act.

In dealing with an indivisible national network of interconnected telephone exchanges, providing the only means through which subscribers can make local, interstate, and international calls, under a statute which gives the Commission "plenary and comprehensive regulatory jurisdiction over interstate and foreign communications services," the Commission concluded that where there is conflict between an FCC rule and one promulgated by state authority, "the Federal role must be controlling."<sup>1</sup>

More recently, in the Mebane Home Telephone Company Docket,<sup>2</sup> the Commission applied the Carterfone ruling to the customers of a small Independent Telephone Company in North Carolina, and did so without regard to the apparently serious economic impact of its action on the financial condition and rate structure of the company. The Mebane case effectively interjects the economic criteria of Carterfone as a public interest factor in interconnection policy. In Carterfone, the Commission said that the economic effects of interconnection upon a carrier's rate structure "might well be a public interest question." In its recent cases, it seems to treat the interconnection of customer-owned equipment as a natural right, subject to minimal rules for the technical protection of the network. If it refused to consider the economic impact of interconnection in the Mebane case, it is hard to imagine a case in which it would do so.

#### **D. The Economic Consequences of Recent FCC Decisions**

The trends which have gained in momentum since Carterfone, Microwave Communications, Inc., and the Reports and Orders in Docket No. 18920 and Docket No. 19896<sup>3</sup> have made it clear that the present policies of the FCC threaten not only the technical integrity and economic viability of the national switched network, but the rate structure and rate levels for telephone services throughout the United States.

As a result of the developments which followed the Docket No. 18920 decision, significant amounts of revenue have already been diverted from the established general-service telephone companies to the new specialized telephone companies, which have been allowed to operate in the same field, and to con-

1. 45 FCC 2d at 214-215.

2. Mebane Home Telephone Company, Docket No. 20476 FCC 75-534 (1975).  
Bell System Tariff Offerings, 46 FCC 2d 413 (1974), affirmed, Bell Telephone Company v. FCC F 2d (C.A. 3rd, 1974). See discussion *supra* at 32.

centrate in the high-density, lower-cost markets where they can expect to have favorable profit opportunities. It has become apparent that a continuation of these developments would have a substantial impact on the revenues of the Bell System and the Independent Telephone Companies. The established general-purpose telephone companies have responded to the pressure, and the prospect of more pressure, by seeking to adjust their rates for competing private line services, and for other categories of service as well.

It is obvious that a prolongation of these trends would bring about far-reaching changes in the historic pattern of telephone rates in this country. As was noted earlier, the practice of basing rates on the value-of-service principle, as determined by the intensity of consumer demand for the several categories of service, has resulted in rates for residential subscribers which are lower than they would otherwise be, due to the contributions from other services that help to cover common costs. This economic fact is an important basis for separations procedures, established by federal-state cooperation consonant with the provisions of the Communications Act. Under existing separations procedures, which prescribe the allocation between intrastate and interstate services of the costs of plant jointly used in the provision of such services, approximately 30 percent of the revenues for interstate message toll and WATS services are in effect used to help cover the costs of providing local service. This pattern of rates, based in part on allocations of common costs between interstate and intrastate service, cannot survive if rates for intercity services are forced down towards limits of cost by the introduction and protection of competing specialized telephone companies and other purveyors of intercity service.

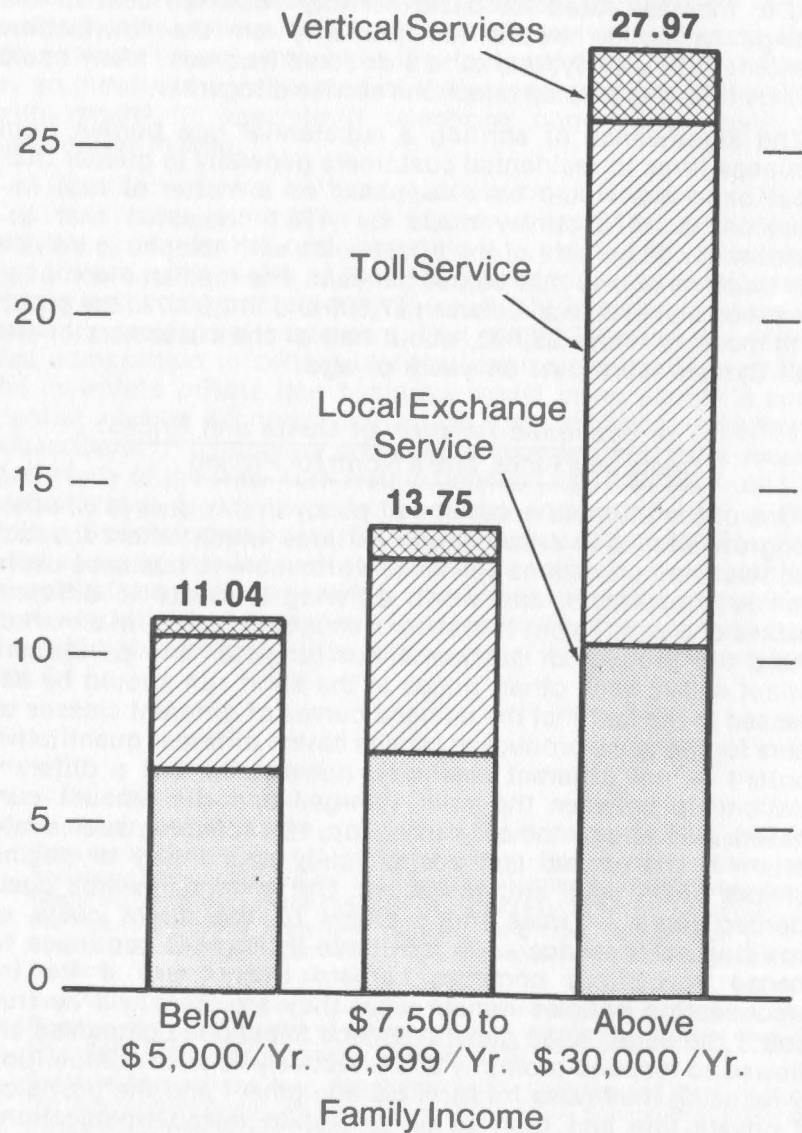
The new competition sponsored by the FCC cannot be confined to a competitive segment of private line services. Private line services do not constitute a "market." For many users of telecommunications services, the alternative to private line service is ordinary long distance service, WATS, or other special services provided by the switched network. The various classes of service compete directly. Over a large zone of use, these services are directly substituted for each other, depending upon rate-levels. The distinction between private line and MTS or WATS services is already an artificial one. As Chairman Wiley of the FCC has recently noted, it is likely soon to disappear altogether.<sup>1</sup>

