Regulatory distortions of local exchange telecommunications infrastructure

Gregg Sayre

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Regulatory Distortions of Local Exchange Telecommunications Infrastructure

By

Gregg C. Sayre

Thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Information Technology

Rochester Institute of Technology

B. Thomas Golisano College of Computing and Information Sciences

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Abstract

This thesis presents a history of United States telecommunications regulation in the 20th Century with a view toward explaining the economic motivations of the involved parties and exploding economic myths such as “natural monopoly” and “cross subsidization” by the application of common sense. The relative success and failure of antitrust and economic regulation are analyzed on a subjective but quantitative scale, with antitrust regulation as the clear winner in terms of the author’s standard of “public interest.” The thesis examines specific economic incentives resulting directly from economic regulation, in particular, rate-of-return regulation and the FCC’s interpretations of the Telecommunications Act of 1996, that has caused uneconomic investments and conduct which is contrary to the public interest. Suggestions are made for changes in regulatory principles and specific actions to improve the results of economic regulation.

About the Author

Gregg Sayre is currently Associate General Counsel – Eastern Region for Citizens Communications Company, representing what were previously Global Crossing’s Frontier local exchange companies and Citizens’ local exchange companies in eastern states. He began his career in utilities regulation in 1978 as an attorney in the Rates Division of the Pennsylvania Public Utility Commission, primarily litigating rate-of-return rate cases filed by electric utilities. In 1982 he joined what was then the Bell System as a regulatory attorney with The Chesapeake and Potomac Telephone
Companies, and participated in the consummation of the Bell System Divestiture in 1984. In 1987 he joined the legal staff of Rochester Telephone Corporation (subsequently renamed Frontier Corporation and later renamed Global Crossing North America, Inc.), again primarily as a regulatory attorney. In 1993–1994, he helped negotiate Rochester Telephone’s Open Market Plan, the nation’s first experiment in opening the local telephone market to competition. His current duties include participation in state and federal regulatory proceedings and negotiations between incumbent and competitive local exchange carriers, as well as most other legal matters. Statements made in this thesis are the opinions of the author, not those of his employers.

Mr. Sayre obtained his B.A. degree from Grinnell College and his J.D. degree from Harvard Law School and is a candidate for an M.S.I.T. degree from Rochester Institute of Technology.
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I. Introduction.

Since the turn of the 20th Century, United States telecommunications regulation has been characterized by two independent and occasionally conflicting modes of regulation – antitrust regulation and economic regulation. Antitrust regulation came first but has materialized as a force for major change only sporadically, at several crucial junctures of the industry's development. In fact, these crucial junctures can be defined by the periods before and after each of the major telecommunications antitrust settlements. Economic regulation came second but has been a continuous force on the industry.

The two modes of regulation have quite different purposes. Antitrust regulation is designed to prevent anticompetitive conduct. Its chief concern is with the health of markets, and its intent is to enable market forces to work by forestalling or punishing monopolistic conduct. The relationships it regulates are those among competitors. Economic regulation, on the other hand, is designed to protect the "public interest", a term that means whatever the current set of regulators believes it to mean.1 Until the last 20 years, the chief concern of economic regulation has been with the

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1 The standards of both antitrust and economic regulation are set by statute, and therefore may also be changed by statute. The relevant antitrust statutes are Sherman Act §§1-2, 15 U.S.C. §§1-2, which prohibit agreements in restraint of trade and actual or attempted monopolization. Some of the relevant economic statutes are Section 201 of the Communications Act of 1934, 47 U.S.C. §201, which prohibits any unjust or unreasonable charges or practices, and New York Public Service Law §97, which likewise prohibits any unreasonable rates or practices by a telecommunications utility. Both statutes give the regulators the authority to require the utility to correct its behavior to make it reasonable. There are similar (and similarly loose) statutes in every other State in the Union (and the District of Columbia). The regulatory commissions frequently define what is reasonable and proper under these statutes in terms of the "public interest".
relationship between the telecommunications utility and the customer, especially with respect to prices and quality of service. In the last 20 years, the economic regulators have also adopted pro-competitive policies,\(^2\) and economic regulation now establishes prices and rules for utility-competitor relationships as much as it does for utility-customer relationships.

This paper examines the impacts of these two modes of regulation on utility investment and operational decisions with an emphasis on the Rochester, New York market, discusses the author’s view of whether these impacts have actually turned out to be in the public interest, and makes some suggestions for legislators and regulators to improve their results in the future. The author’s definition of “public interest” is of course no more constrained than the views of the regulators. In the interest of finding a lodestar, this paper will view utility investment decisions in terms of whether, using 20-20 hindsight, the impact of each mode of regulation appears to have: maximized the development of services valuable to consumers; maximized service quality; minimized consumer prices; and minimized abusive conduct among actual and potential competitors. The first three factors (service availability, service quality and price) are the key outputs of any service industry and appear to the author to be reasonable yardsticks for measuring the success of a public policy. The fourth factor is premised on the proposition that competition is a good thing if it works and

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\(^2\) Because the economic regulators have only the loose “public interest” standard to guide them, they are free to involve themselves into any facet of the regulated utility’s existence.
a judgment that unfair exploitation of one's competitors is bad. The identification of what constitutes abuse or exploitation is as much a personal decision as the definition of the public interest, and the author will endeavor to justify such opinions with facts and logic.

II. A Common Sense Economic History of the Regulation of United States Telephony.


After Alexander Graham Bell's invention of the telephone in 1876, the infant telecommunications industry did not take long to start wiring up the nation. After Bell's key patent expired in March, 1893, his company, American Telephone & Telegraph Company, had no legal way to prevent competition from a host of independent telephone companies. By the turn of the 20th Century, multiple companies were frantically wiring up the cities and towns of the United States in an attempt to win a piece of what everyone knew would be a huge future market. Although the Independents achieved early successes in building a base of customers who wished to communicate within each Independent's service territory, it soon became


4 This grand old name has long since been reduced to its well-known acronym, AT&T Corp., by corporate strategists.

5 In this case, of course, everyone was right. There are obvious parallels in today's telecommunications market, which involves multiple companies frantically laying fiber optic cable across the oceans, across the continents and up and down the streets of America's cities. Streets in Washington, D.C. have been torn up so often by successive fiber optic network builders that the City put a moratorium on street openings. Layton, Lindsay. (2000, April 7). Williams Extends Ban on Digging. The Washington Post, p. A1. This was by no means an isolated case. Once again, "everyone" believes that the market for broadband communications over fiber optic cable will be enormous, and once again everyone is probably right.
apparent that customers would not be satisfied with the ability to call only customers who happened to have telephones with the same local company. Customers quite reasonably demanded the ability to call anyone else wired into the increasingly ubiquitous nationwide telephone system. AT&T, however, through its Long Lines division controlled the long distance network, and in most cities AT&T had the largest local subscriber base. These two factors allowed AT&T to begin to squeeze out the smaller players by denying them connectivity and buying their assets.

This, of course, was monopolistic behavior, and the anguished pleas of the Independents about to lose their customers (or offered a mere pittance for their networks by the Bell System) attracted the attention of the U.S. Justice Department, the agency in charge of administering the relatively new Sherman Act, which prohibits monopolistic conduct. The Justice Department brought a legal action charging AT&T with a violation of the Act. After only five months of negotiation, AT&T agreed in December, 1913 to interconnect Long Lines with the Independents and to stop buying out competitive Independents without regulatory approval. This settlement is called the Kingsbury Commitment. It appears to have been based upon

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6 See footnote 1, supra, for a legal citation to the Sherman Act, which took effect in 1890.


8 Vogelsang at 64. By then, however, there were not many competing Independents left, especially in larger cities. Where there were, such as in Rochester, New York, AT&T could and did sell its network to the Independent, and an arrangement was made allowing AT&T to purchase some competing Independents as long as it made offsetting sales of its networks. Pleasance at 86, 99-100. AT&T remained free to acquire noncompeting Independents and continued to do so for a number of years. Pleasance at 274.
near universal acceptance of the concept of the "natural monopoly".

As a matter of common sense, a natural monopoly should be deemed to exist only when it is impossible for multiple competitors to survive profitably in the same market at the same time.\textsuperscript{9} The then-current thinking appears to have been that multiple telephone lines in a single community were a waste of society's resources, and that only one company could afford the enormous financial resources required to build and operate a long distance network. Both of these ideas are demonstrably absurd. Multiple telephone companies in a single city coexisted quite well before the turn of the 20\textsuperscript{th} Century except for the problems caused by AT&T's misconduct, and before the end of the 1990s we once again saw multiple local competitors with their own networks and switches. AT&T managed to hang onto a long distance monopoly until a series of FCC decisions beginning in the 1950s, but once competitors such as MCI\textsuperscript{10} were permitted to build competing long-haul facilities using microwave and subsequently fiber optic technology, it became apparent that there is room in the long distance industry for as

\textsuperscript{9} Many economists would disagree with this proposition and would instead rely on factors such as the necessity of the product, the need for uniformity, the waste of resources arising from multiple competitors and increasing economies of scale. Mueller, Milton L., Jr. (1997). \textit{Universal Service – Competition, Interconnection, and Monopoly in the Making of the American Telephone System}. Cambridge: The MIT Press, pp. 12-16; Baumol, William J. and Sidak, J. Gregory. (1994). \textit{Toward Competition in Local Telephony}. Cambridge: The MIT Press, pp. 120-121; Sung, Nakil. (1997). \textit{Competition and Technical Change in the U.S. Telephone Industry}. New York: Garland Publishing, Inc., p. 35. However, it appears reasonable to the author that society should not protect a so-called "natural monopoly" from competition if indeed competitors can successfully enter the market and make a profit. Whether this constitutes a waste of society's resources will be determined by the marketplace. It is the author's view that success in the marketplace trumps any economic theories to the contrary.

\textsuperscript{10} MCI is another company that lost its name to an acronym. It was once named Microwave Communications, Inc. It has since been absorbed by WorldCom, Inc. MCI was the pioneer in obtaining
many as a dozen facilities-based network players.

The problems giving rise to the natural monopoly myth were not real technical or economic impossibilities. Indeed there were at the time some problems of interoperability among the various competing local networks being built in the same areas. However, there is no reason to believe that the problems could not have been solved relatively simply, exactly the way these issues are solved today, by:

- establishing nationwide signaling standards. This had to be accomplished in any event to allow the Independents’ customers to use the AT&T Long Lines toll network. There was no reason this could not have been accomplished in time to allow interconnection of multiple competing local telephone networks.

- establishing local tandem switches, with both Bell and non-Bell switches subtending. Once again, this had to be accomplished in any event with toll tandem switches for the same reason as above, to allow the thousands of Independents to connect to the AT&T Long Lines network. With local tandem switching, common now in all large local telephone companies, calls from a customer served by one switch to a customer served by a second switch have a

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11 Some visionaries of the day had the same view. Pleasance at 96-97.
"final route" through the tandem switch. All of the local switches in the area subtend the tandem. Where traffic warrants, high usage trunk groups are established directly between pairs of switches, with the overflow traffic routed through the tandem.

There was no particular reason that this mechanism could not have worked to connect Bell and non-Bell switches, just as today there is no routing distinction between ILECs' and CLECs' switches.

There were also no insuperable barriers to competition in the long haul network. Indeed at the time of the Kingsbury Commitment there were no other active players in the long haul market beyond AT&T Long Lines, but there is simply no reason to believe that competitors could not have made money using traditional long-haul cables and a hierarchy of toll switches. In the original Long Lines toll network, one that lasted for many decades, each toll switch acted as a tandem for the level of switches below

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12 A final route is the path between switches that if blocked will prevent the call from completing. Typically, direct trunks will be used where available, with overflow to secondary paths and a final route through the tandem. If the call is directed to the final route and the final route is unavailable for any reason, the caller is given a "reorder" tone (also known as "fast busy"). With modern out-of-band signaling systems the communications channel is not actually set up until the signaling network finds a clear path, but the routing attempts remain the same.

13 Some switches, e.g. remote switches, have only a single connection with another switch, e.g. a host switch, although the company may establish diverse routes between the two switches. All interswitch traffic to and from the remote must pass through the host. Only the hosts have connections with the tandem.

14 An "ILEC" is an Incumbent Local Exchange Carrier, the "traditional" telephone company in a particular territory. A "CLEC" is a Competitive Local Exchange Carrier. A "DLEC" is a Data Local Exchange Carrier, generally one that provides service using xDSL technology. A "LEC" is any of the above.
it.\textsuperscript{15} Competitors have proven since the 1960s that they can make money using long-haul microwave and fiber optic facilities. If they had built long-haul copper routes their trunks and switches could have been integrated into the toll network hierarchy using the already-existent tandem switching built into the network in the same way (discussed above) that competitive local switches are currently integrated into the local network.

