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Rate Base Evaluation and Vertical Integration: Shifting Standards in Telephone Regulation

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The nation's investment in telephone equipment now exceeds 100 billion dollars. That the purchase of telephone equipment resides as a prerogative of management is obvious. Such investment decisions reflect management's view of variables ranging from price to operating costs, from payback to equipment obsolescence.

Investment decisions, on the other hand, are not without their impact upon the subscribing public. Exorbitant equipment costs can translate into exorbitant rates. Inadequate features can translate into inadequate service. Little wonder that regulatory authorities have searched for investment guidelines that give some assurance to consumers that telephone rates are just and reasonable. And little wonder that the search for accountability has been laden with disagreement, controversy, and uncertainty.

This paper focuses on the regulatory search for rate base evaluation. The concentration will be on the problems posed by a vertically integrated market structure as that structure impacts the procurement and the valuation of telephone plant. To this end, an attempt will be made to

- survey the vertical structure of the telephone industry
- trace the legacy of equipment price comparison studies supplied by telephone companies
- explain the demise of price comparison studies at the Federal level
- identify a recent trend toward competitive access to the telephone equipment market.

The conclusion which flows from this analysis is that equipment price comparisons, long an acceptable standard for rate base evaluation purposes, have been rejected by the Federal Communications Commission. What remains uncertain is whether such a standard will continue to be employed for telephone regulation at the state level. If acceptance of company supplied price comparisons persists in the future as it has in the past, then both the FCC and the states will find themselves in basic conflict over a fundamental issue in U.S. telecommunications—the pricing and securing of equipment that accounts for some 10% of U.S. gross private domestic investment.

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STRUCTURE OF THE TELEPHONE INDUSTRY

The four largest telephone utilities in this country are holding companies and, by themselves, account for roughly 95% of the industry's telephones in service.¹ The American Telephone & Telegraph Co. — the Bell System — singly claims over 80% of domestic telephones, total plant, and operating revenue (toll, local, and total) and also dominates in comparisons of net income, stockholders equity, and employment.² In 1976, Bell's construction expenditures exceeded ten billion dollars, three fourths of the industry's total outlays for new plant.³ The Bell System's manufacturing and supply arm, Western Electric, registered sales of almost seven billion dollars in 1976.⁴ The bulk of those equipment purchases was secured by operating telephone companies owned and controlled by AT&T.⁵

The remaining 1590 telephone companies in the U.S. consist of non-Bell or independent utilities. Many are controlled by integrated holding companies which provide the majority of telephones in this sector.⁶ General Telephone and Electronics (GTE), the Bell of the independent market, fits this mold, as do United Telecommunications and Continental Telephone, the other major telephone systems among the independents.

These holding companies together account for the most significant portion of the independent market's total operating revenues in the U.S.⁷ Each has at least one manufacturing affiliate as well as a number of operating telephone companies in their respective folds. In short, a familial utility-supplier relationship dominates the structure of U.S. telecommunications.

The Canadian telephone market parallels that of the United States. British Columbia (BC) Telephone Company in the western part of the country and Bell Canada in the east, are both vertically integrated. The associated manufacturing suppliers of each company together account for the greatest portion of telecommunications equipment sold in Canada. Northern Telecom, Ltd., owned by Bell Canada, currently provides over 70% of equipment sales in Canada, while GTE's affiliates account for considerably less.⁸ But it is clear that the integrated suppliers provide the bulk of equipment to Canadian telephone companies.

¹American Tel. and Tel. Co., 64 F.C.C. 2d 131, 145 (1976).

²United States Independent Telephone Association (hereinafter cited as USITA), *Independent Phonefacts '77*, 10, FORTUNE, July 1977, at 172-173.

³USITA, *supra* note 2, at 10.

⁴FORTUNE, August 1977, at 240.

⁵American Tel. and Tel. Co., 64 F.C.C. 2d 131, 159 (1976).

⁶USITA, HOLDING COMPANY REPORT, May 1973; TELEPHONE ENGINEER & MANAGEMENT, October 1, 1973, at 130-32.

⁷USITA, *supra* note 6; FORTUNE, *supra* note 4.

⁸DIRECTOR OF INVESTIGATION AND RESEARCH, COMBINES INVESTIGATION ACT, THE EFFECTS OF VERTICAL INTEGRATION ON THE TELECOMMUNICATION EQUIPMENT MARKET IN CANADA, n. 1 (1976).

Economic theory argues that market structure begets market conduct. To the extent the integrated telephone utility purchases the bulk of its equipment needs from the supply affiliate, its investment rate base emanates virtually from within. The associated manufacturer's equipment prices by and large translate into the utility's rate base valuation as the buying process becomes continuous and habitual.