The continued proliferation of specialized and satellite common carrier telephone companies, providing com-

1. Richard Wiley, Speech before the 87th Annual Convention of the National Association of Regulatory Utility Commissioners, Boston, Mass., November 3, 1975, at 10-11.

## Low income customers would be hurt most by selective competition . . .

Monthly Telephone Billing  
\$30 —



The FCC has indicated that it favors a policy of moving towards cost-oriented rates, as a matter of principle. As an abstract proposition, such a policy has considerable support among economists and other experts in regulation.

In approaching this topic, one should distinguish two quite different problems which are often considered together: (1) using "average-costs," "fully distributed costs," or "incremental costs" as general criteria for ratemaking; and (2) determining what constitutes "predatory pricing," or "sales below cost," in evaluating the price response of a regulated telephone company to competition. The second issue — that of establishing limits for the price response of the established general-service telephone companies to the lower prices of the specialized telephone companies and other competitors — was left open by the Commission when it announced its policy of allowing the general-service telephone companies and Western Union a full and fair opportunity to compete with the specialized common carriers in its Docket No. 18920 Order, and the authorizations which have flowed from it.

The Commission's Interim Decision and Order in the *Hi-Lo* case,<sup>1</sup> did not settle the problem, although it was examined in some detail. The policy of allowing the general-service telephone companies to compete fully and freely with their specialized competitors will be devoid of content until the Commission — or Congress — establishes economically sound and practicable minimum rate standards to govern the competitive response of the general-service companies to the lower prices of their competitors. The question is central to the entire controversy, and to the future of the integrated network.

My opinion is (1) that short-run incremental costs are the economically correct floor for competitive rate reductions; it follows that no price which covers short-run incremental costs can be considered "predatory," or a "sale below cost"; (2) that neither average costs nor incremental costs at any particular moment or short period of time are economically sound general standards for ratemaking; and (3) that the adoption of cost-pricing as a rate principle (rather than as a limit for price reductions) would result in a serious misallocation of resources.

The economic definition of the short-run is the period during which the supply of capital and other resources brought together in a productive unit is fixed; the long-run is the period during which changes can occur in the stock of capital and other resources available to the productive unit.

The flow of capital into the telephone system is continuous, and occurs on a large scale. Determining the shortness of the

1. See pp. 30-31, *supra*.

short-run in the telephone industry is therefore a difficult task. As a practical matter, the short-run for the telephone industry should be considered intermediate in duration, and allow for some adjustments of the capital stock. But such economic calculations should not be confused with measures of conditions in the long-run.

The standard case for cost-pricing in a regulated industry rests on the following argument:

(1) The goal of regulatory policy, the advocates of cost-pricing contend, should be to achieve through regulation the level of prices that would have been achieved by the competitive market, if there were one. Economists of this opinion then point out that under conditions of long-run competitive equilibrium, the market would result in prices which approximate the variable costs incurred in producing the marginal unit of output. At that level of output — at which it would not pay the supplier either to increase or decrease his production — marginal costs also equal average costs for the whole supply provided.

(2) From this unexceptionable proposition, some economists then slip into error by taking a further step. Regulation, they say, should seek to achieve rates which are equal to marginal or incremental costs — or average costs — not at some hypothetical future point of long-run equilibrium, but now.

This approach confuses long-run and short-run criteria for competitive prices.

In a dynamic economy, "now" is never a point of long-run equilibrium, either for prices or for output. In the real world of endless changes in all the relevant variables, long-run equilibrium is never reached, and what demand or supply would be at that point cannot be measured or even estimated. Long-run equilibrium is an important and useful concept, which helps economists to perceive the relationships among economic forces, and to predict future developments, just as a similar rule about the tendency of atmospheric pressure towards equality helps meteorologists predict the weather. It is a concept which defines trends, not actual results at any given point of time. And it is not a standard which can be used in ratemaking.

Competitive pressures tend to press the price and output policies of competitive industries towards a position of long-run equilibrium, through attracting new capital and new entrants into a profitable market, or driving resources out of an unprofitable one. But at any moment of time, the theory of competition assumes that most actual prices, as determined by demand, will be above or below average costs. Some suppliers are better located or better managed than others, or have lower costs for some other reason. They will earn more, or lose less, than the representative firm. For the market as a whole, however, market prices will not in the short-run correspond to any norm of cost. The differences between prices and costs are the key signals of

the market system, guiding the flow of capital and other resources to the most economic possible uses through time.