Despite the lack of economic reality in the natural monopoly concept, AT&T succeeded in selling the nation on this idea. The presence of a monopoly, economically valid or not, then necessitated the next chapter of the regulatory story, the rise of economic regulation to restrain AT&T from monopolistic pricing.

\textbf{Part 2: The Industry's Long Love Affair with Economic Regulators.}

AT&T ultimately controlled 80\% of United States access lines and maintained its long distance monopoly.\textsuperscript{16} Concerns over its economic power led to the Communications Act of 1934,\textsuperscript{17} which established the Federal Communications Commission (FCC) to regulate interstate prices and

\textsuperscript{15} A "Class 5" switch was defined to be the bottom of the hierarchy, a switch providing local dial tone to end users. Class 4 toll switches aggregated the long distance traffic of Class 5 switches, Class 3 switches aggregated Class 4 switch traffic, and so on up to Class 1 switches. The core idea of the hierarchy was originally that each switch would communicate only with its own subset of the switches of the class below it, and with a single switch of the class above it, with traffic passing up the chain until it reached a toll switch with connectivity to the desired end office (Class 5) switch. Unlike the situation with the Lodges in the famous Boston poem ("where the Cabots speak only to Lodges, and the Lodges speak only to God"), Bell Labs failed to develop a way for Class 1 switches to "speak only to God" and therefore the Class 1 switches were permitted to communicate with each other. Ultimately this hierarchy broke down, with computer-managed multiple connections among switches of the same and different classes and correspondingly less of a need for switches of the highest classes.

\textsuperscript{16} Vogelsang at 64.

\textsuperscript{17} Communications Act of 1934, 47 U.S.C. §35, 151-609.
practices and reserved to the states the authority to regulate intrastate and local\textsuperscript{18} prices and practices. Because all telephone companies handle both interstate and intrastate calls, it became necessary to split the companies up for accounting purposes between interstate and intrastate jurisdictions. This became known as the "separations" process, which is controlled under the 1934 Act by a Federal/State Joint Board advisory process that makes separations recommendations to the FCC.

Both the FCC and the state regulatory commissions (a number of which were created well before 1934) adopted the economic theory that their rate regulation authority should be exercised in a way that would mimic what would have been the outcome of a competitive, but not ruinously competitive, market. The commissions recognized that their duty lay in balancing the interests of the utilities and their consumers. For the benefit of both, they could not regulate the utilities out of business, but for the benefit of consumers, they could not allow unrestrained monopoly profits. Thus began the era of rate-of-return regulation.

Under rate-of-return regulation, rates are set by a simple formula:

\[
\text{Revenue requirement} = \text{Allowable expenses} + (\text{Allowable return on capital} \times \text{Rate base}).\textsuperscript{19}
\]

Existing rates per unit of service are multiplied by current service volumes to calculate current revenues, and current revenues are

\textsuperscript{18} The Act gave the states regulatory authority where local areas cross state boundaries, such as in the Washington, DC area.

\textsuperscript{19} Rate base is investment net of accumulated allowable depreciation.
subtracted from revenue requirement. The result, if positive, is the amount of rate increase allowed. If negative, the result is a rate decrease. The final decision in the rate case is rate design, i.e., the rate adjustments necessary to produce the revenue requirement.

This simple formula masks a host of issues. Thousands of people\(^{20}\) made their living conducting studies, preparing and presenting testimony, cross-examining witnesses, preparing briefs and litigating appeals regarding the details of the formula. An exhaustive list of rate case issues is beyond the scope of this paper, but a sampling is as follows:

- Revenues, expenses and investment must be stated on a consistent basis and should reasonably reflect conditions in the years in which the new rates will be effective. What is the appropriate period to consider (the "test year") and what is the methodology and required support for forecasts of a "future test year" if allowed by the regulator?
- What degree of proof is required and what are the permissible distribution mechanisms for charges from affiliates (e.g. Bell Labs chargebacks, "mutually beneficial" holding company activities such as investor relations, and purchases of equipment from Western Electric by Bell telephone companies)?
- Are the investments and expenses allocated correctly (through separations studies) between the interstate and intrastate

\(^{20}\) Including the author of this paper.
jurisdiction and between regulated and unregulated activities?21

- What rate base allowance should be made for the cash working capital necessary to run the business?
- Is the accumulated depreciation (subtracted from original investment costs to determine the rate base to which the rate of return is applied) accurate in terms of both physical and technological obsolescence? If not, what should be done with the depreciation reserve surplus or deficiency?22
- Should charitable or political contributions be disallowed as unrecoverable expenses?
- How should “one time” events in the test year be accounted for in the formula?
- Should cost increases (e.g. union wages pursuant to a new contract) be normalized so that the test year fully reflects the ongoing higher level of expenses? If so, should demand increases also be normalized to end of year levels to reflect

21 The regulators do not establish rates for unregulated activities such as the sale of telephone sets, Internet services and most inside wiring, and the investments and expenses of these activities must be removed from the ratemaking formula. However, most commissions were successful in retaining the profits of Yellow Pages advertising in the formula, even though the prices are not regulated. This had the impact of subsidizing regulated rates.

22 The regulators tended to set extremely long service lives for telephone plant to hold prices down by minimizing depreciation expense, because the investments would be amortized over a longer period of time. The ratemaking depreciation allowance does not improve profits (because the allowed revenues equal the booked depreciation expense) but it does provide the utility with free cash flow. Long depreciation lives therefore required more investment to maintain cash flow.
ongoing revenues?

- What is the allowable rate of return? This is usually the most controversial and hotly contested issue in the case. It is generally calculated by adding up the weighted costs of debt, preferred stock and equity in the allowed capital structure. Should the rate of return be based on the utility’s actual capital structure and cost of debt, requiring only a decision on the appropriate return on equity? Should the Commission use a “hypothetical capital structure” including a hypothetical cost of debt especially where the utility has little debt? Should the cost of the parent company’s debt be “imputed” into a subsidiary utility’s cost of equity? Should the cost of equity be determined by examining comparable utilities, comparable unregulated firms, Discounted Cash Flow analyses or any of a dozen other methods?

- Is the utility guilty of any imprudent investments or expenses, using 20-20 hindsight? Most commissions used an unwritten presumption that costs incurred directly by a regulated utility are prudent unless shown otherwise, but charges from affiliates must be affirmatively proven to be beneficial to the utility’s customers.

During periods of high inflation, such as in the 1970s, costs were increasing at such a rapid rate that large telephone companies were filing
annual rate cases in order to maintain reasonable profit levels. In some jurisdictions the proceedings took a year or more to resolve, leading to "pancaked" rate cases each dealing with a different test year and rate period. Appeals of adjustments and disallowances were common, leading to further proceedings where appeals were successful.23

Because most rates were regulated by rate-of-return regulation, this process was a top priority for utility executives and therefore utility employees. Absent a rate increase allowed by the regulators, the only ways to increase shareholder return were (and still are):

- to increase demand for existing profitable services;
- to roll out new services preferably with higher profits than the utility is currently earning, something generally hard to do in the short run in an investment-intensive industry; or
- to cut expenses.

None of these strategies is a long-term winner in a rate-of-return environment, because increased revenues, increased profits from new services and decreased expenses will all be fully recognized in the next rate case, thus reducing revenue requirement. Everything good the utility does is taken away from it. In return, everything bad (meaning economically unsuccessful) gets reimbursed in the next rate case unless the utility's

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23 Appellate courts generally only have a few issues before them. If they reverse the decision of the regulatory commission on one or more issues, the only possible remedy is to remand the case back to the commission to reflect the court's decision in the revenue requirement formula and to make appropriate rate design adjustments. In addition, a frequent ground for reversal is the failure of the regulatory commission
decisions are so bad as to be found imprudent, and it is very difficult indeed to find imprudence where the costs in question provide new services or improve service quality. Regulators simply had no way to identify what investments were necessary.

The rate case process therefore created an unbeatable incentive for utilities to make new investments as the only long-term strategy to grow profits. In the rate case formula the allowable profits are represented by the rate of return multiplied by the rate base. Rate base in almost all jurisdictions is net plant, meaning original cost less accumulated depreciation. Thus the only consistent way to add profits through the rate case process was to add new investments, which of course have minimal accumulated depreciation.

This mode of regulation created the title of this subsection, the long love affair between telephone companies and their regulators. Rate-of-return regulation shielded the companies from the impacts of unnecessarily high levels of investments or expenses, unless the companies' decisions were bad enough to establish imprudence. Rate-of-return regulation intensely motivated the utilities to make new investments in the network, keeping the regulators happy with the new services constantly being rolled out. It really did not matter to the companies whether or not consumers wanted to buy the new services, because the companies' profits flowed from
their investments, not from their revenues. Thus it is not surprising that
the decisions on new product offerings were more often made by a
company's engineers than by its marketing department. Engineers and
accountants (particularly those who were successful in rate case
proceedings) rather than market-driven strategists tended to rise to the top
executive ranks. Last but not least, the guaranteed recovery of all but
imprudent costs gave the utilities the ability and motivation to keep the
regulators happy by spending whatever it took to maintain an excellent level
of service quality.\textsuperscript{24}

**Part 3: The DOJ is Sidetracked by the Myth of Cross-Subsidization.**

The long love affair with the economic regulators (the FCC and the
state regulatory commissions) did little to restrain AT&T's natural penchant
for monopoly behavior. Rate-of-return regulation's motivation to increase
investment had its dark side, the incentive to increase book investment
through accounting manipulations. It was in AT&T's self interest for the
Bell Operating Companies (BOCs) to pay top dollar to AT&T's unregulated
equipment manufacturing arm, Western Electric, because the high levels of
investment produced high levels of profits in the ratemaking formula.\textsuperscript{25} The

\textsuperscript{24}Thus, for example, New York regulation requires utilities to provide a live answer to 80% of customer
calls within 30 seconds. See NYPSC regulations, 16 N.Y.C.R.R. §603.3(k). Before 2000, the standard was
90% of calls answered within 20 seconds. Even the relaxed standard is rarely if ever achieved by fully
competitive companies, as anyone calling for software technical support knows to their dismay. Telephone
companies under rate-of-return regulation can afford the staff required to maintain this level of answer
performance, because their expenses are flowed through the ratemaking formula and expenses necessary to
meet service quality standards are never imprudent.

\textsuperscript{25}As discussed above, there was every incentive to "gold plate" the network in order to create profits
arising directly from the return on investment allowed in rate-of-return cases.
U.S. Department of Justice became convinced that AT&T was abusing monopoly power by overcharging customers through the ratemaking formula, that it was seeking to extend its monopoly power into unregulated businesses and that the economic regulators were not preventing this conduct. The DOJ therefore brought another antitrust action against AT&T in 1949 seeking the divestiture of Western Electric. Prolonged negotiations resulted in a settlement, and under the 1956 consent decree AT&T agreed to confine its activities to regulated activities, to limit Western Electric to sales to BOCs, and to license its patents to all applicants under reasonable and nondiscriminatory terms.26 This settlement was a clear victory for AT&T. It did nothing to end the practice of overcharging the BOCs and therefore their customers for Western Electric equipment.

Underlying the settlement was another economic myth as false as the myth of the natural monopoly for telephone service. This myth was (and still is) the fear of “cross-subsidization.”27 The theory of cross-subsidization is that utilities will use their regulated monopoly profits to cross-subsidize their competitive activities and thus drive out legitimate competitors from those arenas, extending their monopoly power. Because the settlement addressed this concern, the DOJ was pleased with its “victory” of keeping AT&T out of non-utility markets.

The reality of cross-subsidization is that the regulated and

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26 Vogelsang at 66.

27 Id.
unregulated markets are not so intertwined. The only function of the regulated market in this theory is to give the regulated utility a pot of money that allows it temporarily\(^{28}\) to undercut prices of competitors in the other markets. Such a pot of money, however, is available to other market players as well. For example, a successful company in an unregulated business may well have more money to spend in a new competitive market than a regulated utility. In addition, a company entering an unregulated market can raise a similar pot of money by selling equity or debt securities. There is simply nothing special about regulated utility operations as a source of money for new competitive ventures. Cash is cash, whatever its source, and the inquiry should be about whether a company uses its cash in an unlawful way, not about what is the source of the cash.\(^{29}\) Nevertheless, the myth of cross-subsidization remains real in regulatory and legislative hearings to this day. The myth leads to absurd results such as AT&T or

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\(^{28}\) Permanent below-cost pricing would be a foolish waste of the monopolist’s money. Thus the only function of cross-subsidization would be to reduce prices long enough to drive out competitors, and then to increase prices to monopoly levels. This analysis demonstrates another weakness of the “cross-subsidization” argument, which is that this conduct only makes sense if the barriers to entry in the competitive market are high. Otherwise, the cross-subsidizing monopolist would never be able to raise its prices to recover its losses from cross-subsidization without spurring a new round of competitive entry.