The question persists of what assures the subscriber that in the absence of competitive bidding, equipment prices generated through internal corporate transactions are just and reasonable? The answer to this question has taken the form of studies that match the integrated supplier's equipment price with the price of independent suppliers. AT&T's price comparison studies, for example, balance Western Electric's prices against comparable products of competing suppliers. Likewise, General Telephone studies compare equipment prices of its affiliates with those of general trade suppliers. Similarly, Bell Canada submits studies comparing its affiliate prices with those of the general trade supplier. All studies reach the same conclusion: the integrated supplier's prices, on average, are less than those posted by independent manufacturers. Hence, in-house purchases of equipment redound to the benefit of the rate paying public.

In the U.S., AT&T's studies of Western Electric's prices stand as a classic illustration of price comparisons. In the 1960's, for example, a Bell-financed McKinsey study observed that Western Electric's prices were, in general, significantly below the lowest prices offered by other manufacturers of comparable equipment.⁹

More specifically, Western's prices were claimed to be less expensive in virtually all of the major product lines¹⁰

- 37% lower for PBXs,¹¹ transmission equipment, and central offices
- 52% lower for telephone apparatus
- 47% lower for telephone sets
- 48% lower for exchange cable and toll cable
- 26% lower for outside plant¹²
- 37% lower for installation of central offices.¹³

In an update of the study (covering the period 1968 to 1972), McKinsey reported that, based on AT&T studies, "Western Electric has, in general, been able to sell its product to the Bell Telephone Companies at substantially lower prices than could be achieved by buying from other

⁹MCKINSEY & COMPANY, A STUDY OF WESTERN ELECTRIC'S PERFORMANCE, 2-13, 2-17 *passim* (1968).

¹⁰*Id.*, Charts 2-15, 2-17, 4-13.

¹¹A "PBX", or Private Branch Exchange, is a private telephone switchboard or a small, private central office (manual or dial).

¹²"Outside Plant" is telephone equipment, such as poles, conduits, cables, and wires, which is out-of-doors, not in buildings.

¹³A "central office" is a site where the switching of telephone calls is accomplished.

sources."¹⁴ During a major investigation of Bell System corporate interrelationships and vertical integration conducted by the FCC during the first half of the 1970's a Bell witness claimed that "for the range of products assigned to the interstate plant, Western Electric's Bell prices are, overall, about 70 percent of the level of those currently representing the lowest prices of general trade suppliers."¹⁵

The thrust of these studies has been clear and compelling: Telephone utilities buy from their in-house suppliers because of lower prices and better equipment. In-house procurement, so the argument follows, translates into lower rates for the telephone subscriber. Company-supplied price comparison studies, in short, give eloquent testimony to economies arising out of a structure of vertical integration.

The logical implications of such price comparison analyses, however inviting, have never been explored thoroughly. No federal or state regulatory agency, for example, has mandated a consolidation of equipment manufacturers on grounds of economic efficiency. Nor have regulatory agencies sorted out which telephone company study is valid and which is invalid. Despite these problems, price comparisons have persisted as a traditional institution for regulatory purposes at both federal and state levels. Indeed, such studies have become institutionalized in regulatory proceedings for the past fifty years. What, then, are the origins of this institution and how has it evolved over time?

THE LEGACY OF PRICE COMPARISONS

It is fair to say that the federal courts first sanctioned price comparison studies offered by telephone utilities. In a most critical case, *Houston v. Southwestern Bell*,¹⁶ the Supreme Court held in 1922 that the burden of justifying sole source procurement rested with the telephone company. That burden legitimized AT&T's price comparisons of Western Electric equipment versus outside equipment suppliers. This regulatory burden was further extended in 1930 when in *Smith v. Illinois Bell Telephone*,¹⁷ the Supreme Court insisted that Bell establish the reasonableness of Western Electric profits as well as prices. On remand, the district court found that Western Electric's prices were "lower than prices charged by other manufacturers for comparable materials and also lower than the prices charged by Western to independent telephone companies and others for the same materials."¹⁸ In 1934 Congress created a new federal regulatory agency, the Federal Communications Commission. Inevitably, the FCC inherited court-established price comparisons and in-

¹⁴FCC Docket No. 19129, Phase II, Testimony of Frederick W. Gluck (Bell Exhibit 40) at 8.

¹⁵*Id.*, Testimony of Richard M. Wolf (Bell Exhibit 35), at 22.

¹⁶*Houston v. Southwestern Bell Tel. Co.*, 259 U.S. 318, 323 (1922).