At any given moment of time, therefore, pricing should be addressed to short-run conditions, not those of long-run equilibrium. No one can possibly estimate what the long-run level of output would be either at current prices, or at any other level of prices. Nor can any one now estimate the intensity of the demand for a given product or service at the point of long-run equilibrium. Such calculations would depend on what the overall level of income would be at that undefined future time; on the prices and costs of all other commodities and services; and on the pattern of demand (at such levels of income and prices) for all the goods and services offered by the economy. As Keynes once remarked, all we can really say about the long-run is that in the long-run we shall all be dead.

Indeed, it is difficult, though not impossible, to estimate what volume of output would be sold to different classes of users at different prices even in the short-run or the intermediate run.

Both in regulated and competitive industries, prices at any given point in time should thus reflect demand, for the reasons given at pp. 13-14, supra, in explaining the value-of-service rule for pricing telecommunications service. In all markets, competitive and non-competitive alike, short-run cost is relevant in the first instance to the determination of output, not of price: Responding to the expected market price, or the price established by regulation, suppliers continue to produce so long as they expect to make anything by offering more — so long, that is, as the expected price covers the variable short period cost to them of producing one more unit of output. At that price, for most producers, revenues may be more or less than their average costs for producing the whole supply they are offering. This rule — that output be expanded so long as incremental revenues cover the incremental costs of providing the marginal or incremental unit of the product or the service — is the economically correct welfare criterion for determining how far the existing stock of capital and other resources should be used in the provision of output for the market.

The impact of output on price is the obverse of this analysis. The output elicited from suppliers by expected prices can be sold only at the prices indicated by the demand curve for the product or service. The expected price may give rise to more or to less output than the market will absorb at that price. In such a case, prices will fall or rise, if the market is sufficiently competitive. If the market is not competitive, output will not be sold, or will prove to be in "short-supply."

Thus short or intermediate run cost criteria should be invoked in the regulation of the communications industry not as a benchmark for fixing actual rates, but as a floor for determining the

economic soundness of competitive rate reductions. No rate can be considered "predatory" if it covers incremental costs.

These conclusions do not, of course, constitute the whole of an adequate program for regulating utility rates. Established rules of fairness are necessary to assure universality of service on a common carrier basis, and to prevent undue preferences or discriminations within each class of consumers. And regulation must assure an adequate but not excessive overall rate of return, within the principles of the Hope Natural Gas case.

## 2. Other Effects of Recent FCC Policy

The transformation of the historic pattern for telephone rates being accomplished by the recent policies of the FCC would have another result, beyond reducing rates in areas of competition, thus requiring rate increases for household subscribers in order to permit an adequate overall level of return. It would necessarily also increase the total real cost of communications for the nation as a whole, because it is requiring a wasteful duplication of expensive communications facilities. The new specialized private line telephone companies have all made substantial investments in equipment and organization. Were these investments rational, from the point of view of the economy? Did the network itself have sufficient capacity at the time to provide the services offered by the new specialized carriers, or would the Bell System and the Independent Telephone Companies have had to make comparable investments themselves? If so, would those investments have been more or less costly than those made by the specialized microwave and domestic satellite carriers?

These questions cannot now be answered with certainty. The Commission assumed in its early decisions that the new companies would provide largely novel services not otherwise offered in a large, growing, diverse and heterogeneous market. In fact, experience establishes that the new services are not in fact novel, and that the business of the new specialized companies was largely diverted from the private line traffic of the established general-service telephone companies (see p. 26, supra).

Under the circumstances, it seems safe to conclude that a large part, if not all of the specialized companies' investments was wasteful, since nearly all the services they offer are provided also by the existing general-purpose telephone companies. They do not represent an increase in the total demand for communications services, but a shift of that demand from one supplier to another.

In the long-run, these investments would be wasteful in another sense as well, in that they would complicate the task of network planning and management by adding new problems of accommodation, and slowing up its development at an optimal rate. The rate of introduction of new high-capacity, low-cost technology into the network is determined largely by its growth.

New generations of low-cost transmission equipment with extremely large capacities are being developed for introduction into the network. It will not be economical to invest in such equipment if a considerable volume of intercity communication is withdrawn from the network and handled by specialized telephone companies.

A third inevitable consequence of the FCC's policy of authorizing more and more specialized common carrier communications companies, and then protecting them against competition, would be its impact on the technical integrity of the network. The network is composed of trillions of parts, which must work at any moment with great precision in harmony with all the others. The introduction of facilities and services provided by competing companies, with different standards of quality control, and different arrangements for installation, maintenance, and repair, would undermine the present organizations for planning and operating the network, and place its technical integrity, and its capacity for efficiency and optimality, in question.



#### IV. THE ISSUES IN THE DEBATE

The developments which began with the FCC's Carterfone, MCI, and Specialized Common Carrier decisions are transforming the economic and regulatory environment within which our telephone system functions. These rapid processes of change present a series of fundamental questions about the future of communications policy which only Congress can answer.

The key issue in this related group of controversies is to define the scope of the national public utility franchise granted to the established general-service telecommunications common carriers under the Communications Act of 1934. All the participants in the recent debate acknowledge that the standard of the public interest, which is the guiding principle of the Communications Act, requires the integrated and unified switched network, connecting every user of the network to every other user, and directs the FCC to assure its development and improvement as a regulated public utility. The integrated telephone network has long provided not only public message services but private line, data, and other telecommunications services within its capacity. It has been taken as axiomatic that the Communications Act properly treats the integrated switched network as a regulated "natural monopoly," for reasons of technology, economy, and convenience which are now even more compelling than they were when the Communications Act was passed.