\(^{29}\) See Baumol, William J. and Sidak, J. Gregory. (1994). Toward Competition in Local Telephony. Cambridge: The MIT Press, p. 62. Baumol and Sidak economically define the presence of a cross-subsidy as a situation in which a firm is losing money in one market but is profitable overall. This situation can obviously happen whether or not the profitable lines of business are regulated. It can be argued that the cross-subsidizing firm has an advantage because the cross-subsidy represents essentially free capital with no borrowing costs. However, it cannot be said that any investment of a firm with multiple lines of business has a different capital cost from any other investment. The cross-subsidizing firm’s investment into a (presumably) temporarily unprofitable line of business is at the expense of other uses of the funds such as more profitable investments, debt repayment or dividends.
Time Warner Entertainment demanding regulatory restraints on telephone companies a tiny fraction of their size on the ground that the small telephone companies might cross-subsidize competitive operations such as startup long distance or cable television ventures with their profits from regulated operations. The reality of the situation is that the large firms already in the competitive markets usually have more than sufficient funds available to undercut the prices of new market entrants, rather than vice versa.

A “cross subsidization” claim is therefore one of the many ways economic theory is used anticompetitively, to forestall or hinder competition through the regulatory or legislative process rather than to compete straightforwardly in the marketplace. There is no competitive participant in the regulatory process that is not guilty of this behavior, because it is such an easy and cheap way to attempt to minimize competitive threats.

**Part 4: Cream Skimming and the End of the Love Affair.**

Starting in the late 1950s, the FCC increasingly allowed competitors into the long distance business, over the impassioned protests of AT&T that the new entrants would only “cream skim” the most profitable routes,

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30 These proposed restraints typically involve expensive separations between the telephone company’s regulated and unregulated operations, up to and including requirements of fully separate subsidiaries or even divestiture.

31 In the author’s opinion, the only legitimate place for an argument of cross-subsidization is an assertion that the utility is including costs of the unregulated competitive activity in the ratemaking formula. In that one case, regulated ratepayers would indeed be cross-subsidizing unregulated activities. But even this assertion is completely irrelevant if the utility is subject to incentive rather than rate-of-return regulation, where the ratemaking formula no longer applies and the misallocation of costs no longer has any impact on rates.
leaving AT&T with the unprofitable routes and a need for drastic price increases.

It is alleged that declining technology costs in the 1980s and 1990s have also permitted the entry of competitors into the local exchange business. The author believes that this is only partially true. Competitive entry could have happened at any time, but was forestalled by three regulatory factors:

(1) the myth of the natural monopoly and the reluctance of regulators even to consider local exchange competition without the imposition of economic regulation, service standards and other regulatory costs sufficient to discourage competition;

(2) the pricing of basic local exchange service far below its embedded cost in order to maximize the number of people and businesses connected to the network. This direct cross-subsidy of local service by far above-cost prices for long distance and vertical services\(^{32}\) made competition infeasible until declining technology costs brought the marginal cost of competitive entry down to a level comparable to the subsidized embedded costs charged by the incumbents under rate-of-return regulation; and

(3) the fact that no one had yet figured out how competitors could make monopolistic profits by taking advantage of rules set by unwary

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\(^{32}\) Vertical services are optional add-on services such as Call Waiting or voice mail. These services have traditionally been priced at whatever levels the market will bear. For example, Call Waiting typically is priced at several dollars per month, but if distributed across a sufficient number of subscribers, the cost to the telephone company (software license fees from the switch vendor) may be less than 10 cents.
Naturally, most of the incumbent local exchange carriers (ILECs) made the same arguments in the local exchange arena as AT&T made in the long distance arena, claiming that cream skimming would severely damage the ILECs and lead to ruinous rate increases.

Rochester Telephone Corp. in 1993 decided to welcome local competitive entry. After long negotiations, on January 1, 1995 it began the Open Market Plan, which in turn was the primary model for the Telecommunications Act of 1996. Rochester Telephone did not reach this decision out of public-spiritedness. Because of restrictive statutes and regulatory decisions in New York State, it was unable to continue its strategy of expanding its operations by acquisitions without paying an uneconomic “royalty” in the form of reduced rates for every future acquisition, unless it could form a holding company. The New York Public Service Commission had already twice rejected the proposal of a holding company, so Rochester Telephone decided to tie its third holding company proposal to something that the Commission wanted even more than the Commission disliked the reduction of jurisdiction that a holding company would cause. Rochester Telephone’s idea was to tie the grant of a holding company structure to the creation of the nation’s first openly competitive local exchange marketplace. Part of the bargain was the necessary

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33 A holding company structure not only avoids the regulatory delays and conditions applied by regulators in acquisition and merger proceedings, but it also allows the unregulated parent company to incur long term debt and issue equity without the lengthy regulatory process required for utilities to issue securities.
elimination of rate-of-return regulation. This kind of negotiated tradeoff is an example of how incentive regulation really works.

The specter of the death of the incumbent from "cream skimming" is a regulatory myth used to attempt to forestall competition. The underlying concept of cream skimming, however, is not a myth. Although the incumbents have never died from cream skimming, the argument is far more economically sound than the myths of natural monopoly or cross-subsidization. To put it bluntly, the regulatory allowance of cream-skimming competitors requires the regulatory elimination of rate-of-return regulation.34 Had AT&T been left strictly under rate-of-return regulation while its competitors took away low-cost traffic by charging low rates on high-volume routes while AT&T was required to charge nationwide averaged rates based strictly on its costs, AT&T's arguments would have been correct. AT&T's cost per minute of toll traffic would have steadily increased, and AT&T would have been unable to respond to the prices of its competitors. Its rates would have continued to increase along with its average costs, making additional routes more profitable for competitors to undercut AT&T's new, higher prices. All of this could well have led into what utility witnesses called a "death spiral" for the rate-of-return regulated utility. Its costs and prices would increase the more low-cost customers that competitors take away, thus creating an additional layer of cream for the

34 As will be discussed infra, the regulatory response has been incentive regulation, and in particular price cap regulation pursuant to which the utility's prices are directly regulated regardless of profit levels.
competitors to skim. Exactly the same arguments apply to the allowance of competition in local markets.

Whether they knew it or not, the economic regulators correctly responded to competition by increasingly replacing rate-of-return regulation with various forms of incentive regulation. In the long distance market, the FCC has paid less and less attention to tariffed rates as competition has developed, and recently has detariffed toll rates altogether. In the local exchange markets, rate cases have nearly become a thing of the past, and rate-of-return regulation for large companies has been almost universally replaced by some form of price cap or incentive regulation. Under "pure" price cap regulation such as the plan that applies to Frontier Telephone of Rochester (the former Rochester Telephone Corp.) maximum rates are established for all regulated services, with some leeway for price increases in competitive services such as custom calling features, minimum requirements are established (subject to negotiated penalties) for service quality, and commitments are extracted to guarantee the availability of new services and to ensure the openness of the market to competitors. Subject to these requirements, the telephone company is then free to make whatever investments it deems appropriate, to increase its revenues from new and

35 See MCI WorldCom, Inc. v. FCC, 209 F.3d 760 (D.C. Cir. April 28, 2000), affirming and lifting the stay of the FCC's domestic detariffing order.

existing services in any way that it can, and to hold down expenses, all without suffering the loss of the profits made from these strategies because there are no more rate cases to take them away. The regulatory motivation under this form of regulation is no longer to increase investment, but instead to increase profits through revenue increases and cost reductions.

This form of regulation ends the love affair between the telephone company and the regulators. The telephone company has the incentive to increase profits by letting quality of service slide, because it no longer receives a pass-through of its expenses. Under rate-of-return regulation the only way to increase profits was to increase prices through a rate case. Under price cap or other forms of incentive regulation the opposite occurs – the telephone company can increase profits any way it can other than by increasing prices. The telephone company no longer has the incentive to roll out new services as soon as they are technically feasible, because it may well not be profitable to do so when investments no longer equate to profits.

In short, telephone companies begin to act like unregulated firms, and this is an uncomfortable situation for the regulators, who have grown to expect a quantity and quality of services based on what is technologically feasible, not on what is profitable.

Part 5: The DOJ Tries Again and Establishes the MFJ.

AT&T in the 1960s and 1970s was not in the same position as Rochester Telephone in the 1980s. AT&T failed to see anything to gain by

37 These are such features as Call Waiting, Call Forwarding and Caller ID.
welcoming competition, and engaged in allegedly monopolistic conduct through a rearguard action against its long distance competitors. First, AT&T tried to keep long distance competitors out by fighting their attempts to gain regulatory approval to enter the market. When that failed, AT&T tried a policy of not connecting with the competitors. When that failed, AT&T dragged its feet and allowed only inferior grades of interconnection. When that failed, AT&T set very high rates for interconnection. All this led to another antitrust lawsuit brought by the Department of Justice in 1974, followed by yet another round of intensive negotiations and another consent decree in 1982. This one was called the Modification\(^3\) of Final Judgment, or MFJ, and it went into effect at the beginning of 1984. This is the decree that broke up the Bell System, creating the seven (since merged to four) regional Bell holding companies and leaving AT&T with long distance, Western Electric (eventually voluntarily divested and now called Lucent) and Bell Laboratories.

The MFJ finally solved the problem of overcharges from Western Electric to the former Bell Operating Companies (BOCs). The BOCs and AT&T were no longer related, and the BOCs could and did start buying equipment at competitive rates from other manufacturers such as Northern Telecom\(^4\) and Siemens, thus putting an end to Western Electric's ability to

\(^3\) Vogelsang at 67.

\(^4\) This 1982 decree was a modification of the 1956 consent decree, discussed supra in Part 3 of this Section II.

\(^4\) Since renamed Nortel Networks.
charge monopoly equipment prices. The decree also, and primarily, put an end to the favoritism given to AT&T’s Long Lines division by its affiliated BOCs. AT&T and its long distance competitors have been treated alike by the LECs ever since. The decree also focused the BOCs on their local markets and AT&T on its long distance market, to the ultimate success (at least in terms of stock prices) of all of them and without any appreciable damage to consumers. In hindsight it appears that the Bell System actually had no cost savings arising from its monopoly position41 and that its size stifled its creativity and ability to respond to the new forces of competition.

The MFJ also handed the economic regulators a large problem, that of access charges. When AT&T controlled most of the long distance market, there was no need to establish charges from the Long Lines division of AT&T to the BOCs to maintain the existing toll-to-local subsidies – those subsidies were inherent in the separations process discussed above. Independents were compensated through a “Settlements” process under which the BOCs paid them subsidies based on complicated embedded cost and traffic formulas that had the effect of holding down Independents’ rates through the ratemaking formula. Competitive long distance providers paid for access to the local networks through a partly negotiated, partly litigated set of rates known as ENFIA (“exchange network facilities for interstate access”). All this had to change, because AT&T was no longer affiliated with the BOCs

and had to be treated like the competitive carriers. For interstate calls the FCC and for intrastate calls the state regulatory commissions were required to devise the access charge regime, payments by long distance carriers to local exchange carriers far in excess of the relevant costs of access to the local networks, in order to preserve the existing long distance subsidy to local rates. A decade later, under Rochester’s Open Market Plan and the Telecommunications Act of 1996, similar intercarrier compensation schemes were found necessary for the exchange of traffic among local network carriers.

**Part 6: The BOCs Make a Devil’s Bargain.**

Under the MFJ, the BOCs were prohibited from offering interLATA service. The MFJ’s concept of the LATA (Local Access and Transport Area) relegated the BOCs to short haul traffic. For example, in New York State, 90% of which was served by New York Telephone Company, the state was carved into multiple LATAs based loosely on Buffalo, Rochester, Syracuse, Binghamton, Poughkeepsie, Albany and New York City. New York Telephone, a subsidiary of the regional Bell holding company called NYNEX, could not carry any calls or offer any data services between these arbitrary chunks of its own service territory.

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42 Rochester was a special case. Because Rochester Telephone Corp. was not a BOC, it had the choice of including its service territory with one of the adjoining BOC LATAs or declaring its territory to be in effect an independent LATA. It chose the latter, probably because it was just starting up its own long distance carrier, which would have a larger potential market with New York Telephone prohibited from carrying traffic to Buffalo or Syracuse.

