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BEFORE THE
ILLINOIS COMMERCE COMMISSION
SPRINGFIELD, ILLINOIS 62794

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In The Matter of

The Blue Ribbon Telecommunications Task Force Outline of Purpose and Request for Assistance

Telecommunication
s
FTC Staff
Comment Before
the Illinois
Commerce
Commission In the

Comments of the Staff
of the Bureau of Economics and the Chicago Regional Office
of the Federal Trade Commission¹

I. Introduction

The staff of the Federal Trade Commission (FTC) appreciates this opportunity to submit a response to the Blue Ribbon Telecommunications Task Force's request for comment on Illinois's regulation of intrastate telecommunication services. The Task Force is attempting to determine what form of regulation is most appropriate for intrastate telephone services when the current provisions governing this area expire in December of 1991.

The current regulatory structure is the result of a study of telecommunications in Illinois that the Illinois Commerce Commission participated in during 1984 and 1985. This study led to the passage of Article 13 of the Illinois Public Utilities Act, which for the first time granted pricing flexibility to providers of telecommunications services classified as "competitive" and also facilitated entry into some telecommunications markets.

Article 13 expires December 31, 1991. Consequently, the Illinois Commerce Commission is again examining the telecommunications market in Illinois and has created a Blue Ribbon Task Force to assist in the analysis of the benefits enjoyed by Illinois consumers because of Article 13. The Task Force has requested comments on a number of issues, including what

¹ This comment represents the views of the staff of the Bureau of Economics and the Chicago Regional Office of the Federal Trade Commission. They are not necessarily the views of the Commission or any individual Commissioner. Inquiries regarding the comment should be directed to Alan D. Mathios (202-326-3495) of the FTC's Bureau of Economics.

form of telecommunications regulation should be adopted after Article 13 expires. The Task Force has thus requested comments on whether the Illinois Commerce Commission should: (1) be required to regulate earnings directly (rate-of-return regulation), (2) grant some measure of earnings flexibility to firms, and (3) regulate telecommunications carriers by capping prices directly (price-cap regulation), without monitoring earnings levels. Our analysis of economic theory and the empirical evidence indicate that price-cap regulation may be preferable to rate-of-return regulation for certain telecommunications services. Our analysis also concludes that policies that facilitate entry into certain telecommunications markets are likely to result in lower prices to consumers.

After briefly discussing the background of state regulation of telecommunications services our comments summarize the theoretical advantages and disadvantages of price-cap regulation compared with rate-of-return regulation of telecommunications services. The economic literature indicates that firms are likely to have greater incentives to minimize cost under price-cap regulation than under rate-of-return regulation. Lower costs, in turn, might lead to lower prices to consumers under price-cap regulation. However, the theoretical evidence in favor of price-cap regulation is not unequivocal. Consequently, Section IV then examines the empirical evidence concerning actual prices for telecommunication services under the various forms of regulation. This evidence indicates that, on average, prices for intrastate interLATA² long distance toll service are already lower in states that have adopted price-cap regulation.³

² InterLATA service is a type of long distance service. Many states, such as Illinois, contain a number of Local Access and Transport Areas (LATAs). A LATA can cover several area codes. Interstate interLATA service is governed by the FCC. Intrastate service, both intra and interLATA, is regulated by the Illinois Commerce Commission. Long distance companies such as AT&T, MCI and Sprint, etc. provide interLATA service. The local telephone companies (such as Illinois Bell) are not permitted to provide long distance service between LATAs, but do provide this service within a LATA. Illinois is divided into "Market Service Areas" or "MSA's" which are functionally equivalent to LATAs.

³ The comparison of prices across regulatory regimes was examined using statistical techniques (multivariate regression) that account for a variety of factors that might effect the price of long distance service. For example, the study controlled for differences across states in population density, wages of telecommunication workers, income, the number of providers of interLATA long distance service in the state etc.

It should be noted that intrastate interLATA long distance service has been subject to increasing levels of competition. Consequently, the empirical work currently available does not address how price-cap regulation compares with rate-of-return regulation for services such as residential local exchange service, which have little or no competition. Our comments do examine the theoretical implications of applying price-cap regulation to services that more closely fit the natural monopoly paradigm. While the theoretical advantages of price-cap regulation (relative to rate-of-return regulation) apply regardless of the market structure of the regulated service, there is a greater possibility that a monopolist, after experiencing cost reductions that could arise under both types of regulation (e.g., input prices decline), would pass such cost reductions on to consumers as lower prices under rate-of-return regulation. In light of this possibility, our comment outlines several adaptations to a price-cap regulatory framework that are intended to preserve cost minimization incentives, while providing some additional safeguards to consumers.

Third, and finally, our comment analyzes the impact of entry regulation on the prices of telecommunications services. Article 13 permits more than one carrier to provide various telecommunications services. Empirical evidence indicates that consumers in markets with more than one carrier providing intrastate intraLATA long distance service are charged significantly lower prices than consumers in other markets.

II. Expertise of the Staff of the Federal Trade Commission

The FTC is an independent regulatory agency responsible for maintaining competition and safeguarding the interests of consumers. In response to requests by federal, state, local governments, and others, the staff of the FTC often analyze regulatory or legislative proposals that may affect competition or the efficiency of the economy.