While everyone agrees that the Communications Act requires an integrated and unified network, there is considerable diversity of opinion as to the reach of that rule. Where does the network end? Does it extend only to voice services? Only to voice, record, and data services which "have to go through the switching facilities of the network"? To "traditional" or "conventional" services, as distinct from "new" services? To all the services the network is capable of providing? Should the network be defined as the transmission and switching facilities of the system, or does it necessarily include the research, development, manufacturing, and systems management resources on which its operations, maintenance, and improvement depend?

The distribution between voice and record services has long since disappeared, as a matter of technological fact.

The debate really concerns the extent to which the concept of the switched network, as it has developed historically under the Communications Act and its predecessor statutes, should (1) preclude the development of competing telecommunications services which are or could readily be provided through the telephone network by the Bell System, in cooperation with the established Independent Telephone Companies and the newer

"Value-Added" specialized communications services companies; and (2) limit the process of connecting customer-owned terminal equipment to the network.

Once these questions are answered, the issues sketched above fall into place.

The degree to which the switched network should be treated as a regulated monopoly in providing telecommunications services within its capacity has proved to be a difficult and controversial question. Thus far, few commentators have approached the problem in the perspective of what Congress intended when it passed the Communications Act of 1934, and its predecessor statutes.

Some contend that the Bell System and the Independent Telephone Companies should have a monopoly only of communications services "which have to go through the switched network," and that competition should be allowed for other classes of service. The difficulty with this definition is that the new specialized telephone companies are pressing more and more insistently, and successfully, for the right to connect to the switched network, and to use some or all of its facilities. For the most part, their customers do not want to talk only to themselves. In any event, as was pointed out earlier, private line services cannot be treated as a separate market, insulated from the market for intercity services based on the network. Private line and intercity toll and WATS services are in direct competition; with improved transmission and switching facilities, their substitutability will become nearly complete.

Others have proposed alternative definitions for the scope of the switched network as the natural monopoly posited by the Communications Act. They say the existing general-purpose telecommunications companies should have a monopoly in providing "conventional" telephone service, or "traditional" telephone service. For example, the FCC provided the following statement, in May 1975, in response to a request from a member of the Committee on Appropriations of the House of Representatives for a statement of the long range plans of the Federal Communications Commission with respect to competition in the telecommunications industry:

*The FCC's long-range plans for competition in the telecommunications industry are geared to allowing the public to obtain maximum utilization of the communications services it purchases through the leasing of specialized communications services and the purchase of terminal equipment. Competition in these two areas has been found to be feasible. We are presently inquiring into both the technical and economic ramifications of such competition in various dockets including the Joint Board*

*proceeding (Docket 19528 and Docket 20003). We have no plans for introducing competition in the provision of traditional public switched message telephone service.<sup>1</sup>*

Except perhaps for the Commission's recent ruling in the Execunet case<sup>2</sup> the last paragraph of this statement is not an accurate description of the effects of the Commission's present policies, as has been pointed out at pp. 23-24 *supra*. The line between private line and public switched message telephone service is thoroughly blurred.

But what is "conventional" or "traditional" telephone service? Surely private line service, private branch exchanges, telephones in cars, trucks and taxicabs, and telephonic access to data systems have all been among the services the established general-service telephone companies have conventionally offered, or could readily arrange to offer. And why should the nation confine a developing system, whose capabilities and versatility are constantly and rapidly expanding, to the services it happened to provide at an earlier stage of its technological evolution? No ground of law or policy could justify arresting the development of the network at a given point, and denying the nation the advantages of its future improvement.

Defining the scope of the network has another dimension — that of vertical integration. Some economists treat the switched network as if it consisted of nothing more than the transmission and switching facilities of the Bell System and the Independent Telephone Companies. Such a definition is sterile, unrealistic, and inadequate. In a technological field where extremely rapid change has been the rule, the task of planning, managing, improving, and maintaining the network is a process calling for the continuous collaboration of research, manufacturing and operations personnel. The switched network is always being transformed. New products come into it at an astonishing rate (see pp. 17-20, *supra*). The switched network is, therefore, more than the transmission and switching equipment which performs the ultimate telecommunications services at any moment of time. It is also the array of research, manufacturing, operations, and management resources available to sustain and improve the network. They, too, are part of the network. It is a unified system, constantly growing in scale and complexity, which in the nature of things must be managed as a unit, through a process which requires the systems managers to have immediately available all the skills relevant to the task.

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1. Hearings before a Subcommittee of the Committee on Appropriations U.S. House of Representatives, 94th Congress, 1st Session, Part 6, (1975) at 382.
  2. Discussed *supra* at p. 27-28

In short, the various attempts to isolate segments or sectors of the telecommunications business from the central concept of the network have proved to be illusory. The network is in fact indivisible. Experience now demonstrates that introducing the FCC policy of deliberately encouraging and protecting competitive entry into private line services, or into the provision of equipment to subscribers, inevitably has cumulative effects on the rate structure for all communications services, through the pressures it generates on price-averaging and on separations procedures.

I conclude that the only realistic definition of the scope of the integrated network, and therefore the only realistic definition for the scope of the Bell System and Independent Telephone Company franchises under the Communications Act, is the one offered in this memorandum: namely, that the basic task of the network, resting on complex and intricately reticulated systems of transmission, switching, and management, has been and is to provide the many kinds of communications services of which it is capable — not only public switched network services, but special private line voice and data services as well. Both public message and private line services use and depend upon the transmission or switching facilities of the network, or both, on its managerial procedures, and on its resources for research, development, planning, manufacture, and maintenance.