¹⁷*Smith v. Illinois Bell Tel. Co.*, 282 U.S. 133 (1930).

¹⁸*Illinois Bell Tel. Co. v. Gilbert et al.*, 3 F. Supp. 595, 598 (N.D. Ill. 1933).

evitably, the FCC found itself examining the validity of Bell's equipment studies.

The FCC has wrestled with AT&T's price comparison studies on three occasions; a first occurred in the 1930's, a second in the 1960's, and the third occurred in the 1970's. The Commission under prodding from Congress in the 1930's conducted an investigation into the Bell-Western Electric relationship.¹⁹ The Commission examined AT&T's price surveys of Western and non-Western equipment and, in fact, undertook its own price comparison studies. Although the FCC asserted that for some assembled products the Bell System manufacturer's prices were higher than those of the general trade suppliers, the Commission nevertheless concluded by rejecting the validity of price comparisons as a meaningful regulatory tool.²⁰ The Commission argued:

The differences in manufacturing and marketing conditions between Western and the independent manufacturers are such as to make a comparison of their respective prices of little value in testing the reasonableness of Western's prices. Some of these differences are: 1) the size of the market supplied by Western as compared with that supplied by the independents; 2) the advance information available to Western as to the anticipated purchases by its customers as compared with lack of such information available to the independent manufacturers; 3) the cost of selling products of the independent companies as compared with the fact that no sales cost is incurred by Western; 4) the relative credit risks of the independent manufacturers and Western.²¹

In rejecting Bell's price comparison studies, the FCC recommended an amendment to the 1934 Communications Act which allowed Commission prescription of cost accounting methods for manufacturing affiliates of regulated carriers.²² That amendment was not adopted, however, and the FCC thus pursued a policy of continual surveillance of the Bell System. In effect, Bell's price comparison studies remained as an appendage to regulatory review.

Price comparisons were not seriously challenged again at the federal level until a private line rate case erupted in the late 1960's.²³ Again Bell submitted its studies of Western Electric equipment and again the Commission rejected the premise of such price comparisons. Indeed, the Commission stated:

We think the record is clear that this comparability has not been shown. Western's type of operation, the unique condi-

¹⁹FCC, REPORT ON THE INVESTIGATION OF THE TELEPHONE INDUSTRY IN THE UNITED STATES, H.R. DOC. NO. 340, 76th Cong., 1st Sess. (1939).

²⁰*Id.* at 309-23.

²¹*Id.* at 323.

²²*Id.* at 600-01.

²³American Tel. and Tel. Co., 34 F.C.C. 217 (1963).

tions under which it operates, and its corporate affiliations are important factors to be considered in comparing it with other companies. There must be a common denominator for the companies involved in the comparison. Our review of the record fails to disclose one. Accordingly, we find and conclude that the telephone companies' presentation is not adequate proof of the reasonableness of Western's prices and profits with respect to its sales of equipment, services, and supplies to the related operating telephone companies.²⁴

Of course, the acid test is whether equipment prices were disallowed from the carrier's rate base. They were not. Thus, although the FCC repudiated AT&T's price comparison studies, the Commission did not propose an alternative for evaluating the reasonableness of vertical transactions.

A third and most recent examination of the price comparisons occurred in the 1970's. An AT&T interstate rate case was conducted by the FCC as an investigation into the reasonableness of investment procurement and particularly the reasonableness of Western Electric's prices and profits.²⁵ Bell submitted its price comparison surveys with the appropriate witnesses, and testimony.

In this case the Commission's final decision represents, to date, the most critical evaluation of the price comparisons employed to measure the prudence of in-house equipment procurement. In essence, the FCC concluded that the price comparison studies were inappropriate, unfair, and invalid. In fact, the Commission departed from earlier inquiries by citing the virtues of competitive access to a closed Bell/Western Electric market and ordering AT&T to propose a new purchasing arrangement which would ensure greater telephone company autonomy in equipment procurement.²⁶ A Bell-submitted proposal is currently under study by the Commission.

In and of itself, the most recent development concerning price comparisons at the federal level appears uneventful. Yet it is part of a long and continuous trend, a trend that spells the demise of a court-sanctioned institution and the decline of price comparisons as compelling evidence for investment rate base evaluation. Not only did the Commission deny the validity of equipment price comparisons, but the FCC ordered the Bell System to develop an alternative means of securing greater competitive access to its equipment needs. The Commission, in short, turned back a judicial legacy that dates to the 1920's.

The intriguing question remains: Why has the institution of price comparison studies—for 50 years held to be part of the regulatory process—experienced a decline at the federal level?