The staff have recently examined price and entry regulation in the telecommunications and cable TV markets. For example, staff have analyzed the prices of intrastate

telecommunications services under alternative forms of regulation.⁴ Moreover, in a recent comment to the FCC concerning the regulation of cable television rates, the staff of the Bureau of Economics and the San Francisco Regional Office analyzed the potential benefits of price-cap regulation compared to rate-of-return regulation.⁵ The staff of the Bureau of Economics have examined the impact of entry regulation on intrastate telephone rates.⁶

III. Background on State Regulation of Telecommunication Services

A. Introduction

Prior to the early 1970s, AT&T and its affiliated Bell Operating Companies (BOCs -- the local exchange arms of AT&T) provided virtually all long distance telecommunications services in the United States, and was the dominant supplier of other telecommunications services.⁷ With the permission and encouragement of the FCC and the state Public Utility Commissions (PUCs), AT&T set the prices of interstate and intrastate long distance service above cost respectively, in order to subsidize local exchange service. However, beginning in the 1970s, the FCC adopted policies that encouraged the development of cost-based prices and that supported increased competition in the provision of interstate long distance services.⁸

⁴ See, Mathios A. and R.P. Rogers, "The Impact of State Price and Entry Regulation on Intrastate Long Distance Telephone Prices," Staff Report to the Federal Trade Commission, November 1988, and Mathios, A. and R.P. Rogers, "The Impact of Alternative Forms of State Regulation on Direct Dial Intrastate Telephone Rates," *RAND Journal of Economics*, Vol. 20, No. 3 (1989). A copy of the staff report is attached.

⁵ See Comments of the Staff of the Bureau of Economics and the San Francisco Regional Office of the Federal Trade Commission *In the Matter of Competition, Rate Deregulation and the Commission's Policies Relating to the Provision of Cable Television Service*, MM Docket No. 89-600, April 20, 1990.

⁶ See, Mathios A. and R. Rogers (1988) *supra* note 4 and, Mathios, A. and R. Rogers, "The Impact and Politics of Entry Regulation on Intrastate Telephone Rates," *Journal of Regulatory Economics*, Vol. 2 (1990).

⁷ Though the BOCs provided a majority of local exchange service, there were other local exchange companies that primarily served rural areas.

⁸ The subsidy of local exchange service by interstate and intrastate long distance service was accomplished via a cost and revenue allocation mechanism called separations and settlements, respectively. The introduction of competition and changes in the revenue allocation mechanism were both responsible for the movement towards cost-based pricing. For a detailed description of the separations and settlement mechanism see Noll R., "State

New entrants and regulators, however, began to question whether AT&T was using its dominant position in the telecommunications market to inhibit these developments.

Competitors and the Department of Justice (DOJ) alleged that AT&T -- via its ownership and control of the local BOCs -- frustrated the growth of long distance competition by providing its rivals with inferior access to local exchange customers or by denying access altogether. In a 1982 settlement of an antitrust complaint filed by the DOJ (known as the Modified Final Judgement [MFJ]) AT&T agreed to divest the BOCs.⁹ Once the BOCs were independent, their incentive, if any, to discriminate against AT&T's long distance competitors in providing the latter local exchange access was eliminated. Since the entry of the MFJ, competition in interstate telecommunication services has developed rapidly. Increased competition in long distance services (and partial abandonment of the subsidization of local telephone service) led many states to reexamine the regulation of intrastate services.

B. Intrastate InterLATA Services

Following the emergence of competition for interstate long distance services, Illinois and almost all other states permitted competition in the provision of intrastate interLATA long distance service.¹⁰ After the AT&T divestiture, most of the 39 states with more than one LATA (including Illinois) based their regulation of intrastate interLATA service on the distinction between dominant and nondominant firms. Typically, the dominant firm (AT&T) was subject to strict rate-of-return regulation, while nondominant firms (other competitors)

Regulatory Responses to Competition and Divestiture in the Telecommunications Industry," in *Antitrust and Regulation* by Greison, R., Heath and Co. (1986).

⁹ See *U.S. v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982). Among other limitations, the terms of the MFJ define the lines of business that the BOCs may and may not enter. Under the terms of the MFJ the BOC's can only provide local and long distance intraLATA service. Because almost all intraLATA service is intrastate it is governed by state regulatory commissions. In some states (not including Illinois) only the BOC is allowed to provide intraLATA long distance service.

¹⁰ Under the MFJ states could prohibit competition for intrastate services.

were subject to minimal regulation.¹¹ Under rate-of-return regulation, the dominant firm must undergo more extensive procedures to raise or lower price.

More recently, many states (including Illinois under Article 13) have been exploring different regulatory approaches for determining the permissible rates that dominant firms such as AT&T can charge for intrastate interLATA toll services. Several different forms of regulation have been employed. Some states allow dominant firms unconstrained pricing flexibility, others set maximum prices, and still others set both minimum and maximum prices.¹² A 1987 survey of state regulation policies indicates that between 1984 and 1987, 28 of the 39 multiLATA states relaxed their regulation of AT&T's intrastate interLATA service.¹³

As noted, Illinois is one of the states that has departed from rate-of-return regulation in dealing with this type of service. When Illinois interLATA long distance service is "competitive" under Article 13¹⁴ there is no rate-of-return regulation and no maximum price limitations that can be charged.¹⁵

¹¹ AT&T is considered dominant because following the divestiture, AT&T already had large shares of intrastate long distance markets.