The intent of Congress in this area should be inferred not only from what it said and decided when it passed the 1921 and 1934 communications statutes, but from the consistent pattern of usage through which the Act was interpreted and applied before 1968. The essential principle of the Act is that the nationwide telephone network is and should remain a unified system, planned and managed by the Bell System in cooperation with the Independent Telephone Companies. This was the reality to which both statutes were addressed. It is the heart of the public interest standard embodied in the Act. The importance Congress attached to this central principle is highlighted by its reservation of jurisdiction in Section 215.

The principle of network unity requires the network to provide most, or nearly all, of the communications services, new and old, which can be handled conveniently and economically by its facilities. The strong presumption of policy should be that communications services are provided by the network and its constituent companies where that can be done effectively, at the lowest overall cost, and under conditions which optimize the use and improvement of the network. The reason for that conclusion is vividly demonstrated by the experience of the telecommunications industry since the decisions of the FCC in Car-terfone, MCI, and Docket No. 18920.

Beyond that general rule, the principle of network unity suggests four conditions which should be met before the FCC

authorizes a specialized common carrier to offer such services. All four of these criteria are stated in the FCC's MCI decision, and in its later First Report and Order in Docket No. 18920, on Specialized Common Carrier Services:

- (1) that the services offered will in fact be novel, and will reach sectors of the market hitherto unserved or inadequately served;
- (2) that its equipment be compatible with that of the network, and minimize the risk of damage to its technical integrity or safety;
- (3) that the development of its services not adversely affect the economic viability of the network, or require significant changes in price averaging and separations procedures long supported by state and national policy; and
- (4) that the existing common carriers have full and normal economic freedom to respond to (or to anticipate) competition through price reductions, so long as their prices are not discriminatory or predatory. For reasons developed earlier in this paper, at pp. 12-13 and 38-41, this criterion of the MCI case and the Docket No. 18920 Report should be interpreted to mean that no price be deemed predatory if it covers the actual marginal or incremental cost of providing the service in question.

Until the FCC returns to these rules, the Bell System and the Independent Telephone Companies are in an unfair and untenable position. They are in the posture of Gulliver among the Lilliputians. Some of their most profitable business is being taken from them, and they are not allowed to respond. This is an absurdity which would give the nation the worst of both worlds. It is not a policy of competition, but of its opposite — market-sharing, restrictive rules, cartellization, and mercantilism.

Even if the existing telephone companies were allowed a full and fair opportunity to compete with the specialized private line telephone companies, the process of rate changes initiated by the FCC's decisions on this subject raises fundamental questions of policy.

Does Congress wish to allow the FCC to move away from value-of-service pricing, based on the economic principle of welfare maximization, and force the telephone companies to move towards cost-oriented pricing for services subject to competition — a trend which would reduce the share of common costs now borne by intercity rates, and thus require sharp increases in the telephone rates of households, in order to provide an adequate overall rate of return? Commissioner Wiley recently testified as follows on this phase of the Commission's present policy:

*What we have attempted to do in our policies in common carriers is to direct Bell System and other telephone*

*companies to price their services more along the cost that requires them to produce.*<sup>1</sup>

Does Congress wish the FCC to pursue a policy of encouraging much more competition in the provision of telecommunications equipment for subscribers, at the cost of weakening the network managers' control of its technical quality?

Does Congress wish the FCC to take over, by preemption, an important part of the existing jurisdiction of the state regulatory commissions?

One thing is certain: the nation cannot have it both ways. It is impossible to preserve relatively low rates for the household subscriber, based on value-of-service pricing, nationwide averaging, and existing separations procedures, and at the same time to pursue the goal of encouraging the entry of new specialized telecommunications companies providing telephone service and supplying equipment, and then protecting them against competition.

Congress must choose, before the course of events makes it too late to choose.

An amendment of the Communications Act would be the soundest and most effective way to deal with the policy consequences of the FCC's recent decisions. I suggested such an approach in the course of my testimony before Senator Hart's Antitrust and Monopoly Subcommittee in 1974.

The essential objective of such an Amendment would be to reaffirm the intent of Congress, expressed in its 1921 and 1934 legislation, and in the unbroken pattern of practice before 1968, and apply that policy goal to the problems which have emerged in recent years. The amendment would thus give indispensable guidance to the FCC and the courts in directing the future evolution of the nation's integrated telephone network.

The condition of the industry, and the accelerating momentum of the trends initiated by recent FCC decisions discussed in this paper, urgently require a serious and responsible national debate on these subjects before Congress and the country. Only out of such a debate can we expect to achieve a renewal of national policy dominated by the national public interest.

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1. Hearings before a Subcommittee of the Committee on Appropriations U.S. House of Representatives, 94th Congress, 1st Session, Part 6 (1975) p. 369.

This paper is based on the memorandum prepared by Professor Eugene V. Rostow for the American Telephone and Telegraph Company for use in the November 1975 Hearings before the Subcommittee on Communications of the U.S. House of Representatives Committee on Interstate and Foreign Commerce.

Eugene V. Rostow, who lives in New Haven, is Sterling Professor of Law and Public Affairs at Yale University, where he received a B.A. in 1933, and an LL.B in 1937. He did graduate work in economics as a Henry Fellow at King's College, Cambridge, in 1933-34.