43 NYNEX was subsequently acquired by Bell Atlantic, which later merged with GTE and renamed the combined company Verizon.
Local exchange carriers (LECs) have significant cost and marketing advantages over competitive long distance carriers if the LECs are permitted to market long distance service. They already have a customer relationship and customer loyalty (provided that their service is good). They are already sending bills to most of the potential long distance customers in their territories, and the addition of long distance billing is only a small incremental cost. They can also use, at little cost, bill inserts to market their own long distance services. They do not care that access charges are far above cost, because at least the originating access charges paid by their own long distance company merely transfer cash from one pocket to another.  

They already have many free opportunities to attempt to influence the customer's choice of long distance service, starting from the first call that the customer makes to order local service and continuing with every call that the customer subsequently makes to the LEC business office. Local exchange carriers have similar cost and marketing advantages when they are permitted to provide interLATA private lines or

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44 The affiliated long distance carrier must also pay access charges to the LEC terminating the call. However, if the LEC is a large BOC such as Verizon, it owns the LEC on both ends of many toll calls, thus negating the impact of access charges at both ends. Unaffiliated long distance carriers such as AT&T must absorb the cost of access at both ends. This economic advantage is lost if the LEC is subject to rate-of-return regulation, because its above-cost access charges are reflected in lower local exchange rates. This is yet another reason for LECs to accept surprisingly extreme negotiated conditions in exchange for abandoning rate-of-return regulation.

45 Existing rules allow the LEC service representative on an initial service order call to say “I can read from the list of available long distance companies but I’d like to recommend the services of our own long distance company, which can give you long distance service at these low rates, ... Can I sign you up?”.

46 Existing rules allow the LEC service representative on a subsequent call to say “Are you satisfied with your current long distance carrier? May I tell you about our own long distance company’s services?”
other data services. Far from blind to these potential advantages in the markets denied to them, the BOCs immediately began chafing under the restrictions of the MFJ.

At this point the BOCs were in the same position as was Rochester Telephone when it negotiated the Open Market Plan. They needed something from the regulators, in this case Congress because the FCC and state commissions could not override an antitrust decree such as the MFJ. Just as Rochester Telephone wanted a holding company, the BOCs wanted the ability to enter the interLATA markets, and like Rochester Telephone they were willing to open the doors to local competition in exchange for getting what they wanted. After years of negotiation in Congress, the result was the Telecommunications Act of 1996. Unfortunately for the BOCs, at least initially the bargain has turned out to be a bad one for them.

No one expected that after five years under the Telecommunications Act, which went into effect in February of 1996, there would still be only a handful of states in which the BOCs have interLATA authority. Neither did the BOCs expect the FCC to interpret the Act in ways so unfavorable to the BOCs that key provisions of the Act have been rendered essentially meaningless. Still less did the BOCs expect the Competitive Local Exchange Carriers (CLECs) to find loopholes in the Act allowing them through a form of regulatory arbitrage to milk both the BOCs and Independents of billions of dollars of reciprocal compensation.47

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47 See Section III.C infra.
Unfortunately for the Independents, with the exception of the infamous “checklist” of conditions for granting interLATA authority\(^{48}\) and some limited exemptions for rural carriers,\(^{49}\) the tradeoffs made by the BOCs in the halls of Congress ended up as market-opening requirements that apply to the Independents as well. The Independents have always had the ability to provide interLATA services, so they received nothing in the bargain except the ability to act as CLECs themselves in BOC territories. A number of Independents have started CLEC operations and are taking full advantage of the concessions that the BOCs are continuing to give to CLECs in their attempt to gain regulatory approvals to enter all the interLATA markets.

The Telecommunications Act of 1996 established a whole new regime of economic regulation overseen by the FCC and the state regulatory agencies. Rate-of-return regulation covered rates charged by ILECs to their customers. The economic regulation regime of the 1996 Act covers the rates charged by ILECs to CLECs and in some cases vice versa. As will be discussed below, both forms of regulation have created perverse economic incentives. It is the author’s view that any form of economic regulation other than letting the competitive marketplace work will produce similar results.

\(^{48}\) Telecommunications Act of 1996, 47 U.S.C. §271. This checklist applies only to the BOCs.

III. Economic Oddities of the 1996 Act and Rochester’s Open Market Plan.

The FCC was not happy with the 1996 Act. Not only did it represent a bureaucratic slap in the face, a finding that the FCC had failed in its response to local competition, but it also set a balance that was more favorable to the ILECs and less favorable to the CLECs than the FCC, or at least the FCC’s Chairman Reed Hundt, would have preferred. The FCC immediately set about nullifying portions of the Act and changing its balance.50

A. The Wholesale Discount and “Avoidable” Costs.

One of the first nullifications made by the FCC was its rejection of the Congressional standard for wholesale prices of end-to-end services purchased by CLECs. The Act established three different modes of competition that the CLEC could choose among. First was the option to act as a switchless reseller, ordering end-to-end services from the ILEC at a discount and reselling them to end users for a profit at or below the ILEC’s retail rates. Second was the option to act as a pure facilities-based carrier, with the CLEC owning its own switches and distribution plant and needing

50 FCC Chairman Reed Hundt viewed his role as “the chance of a lifetime” and directed the FCC Staff “to be bold” in advancing the “fundamental goal ... to encourage any business to attack monopoly incumbents.” He decided that the FCC would inevitably “tilt the potential to create value toward or away from the incumbent industries” and that “no truly neutral option existed.” Hundt, Reed E. (2000). You Say You Want a Revolution. New Haven: Yale University Press, pp. 153, 155, 177. He testified in Congress that he “aspire[d] to provide new entrants to the local telephone markets a fairer chance to compete than they might find in any explicit provision of the law.” Lehman, Dale E. and Weisman, Dennis L. (2000). The Telecommunications Act of 1996: The “Costs” of Managed Competition. Boston: Kluwer Academic Publishers, p. 44. The author has never seen such obvious bias on the part of a prominent regulator and such hostility toward the regulated companies.
only to interconnect with the ILEC to exchange traffic. Third was a hybrid option for a facilities-based CLEC to round out a partial network by leasing small pieces of the ILEC network, called UNEs ("unbundled network elements") and combining the UNEs with its own network. Thus a CLEC could own its own switch but lease UNE loops from the ILEC to reach its customers.

The standard established by the Act for calculating the discount from retail rates that the end-to-end or "total service" reseller CLEC receives is "any marketing, billing, collection and other costs that will be avoided by the local exchange carrier". In the view of the author, the FCC completely failed to follow this standard by setting the discount on the basis not of the costs that the ILEC would actually avoid by converting a portion of its business from retail to wholesale (such as incremental marketing, customer service, billing and collection costs) but instead on the basis of the costs that the ILEC could potentially avoid (thus the words "reasonably avoidable" in place of "avoided") if it converted all of its business from retail to wholesale. Thus the FCC presumed, quite falsely, that the ILEC would eliminate its marketing and customer service operations and completely dismantle its billing system. This produced a discount higher than the actually avoided costs, forcing the ILEC to lose more money than Congress


intended on each transaction. However, it does not appear that this regulatory rewriting of the statute has had a great deal of impact, because even at the higher discounts ordered under the FCC’s methodology there are very few resellers operating in this “total service resale” mode. Apparently, even with these discounts there is not enough margin for the reseller’s own costs of marketing, customer service, billing and collection with a profit left over.

In contract, the Rochester Open Market Plan standard adopted a year before the Telecommunications Act for the wholesale discount was much simpler – Rochester Telephone (now Frontier Telephone of Rochester) successfully negotiated a 5% discount, far smaller than the 17% discount later ordered by the New York Public Service Commission following the FCC’s methodology. The 5% figure probably swung the balance too far in the ILEC’s favor, and it led to interesting results in the marketplace. To everyone else’s surprise, AT&T roared into the residential market on January 1, 1995, the beginning of the Open Market Plan, with full-page local newspaper advertisements giving AT&T a local “look and feel.” To absolutely everyone’s surprise, AT&T’s marketing efforts were highly successful, and in just a few months it gained a significant share of Rochester’s residential access lines. The reason for this success turned out to be not customer dissatisfaction with Rochester Telephone, but AT&T’s failure to take some elementary precautions. It soon became apparent that AT&T was signing every requesting customer up for its resold service
without attempting any kind of credit check. In a relatively small city like Rochester, the word spread quickly. As soon as they discovered the situation, people who had lost or were losing their Rochester Telephone service as a result of nonpayment flocked to AT&T.\footnote{AT&T subsequently accused Rochester Telephone of steering its bad debt customers to AT&T. Rochester Telephone's public response, presented by the author of this paper, was that if a customer appeared to be very upset with losing telephone service in the collection and shutoff process, Rochester Telephone's collection representative would explain that Rochester Telephone was not the only telephone company in town. When asked for more information the representative would refer the customer to the Yellow Pages under “Telephone Service”. In the Yellow Pages AT&T with its familiar logo and “800” number appeared prominently and almost at the top of the listings.} The impact of AT&T’s failure to make credit checks was so large that Rochester Telephone’s residential access line growth, including reseller lines, was double in 1995 what it was in the years before or since. It was rumored in the industry that AT&T’s uncollectible rate exceeded 10%, in comparison to a normal rate of less than 1% for a careful local exchange provider.\footnote{Interview with Brian R. Wilmarth, Frontier Telephone’s credit and collections director, in 1995.} The uncollectible rate alone exceeded the 5% wholesale discount then available to AT&T. AT&T ceased marketing within a few months, stopped adding new customers a year later, and made public statements around the country about the “failure” of the Open Market Plan.\footnote{The Open Market Plan also originally had a cap on the total number of non-chargeable minutes of use on resold “flat rate” (untimed) residential access lines, because of a concern shared by Rochester Telephone and the Public Service Commission that resellers might order untimed residential access lines at the low rate of $12.96 and improperly resell them to business customers, who were required to subscribe to metered lines. The impact of this cap was that for the highest usage residential customers (such as those using dial-up Internet services), AT&T paid a metered rate for the excess minutes that caused AT&T’s wholesale rates to exceed Rochester Telephone’s retail rates. Although this cap was shortly thereafter eliminated by the Public Service Commission, it had the effect of giving AT&T a “negative discount” for these customers, meaning that Rochester Telephone received more from AT&T than it would have received from.} 

In conclusion, the 5% rate was probably too low, the “avoidable” cost
rate was probably too high, but it is not clear that this mode of competition was viable in the first place. The wholesale discount should be viewed as a clear failure of economic regulation to make sense of the competitive marketplace.

**B. The UNE Platform and Access Charges.**

Perhaps in recognition of the probable failure of competition to thrive in the total service resale mode, the FCC ordered the ILECs to make Unbundled Network Elements available in a platform or package, where the UNEs together made up either the equivalent of existing retail service or some new service created by the CLEC. The ILECs took the position that UNEs were designed by Congress to “round out” a facility-based CLEC’s network, not to serve as an alternative pricing plan for total service resale. Under the FCC’s order, a CLEC instead of paying retail rates less the wholesale discount for existing services could take the same package priced at the incremental costs of the individual UNEs. For services such as features and business usage rates historically priced well above cost, UNE pricing effectively provided wholesale discounts considerably greater than 50%.\(^56\) For example, the FCC declared that all custom calling features inherent in a local switch would be included with the “local switching” per-

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\(^{56}\) One analyst, John S. Patton Jr. at MCG Credit Corp. estimates the UNE Platform gross profit margin to be 35%. TRA’s Name Change Premised on Linking New ‘Content Players’ with Traditional Carriers. (2000, May 15). *Telecommunications Reports*, 67, p. 10. The author believes that 35% is too low. For an illustration of how to analyze the UNE Platform, see Appendix 1.
minute UNE rate without any additional charge. A typical incrementally
costed local switching UNE, such as the one set by the New York Public
Service for Frontier Telephone of Rochester (having changed its name from
Rochester Telephone), was $.007, i.e., 7 tenths of a cent per minute. Given
the retail feature prices as high as $7 per month and business usage rates
typically ranging from 1 to 3 cents per minute, the advantage of UNE pricing
and the available profit margins for CLECs are obvious.57 Many CLECs are
now using this mode of entry for total service resale competition in lieu of
the wholesale discount, especially for Centrex services. The FCC has thus
used its economic regulation powers to make UNE pricing swallow up the
wholesale discount.

Rochester’s Open Market Plan, which went into effect a year before
the 1996 Act, had a “stripped down” version of UNEs that priced subscriber
loops (often referred to in New York as “links”) and local switch ports as
separate rate elements. However, these were not available in packages that
equated to retail services and were designed only to “round out” CLEC
networks.