¹² In 1989, the FCC adopted a price cap regulatory framework in place of traditional rate-of-return regulation for AT&T interstate interLATA long distance service, and for other business services. For the history of the development of the transition to price cap regulation see *Policy and Rules Concerning Rates for Dominant Carriers, Notice of Proposed Rulemaking*, 2 FCC Rcd 5208 (1987), *Policy and Rules Concerning Rates for Dominant Carriers, Further Notice of Proposed Rulemaking*, 3 FCC Rcd 3195 (1988), and *Policy and Rules Concerning Rates for Dominant Carriers, Report and Order and Second Further Notice of Proposed Rulemaking*, 4 FCC Rcd 2873 (1989).

¹³ See "How States Have Relaxed Regulation of AT&T Intrastate Services," *State Telephone Regulation Report*, Vol. 5, No. 12, June 18, 1987. These survey results were incorporated into the empirical work conducted by the staff of the FTC, which is discussed in Section IV(B) of this comment.

¹⁴ Section 13-502 states "A service shall be classified as competitive only if, and only to the extent that, for some identifiable class or group of customers in any exchange, group of exchanges, or some other clearly defined geographical area, such service, or its functional equivalent, or a substitute service, is reasonably available from more than one provider, whether or not any such provider is a telecommunications carrier subject to regulation under this Act."

¹⁵ Section 13-504 states the conditions for proposed changes in price for interexchange (interLATA) services classified as competitive. Section 13-504, p. 307 states:

(a) any proposed decrease in rates or charges, or proposed change in any classification or tariff resulting in a decrease in rates or charges, for competitive local exchange or

C. IntraState IntraLATA Services

Within each LATA there are both local and long distance services offered. We deal with each of these in turn.

1. IntraLATA Long Distance Service

Many states approach the regulation of interLATA and intraLATA services differently. As noted above, in many states the initial efforts to deregulate were limited to allowing competition only at the intrastate interLATA level. In 1986, for example, only 14 states allowed carriers such as AT&T, MCI, and Sprint to compete with the BOCs for intrastate intraLATA long distance service. The trend, however, has been towards more competition. A recent survey indicates that in 1989, 32 states allowed some degree of facilities-based competition.¹⁶ Forty-two states permitted resale of intraLATA toll service.¹⁷

interexchange telecommunications service shall be permitted upon the filing of the proposed rate, charge, classification or tariff.

(b) any proposed increase in rates or charges, or proposed change in any classification or tariff resulting in an increase in rates or charges, for a competitive interexchange telecommunications service shall be permitted only upon the filing of the proposed rate, charge, classification or tariff and upon notice to all potentially affected customers through a notice in each such customer's bill prior to the date of implementation of such increase or change, or where such customers are not billed, by an equivalent means of prior notice.

¹⁶ Companies like AT&T, MCI and Sprint are known as facilities-based carriers because they own their transmission facilities. Other types of carriers, often called resellers, lease transmission capacity from facilities-based carriers and use this capacity to offer telecommunications services.

¹⁷ See "Intra-LATA Toll Competition Authorized in Most Western States (Part Two of a Two-Part Series), *State Telephone Regulation Report*, Vol 7. No. 8, May 4, 1989. In many states that restrict facilities-based carriers from entering the intraLATA market, resellers can lease capacity from these carriers and resell it in areas where the facilities-based carrier is barred from providing service. Thus, even though facilities-based competitors may not provide intraLATA service directly, they may be able to do so indirectly via resellers.

Article 13 allowed facilities-based competition for intraLATA long distance service to occur after January 1, 1987.¹⁸ Prior to and after this date, resellers were permitted to provide intraLATA long distance service, and these resellers were largely unregulated.¹⁹

2. Local Exchange and Other Services

Most states use rate-of-return regulation for basic local exchange service.²⁰ This is also true in Illinois because basic local exchange service does not qualify as "competitive" under Article 13. However, other local services, such as Centrex, 900 service, and billing and collection services are classified as competitive, and thus can be priced more flexibly under Illinois law.²¹

D. Conclusion

States vary in their treatment of the regulation of telecommunication services. This variation has allowed researchers to examine empirically the relationship between various forms of regulation and consumer prices. The remainder of our comment focuses on the comparison of these alternative approaches from both a theoretical and empirical viewpoint.²²

IV. Price-Caps Versus Rate-of-Return Regulation

A. Theory

The PUCs, such as the Illinois Commerce Commission, have traditionally used rate-of-return regulation to determine the price of various telecommunication services. There are

¹⁸ Section 13-403.

¹⁹ Resellers often provide service in areas where facilities-based providers are prohibited. If prohibitions on facilities-based carriers are removed, some resellers might be replaced by the facilities-based carrier. However, in many states both resellers and facilities-based carriers provide service in the same market.

²⁰ The FCC replaced traditional rate-of-return regulation with price cap regulation for the access fees charged to the interexchange companies by the local exchange company. For a detailed discussion of the development of this order, see 4 FCC Rcd 2873 (1989).