Dr. Rostow joined the Yale Law Faculty in 1938, after a year of practice with the New York law firm which was then known as Cravath, deGersdorff, Swaine, and Wood, and has been a member of the Yale faculty ever since. One of his major professional interests, in and out of academic life, has been to combine the use of law and economics in the study of public policy. Until 1955, when he became Dean of the Yale Law School — a post which he held until 1965, — Dr. Rostow devoted half of his teaching schedule to a seminar on the Public Control of Business, which was available both to law students and to graduate students in economics in that period, he was a member of the Faculty of Economics of the Yale Graduate School, and regularly supervised Ph.D. theses in economics. During a visiting term at the University of Chicago Law School in 1941, he helped to start a course on economic planning, which was directed to the entire legal system for economic planning, rather than to the economic and legal problems of market organization alone. Dr. Rostow continued that experiment when he returned to Yale after the Second World War. The process resulted in his book, "Planning for Freedom," which was published in 1959. He is now working on a revised edition of that book. Dr. Rostow has long taught courses on the antitrust laws, and, less frequently, courses and seminars on regulated industries as well. He also has served as a Visiting Professor at Oxford and at Cambridge Universities, where several of his lecture courses dealt with policy problems embracing both law and economics. In 1962, he was awarded the academic degree of LL.D. by Cambridge University, on the basis of his scholarly publications.

During World War II, Dr. Rostow worked in the government on lend-lease matters, and more broadly, as Executive Assistant to Dean Acheson, who was then Assistant Secretary of State for Economic Affairs. In 1949-50, Dr. Rostow was Executive Assistant to the Secretary General of the Economic Commission for Europe, an organ of the United Nations which is located in Geneva, Switzerland. Between September, 1966 and January 20, 1969, he was Undersecretary of State for Political Affairs. In that position, despite its designation, he was, among other things, the Department's senior officer on economic matters, being the United States Deputy Governor of the International Monetary

Fund and the International Bank for Reconstruction and Development, and he was responsible for a number of programs in the fields of trade, monetary policy, aid, and telecommunications. As Undersecretary, he was also Chairman of the President's Task Force on Communications Policy, whose Final Report was filed in December, 1968.

Dr. Rostow has served also on other public bodies dealing with national and international economic problems, particularly the Attorney General's National Committee to Study the Antitrust Laws, during the early fifties, and on study groups organized by the Council on Foreign Relations, in New York, and the Atlantic Council of the United States, in Washington. In addition, he has appeared for private clients from time to time before Congressional Committees, the Interstate Commerce Commission, the Federal Communications Commission, and the courts.

FINAL REPORT ABSTRACT

**REGULATORY POLICY CHANGES  
AND THE FUTURE  
OF THE INDEPENDENT  
TELEPHONE INDUSTRY**

**A Study of the Economic Impacts on Independent  
Telephone Companies and Their Customers from  
Competition in the Supply of Terminal  
Equipment and Intercity Services**



January 1976

## THE CONTEXT OF THE STUDY

Americans have long valued the economic and social benefits of competition. But what are the results of competition introduced by the Federal Communications Commission (FCC) into an industry comprised until recently of companies franchised to operate as monopoly suppliers under public regulation? How are service costs and prices affected? These are the main questions addressed in this study of the independent telephone industry by Systems Applications, Inc., and sponsored by the U.S. Independent Telephone Association.

This brief abstract presents only highlights of the results, which project the impacts of competition for the coming decade. More information on the full study results is available from the U.S. Independent Telephone Association, 1801 K Street, N.W., Suite 1201, Washington, D.C. 20006.

The shift from regulated monopoly to competition began in 1968 with the FCC's landmark "Carterfone" decision, which allowed terminal equipment not supplied through the telephone companies (telcos) to be interconnected with the national telephone network operated by these companies. Three years later, with its "Specialized Carriers" decision, the FCC authorized and encouraged competition to enter the field of intercity private-line services.

The established telephone industry, comprised of the Bell system and over 1600 independent companies, has had to meet this competition while serving consumers as public utilities under federal and state regulation. Can they do both effectively? It seems unlikely, unless additional changes in regulatory policy can be effected, for the telcos are losing increasing amounts of revenues in the newly competitive markets that have traditionally supported the basic telephone exchange services to all residential and business users.

The effects of competition in the supply of certain telephone services can be projected as "contribution losses": under the present regulated rate structure of the industry, the services whose revenues usually exceed direct costs (including the cost of capital) have contributed to the support of the basic local telephone exchange services, whose revenues typically do not cover all costs. For most telcos, services that the FCC has opened to competition have traditionally been the principal

sources of contribution. Among these are the intercity services now also being offered by the specialized common carriers (SCCs) and the "vertical services" — private branch exchange, switchboards, key telephone systems, and extensions — corresponding to the types of terminal equipment being offered by the new "interconnect" companies (ICs).

## THE INDUSTRY-WIDE IMPACT

Figure 1 shows SAI's best-estimate projections, in constant 1974 dollars, of the total contribution loss that the independent telephone industry will sustain in the coming decade as a result of IC and SCC competition.