²⁴*Id.* at 225.

²⁵American Tel. and Tel. Co., 64 F.C.C. 2d 1 (1977).

²⁶*Id.* at pp. 47-52, 143-44, 149, *passim*.

REASONS FOR THE PRICE COMPARISON DEMISE

Despite its long life, five factors have tended to erode the validity and persuasiveness of price comparison studies: Rapid technological change; equipment competition; barriers to competitive entry; methodological infirmities; AT&T's license contract.

Rapid Technological Change

It is almost a cliché to observe that the telephone company is in a state of dynamic change. Telecommunications is electronics, and electronics is in the throes of rapid innovation. Telecommunications no longer includes only analog electro-mechanical switching, transmission, terminal, and related apparatus. Rather, telecommunications is moving into the world of digital switching, digital transmission, digital terminals. Telephone plant now embraces integrated circuit chips with memory and logic capability, fiber optics, new memory units, earth satellite stations, and computers for routing, storing, and processing information. This change has tended to erode the concept of an instant, paper snapshot of equipment prices as a test of reasonableness.

Equipment Competition

Second, telecommunications has experienced not merely the entry of new firms but entry of diverse industries into telephone equipment. These industries include the mainframe computer industry, micro-computers, mini-computers, peripherals, software industry, aerospace industry, the integrated circuit (IC) chip industry, fiber optics, to mention a few. Joining incumbent and traditional telephone carriers, these industries manufacture equipment or supply service to the general public. In short, telecommunications technologically has extended beyond the vertical laboratories and suppliers of traditional carriers.

Accelerated technology has clearly encouraged entry in the telecommunications equipment market. New products offered by new firms sponsoring new technology have penetrated the constituent components of the telephone investment including terminal apparatus, local loops, various levels of switching gear, and local transmission. In every investment building block of the telephone industry, technology has provided product alternatives which yield lower costs and enhanced service possibilities.

In fact, the FCC's recent investigation found that new suppliers were able to penetrate vertical integration despite the ownership bond of captive suppliers and utility owners.²⁷ This entry took place because the in-

²⁷*Id.*, *Statement and Recommendations of the Common Carrier Bureau's Trial Staff*, ("Statement of the Trial Staff"), Feb. 2, 1976, esp. pp. 4-5, 34-98; *Final Decision*, esp. pp. 35-37, 55-56, 143; fn. 42-46; Appendices A and B.

cumbent carriers experienced product gaps, product voids, or simply non-existent hardware. To that extent, fragile competition challenged the economic performance of vertical suppliers, specifically Western Electric.

That the integrated affiliate responded to the competitive changes was equally obvious. Western Electric in particular commenced a broad evaluation of its products, its prices, its costs, and its equipment features. Specifically,

- Western Electric dropped old products as obsolete
- Western Electric brought out new products at lower cost
- Western Electric embarked on a cost reduction program for products exposed to competition
- Western Electric enhanced and introduced new features to its various business subscriber equipment
- Western Electric's R&D by-passed Bell Laboratories to expedite competitive innovation
- Research and development was restructured and quickened in terms of its priorities
- Delivery time was expedited in cases of market competition
- Western Electric augmented its marketing activities.²⁸

These activities posed a series of questions. If vertical integration was efficient and innovative, why the need to re-evaluate, re-assess, and change product prices, cost, innovation, research and development, marketing, and organizational relevance? In short, the carrier's spirited response to market competition tended to subvert a "paper" study that held that static price comparisons provided a sufficient benchmark to assess the economic performance of vertical affiliates.

Barriers to Competitive Entry

Third, independent equipment suppliers argue that despite superior and lower-priced equipment, market entry is frustrated by the fact that vertical operating companies continue to prefer to purchase in-house equipment. Non-integrated suppliers insist that vertical integration acts to foreclose market entry, thus artificially making price comparison studies a substitute for genuine market competition. An FCC trial staff, the FCC, or both, found evidence that

- vertical integration biased the make-buy decision to favor the captive affiliate;²⁹
- construction plans of the telephone utilities were given to the captive supplier exclusively, excluding the outside supplier;³⁰
- the operating telephone companies bought equipment from

²⁸*Id.*

²⁹*Id.*, *Statement of the Trial Staff*, pp. 87-89; *Final Decision*, pp. 52-53, 56.