²¹ Section 13-505 allows for some pricing flexibility for "competitive" local exchange services.

²² Our analysis of empirical work is limited to intraLATA and interLATA long distance services. However, we examine the theoretical implications of permitting pricing flexibility for local exchange services.

theoretical advantages and drawbacks in departing from rate-of-return regulation. The goal of rate-of-return regulation is to exploit the advantages of natural monopoly (e.g., scale economies), while requiring the monopolist to pass on the benefits of these technological advantages to consumers of the product. Rate-of-return regulation requires the regulator to estimate the cost and demand conditions facing the monopolist, and to set a price (or set of prices) that just permits the firm to cover its cost, including a competitive return on capital.

The potential difficulties associated with this form of regulation are many and well documented.²³ First, the regulator requires an enormous amount of information to carry out its task and generally must rely upon the regulated monopolist to supply a substantial portion of this information. This regulatory process can be administratively costly and subject to possible manipulation on the part of the regulated entity. Second, rate-of-return regulation can lead to systematic biases in capital investment by the regulated firm. Third, rate-of-return regulation provides the firm with little incentive to reduce cost, because the cost reductions are subject by the PUCs to being fully rebated to customers.²⁴ Fourth, if the regulated entity also sells in unregulated markets, the opportunity for profitable, yet socially inefficient, cross-subsidization is created.²⁵

The existence of these problems has induced a search for alternative regulatory mechanisms that might offer promise of superior performance. Price-cap regulation is, in our view, a very promising alternative. Price-cap regulation can be characterized as follows:²⁶ (1) the regulator sets a price ceiling, but, in contrast to rate-of-return regulation, the firm has discretion, without regulatory review, to set its prices below this ceiling; (2) the price ceiling is periodically adjusted automatically by a factor that is exogenous to the firm (e.g., an

²³ See Brennan, T., "Regulation by Capping Prices," *Journal of Regulatory Economics* 1 (1989), and the sources cited therein.

²⁴ See Mathios and Rogers (1989) *supra* note 4, and the references cited therein.

²⁵ See Brennan, T., "Cross-Subsidization and Discrimination by Regulated Monopolists," U.S. Department of Justice Economic Analysis Group Working Paper No. EAG 87-2, 1987.

²⁶ See Acton J.P., and I. Vogelsang, "Symposium on Price-Cap Regulation: Introduction," *RAND Journal of Economics* (1989).

adjustment to reflect overall inflation); and (3) over longer intervals, the ceiling and automatic adjustment factor are subject to review and possible revision.

Proponents of price-cap regulation have made a number of claims on its behalf. First, because firms are allowed to retain a portion of their cost reductions, they may have a greater incentive to reduce costs than under rate-of-return regulation.²⁷ Consumers would benefit from this if price-cap regulation causes some portion of anticipated cost decreases to be passed on to consumers through lower prices. The fact that price can be reduced without prior regulatory review provides an inducement (relative to rate-of-return regulation) to cut price when costs fall.²⁸ Moreover, a firm may be more willing to lower prices under a price-cap regulatory approach because proposed price decreases cannot be contested by competitors and subsequent price increases cannot be denied if the price stays below the ceiling.²⁹ Under rate-of-return regulation, a firm knows that future price increases must be approved by the PUC. Consequently, firms may hesitate to lower prices since future increases involve costly administrative proceedings and politically unpopular price increases may be denied.

In addition, the administrative costs of price-cap regulation are likely to be lower than those associated with rate-of-return regulation, since there is less regulatory oversight. Further, the regulator's informational burden is probably lower than under a rate-of-return regime. Price-cap regulation may also make it easier to develop mechanisms that provide the

²⁷ See Cabral L., and M. Riordan, "Incentives for Cost Reduction Under Price Cap Regulation," *Journal of Regulatory Economics* 1 (1989).

²⁸ Regulatory review of price reductions is costly and time-consuming. Moreover, in the case where there is more than a single firm providing the service, regulatory review affords less efficient rivals an opportunity to prevent or delay the price cut if, as is typically the case, they have standing to participate in these proceedings. It has been noted that AT&T's rivals opposed virtually every price reduction proposed by AT&T since its 1982 divestiture, and some of these rivals may have been less efficient than AT&T. See, for example, Haring J. and E. Kwerel, "Competition Policy in the Post Equal-Access Market," FCC, OPP Working Paper Series, No. 22, 1987.

²⁹ See Hayes B. and D. Seigel, "Rate of Return Regulation With Price Flexibility," *Journal of Business*, Vol. 59 (1986).

firm with an incentive to reveal cost and demand information truthfully to the regulator.³⁰ Moreover, price-cap regulation may substantially curtail the ability and incentive of firms to engage in cross-subsidization.³¹ Since there is a cap on prices, firms are limited in their ability to enhance profits by shifting costs from more competitive unregulated services to less competitive regulated activities. Furthermore, since reductions in cost are not necessarily rebated to consumers, the incentive to shift costs from one service to the other is largely eliminated.