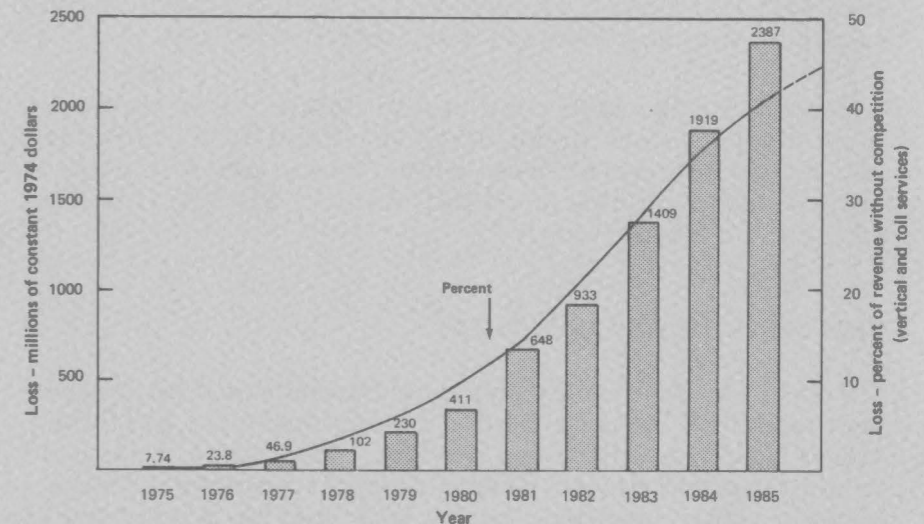


FIGURE 1. ANNUAL CONTRIBUTION LOSS OF ITI DUE TO THE COMBINED IMPACT OF SCC COMPETITION AND TERMINAL INTERCONNECTION

These industry-wide losses will grow from an estimated \$7.7 million in 1975 to nearly \$2.4 billion in 1985, quite apart from the effects of inflation. The percent curve restates these losses in another way: it refers to the proportion of total revenues that the independent telcos could expect from intercity and vertical services if they did not face competition in supplying them. The projections indicate that by 1985, contribution loss due to the combined effects of IC and SCC competition could be more than 40 percent of the revenues the independent telcos would receive without competition.



## THE INDIVIDUAL COMPANY

The 1600 operating companies within the independent telephone industry provide service for over 25 million telephones in 48 of the 50 states. Unlike the Bell system, each of these operating companies is organizationally, financially, and managerially independent. The range within the industry is broad, with some small companies serving fewer than 100 subscribers and some large holding companies serving several million. Because of this diversity, competition from ICs and SCCs is likely to affect some independent telcos more severely than others. Figure 2 contrasts the impacts of competition on three representative independent telcos. One company serves a mixed but predominantly urban area with a wide variety of local exchanges. The second serves a geographically large rural area with many small exchanges. The third company, mainly suburban, operates fewer but much larger exchanges.

The estimated contribution loss in 1975 for these companies is relatively modest: urban, \$970,000; rural, \$70,000; and suburban, \$7,100. But by 1985, these annual losses are projected to be quite substantial, reaching \$221 million, \$19.6 million, and \$169.2 million, respectively.

## THE INDIVIDUAL CONSUMER

Figure 3 translates the total contribution loss of the independent telephone industry into terms more relevant to the individual user of telephone services. The figure shows the amount that may have to be added — again ignoring inflation — to the monthly rates paid by the consumer for a residence or business main telephone if the independent telcos were to recover the total additional revenue requirements. It should be noted that there are many potential ways of restructuring local exchange rates to recover these revenue requirements.

In terms of constant dollars, the industry-average rates for basic local exchange service have been falling constantly in the past. Because of competition, this downward trend will swing upward by 1980, and by 1985, the average monthly revenue requirement increase over 1975 levels required to offset losses from competition is projected to be as high as \$3.28 per residence main and \$7.25 per business main. In percentage terms — and still ignoring inflation — this could represent a rate increase of 60 percent for the residence main telephone station and 56 percent for the business main telephone station.