³⁰*Id.*, *Testimony of Manley R. Irwin* (Trial Staff Exhibit 297), p. 66.

the captive supplier without even a firm price in some cases;³¹

standards and information were provided by the utilities to the captive supplier on a timely basis and released much later to general trade suppliers;³²

Western equipment was encouraged by AT&T to be placed in the construction budgets of the various operating utilities so that by definition they would purchase from the captive supplier without even looking at outside manufacturers' comparable equipment or prices.³³

The fact that vertical integration acted to limit the market access of outside suppliers was affirmed by the FCC's trial staff, it was reaffirmed by the FCC's final decision in its investigation of Bell System interrelationships, has been documented in private litigation and judicial decisions, and is currently alleged by ITT in an antitrust suit against the Bell System.³⁴ These actions add cogency to the argument that the outside equipment suppliers serve largely as a short-run gap filler until the integrated firm "tools up." In sum, the actual market conduct of vertical integration acts to negate the meaningfulness of theoretical price comparison studies submitted by telephone operating companies to regulatory authorities.³⁵

Methodological Infirmities

A fourth critique of the price comparison studies assaults the premise of methodology. In this respect the FCC observed the following:

- First, some Western Electric equipment was reconfigured so as to favor the equipment supplied by the captive supplier.³⁶
- Second, some equipment was not technically comparable, thus rendering suspect the premise of price comparison studies.³⁷
- Third, the general trade prices used were catalogue prices, not actual or real prices which would be quoted only at the "prospect of real business."³⁸

AT&T's License Contract

Finally, AT&T's license contract distorts the costs and prices of Western Electric equipment, a distortion which further renders price

³¹*Id.*, *Statement of the Trial Staff*, p. 89; *Final Decision*, Appendix A, p. 17.

³²*Id.*, *Statement of the Trial Staff*, pp. 12-13.

³³*Id.*, *Statement of the Trial Staff*, pp. 89-90.

³⁴*International Tel. and Tel. Corp. v. General Tel. and Elec. Corp.*, 351 F. Supp. 1153.

³⁵*International Tel. and Tel. Corp. v. American Tel. and Tel. Co.*, 444 F. Supp. 1118 (S.D.N.Y. 1977).

³⁶41 F.C.C. 2d 389, 430 (1973).

³⁷*Id.* at 435.

³⁸*Id.* at 432-33.

comparison studies tenuous. The license contract allows AT&T to bill the 23 Bell operating companies for a variety of services including, among other things, marketing and fundamental research and development. To the extent that Western's products do not include all marketing and R&D expenditures, equipment prices are thereby understated.³⁹

THE LEGACY OF MARKET STRUCTURE

When Congress debated the regulation of telephone companies in the 1930's, the procurement practices attendant vertical integration were obviously of central concern. Buying practices raised questions concerning reasonableness of a telephone company's rate base. An initial legislative proposal recommended that mandatory competitive bidding be instituted between vertical affiliates. The suggested act stated:

The Commission may require that all or any transaction of the carriers involving the furnishing of equipment, supplies, research services, finances, credit or personnel to such carriers by competitive bids on such terms and conditions and subject to such regulations as it shall prescribe as necessary in the public interest.⁴⁰

However, Bell resisted this proposed legislation. AT&T President Gifford insisted that: "We regard this section as a dangerous extension of regulated authority without precedent in the country and a radical departure from all past practices and as an unwarranted invasion of the rights of management."⁴¹ Congress passed the final act which directed the Commission to examine the transactions entered into by any common carrier (supplies, research, services, and the like) and report back to Congress if remedial legislation were deemed desirable.

An investigation in the 1930's did scrutinize the relationship between Western Electric and the Bell operating companies and drew the conclusion that regulation ought to be extended to the procurement process.

³⁹In CALIFORNIA PUBLIC UTILITIES COMMISSION STAFF, REPORT ON THE AFFILIATED RELATIONSHIPS OF THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY WITH BELL LABORATORIES, INC., AT&T GENERAL DEPARTMENTS, 195 BROADWAY CORPORATION, the staff of the California Public Utilities Commission found that the Bell System's current method of funding research and development permits Western Electric to avoid the need to recover certain R&D costs through its product prices. Thus, "under such circumstances, price comparisons between Western products and those of other telecommunications manufacturers become meaningless. Since Western's prices are not reflective of the true economic cost of its products and competitors' products could be very misleading (p. 2-22)."

In the cross examination of a Western Electric witness in FCC's Docket 19129, Phase II, it was determined that *marketing* cross-subsidization can and does occur. Specifically, Western's wholly-owned subsidiary, Teletype Corp., was the non-paying recipient of an AT&T marketing study. Cross Examination of Guy Accettura, November 6, 1974, Transcript 16019.

⁴⁰Legislative proposal by the Federal Communications Commission at hearings on S. 2910 before the Senate Committee on Interstate Commerce, 73rd Congress, 2nd Session, at 86 (1934).