The intersection of the FCC’s UNE Platform decision and Rochester’s
Open Market Plan has produced an unusual result, one that is causing a
number of interexchange carriers to raise objections. Frontier Telephone is
not averse to taking advantage of regulatory loopholes the way its
competitors are allowed to do. Under the UNE Platform decision, the FCC

57 See Appendix 1 for examples of the relative discounts provided by total service resale and UNE pricing.
decided that access charges paid by interexchange carriers are billable by the UNE purchaser, not by the ILEC whose network supplies the UNEs. Access charges have historically been set well above costs to maintain the toll-to-local pricing subsidy, and ILECs unsuccessfully argued that giving the CLECs the access charges related to the UNEs purchased from the ILECs would produce an unjustifiable windfall. The CLECs have taken even more advantage of this situation by assessing access charges on interexchange carriers many times higher than the access charges of the underlying ILECs. They are able to do this because ILEC access charges are subject to "price cap" regulation and a long series of decreases ordered by the FCC, but until the last few weeks CLEC access charges have not been regulated in any way by the FCC.

Frontier's use of this regulatory loophole works as follows. Under the Rochester Open Market Plan, Frontier Telephone is permitted to operate a CLEC within its own service territory. This CLEC, Frontier Communications of Rochester (FCR), received all of Frontier Telephone's retail Centrex customers as part of the Open Market Plan in 1995. FCR originally bought the underlying Centrex service from Frontier Telephone as a total service reseller pursuant to the wholesale discount. FCR has more recently elected

58 This is another FCC-created distinction between the wholesale discount and UNE pricing. If a CLEC elects the wholesale discount, the ILEC keeps the access charges from the interexchange carriers.

59 In April, 2001, the FCC finally stepped in to address this situation and set a cap on CLEC access charges beginning at 2.5 cents and gradually declining to the underlying ILEC access charge rate. Seventh Report and Order and Further Notice of Proposed Rulemaking, Access Charge Reform – Reform of Access Charges Imposed by Competitive Local Exchange Carriers, CC Docket No. 96-262, FCC Document 01-146 (Fed. Comm. Comm'n April 27, 2001).
to use the UNE Platform to buy these Centrex services, which entitles it to the access charges paid by interexchange carriers that relate to the UNEs it is purchasing. FCR’s access rates are no more regulated by the FCC than those of any other CLEC. FCR is therefore charging 2.5 cents per minute for access, which is the recently adopted FCC cap, in place of Frontier Telephone’s charges of less than 1 cent per minute to interexchange carriers under total service resale for the same traffic.

Once again, it is apparent that economic regulation of ILEC/CLEC charges makes little economic sense, causing carriers of all classes to scramble to profit from regulatory loopholes and arbitrage.

**C. The Reciprocal Compensation Disaster.**

Rochester Telephone shot itself in the foot in 1994 when it negotiated a high rate for reciprocal compensation in the Open Market Plan. Reciprocal compensation is the amount that ILECs and CLECs pay each other to terminate local traffic. The theory of reciprocal compensation is that the originating LEC is getting paid by its customer for the traffic, even if the payment is subsumed in an unmetered per-month rate for the access line, and that the terminating LEC is getting nothing and therefore should be compensated by the originating LEC for terminating the inter-network traffic. Reciprocal compensation applies only when the two carriers in question each own a local switch, and it applies only when the traffic is local in nature. A total service reseller is not incurring any network costs of termination and is therefore not entitled to reciprocal compensation. Toll
traffic, on the other hand, is subject to a completely different compensation mechanism, that of access charges. If an inbound or outbound interLATA call transits the networks of both an ILEC and a CLEC, access charges should be paid to both local networks by the interexchange carrier that is getting the customer's revenue for the call, but the ILEC and CLEC do not compensate each other.

Economically the theory of reciprocal compensation is another myth. When a customer orders service and the ILEC or CLEC installs a line and connects it to a local switch, the line and switch are neither sized nor priced on the basis of only the outgoing traffic that the customer is generating. The underlying assumption of reciprocal compensation, that the terminating carrier needs to be compensated by the originating carrier, is simply false because the terminating carrier is getting paid for line and switching capacity by the customer who receives the calls as part of the customer's monthly service charge.

In addition, reciprocal compensation should normally be relatively small unless a carrier is choosing to distort its traffic patterns by picking customers. An average mix of customers should generate and receive the same number of calls because each call has an originator and a recipient. Therefore except for small oddities like three way calls originating minutes always equal terminating minutes. Even if a CLEC has only a handful of customers, if they are average customers they will generate and receive the

60 This is a frequent occurrence, because interexchange carriers never have direct connectivity to all CLECs
same volume of local traffic, and the minutes between the ILEC and the CLEC will be in balance. Thus, to the extent a CLEC has an average mix of customers and traffic, reciprocal compensation is irrelevant because the same amount would be paid for the equivalent traffic in each direction. To the extent this is not true, it is likely that one of the carriers is getting a windfall. Why, then, did Rochester Telephone negotiate reciprocal compensation into the Open Market Plan? As usual, the reason was economic self-interest.

Rochester Telephone when it negotiated the Open Market Plan in 1993 and 1994 was convinced that CLECs with their own switches would target business customers with high metered local usage charges, called LMS ("local measured service"), priced far above its costs. The CLECs in the negotiations had the same idea. Therefore Rochester Telephone asked for high reciprocal compensation charges, equivalent to its intrastate access charges of 2.2 cents per minute, in the hopes that it would be able to retain a large share of the LMS revenues that CLECs would try to win, because the vast majority of the CLECs’ LMS traffic would continue to be terminated on the Rochester Telephone network. The CLECs, on the other hand, proposed that there would be no reciprocal compensation payments, a so-called "bill and keep" regime under which the originating carrier bills its end user for a call and keeps the revenues. Rochester Telephone won the argument and thus lost the war.

and frequently connect to a LATA only through the ILEC’s access tandem.
In the first year of the Open Market Plan things went about as expected. Switch-based CLECs targeted business customers with high LMS volumes, the balance of traffic flowed from CLECs to Rochester Telephone, and Rochester Telephone benefited financially from the high reciprocal compensation rate.

Neither Rochester Telephone nor the CLECs anticipated the advent of the Internet, leading to a disaster of enormous proportions for Rochester Telephone and ultimately the entire ILEC industry when the Telecommunications Act of 1996 also mandated reciprocal compensation, albeit at lower rates than those specified in the Open Market Plan. Beginning in the mid 1990s and rapidly accelerating thereafter, dial-up Internet Service Providers (ISPs) sprang up, some of which (including Frontier Telephone’s own Internet service) offered a flat monthly rate for unlimited Internet usage. Time Warner Communications, the switch-based CLEC in Rochester that had proposed bill-and-keep in the negotiations, managed to attract to its network most of the local dial-up Internet access lines of America Online, Inc., which is now Time Warner’s corporate parent. AOL through good marketing and the simplicity of its Internet interface attracted the lion’s share of the Internet market, even though it did not allow unlimited usage at a flat monthly rate. Suddenly AOL reversed its position, offered a flat rate, and the floodgates opened. Over the next few months Frontier Telephone’s engineers worked frantically to install more trunks directly from a number of Frontier end offices to Time Warner’s
switch, as well as along the final route from Frontier's local switches to the local tandem and thence to Time Warner's switch. AOL's vastly increased incoming calls brought Frontier's network to its knees, changing the busy hours of the switches serving residential customers and causing hours-long trunk blockages in some switches every evening after customers came home from work.\(^{61}\) The only remedy was for Frontier to install hundreds of new trunks. Within two or three months the network was back to normal blockage levels, although AOL's traffic continued (and to this day continues) unabated.

This situation was a bitter pill for Frontier Telephone to swallow. It was installing hundreds of trunk groups at very large costs for the sole purpose of sending more traffic to Time Warner, every minute of which was subject to the payment of reciprocal compensation. The tables had been turned. Now the originating carrier was receiving nothing for the traffic, because it was almost all traffic from unmetered residential lines, and the receiving carrier was getting huge revenues for the near-zero costs of terminating massive call volumes to a single customer located in or close to Time Warner's building. It is true, as Time Warner has frequently argued, that a number of Frontier Telephone customers installed second lines for Internet traffic and thereby incrementally increased Frontier's revenues, but second unmetered lines only exacerbated the situation. The customer only

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\(^{61}\) The normal engineering standard for sizing interoffice trunk groups is P.01, a 1% probability that a call will be blocked in the busiest hour of the month. Some of Frontier's switches were experiencing blocking of up to 50% of interoffice calls for hours at a time on many successive days.
had to be on-line to a Time Warner AOL number for roughly 20 minutes per day for the reciprocal compensation charge of $.022 to exceed the monthly $12.96 unmetered residential rate, and many of these customers with dedicated modem lines were staying on the Internet up to 5 hours per day, because they could still make and receive voice calls on their primary lines. Frontier Telephone began paying Time Warner several hundred thousand dollars per month in reciprocal compensation. Although the reciprocal compensation rates have since been negotiated downward the amount of one-way traffic has increased, and Frontier's payments to Time Warner remain at the same general levels.

Other CLECs immediately saw the benefit of this regulatory loophole. Even with reciprocal compensation rates as low as a few tenths of a cent per minute the ability to act as a "Black Hole carrier" (one that only receives traffic and generates little or no traffic in the other direction) has been a license to coin money at the expense of the ILECs. The BOCs report that they are paying well over a billion dollars a year in reciprocal compensation, not a surprising number in light of the millions of dollars paid annually to CLECs in Rochester alone. The BOCs and Frontier Telephone heartily wish that bill-and-keep had been established as the order of the day.

The FCC has recently attempted to reduce this regulatory distortion of the marketplace. It has established a cap of $.0015 for reciprocal compensation for Internet-bound local traffic, with the cap declining over the next few years to $.0007. Growth in Internet traffic is capped at 10%,
with traffic over the threshold subject to no compensation (bill-and-keep).

Unless a carrier can make actual measurements, any traffic between an ILEC to a CLEC above a 3:1 ratio in the direction of the CLEC is presumed to be Internet traffic. A CLEC entering a new territory immediately moves to bill-and-keep for Internet traffic.62

This FCC order will by no means resolve the reciprocal compensation issue. It will be appealed immediately by CLECs that see a major source of revenue drying up, and perhaps also by state regulatory commissions objecting to the order’s preemption of state jurisdiction over Internet-bound traffic. In addition, it is easily possible for a CLEC to target its activities so that it still remains a Black Hole carrier even without Internet traffic. ACC Corp. in Rochester (since purchased by Teleport which in turn has been purchased by AT&T), has long followed a strategy of attracting free local chat lines onto its network. This traffic is undeniably local and is in no way subject to the reduced rates in the recent FCC order. Similarly, CLECs could focus their business on inbound customer call centers,63 such as Rochester Gas & Electric’s customer service numbers. Alternatively, CLECs could offer to provide PBX customers with their inbound trunks only, leaving Frontier Telephone to provide the outbound trunks. This type of service offering is easily marketed as an additional margin of safety for the


63 The same strategy could be applied to other customers with predominantly inbound traffic such as pizza parlors and cab companies, and to a lesser extent retail stores.
customer, with paths to the network provided through two different local carriers. All of these strategies continue to allow the Black Hole CLEC to milk the ILEC through reciprocal compensation payments far in excess of the CLEC's actual switching costs.

Another remaining problem involves the ability of cellular carriers to claim "asymmetric reciprocal compensation," i.e., the receipt of higher compensation for traffic terminated by them than they pay for traffic originated by them. Two FCC Bureau Chiefs recently stated that these carriers can demand asymmetric compensation if they can prove that their costs are higher than the ILEC's, despite the fact that their cellular end users are already paying them for terminating incoming traffic.64 Given all these remaining issues, solving the Internet problem will obviously not make reciprocal compensation abuses go away.65

Once again economic regulation has failed. As will be discussed below, the incentives created by reciprocal compensation actually work to decrease, not increase, competition.


65 To give it credit, the FCC is proposing a more generic solution that would move all intercarrier compensation toward a bill-and-keep regime, including the per-minute access charges that ILECs apply to IXCs. Notice of Proposed Rulemaking, Developing a Unified Intercarrier Compensation Regime, CC Docket No. 01-92, FCC Document 01-132 (Federal Commun. Comm'n April 27, 2001). However, such changes would have serious impacts on LECs that depend on access charges. Many rural ILECs receive more than half their total revenues from IXCs in the form of access charges. To keep them whole under a bill-and-keep regime, either Universal Service Fund subsidies would have to be drastically increased, or average rural local rates could exceed $50 per month. Moreover, even a change to bill-and-keep solely for ILEC/CLEC reciprocal compensation for other than Internet traffic would require Congressional amendment to the Telecommunications Act of 1996.
D. Cellular Carriers' Local Exchange Areas.