Though powerful, the theoretical arguments in favor of price-cap regulation are not unequivocal. Some have argued on theoretical grounds that the supposed benefits of price-cap regulation will not materialize under some conditions.³² For example, some question the ability of the PUC credibly to commit to permitting the regulated firm to earn supranormal profits for significant periods of time, in which case the firm's incentive to minimize costs are diminished. Additionally, firms may have the incentive under price-cap regulation to reduce quality since the firm retains the cost reductions from this activity. Moreover, reductions in costs that are not due to the increased incentives to minimize costs under the price-cap regulatory framework and which are unanticipated when the price ceiling is determined may result in higher prices to consumers than would have been the case under rate-of-return regulation.³³ Under rate-of-return regulation, these "exogenous" cost reductions would be

³⁰ See Sibley, D., "Asymmetric Information, Incentives, and Price-Cap Regulation," *RAND Journal of Economics*, Vol 20, No. 3, (1989). Sibley's model requires only that the regulator audit the firm's profits from sales and lagged profits in order to design a pricing scheme that is similar to price-cap regulation. Under this pricing scheme the firm has incentive to reveal truthfully demand and cost information.

³¹ For a detailed analysis of the incentives firms face to misrepresent costs, and to diversify into competitive markets under alternative regulatory regimes see Braeutigam R.R., and J.C. Panzar, "Diversification Incentives Under "Price-Based" and "Cost-Based" Regulation," *RAND Journal of Economics*, Vol. 20, No. 3, (1989).

³² See Brennan (1989) *supra* note 23 and Schmalensee R., "Good Regulatory Regimes," *RAND Journal of Economics*, Vol. 20, No. 3, (1989).

³³ See Cabral and Riordan (1989) *supra* note 27 for a discussion of the potential for prices under price cap regulation to be higher than under rate-of-return regulation.

reflected in a lower rate base and therefore lower prices.³⁴ However, there are additional safeguards that can be implemented that would help insure that consumers share in the gains from these cost declines. For example, many states that permit pricing flexibility also monitor earnings and establish formulae attempting to ensure that any excess profits are shared with consumers.³⁵ While this diminishes, somewhat, the incentives for firms to engage in cost minimizing strategies, the incentives remain because firms are permitted to retain some of the earnings resulting from cost reductions. We discuss this in more detail in Section V of the comment.

B. Empirical Evidence

There is limited empirical evidence comparing prices of regulated services under alternative regulatory regimes. To our knowledge, the only major empirical study that directly compares prices under rate-of-return regulation and price-cap regulation is that of Mathios and Rogers (1989).³⁶ They compare AT&T rates for intrastate interLATA long-distance telephone service in states that allow pricing flexibility with AT&T's rates in states that use rate-of-return regulation. However, since interLATA long distance service is subject to increasing levels of competition, the study does not address how prices compare across regulatory regimes for services that more closely fit the natural monopoly paradigm, such as residential local exchange service.³⁷

The findings suggest that AT&T's daytime, evening, nighttime, and weekend rates were significantly lower in states that allowed pricing flexibility than in states that used rate-of-return regulation. For example, the cost of a five minute call during the day is approximately 7 percent lower in states that have allowed some form of pricing flexibility.

³⁴ This argument does not apply to cost reductions that are motivated by the enhanced incentives to reduce costs under price-cap regulation.

³⁵ See various issues of State Telephone Regulation Report (1987, 1988, 1989).

³⁶ See Mathios and Rogers (1989) *supra* note 4, and Mathios and Rogers (1988) *supra* note 4.

³⁷ However, the study did control for the number of carriers providing interLATA long distance service in each state. Controlling for this variable did not change the conclusions regarding price-cap regulation compared with rate-of-return regulation.

The study also examines how rates vary across different types of pricing flexibility. Some states have allowed AT&T to change prices within a specified band or to change a price as long as it stays below a specified maximum price without any formal review. Other states have permitted AT&T full pricing flexibility, but in many of these states the PUC retains the right to review (though not through formal rate cases) prices set by AT&T and prevent AT&T from implementing those deemed unfair or unreasonable. Consequently, it may be difficult to ascertain the true degree of pricing flexibility that AT&T has in these states.³⁸

The empirical results indicate that consumers in states that allow AT&T to set prices within a specified band or below a specified maximum pay approximately 14 percent less for comparable services than consumers in states that allow no pricing flexibility. States allowing AT&T full pricing flexibility (subject to review) have prices that are only 1 percent lower than prices in states without pricing flexibility.³⁹

It is unclear why prices are lower in states that establish price bands or maximum prices than in states that appear to allow more flexibility. One possible explanation is that AT&T actually has less incentive to lower prices in states with full pricing flexibility, since these states still retain the right to review and prevent AT&T price changes. By contrast, when a band or maximum is established, all price changes within the band or below the maximum are free of potential regulatory review. Another possible explanation is that AT&T is free to raise prices in states with pricing flexibility, but is constrained from doing so in states that set maximum prices. However, this explanation appears unlikely because in many states with maximum or banded price regulation, AT&T prices are *below* the legislated ceiling.

While the study of alternative regulatory regimes did not examine quality, there has been no empirical evidence documenting quality differences across regulatory regimes. This is not surprising. AT&T is unlikely to allow service quality to decline when it must compete with other long distance service providers.

³⁸ Through 1987, only Montana and Nebraska have actually taken steps to exempt AT&T from state regulation. See State Regulation Telephone Report (1987) *supra* note 13.