⁴¹*Id.*

The initial report stated:

It is recommended, therefore, that Section 215 of the Communications Act of 1934 be amended so as to give the Federal Communications Commission complete power of review, approval or disapproval of all intercompany contracts including those presently existing as well as those which may be executed in the future.⁴²

Specifically, the original report in 1938 asked for authority to regulate the cost and price of telephone equipment and apparatus and thus convert Western Electric into a public utility. The report explained that:

Regulation of Western as a utility would involve, first, the introduction of a modern and efficient cost-accounting system whereby the actual cost of manufacture of each item or class of product could be determined, and second, the fixing of Western Electric prices for use in the determination of the rate base of the Bell System operating companies at Western Electric cost to manufacture plus a reasonable return on the investment devoted to such manufacture.⁴³

Finally, the initial report stated that "[I]t is recommended that the Communications Act of 1934 be amended so as to permit regulation of the Western Electric Co. by the Federal Communications Commission as a public utility in the manner described above."⁴⁴ The Commission eventually rejected the report and subsequently adopted a 1939 version which did request legislation

specifically to authorize this Commission to prescribe basic cost accounting methods to be followed by manufacturing companies under contract with operating telephone companies for the general supplying of materials or equipment and by manufacturing companies subsidiary to or affiliated with operating telephone companies through corporate structure.⁴⁵

Nevertheless, the Commission emphasized that such regulation need not await the enactment of additional laws, a philosophy which began an era known as "continuing surveillance."

In 1949 an antitrust complaint filed by the Department of Justice accused Western Electric of monopolizing the telephone equipment market.⁴⁶ The complaint sought divestment of Western from AT&T, separation of Western into three companies, and the injection of competitive bidding into the procurement of telephone apparatus by the Bell Operating Companies.

⁴²FCC, PROPOSED REPORT, TELEPHONE INVESTIGATION 703 (1938).

⁴³*Id.* at 701.

⁴⁴*Id.* at 702.

⁴⁵FCC, REPORT ON THE INVESTIGATION OF THE TELEPHONE INDUSTRY IN THE UNITED STATES, *supra* note 19, at 601.

⁴⁶United States v. Western Elec. Co., Civil No. 17-49 (D.N.J., Jan. 23, 1956).

The antitrust suit, settled by consent decree in 1956, restricted Bell and Western Electric to essentially regulated markets.⁴⁷ In effect, telephone company integration was sanctioned and equipment price comparison studies took on a new dimension. Moreover, the consent decree meant that vertical integration became the organizational model to be emulated by the independent telephone companies.

In the 1970's a series of antitrust cases challenged the vertical relationship of telephone company and manufacturers. The import and ramifications of these cases continue today. In 1972, for example, a district court acting on a complaint filed by ITT ruled that vertically integrated General Telephone & Electronics had achieved foreclosure of its operating telephone company product market to the rest of the equipment manufacturing industry.⁴⁸ As the judge in this case stated: "The underlying basis of GTE's plaint is that so long as the giant Bell is allowed to remain vertically integrated, then it is simply 'not fair' to deny like vertical integration to an independent pygmy."⁴⁹ Furthermore, the judge held:

The record of GTE prior to the bringing of this suit, however, makes it clear that in practice, regardless of such verbalizations, when an independent telephone company has been acquired, all the independent manufacturers and suppliers, save A.E. and Lenkurt, have thereafter found their sales to the acquired company to have abruptly declined.⁵⁰

The court took note of non-price problems associated with vertical integration. It observed that GTE resisted new switching gear because its own equipment affiliates did not manufacture that equipment or that hardware. This policy applied to at least pulse code modulation carrier equipment, crossbar switching systems, and telephone handsets.⁵¹ A conflict developed, namely, that the in-house procurement may have benefited GTE, but it did not necessarily redound to the wellbeing of GTE's subscribers. In the ensuing consent decree, the emphasis was primarily on corporate conduct rather than structural change.⁵²

In 1974 the Department of Justice filed another complaint against AT&T, arguing that vertical integration had resulted in foreclosure of the market, and sought divestiture of Western Electric from the Bell System as a necessary remedy.⁵³ Again, the claim was that the market had been

⁴⁷Consent Decree in *United States v. Western Elec. Co.*, Civil No. 17-49 (D.N.J., Jan. 23, 1956).

⁴⁸*International Tel. and Tel. Co. v. General Tel. and Elec. Corp.*, 351 F. Supp. 1153 (D. Hawaii 1972).

⁴⁹*Id.* at 1183.

⁵⁰*Id.* at 1188.

⁵¹*Id.* at 1192-93.