In its interpretations of the 1996 Act, the FCC determined that cellular carriers (also known as CMRS or Commercial Mobile Radio Service carriers) should be treated like facilities-based CLECs for purposes of interconnection and reciprocal compensation. However, it was not simple to determine what calls should be considered local and what calls should be considered long distance and therefore outside the scope of the Act. Consistent with what the author views as a longstanding anti-ILEC bias, the FCC defined the CMRS local calling area for purposes of the Act as a Major Trading Area. An MTA is a far larger entity than a Metropolitan Service Area or MSA. For example, Rochester is part of the Buffalo MTA, which stretches as far west as Erie, Pennsylvania. Therefore calls from a Frontier Telephone of Rochester customer to a mobile customer in Erie, a three-hour drive away at freeway speeds, must be compensated like a local call to a CLEC customer in Rochester. This rule does not make economic sense to the ILECs and appears to them to be a regulatory subsidy to cellular carriers created by a twisted reading of the economic regulation provisions of the Telecommunications Act of 1996.

E. Service to Paging Carriers.

Paging carriers are also considered CMRS carriers in the FCC's


67 If the call were considered long distance, no compensation would be paid.
parlance. They also have something like a switch that translates local calls into radio signals for paging. This was a close enough analogy for the FCC to declare that paging carriers are also CLECs entitled to all of the interconnection benefits of the Act. However, the FCC recognized that the analogy to CLECs broke down when applied to reciprocal compensation, and denied paging carriers the right to reciprocal compensation for their incoming traffic unless they can prove their costs.\textsuperscript{68} Once again it appears to the ILECs that the FCC is twisting the Act as far as it can go in favor of other carriers against the ILECs.

The key problem with declaring paging carriers to be CLECs is that under the Act, each local carrier is responsible for the costs of delivering its traffic to other ILECs and CLECs. Paging carriers generate no appreciable outbound local traffic, and to the extent they offer two-way service the outbound channel is narrow enough to handle with fairly inexpensive telecommunications services. The inbound channel, however, can be very large. In addition, paging carriers are required by technology and zoning regulations to locate their transmitters on high, remote hilltops. If the ILEC is required to bring its traffic to the paging carrier and the paging carrier chooses to locate its “switch” at the transmitter, the unreimbursed construction and operating costs to the ILEC can be very large. As soon as the FCC issued its ruling paging carriers immediately began disputing the

ILEC charges they had been paying for decades to handle inbound traffic. Subsequent rulings and even a threat of fines confirm that the FCC intends for ILECs to pay for facilities to handle traffic to a paging carrier's "switch".⁶⁹

Once again it appears that the economic regulation of the Act is failing. The mechanism of the Act is being used to create new and unjustifiable subsidies to reduce the telecommunications expenses of service providers that are perfectly capable of paying the costs of their own businesses. There is no reason why ILECs should underwrite the costs of serving paging service providers.

IV. The Incentives Caused by Economic Regulation.

Rate-of-return regulation clearly created the incentive to "gold plate" the network. As discussed more fully above, the only way to earn consistent and increasing profits under rate-of-return regulation was to maximize rate base, which required large and continuing investments in the network. From a consumer standpoint this was good for service but bad for prices. To placate the regulators, utilities had the incentive to incur whatever costs, either capital or expense, were necessary to provide a very high quality of service. The costs were recovered in full through the rate case process, and regulators received little political pressure as long as the underlying rates did not get too high. The main job of the regulators was to adjudicate rate cases and make such adjustments (frequently to rate of return) as were

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necessary to hold the rate increases to politically acceptable levels.

Price cap regulation, such as Frontier Telephone's pure\textsuperscript{70} price cap regulation and the pure price cap regulation available at the FCC for interstate access charges, created nearly the opposite incentives, but arguably the incentives from price cap regulation are much closer to the incentives of the unregulated marketplace. ILECs are motivated to do whatever they need to do to produce profits, while keeping their quality of service high enough and their product lines modern enough to avoid problems from the regulators and their customers.

The new forms of economic regulation of the relationship between ILECs and CLECs established by the Telecommunications Act of 1996 and the earlier Rochester Open Market Plan create a whole new set of economic incentives. CLECs are motivated to install otherwise unnecessary switches to reap the large benefits of reciprocal compensation. However, CLECs are strongly motivated not to engage in facilities-based competition for residential customers for exactly the same reason — reciprocal compensation. A CLEC winning an unmetered residential customer is suddenly in the unenviable position of the ILEC, with the easily possible result of being required to pay more in reciprocal compensation to the other

\textsuperscript{70} Price cap regulation that is not "pure" involves the sharing of earnings above a predetermined rate of return level. The calculation of shared earnings necessarily involves working through the entire ratemaking formula, with all of its test year and forecasting issues and regulatory adjustments. The only step made unnecessary is the determination of the allowable rate of return. Sharing calculations are generally made with much less formality than rate case decisions, presumably because far less is at stake. However, any importation of sharing into a price cap plan brings with it some of the "gold plating" incentives of rate-of-return regulation.
networks called by the customer than the CLEC receives in total from the customer. In this situation the CLEC risks losing money on every customer from reciprocal compensation alone, and the CLEC’s costs of providing service to the customer create still further losses. No rational facilities-based CLEC provides unmetered service to residential customers unless it does not care about losing money. Given the apparent economic non-viability of the other mode of competition, total service resale, there should be no surprise that the Open Market Plan and the Telecommunications Act of 1996 have failed to produce any sustained competition for residential customers.

Other arguably perverse incentives created by the economic regulation under the 1996 Act and the Open Market Plan are:

- the incentive for CLECs to do anything it takes, including the provision of free local service and the sharing of the receipts from reciprocal compensation, to attract Black Hole customers such as Internet Service Provider’s onto a their networks (which may be as

71 The CLEC may actually not care about losing money if it is engaged in a limited marketing and technical trial of competition. This is arguably what both AT&T and Time Warner were engaged in when they offered service to residential customers in Rochester at the inception of the Open Market Plan. Alternatively, as discussed in Section III.A supra, AT&T may have been prepared to lose money as a reseller in Rochester to further its national goal of establishing resale discounts of more than 20%. Most facilities-based CLECs, however, act with economic rationality and do not even offer traditional dial tone service to residential customers, or do so only at an uneconomically high rate.

72 Residential total service resale is not subject to the reciprocal compensation problem, because the total service reseller does not have a network and therefore does not pay (or receive) reciprocal compensation.

small as a single switch). Conversely, there is a large incentive for CLECs to avoid any class of customers generating more traffic than it receives.

- where the CLEC is not pursuing a Black Hole strategy, the incentive to use ILEC facilities, either total service resale or UNE Platform, rather than make its own investments. Both options allow the CLEC to enter and remain in the market with almost no capital investment and the ability to withdraw immediately and without penalty from all or any portion of the market by canceling the month-to-month services it is obtaining from the ILEC. CLECs that sink capital into a real network face far greater risks, and therefore have trouble raising capital. However, for “real” competition to develop there must be more than just resellers and Black Hole CLECs with no investment beyond a switch.

- the use of the UNE Platform rather than wholesale “avoidable cost” discounts to obtain effective discounts from retail rates in the range of 50% and more, without risking any network investment or providing any services beyond what the ILEC offers.

- the incentive for CLECs to gouge interexchange carriers with whatever level of access charges may escape action by the regulators.

- the ability of cellular carriers to subsidize themselves from

http://investor.cnet.com/investor/news; and Sprint Ditches CLEC Offerings, Blames High Rates for UNEs.
reciprocal compensation within the Major Trading Area.

- the incentive for paging carriers to locate their local "switches" in remote transmitter areas because they bear none of the costs of transporting their incoming traffic.

All of these incentives have driven the ILECs' and CLECs' investment decisions. Rate-of-return regulation created unnecessary investments of all kinds. Reciprocal compensation is causing an explosion of competitive local exchange switches and forestalling competition for residential services. UNE Platform pricing is a strong reason for CLECs not to build competitive outside plant. The treatment of paging carriers as CLECs motivates paging carriers to locate their facilities far away from existing network plant. None of these economic distortions appear to be a benefit to the public interest. It is therefore appropriate to step back and take a look at whether regulation has in general been successful in terms of advancing the public interest.

V. Have Antitrust and Economic Regulation Benefited the Public Interest?

A. Antitrust Regulation Has Generally Benefited the Public Interest.

The major antitrust initiatives discussed in this paper were:

1. the 1913 lawsuit leading to the Kingsbury Commitment;
2. the 1949 lawsuit leading to the 1956 consent decree; and
3. the 1974 lawsuit leading to the 1982 Modification of Final Judgment.
As noted in the Introduction, the public interest standard used in this paper is whether, using 20-20 hindsight, the impact of the mode of regulation appears to have:

- maximized the development of services valuable to consumers;
- maximized service quality;
- minimized consumer prices; and
- minimized abusive conduct among competitors or potential competitors. The following analysis uses a somewhat subjective scale of −3 to +3 to rate each element of regulation on each factor and will equally subjectively presume that each factor is entitled to equal weight. Positive numbers are “better”.

1. **The Kingsbury Commitment** appears to have had little impact on the development of services. By establishing guaranteed interconnectivity between the Bell System and the Independents, it markedly improved service quality. It probably had an adverse (upward) impact on prices by reducing local competition and perpetuating the Long Lines long distance monopoly. Absent the Kingsbury Commitment, the Independents might well have constructed competing long distance networks. The primary impact of the Kingsbury Commitment was to eliminate abusive practices by Bell against the Independents with respect to interconnection, and it appears to have succeeded completely in its goal. On the above scale, the author offers the following ratings:
New Services 0 (no impact)
Service Quality +2 (Independents connect with Bell System)
Lower Prices -2 (local and long distance monopolies)
Less Abusive conduct +3 (Independents treated fairly)

Net Rating: +3

2. The 1956 antitrust consent decree was in the author’s view a failure. It appears to have had no impact on new services or service quality. It did not solve the primary problem then at hand, the unjustifiable markup of Western Electric products to BOCs in order to inflate rate base and rates. It did provide for mandatory patent licensing to competitive manufacturers, which to some extent minimized abusive conduct, but in the view of the author the whole point of the patent system is to give the inventor monopoly rights for a period of time in order to stimulate innovation. It follows that there is nothing prima facie wrong with refusing to license patents to competitors. However, the patent licensing, particularly of transistor and laser technologies, may well have had significant positive impacts on the development of new services in other industries. These considerations lead to the following ratings:

<table>
<thead>
<tr>
<th></th>
<th>Rating</th>
<th>Explanation</th>
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</thead>
<tbody>
<tr>
<td>New Services</td>
<td>+1</td>
<td>(external impact of patent licensing)</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0</td>
<td>(no impact)</td>
</tr>
<tr>
<td>Lower Prices</td>
<td>-1</td>
<td>(continued Western Electric overpricing)</td>
</tr>
<tr>
<td>Less Abusive conduct</td>
<td>+1</td>
<td>(patent licensing to AT&amp;T’s competitors)</td>
</tr>
</tbody>
</table>

Net Rating: +1

3. The Modification of Final Judgment created enormous changes in the industry, by mandating the breakup of the Bell System, the
restriction of the BOCs to intraLATA services, and the advent of access charges. The new competition in the provision of equipment to the BOCs stimulated both Western Electric and its competitors to maximize their new feature capabilities. In addition, each BOC now had to compete with the others in the capital markets, leading each BOC to try to appear as the most successful in the marketplace and the most forward-looking. Both factors stimulated new service development. Service quality did not appear to decline as a result of Divestiture despite some claims to the contrary.\footnote{Kraus, Constantine Raymond and Duerig, Alfred W. (1988). \textit{The Rape of Ma Bell}. Secaucus, NJ: Lyle Stuart Inc. [Kraus], p. 192.} In fact, other carriers began to compete on service quality as well as price (e.g., Sprint's "pin drop" campaign), forcing all carriers including AT&T to maintain high service quality, and possibly causing AT&T to invest in a nationwide fiber optic network before it would otherwise have done so. Local prices increased a little as a result of a round of Divestiture rate cases in which the BOCs successfully argued that their expenses would increase and that their risk (and therefore cost of capital) was greater.\footnote{The author participated in one of these cases in Virginia.} However, since Divestiture long distance prices have tumbled.\footnote{Kraus at 192.} Once again, the primary impact of the proceeding was to end abusive competitive practices, in this case toward long distance competitors. Divestiture succeeded completely in putting AT&T on an equivalent footing with its long distance competitors...
with respect to the BOCs.77

<table>
<thead>
<tr>
<th>Service</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New services</td>
<td>+2</td>
<td>(innovation by suppliers and BOCs)</td>
</tr>
<tr>
<td>Service quality</td>
<td>+1</td>
<td>(&quot;pin drop&quot; competition)</td>
</tr>
<tr>
<td>Lower Prices</td>
<td>+1</td>
<td>(local prices up, toll prices down by more)</td>
</tr>
<tr>
<td>Less Abusive conduct</td>
<td>+3</td>
<td>(AT&amp;T treated like other LD carriers)</td>
</tr>
</tbody>
</table>

**Net Rating: +7**

**B. Economic Regulation Has An Ambiguous Impact on the Public Interest.**

The modes of economic regulation examined in this paper are:

1. rate-of-return regulation;

2. price cap regulation; and


1. **Rate-of-return regulation**, because of its incentive to add investment to maximize profits, definitely stimulates the development of new services. However, as explained above the services developed are not necessarily those that consumers want, because the company under rate-of-return regulation increases profits by adding investment, not by adding revenues. Rate-of-return regulation also maximizes service quality as part of the long term love affair between the utilities and the regulators, discussed more fully above. Prices, however, are constrained only by the political forces facing the regulators. Abusive practices toward competitors are not directly affected, although the guaranteed profits from rate-of-return

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77 Based on personal observation of regulatory proceedings, the BOCs are even more hostile to their former owner than to other long distance carriers.
regulation create a market advantage that new entrants would not have.