³⁹ The price comparisons in the study of alternative regulatory regimes did not examine quality. We have assumed there were no material quality differences across states.

V. Conclusions from the Theory and Evidence

This section attempts to apply the discussion of the theory and empirical evidence in Section III to specific types of telecommunication services in Illinois.

A. Application to Intrastate InterLATA Long Distance Service

We believe that the theoretical and empirical work discussed above provides a strong basis for considering price-cap regulation for intrastate interLATA long distance service in Illinois. This regulation preserves the cost-reducing incentives of AT&T while retaining safeguards for consumers in the form of price ceilings. Moreover, the increasing level of competition in the Illinois intrastate interLATA market provides additional safeguards to consumers. If exogenous industry-wide cost reductions arise that are not reflected in the price ceiling, competition may cause these cost reductions to be transferred to consumers. This increased level of competition⁴⁰ may explain why, in several states, AT&T has priced its intrastate interLATA long distance service below the legislated ceiling. This also appears to be true for AT&T's business services. As of July 1989, the Price Cap Index for AT&T's Basket 3 services (business services) was 99.5, while the Actual Price Index for Basket 3 services was 94.3.⁴¹ This increased level of competition may also limit the ability of AT&T to lower service quality, as we are unaware of any evidence suggesting that quality differs across states with alternative regulatory frameworks.

⁴⁰ Although we have not conducted a market by market study, some sense of the extent of competition in interLATA toll service markets is provided by statistics revealing the large number of present competitors, many of whom are recent entrants. For example, the FCC has reported that by March 1987, over 219 carriers purchased equal access to the local telephone network. MCI and AT&T purchased equal access in all states, and Sprint purchased equal access in 47 of the 48 states surveyed. Five other carriers served 25 or more states and 19 served four or more. More recent reports indicate that by 1990 at least 25 interexchange carriers have purchased equal access in Illinois. Including resellers, Illinois has over 100 interexchange companies providing service. For a more in-depth discussion of the increased level of competition in the InterLATA market see the FCC notice of proposed rulemaking *Competition in the Interstate Interexchange Market Place* Docket No. 90-132, and Trends in Telephone Service, Industry Analysis Division, Common Carrier Bureau, FCC, February 14, 1990.

⁴¹ See FCC Docket No. 90-132 at p. 28.

B. Price-Cap Regulation for Other Services

The increased level of competition that exists in Illinois intrastate interLATA long distance service reduces the need for stringent rate-of-return regulation. However, many telecommunication services are not subject to the level of competition that exists for Illinois interLATA long distance service. For example, residential local exchange service remains largely dominated by Illinois Bell. Should price cap regulation be applied to services that are subject to limited or no competition? Based on the theoretical discussion that follows we conclude that price-caps should be applied to services that are subject to limited or no competition.⁴² However, the Illinois Commerce Commission may wish to adopt additional consumer safeguards to ensure that consumers share in any cost reductions experienced by the firm.

1. *Cost Reductions That Occur Because of Price-Cap Regulation*

The theoretical advantages of price-cap regulation apply regardless of the market structure in which the firm operates. Consider a monopolist providing local exchange service. Price-cap regulation provides the monopolist the incentive to minimize costs to obtain short term excess earnings.⁴³ However, consumers can also gain from these cost reductions because a monopolist faced with a downward shift in its marginal cost curve has an incentive to lower its output price. Under price-cap regulation, the degree to which cost reductions are reflected in price reductions depends on the level of the price ceiling.

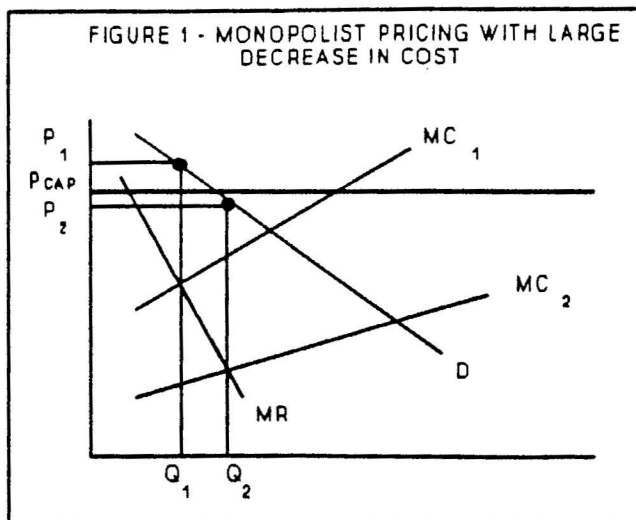
Figure 1 illustrates the effect of a decrease in marginal cost on the monopolist's output price under price-cap regulation. Consider an unconstrained monopolist facing a demand curve D , and a marginal cost curve MC_1 . The profit maximizing monopolist will produce output to the point where marginal cost equals marginal revenue, Q_1 . The price to consumers is determined by the height of the demand curve at Q_1 , given by P_1 . If price cap regulation induces lower costs, the marginal cost curve will shift downward to, say, MC_2 . In the new

⁴² As noted previously, the empirical evidence discussed in this comment does not necessarily apply to services that are subject to limited or no competition.