⁵²Consent Decree in *International Tel. and Tel. Co. v. General Tel. and Elec. and Hawaiian Tel.*, Civil No. 2754 (D. Hawaii, Dec. 20, 1978).

⁵³*United States v. American Tel. and Tel. Co.*, Civ. No. 17, (D.D.C. filed Nov. 1974).

illegally monopolized and effectively insulated, thereby hamstringing competition in telephone equipment manufacturing.

In 1977 the FCC ruled that Bell's vertical integration acted to limit and foreclose innovation in the equipment market and that this, in turn, acted to burden the telephone-subscribing public.⁵⁴ In essence, the Commission determined that equipment competition benefited the Bell System and the integrated supplier. Such competition aided the telephone companies because it enabled them to compare alternative hardware, introduced and spurred new service features, generated cost savings, and permitted telephone companies to be more responsive to customer needs. The Commission further stated:

We also agree with the Trial Staff that increased equipment competition, insofar as meeting the BOC's equipment needs is concerned, is likely to benefit the general trade suppliers by broadening the base for research and development and enhancing the opportunity for technological progress; and benefit non-Bell telephone companies to the extent that any benefits accruing generally from equipment competition will redound to the benefit of Independent ratepayers also. The end result is that competition affords ratepayers a wider range of choices regarding communications equipment and services which best meet their communications needs in terms of quality and cost.⁵⁵

Consequently, the Commission directed that the System assign autonomy to Bell operating companies in the matter of equipment purchases. AT&T was ordered to submit a proposal to achieve separation of its equipment procurement and manufacturing functions within the framework of certain guidelines. Specifically, the Bell telephone companies should have a centralized capability, removed from Western influence, for performing make-buy and procurement decisions, analyses of competitive bids, purchasing, and inspection. It was the express intent of the FCC to give the operating companies increased independence in purchasing and product evaluation.⁵⁶ AT&T recently responded with a proposal that it create a separate subsidiary for the purpose of providing equitable access to the Bell telephone companies for both Western and general trade products. This program is expected to be addressed by the Commission in the near future.

Finally, ITT initiated an antitrust suit against AT&T, Western Electric, and Bell Telephone Laboratories in 1977.⁵⁷ ITT argues that AT&T has pursued a deliberate policy of refusing to purchase telephone equip-

⁵⁴64 F.C.C. 2d 55-56 (1977).

⁵⁵*Id.* at 35-36.

⁵⁶*Id.* at 143-44, 149.

⁵⁷*International Tel. and Tel. Corp. v. American Tel. and Tel. Co.*, 444 F. Supp. 1148 (S.D.N.Y. 1977).

ment from other suppliers, even when such equipment was proven to be at least technically equal and lower in cost than comparable Western Electric equipment. ITT alleges that the firm was blocked from selling its equipment to Bell carriers because AT&T favored the more expensive in-house (Western) hardware. In short, the company claims that in 1974, Western Electric sold \$230 million worth of channel banks to the Bell System while ITT sold only \$5.5 million to the Bell operating companies despite the latter's belief that its equipment was superior and cheaper.

Similarly, structural changes are apparent in Canadian telecommunications. A report by the Canadian Department of Communications reviewing the procurement practices of British Columbia Telephone Company seemed to indicate that GTE-owned British Columbia had tended to favor its own manufacturing affiliates.⁵⁸ Although the report suggested that there was little indication that prices billed to BC telephone company were excessive, the report argued that the critical issue involved switching technology and the lag of equipment introduction. Specifically, British Columbia was criticized for allowing its central office equipment to fall behind new generations of switching and hardware. The report thus concluded that BC's manufacturing capability did not have the proper equipment to enable it to serve its operating telephone companies and "therefore it is imperative that in the future BC Tel.'s management be entirely free from any influence exercised by its manufacturing affiliates in its planning and procurement decisions."⁵⁹ More recently, Canada's Consumer and Corporate Affairs completed an investigative study of Northern Telecom and Bell Canada's vertical relationship.⁶⁰ The report, critical of price comparison studies of equipment manufacturers, argued that such a standard is not an effective proxy to measure the relative performance of Northern because: 1) manufacturing cost functions vary because of the wide range in firm size; 2) the firms lack the homogeneity necessary for price comparisons; and 3) there is necessarily an arbitrary allocation of joint costs.⁶¹ The report recommended a vertical spinoff, i.e., severing all financial ties between Bell Canada and Northern Telecom, and the institution of competitive bidding in the securing of hardware and equipment for Bell Canada.⁶²

To sum up, the structural legacy of regulation reveals one thread of continuity. A market structure in which a telephone company holds ownership in a captive manufacturer is for all practical purposes a closed

⁵⁸GOVERNMENT OF CANADA, DEPARTMENT OF COMMUNICATIONS, REVIEW OF THE PROCUREMENT PRACTICES AND POLICIES AND THE INTERCORPORATE FINANCIAL RELATIONSHIPS OF THE BRITISH COLUMBIA TELEPHONE COMPANY (1975).