The author views this situation as a built-in abusive practice.

<table>
<thead>
<tr>
<th>Service</th>
<th>Rating</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Services</td>
<td>+2</td>
<td>(not necessarily what customers want)</td>
</tr>
<tr>
<td>Service Quality</td>
<td>+3</td>
<td>(gold plated)</td>
</tr>
<tr>
<td>Lower Prices</td>
<td>-3</td>
<td>(constrained primarily by political forces)</td>
</tr>
<tr>
<td>Less Abusive Practices</td>
<td>-1</td>
<td>(entry barriers)</td>
</tr>
</tbody>
</table>

**Net rating: +1**

2. **Price cap regulation** forces the utility to act as an unregulated company would behave. Compared to rate-of-return regulation, the incentives to roll out new services and to maximize service quality are definitely less, but compared to the unregulated market the incentives are about equal. The company will provide the new services that the customers want to buy, and will maintain sufficient service quality to keep it out of trouble, but there is an economic incentive to hold down capital spending and to let service slip. The cap on prices gives customers far more protection and certainty than either rate-of-return regulation or a fully competitive market. Abusive practices are not directly affected, and because price cap regulation offers no guaranteed profits, there is no built-in entry barrier.

<table>
<thead>
<tr>
<th>Service</th>
<th>Rating</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Services</td>
<td>0</td>
<td>(same as fully competitive market)</td>
</tr>
<tr>
<td>Service Quality</td>
<td>-2</td>
<td>(motivation to save expenses)</td>
</tr>
<tr>
<td>Lower Prices</td>
<td>+3</td>
<td>(price caps very stable)</td>
</tr>
<tr>
<td>Less Abusive Practices</td>
<td>0</td>
<td>(no impact)</td>
</tr>
</tbody>
</table>

**Net Rating: +1**

3. **Intercarrier pricing** is a mixed bag of policies with a similar mix
of impacts. Taken as a whole, the primary impact of the 1996 Act and the Open Market Plan has been to increase competition, but only in limited areas. CLECs should be motivated to offer innovative new services, but few are doing so with any success.78 CLECs are motivated to pay ISPs and other Black Hole customers to move onto the CLECs’ networks but to leave residential customers alone. It appears that prices are falling as a result of competition79 but it also appears that service quality may be falling as well.80 Cellular and paging carriers are receiving regulatory subsidies from the ILECs, and it is far from clear that consumers are receiving any benefit from the subsidies. UNE Platform pricing likewise appears to be a regulatory subsidy to CLECs, and CLECs who use the UNE Platform are only reselling ILEC network services without risking their own investment dollars. It is not apparent that consumers will benefit in the long run from carriers that enter and exit the market at the drop of a hat, depending on the profitability of reselling UNEs. It is certainly not in the public interest to allow CLECs to gouge interexchange carriers with access charges many times

78 Many of the Data LECs (DLECs) such as Northpoint and Covad are either in or near bankruptcy. They attempted to offer Digital Subscriber Line (DSL) services more quickly than the ILECs. However, they have found that the revenues they have been able to achieve do not offset the costs and technical difficulties of collocation (occupying space in the ILEC central office), line sharing (where the ILEC provides traditional voice service and the DLEC provides DSL service over the same line), line quality (the line cannot have bridge taps or load coils for DSL service to work) and the “bleeding edge” nature of most DSL equipment.


80 New York Public Service Press Release. (2000, Nov. 9). Commission Moves to Improve High Capacity Telecommunications Service – Seeks Comment on Measures to Strengthen Verizon’s Special Services. The PSC Chairman stated, “[I]t appears that the appetite for these services in the competitive market has
those of the underlying ILEC, given that the ILEC access charges themselves are generally well above cost due to the continuation of the historical toll-to-local subsidy. The current ratings are below, but as will be discussed in the next section, they could readily be improved.

<table>
<thead>
<tr>
<th>New Services</th>
<th>+1</th>
<th>(DLECs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Quality</td>
<td>-1</td>
<td>(dropping a little)</td>
</tr>
<tr>
<td>Lower Prices</td>
<td>+2</td>
<td>(reduced by competition)</td>
</tr>
<tr>
<td>Less Abusive Practices</td>
<td>-3</td>
<td>(reciprocal compensation, etc.)</td>
</tr>
</tbody>
</table>

**Net Rating:** -1

C. Conclusions.

If the ratings above are accepted, it is apparent that antitrust regulation of the telecommunications industry has been generally more successful than economic regulation.

**Antitrust Regulation:**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Kingsbury Commitment</td>
<td>+3</td>
</tr>
<tr>
<td>1956 Consent Decree</td>
<td>+1</td>
</tr>
<tr>
<td>Modification of Final Judgment</td>
<td>+7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>+11</strong></td>
</tr>
</tbody>
</table>

**Economic Regulation:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Rate-of-return regulation</td>
<td>+1</td>
</tr>
<tr>
<td>Price cap regulation</td>
<td>+1</td>
</tr>
<tr>
<td>Intercarrier pricing</td>
<td>-1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>+1</strong></td>
</tr>
</tbody>
</table>

Perhaps this result should be expected, because antitrust regulation is episodic in nature and designed to solve particular problems, while economic regulation is pervasive and must balance more interests. One

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outstripped the company’s ability to meet the demand.” Available on NYPSC web site: http://www.dps.state.ny.us.
conclusion that may be drawn is that economic regulation is not necessarily the correct response to concerns about anticompetitive conduct. The relationship between ILECs and CLECs is the type of issue successfully addressed in the Kingsbury Commitment (which addressed the relationship between BOCs and Independents) and the MFJ (which addressed the relationship between BOCs and AT&T). Antitrust regulation appears to be much better designed to eliminate abusive conduct than the pervasive economic regulation of the Telecommunications Act of 1996 and the Open Market Plan. The economic regulators are experts in utility/consumer transactions, but less than expert in correctly establishing the ground rules for competition.

A few other conclusions may be drawn, again if the ratings are accepted:

- Consumers are not any better off under price cap regulation than rate-of-return regulation. However, they are also no worse off. Because rate-of-return regulation is incompatible with competition, as argued above, it appears that the regulators have made a reasonable choice to move to price cap regulation. Except for out-of-work rate case witnesses and lawyers,\(^{81}\) there is no reason to yearn for "the good old days" of rate-of-return regulation.

- The antitrust regulators (primarily the U.S. Department of Justice)

\(^{81}\) In reality, rate case lawyers had nothing to worry about. The Telecommunications Act of 1996 has with some accuracy been called "The Economists' and Lawyers' Full Employment Act of 1996"
can be fooled by economists. They allowed the Bell System to divert them from their primary mission of reducing Western Electric markups in order to hare off down the false trail of cross-subsidization.

- On the assumption that in the long run consumers will pay for everything, consumer welfare is not being maximized by giving CLECs incentives to install switches and provide free local service merely to earn reciprocal compensation for a handful of Black Hole customers, nor are consumers benefiting from the requirement for ILECs to give free inbound service to paging companies.

- Neither regulators nor competitors will successfully predict technology changes. The advent of dial-up Internet service ruined the ILECs’ plans to hold competitors at bay by assessing high reciprocal compensation charges for local traffic. The increasing replacement of dial-up Internet service by higher-speed Digital Subscriber Line and cable modem services will have unknown consequences.82 Fixed wireless data service may finally come into its own (despite the recent bankruptcy of its chief advocate Winstar), just as cellular service is now becoming nearly ubiquitous more than 50 years after the development of its technology. Finally, no one knows what the “killer application” for consumer data service will be. Pay-per-view was thought to be a contender but now seems

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82 The author would predict decreasing reliance on reciprocal compensation (data traffic is not subject to reciprocal compensation), increased local infrastructure investments (to make both telephone and Cable TV plant ready for broadband), and an increasing array of digital and high capacity consumer services (to use the new bandwidth).
to be only another “niche” market. Whatever the killer application may be, it will drive the future of local telephony investment.

VI. Conclusions and Proposals for Improved Regulation.

It is not possible to turn the clock back to rate-of-return regulation. Price cap regulation is clearly here to stay, until regulators are willing to take the plunge and completely deregulate the prices of competitive services. The FCC in its detariffing orders is deregulating interstate prices.83 Nearly all state regulatory commissions have “individual case basis” pricing mechanisms to allow ILECs to provide market rates for fully competitive services such as Centrex.84 Regulators should be prepared to step aside in additional areas and let the market work when the market is competitive, although the definition of what is sufficiently competitive is a hard and complex issue. Regulators should experiment with deregulation where the issue is a close one, retaining the right to re-regulate if the experiment fails. The author believes that the regulators will find that deregulation stimulates competition far more effectively than the detailed economic regulation of

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83 Intrastate toll prices generally remain tariffed. Although state regulators do not subject intrastate long distance carriers to rate-of-return regulation, they heavily regulate ILECs’ intrastate minute-of-use access charges to the long distance carriers. Because these intrastate access charges are generally much higher than the FCC-regulated interstate access charges, intrastate toll prices have declined at a much slower pace than interstate toll prices.

84 Centrex services are fully competitive with unregulated PBX equipment. The only practical difference between the two is that Centrex switching and features are provided in the LEC central office switch, while PBX switching and features are provided by a box on the customer’s premises.
ILEC/CLEC transactions.\textsuperscript{85}

Both antitrust and economic regulators should be wary of economic theories that only mask the economic self-interest of the theory's sponsor. The Bell System benefited for many decades from the demonstrably false theory of the natural monopoly of the local and long distance telephone systems. Cross-subsidization of competitive services by utility services is a meaningless concept (except to the entrenched firms espousing the concept in order to exclude the ILECs from new markets) when rate-of-return regulation is abandoned, breaking the link between cost allocations and rates. Reciprocal compensation whether espoused by ILECs or CLECs is really a mechanism for subsidizing the company expected to receive the most traffic.

Antitrust regulation rather than economic regulation should be the regulatory mode of choice when anticompetitive conduct by the ILECs is of concern. "Regulated competition" is an oxymoron. Detailed rules for economic regulation of transactions between competitors are likely to lead to the pursuit of loopholes in the regulations, not to the development of robust competition.\textsuperscript{86}

\textsuperscript{85} See Crandall, Robert W. and Hausman, Jerry A. (2000). Competition in U.S. Telecommunications Service: Effects of the 1996 Legislation [Crandall and Hausman], in Peltzman, Sam and Winston, Clifford (Eds.), Deregulation of Network Industries – What's Next? Washington, DC: AEI-Brookings Joint Center for Regulatory Studies. Crandall and Hausman write, “Since passage of the 1996 Telecommunications Act, competition for local residential wireline service has grown very slowly, and continued regulatory barriers preventing the regional Bell operating companies from entering long-distance markets have cost consumers a considerable amount in welfare losses. In sharp contrast, competition is robust in wireless services, where prices have been deregulated.”

\textsuperscript{86} Crandall and Hausman at 110: “[D]etailed cost-based regulation of wholesale rates is not a satisfactory approach for stimulating competition in this network industry. Rather, we would prefer an attempt by
No matter how important the goal of stimulating competition, regulators should remember that their job is to provide a competitive marketplace, not to guarantee either initial success (such as the concept of a “jump start”) or long term viability of any particular class of competitors. Regardless of ILECs’ prior good or bad behavior, it is neither fair nor in the long run pro-competitive to require ILECs to subsidize their competitors. Neither ILECs nor CLECs should be given opportunities to extract subsidies from each other or from interexchange carriers.