⁴³ By short term excess profits we mean earnings above the normal rate of return on investment.

equilibrium, marginal cost intersects marginal revenue at Q_1 and the new equilibrium price falls to P_2 . Under price-cap regulation, however, the monopolist is constrained to charge a price equal to or below the price cap.

In Figure 1 we have depicted the price cap at P_{cap} . Let us assume that this price ceiling permits the monopolist to earn a normal rate of return (i.e., P_{cap} equals the



price that would occur under rate-of-return regulation). As such, the monopolist's unconstrained profit-maximizing price, P_1 , will be above the price ceiling. If the cost reduction that arises under price cap regulation reduces costs significantly, the new unconstrained profit-maximizing price, P_2 , may be below the existing price ceiling (as shown in Figure 1). In this case, both the firm and the consumer fare better under a price-cap framework than under rate-of-return regulation (since price would remain at P_{cap}), which lessens the incentives to reduce costs and delays the onset of any price reductions.

It also is clear that if the cost decline is not large enough to bring the monopolist's profit maximizing price below the ceiling, the monopolist will continue to charge the ceiling price. Even in this case, however, consumers are not worse off, the stockholders of the regulated firm are better off, and overall efficiency is promoted because under rate-of-return regulation the monopolist would not have had the same incentives to reduce cost.

2. Cost Reductions That Would Occur Independent of the Type of Regulation

As with cost reductions that are induced by the incentives of price-cap regulation, other cost reductions that are independent of the form of regulation (e.g., exogenous input price declines) may also lead the monopolist to lower price. Whether there is a decline in consumer prices depends again on whether the cost reduction results in the new profit maximizing price to the monopolist being below or above the price ceiling.

However, under rate-of-return regulation, cost reductions (e.g., decline in input prices which yield cost decreases) should ultimately result in lower consumer prices. Thus, under rate-of-return regulation input price decreases leading to cost reductions will be translated into lower prices whereas under price-cap regulation they may not be.

3. *Price-Caps with Additional Consumer Safeguards*

As noted in Section IV, there are additional safeguards that can be implemented that would help insure that consumers share in the gains from both types of cost declines. One such safeguard is to establish a formula that ensures that some percentage of excess profits are shared with consumers. In this case, the incentives to minimize costs remain because firms are permitted to retain some of the earnings resulting from cost reductions.⁴⁴ An alternative to such earnings sharing plans is to update the price ceilings based on the excess earnings of the monopolist.⁴⁵ However, this latter solution may inhibit the cost minimizing incentives of the firm, since future price reductions will be linked to current cost reduction activities. As price ceilings are updated more often, price-cap regulation increasingly offers the same disadvantages as rate-of-return regulation. Consequently policies which insure against firms earning excess profits for long periods of time also reduce the incentive of firms to minimize costs and innovate.

In light of this discussion, the Illinois Commerce Commission should consider applying price-cap regulation to services that have not been classified as competitive. However, the Commission might also consider adopting additional safeguards that insure that consumers share in cost reductions that arise. This might take the form of including expected cost changes into the price cap formula, and sharing excess earnings with consumers based on some

⁴⁴ Although requiring a regulated firm to share excess profits with consumers could, in theory, have no effect on the firm's incentive to reduce costs, implementing such a profit-sharing program, which would require (*inter alia*) that the regulators measure the firm's costs, would be likely to introduce inefficiencies similar to those associated with standard rate-of-return regulation.

⁴⁵ For a discussion of using the firms' performance in developing updated regulatory decisions see Sibley (1989) *supra* note 30 and Brennan (1989) *supra* note 23.

predetermined formulae.⁴⁶ While it is difficult to know what particular earnings sharing plan maintains the firms' incentives to operate efficiently and innovate, while providing adequate consumer safeguards, permitting firms to retain some of the excess earnings is likely to result in greater operating efficiency, innovation, and lower rates to consumers.

Finally, the Illinois Commerce Commission may wish to monitor the quality of some of the services provided by the local exchange companies. For some services, such as those provided to interexchange companies, the ability to lower quality is limited since the local exchange company is bound by the equal access provisions of the MFJ.⁴⁷ For other services, such as basic residential service, the Illinois Commerce Commission may wish to monitor service quality.

VI. Entry into Intrastate Markets

As noted above, Illinois has allowed providers other than Illinois Bell and the other local exchange companies to provide intraLATA services. We have examined the effects of restrictions on entry into intraLATA long distance markets. Our study of the issue indicates that states which restrict entry have higher intraLATA long distance service rates than states which do not restrict such entry. We believe that this empirical work provides a strong basis for continuing to permit entry into intraLATA toll markets.

A. Using IntraLATA Toll Service to Subsidize Local Service

⁴⁶ In November 1989, the Illinois Commerce Commission approved a rate request from Illinois Bell which contains some of the features of this type of regulatory framework. (See Illinois Rate Case Order, Docket 89-0033, and *Annual Report on Telecommunications*, Illinois Commerce Commission (1989)) Specifically, the order allowed Illinois Bell's rate-of-return to fluctuate and then dictated how earnings in excess of a specified level would be shared between the company and consumers. In October 1990, however, an Illinois Appellate Court ruled that the Illinois Commerce Commission exceeded its authority in approving this request because the regulatory framework constituted "retroactive ratemaking" by a public utility, which is prohibited under the Illinois Public Utilities Act. (*Illinois Bell Telephone Company v. Illinois Commerce Commission*, 1990 Ill. App. LEXIS 1550 (October 3, 1990)) It should be noted, however, that the Court did not address whether consumers would have benefitted under such a regulatory framework. Consequently, we suggest that any future legislation make explicit the Illinois Commerce Commission's authority to approve such regulatory frameworks for noncompetitive services.