⁵⁹*Id.*

DIRECTOR OF INVESTIGATION AND RESEARCH, COMBINES INVESTIGATION ACT; THE EFFECTS OF VERTICAL INTEGRATION ON THE TELECOMMUNICATION EQUIPMENT MARKET IN CANADA (1976).

⁶¹*Id.* at 98.

⁶²*Id.* at 182-94.

market. Under this market structure the conduct of the vertical utility is predictable. Telephone companies secure the bulk of their equipment via in-house suppliers. In the absence of competitive bidding, outside suppliers are essentially placed at an economic disadvantage. Vertical affiliates can often experience short-falls in performance to the extent that prices may be exorbitant, innovation may lag, and equipment features may be found wanting. Such performance impacts the carrier rate base and obviously affects the telephone ratepayers.

What has been witnessed recently is a search by public policy for a cure for these performance deficiencies at the federal level. Not surprisingly, that search does not include a resurrection of price comparison studies. Instead, public policy finds itself increasingly re-examining market structure as the explanation for market conduct and market performance. If that search appears surprising to many students of regulation, it is because commissions are finding themselves frustrated in their attempts to evaluate the prudence of telephone company investment.

CONCLUSION

Since the early court decisions of the 1920's and the 1930's, equipment price studies have served as one regulatory test for investment rate base prudence. These price analyses have been sponsored, funded, and promoted by companies themselves. At the same time, public policymakers have witnessed a legacy of structural reassessment of vertical integration as that structure impacts economic efficiency and performance. These actions trace their origin to the first part of the 1900's and have surfaced today in terms of antitrust complaints and/or consent decrees. In particular, regulatory policy in both the U.S. and Canada in the 1960's and 1970's has found itself concerned with structural issues of the telephone industry.

It must be noted, however, that the evolution of U.S. policy has focused at the federal level. What does the demise of the price comparison study hold for *state* regulatory agencies? A first reaction is that of all the problems besetting state commissions, vertically integrated telephone companies is hardly an issue of burning consequence. Obviously, price comparisons have assumed away a potentially controversial and complex regulatory problem.

On the other hand, state commissions ignore at their peril the technological and market changes taking place in telecommunications. Blindly accepting "paper" studies will hardly guarantee that state regulatory agencies will be able to address matters of rate base evaluation with any degree of success.⁶³

⁶³An examination of public utility rate cases during the latter part of 1976 and all of 1977 failed to reveal any rejection of equipment price comparisons as a legitimate rate base concept. Frequently, such analyses were not even mentioned in commission decisions on the telephone rate increase requests. In at least three rate cases (involving Kansas,

A corollary observation is that state commissions, not unlike the FCC, will find themselves searching for an alternative benchmark to company-sponsored price comparison studies. The nature and content of these alternatives is as yet unclear. But competitive pressures are not receding in the industry. On the contrary, state commissions now find themselves intimately involved with questions of customer ownership of terminal equipment that challenge long standing leasing policies of integrated telephone carriers.

The FCC has been buffeted by a series of technological and economic forces which erode the premise and validity of price comparison studies. Will not these same forces assault state regulation, and will not state regulators find themselves confronted with the complexities of rate base evaluation attendant vertical integration?

In a real sense, state regulation stands at a crossroad. The public policy question is no longer whether the 1922 *Houston* case can be resurrected and rendered valid in the decade ahead. Rather, the question is whether regulation at the state level can anticipate the future through re-examination of policy alternatives that accommodate and respond to technological and market realities.

Maryland, and Wisconsin) no finding was apparently made despite the submission of price studies by the telephone company. The prices of affiliated manufacturers were either found to be reasonable or were not found to be unreasonable in at least one instance in several jurisdictions (the District of Columbia, Minnesota, North Carolina, Rhode Island, South Carolina, and West Virginia). Three or more states (Michigan, New York, North Carolina) on at least one occasion expressed concern with the specific price comparisons at hand but did not reject the institution as a valid regulatory tool. An interesting development is the aforementioned August, 1977, report by the *staff* of the California Public Utility Commission which deemed AT&T's price comparison studies to be "meaningless" due to the perceived failure of Western Electric's prices to reflect all R&D costs (see note 39 *supra*).