The Telecommunications Act of 1996 and its interpretations by the FCC need an overhaul. The incentives created by the Act and the FCC’s regulations prevent facilities-based competition for residential customers, and primarily spur competition for Black Hole customers that provides little if any public benefit. The FCC has very recently taken two good first steps by reducing reciprocal compensation for Internet traffic and reducing interstate access charges imposed by CLECs. These steps should be extended, probably by statutory amendment, to eliminate reciprocal compensation altogether and to ensure against unreasonable intrastate access charges by CLECs.

Congress and the FCC should take a hard look at current rates and rules for UNE pricing, which greatly reduce the incentives for CLECs to

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regulators to undo the regulatory-created barriers to entry built into the retail rate structure. As long as large numbers of subscribers – particularly residential subscribers in all but the most dense areas of the country – are provided local service at rates below long-run incremental cost, entrants will have little incentive to offer these subscribers service.”
build their own networks.\textsuperscript{87} Real competition will not develop as long as most carriers are dependent upon reselling pieces of the ILEC network. In particular, UNE Platform pricing should no longer be required, and UNEs should be returned to their originally contemplated role as facilities useful to “round out” a CLEC network in remote areas where there are not sufficient concentrations of customers to justify the construction of new loop facilities.

It is time to allow the BOCs to provide long distance services in all of their territories. The “competitive checklist” of the 1996 Act has been abused by competitors forcing BOCs to spend enormous time and resources on compliance with items such as the provision of interoperable “Operational Support Systems.”\textsuperscript{88} AT&T, WorldCom and Sprint no longer need (and probably never needed) protection against the BOCs’ start-up long distance ventures, and CLECs should begin to focus on their own quality and cost of service rather than continue the endless round of regulatory proceedings designed to wring out more concessions and more subsidies from the BOCs.

In summary, it is time for the regulators to start letting go of economic

\textsuperscript{87}Ness Raises Pricing Issues; Analyst Sees ‘New View Rising’. (2001, Feb. 12). Telecommunications Reports, 67, pp. 10-11. FCC Commissioner Ness stated that UNE rates need attention because “you don’t want to encourage inefficient competition” and Credit Suisse First Boston Corp. analyst Daniel P. Reingold stated that “TELRIC-based UNE and UNE-P [UNE Platform] pricing have the perverse effect of lowering the [incumbents’] price umbrella to the point that true facilities-based local infrastructure is ‘disincented.’”

\textsuperscript{88}Operational Support Systems are very costly modifications and enhancements to an ILEC’s ordering, provisioning and repair systems to allow CLECs essentially the same access into the systems for their customers as the ILEC’s own service representatives have. The programming costs alone to make the ILECs’ legacy systems interoperable with CLEC systems are monumental. If the CLECs were not so
regulation. Detailed economic regulation of telecommunications was only justifiable in the first place on the assumption of a natural monopoly. The free market model is the basis of our capitalistic society, and although it is not perfect, a better one has yet to be found. There is no point for regulators to try to emulate the results of a competitive market if a competitive market is capable of working on its own.

Regulators therefore must define a new role for themselves, one less concerned with the details of utility pricing and operations and more focused on social policies that a competitive market cannot be expected to achieve. For example, regulation, likely in the form of some kind of subsidization mechanism, is probably required in the long run to assure the affordability of telephone service in remote and sparsely-populated areas. Regulation is probably not necessary to assure a basic level of service quality, as long as competitive alternatives are available. Regulation is probably necessary to mandate and underwrite a relay system for hearing-impaired customers to communicate. Regulation is probably not necessary to set an ILEC’s prices to consumers or competitors, again where competitive alternatives are available.

Where competitive alternatives are not available, regulators should not try to “jump start” competition by providing subsidies from ILECs to CLECs. These subsidies will inevitably provide perverse economic incentives and will do nothing to ensure the long term viability of real

reliant on BOC UNEs, they would not need OSS access. The OSS requirement is generally the last and
competition.

Where competitive alternatives are available, regulators should not attempt to structure the market in ways that they believe will enhance competition. They should instead find ways to remove themselves from the equation and let the natural forces of the marketplace, driven by consumer choices, pick the winners and the losers.
## Appendix 1

Analysis of Resale and UNE Platform Rates in Rochester, New York

### Table 1A—Comparative ILEC Revenues

<table>
<thead>
<tr>
<th>Measured Bus. Rates</th>
<th>Retail</th>
<th>17% Discount</th>
<th>UNE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loops</td>
<td>$11</td>
<td>$9</td>
<td>$10</td>
</tr>
<tr>
<td>Ports</td>
<td>n/a</td>
<td>n/a</td>
<td>3</td>
</tr>
<tr>
<td>Features</td>
<td>3</td>
<td>2</td>
<td>free</td>
</tr>
<tr>
<td>Local Usage</td>
<td>14</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Sub. Line Charge</td>
<td>6</td>
<td>6</td>
<td>none</td>
</tr>
<tr>
<td>Operator Services</td>
<td>n/a</td>
<td>n/a</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Local</strong></td>
<td>$34</td>
<td>$29</td>
<td>$16</td>
</tr>
<tr>
<td>LD Access</td>
<td>5</td>
<td>5</td>
<td>none</td>
</tr>
<tr>
<td>IntraLATA Toll</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>$41</td>
<td>$35</td>
<td>$17</td>
</tr>
</tbody>
</table>

This table starts from a normal measured business customer's retail rates. The dial tone line is priced at $11. It is assumed that the customer buys $3 of features and has $14 of local measured usage. The subscriber line charge is roughly $6, and operator services are included in the cost of the line. The ILEC therefore makes $34 in local revenues from this customer. On the long distance side, it is assumed that the customer makes $2 in intraLATA (regional toll) calls and that the ILEC charges interexchange carriers $5 in access charges, with the interexchange carriers
billing the customer for interLATA toll charges.

With a 17% discount, which is the current “total service” wholesale discount applicable to Frontier Telephone of Rochester, the revenue impact is a reduction of all local and intraLATA rates. The subscriber line charge is not discounted, and access charges are not affected. Comparing the grand total of revenues, the effective discount (i.e., the ILEC’s lost revenue) is 15%.

Under a UNE price structure, the dial tone line is split into a loop at $10 and a switch port at $3. By PSC order, the local usage UNE rate includes all features inherent in the switch at no charge to the CLEC. Local usage is priced at $.007 to the CLEC as compared to roughly $.04 to the end user. By FCC order, long distance access charges belong to the UNE Platform purchaser, the CLEC, so that the ILEC loses all $5 of access. Comparing the grand total of revenues, the effective discount is nearly 59%. The magnitude of this result is not sensitive to minor changes in the rates.
Table 1B—Comparative Revenues Earned by the Carrier

<table>
<thead>
<tr>
<th>Measured Bus. Rates</th>
<th>ILEC</th>
<th>Reseller</th>
<th>UNE-P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loops</td>
<td>$11</td>
<td>$11</td>
<td>$11</td>
</tr>
<tr>
<td>Ports</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Features</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Local Usage</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Sub. Line Charge</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Operator Services</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Total Local</strong></td>
<td>$34</td>
<td>$34</td>
<td>$34</td>
</tr>
<tr>
<td>LD Access</td>
<td>5</td>
<td>none</td>
<td>15</td>
</tr>
<tr>
<td>IntraLATA Toll</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>$41</td>
<td>$36</td>
<td>$51</td>
</tr>
</tbody>
</table>

This table demonstrates why total service resale is such an unattractive proposition and why the UNE Platform is so attractive for CLECs. When a CLEC serves an end user, the CLEC will not be able to charge more than the ILEC's retail rates. Thus the CLEC, whatever its wholesale pricing, is likely to have a retail price structure not too different from the ILEC's. Thus all three companies receive the same Total Local revenues from the customer. Where the equivalence breaks down is in long distance access charges. Under the total service resale model, the ILEC keeps all the access charges and the reseller gets none. Under the UNE Platform model, not only do all the access charges go to the CLEC, but the CLEC is permitted to charge
interexchange carriers a per-minute rate that is many times higher than that of the ILEC. Thus the reseller ends up with less and the UNE Platform purchaser ends up with more gross revenues than the ILEC.
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Regulatory Distortions of the United States Telecommunications Industry

M.S.I.T. Degree Program
Rochester Institute of Technology

Presented by Gregg C. Sayre
July 13, 2001
Primary Points of Analysis

- Utility Behavior is Driven by Economics
- Economic Decisions are Often Driven by the Regulators
- Regulatory Decisions are Driven by Policy
- Policy Decisions are Often Driven by Myths
Framework for Analysis

- Impacts of Antitrust and Economic Regulation
- Telecom Industry History as Driven by Regulation
- Outcomes of Industry Responses to Regulation
- Judgments and Proposals for the Future
History: Part 1

- The Myth of the Natural Monopoly
  - Local Exchange
  - Interexchange
  - Why It Was Plausible
  - Why It Was Wrong
- The Kingsbury Commitment
History: Part 2

- Rate-of-Return Regulation
  - Monopoly Made It Necessary
  - How It Is Supposed To Work
  - How It Really Worked
- Gold Plating the Network
History: Part 3

- The Myth of Cross-Subsidization
  - The Fear
  - The Reality
  - How It Is Used Anticompetitively
- The 1956 Consent Decree
History: Part 4

- The Reality of Cream-Skimming
  - How It Works
  - The Utility Death-Spiral
  - The End of Rate-of-Return
- Price Cap and Incentive Regulation
History: Part 5

- The Real End of the Toll Monopoly
- The Modification of Final Judgment
  - The Access Charge Regime
  - Continued Toll-to-Local Subsidies
- RBOC vs. RBOC
History: Part 6

- The Real End of the Local Monopoly
- The Telecommunications Act of 1996
  - Continued InterLATA Restrictions
  - Why RBOCs Will Do Anything to Lift Them
  - Fallout for Independent ILECs
  - Economic Regulation of Intercarrier Pricing
Uneconomic Results
Now In Place

- Continued Toll/Local, Urban/Rural and Business/Residential Subsidiaries
- Averaged Pricing - Local and Toll
- “Avoidable Cost” Wholesale Pricing
- The UNE-Platform Access Robbery
Uneconomic Results (cont’d)

- Reciprocal Compensation
  - Why ILECs Wanted It High
  - Why ILECs Now Want It Low
  - Technology Defeats Strategy
  - Internet Traffic & Recent FCC Order
  - Non-Internet Traffic
Uneconomic Results (cont’d)

- Cellular Carrier Local Exchange Areas
- Service to Paging carriers
- Philosophy of Jump Starting Competition
  - Nice Goal, Bad Policy
  - Unfair and Unlikely to Work in Long Run
Scorecard for Regulation

- Maximized Useful Service Development
- Maximized Service Quality
- Minimized Consumer Prices
- Minimized Abusive Competitive Conduct
Antitrust Regulation

- Kingsbury Commitment  +3
  - Service Quality, Conduct Better
  - Prices Worse

- 1956 Consent Decree  +1
  - Patent Licensing  +
  - Prices  -
  - Not a Real Success
Antitrust Regulation (cont’d)

- Modification of Final Judgment +7
  - Services, Quality, Prices, Conduct +
Economic Regulation

- Rate-of-Return Regulation  +1
  - Services, Quality  +
  - Prices, Practices  -

- Price Cap Regulation  +1
  - Prices  +
  - Quality  -
Economic Regulation (cont’d)

- Intercarrier Pricing -1
  - Services, Prices +
  - Quality, Conduct -
Final Score

- Antitrust Regulation +11
- Economic Regulation +1
Conclusions About Regulation

- Antitrust Regulation More Effective
- Economic Regulation Goes With Bad Conduct
- Regulators Correct to Move to Price Caps
- Regulators Can Be Fooled By Myths
Conclusions About Regulation (cont’d)

- Consumers Don’t Benefit From Distortions
- Technology Changes Will Trump All Decisions
Proposals for the Future

- Rate-of-Return is Dead
- Experiment With Deregulation
- Beware Economic Myths
- Use Antitrust for Anticompetitive Conduct
Proposals for the Future

- Don’t Try to Guarantee Success
- Overhaul Intercarrier Pricing
  - Under the 1996 Act
  - Access Charge Subsidies to Local
- Let the BOCs Compete for Long Distance
Final Thoughts

- See If The Market Works
- Regulators Should Focus on Social Policies
  - But Let Taxes Be Taxes