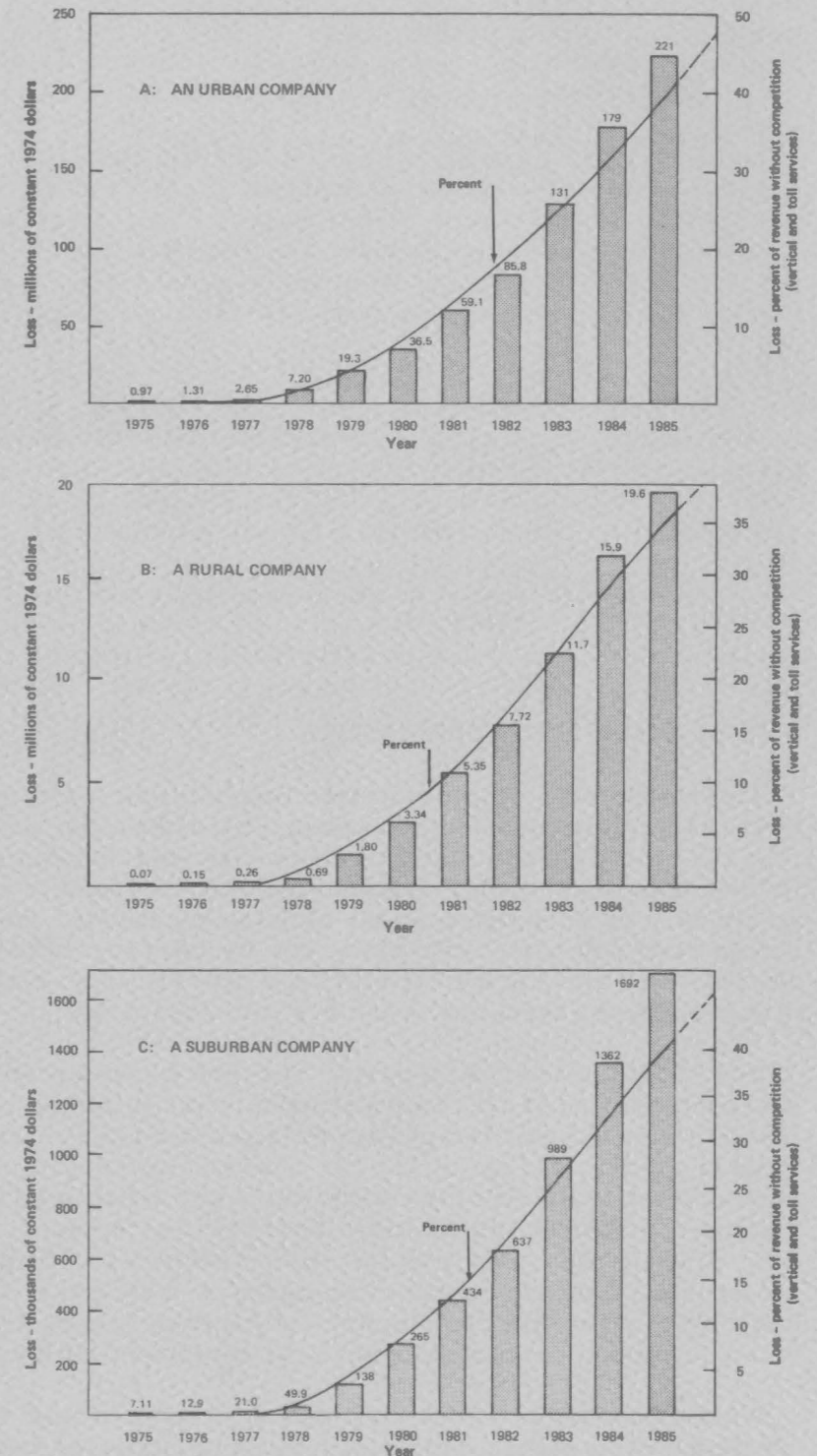


FIGURE 2. ANNUAL CONTRIBUTION LOSS OF THREE REPRESENTATIVE INDEPENDENT TELEPHONE COMPANIES

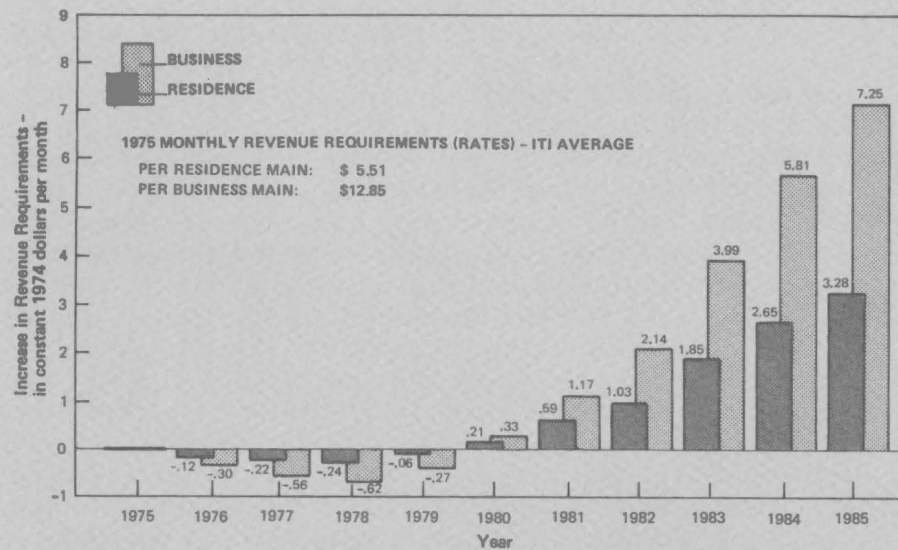


FIGURE 3. INCREASE IN MONTHLY REVENUE REQUIREMENTS (OVER 1975 LEVELS) PER RESIDENCE MAIN AND BUSINESS MAIN GIVEN THE COMBINED IMPACT OF SCC COMPETITION AND TERMINAL INTERCONNECTION

## REGULATION AND COMPETITION

The introduction of terminal interconnection and SCC competition is an unfortunate case of inadequate coordination between the FCC and the state regulatory agencies when fundamental policy issues are being decided. Without the benefit of an analysis of the economic impacts on the telcos, the FCC ushered competition into the marketplace; yet the state regulators are the ones who now have to contain the impacts of such competition through the economic relief they allow the telcos.

The FCC's "Specialized Carriers" decision was based mainly on an expectation of SCC innovations in facilities and services. The SCCs have by and large introduced neither. Their success instead is due mainly to (1) tax shelters and depreciation methods not available to the telcos, (2) heavy reliance on telco facilities for local distribution, and (3) freedom to choose where, when, and whom to serve while the telcos are obligated to serve all. The interconnect companies do not have to carry the burden of revenue contributions to the basic telephone services, as the telcos do in their terminal equipment offerings.

When telcos try to revise their rate structures to meet competition, the regulators demand a great deal of time for detailed reviews of such requests. The new competitors do not face such delays. As long as the telephone companies must operate under

different ground rules and constraints from those applying to their new competitors, it is unlikely that fair and beneficial competition can evolve.

Maintaining the vitality and effectiveness of the telecommunications industry is a major government objective, and in pursuit of this goal, competition has a role to play. But for competition to be desirable in an industry in which it had been prevented under prior government decisions, it should be attended by clear social benefits that outweigh its costs and dislocations to the public.

If the FCC does not contain the destabilizing forces it set into motion, major rate increases for basic exchange services are inevitable, and state regulatory agencies must accelerate approval of independent telco filings for such increases. Otherwise, the financial viability of these companies will be severely endangered. However, even these measures can give only partial relief to the telcos from the projected impacts of competition. What is really needed is a comprehensive review by the FCC, Congress, and state regulatory agencies of the roles and responsibilities of the telcos as public utilities and the market conditions that must prevail for them to be able to meet these responsibilities.

**SYSTEMS APPLICATIONS, INC.**  
 950 Northgate Dr., San Rafael, California 94903