⁴⁷ The provisions of the MFJ provide for equal access to the high quality trunk lines.

Because subsidies from the interstate toll markets have declined, many states have attempted to preserve the cross-subsidy to local service by restricting the entry of all carriers into the intraLATA toll market, and allowing only the local exchange companies to provide this service. As noted, Illinois has not followed this course, instead allowing resellers and facilities-based companies to provide intraLATA toll service.⁴⁸

Attempts by state PUCs to subsidize local service by granting the local exchange company a monopoly on intraLATA long distance service are unlikely to benefit consumers overall. Cross-subsidization results in allocative inefficiency because of the departure from cost-based pricing.⁴⁹ Furthermore, by granting the local exchange company a monopoly position for the provision of intraLATA toll service and regulating the prices under rate-of-return regulation, incentives to provide this service at minimum cost are diminished.

Illinois has been actively attempting to reduce the cross-subsidization of local exchange service. In a plan approved by the Illinois Commerce Commission in 1983, the overall level of subsidization from intrastate toll revenues to local exchange service was capped initially and then was scheduled to be reduced by 20% a year for five years.⁵⁰

B. The Cost To Long Distance Users

Mathios and Rogers (1990)⁵¹ have done an econometric analysis comparing BOC intraLATA toll rates in states that permit entry into intraLATA markets with rates in states that only permit the BOC to provide service. Rates charged by the BOCs for intraLATA toll service were found to be approximately 7.5 percent higher in states that restrict competition both from facilities-based carriers and resellers than in states that do not restrict either type

⁴⁸ Illinois has been actively attempting to reduce cross-subsidization of local exchange service. In a plan approved by the Illinois Commerce Commission in 1983, the overall level of subsidization from intrastate toll revenues was capped initially and then was scheduled to be reduced by 20% a year for five years. See Fourth Interim Order of Docket 83-0142.

⁴⁹ The Illinois Commerce Commission is aware of the inefficiencies associated with cross-subsidization. For example, in the Commission's 1989 Annual Report on Telecommunications (pp. 16-20) there is a detailed plan to reduce the subsidy in order to encourage the "appropriate and efficient pricing of telecommunications services."

⁵⁰ See Fourth Interim Order of Docket 83-0142.

⁵¹ See Mathios and Rogers (1990) *supra* note 6.

of service. In states that restricted entry and also took action to prevent unauthorized provision of intraLATA service, the price difference rose to 13 percent.⁵² By contrast, states that allowed resellers to provide service, but prohibited facilities-based competition, had prices approximately equal to those in states that allowed both facilities-based carriers and resellers. Consequently, it appears that allowing the capacity of the facilities-based carriers to be utilized, whether directly by the facilities-based carriers or indirectly via resellers provides competitive pressure on the BOC's pricing of intraLATA toll service.

The study predicts that if all states were to allow entry into intraLATA toll service, the annual dollar savings to intrastate intraLATA toll service customers would be approximately \$200 million. In light of these empirical findings, the current policy in Illinois which permits entry into the intraLATA market, appears to benefit consumers.

VII. Conclusion

Article 13 of the Public Utilities Act, which granted pricing flexibility to providers of telecommunications services classified as competitive and facilitated entry into some telecommunications markets, expires in 1991. Based on the experience of Illinois and other states that have reformed their regulation of telecommunication services, we conclude that prices are likely to be lower in states that have granted pricing flexibility for intrastate interLATA service. Consequently, the Illinois Commerce Commission may wish to continue to allow pricing flexibility. Our empirical examination of toll prices indicate that pricing flexibility within a price-cap framework leads to the lowest prices to consumers.

⁵² In many states it is difficult to distinguish between intra- and interLATA toll calls, so prohibitions against interLATA companies providing intraLATA services at more competitive rates may be ineffective. The response of the PUCs to this difficulty has been varied. Some states that enjoin entry into intraLATA service have taken action to prevent unauthorized calls. For example, some states require interLATA companies operating in their jurisdictions to inform their customers that it is not legal to make intraLATA calls on their system. Seven PUCs have directed interLATA carriers to install blocking equipment to prevent customers from making intraLATA calls. For a detailed discussion of state policies towards intraLATA toll service see Noll (1986) *supra* note 8.

Article 13 granted pricing flexibility only to firms providing services that were classified as competitive. Our theoretical analysis indicates that extending pricing flexibility to services not classified as competitive may also result in lower prices to consumers. Additional consumer safeguards, such as earnings sharing plans, may help insure that consumers share in cost reductions that arise because of the enhanced incentives to minimize costs under price-cap regulation and cost reductions that would occur even if rate-of-return regulation was still utilized.

Finally, our analysis indicates that permitting entry into intraLATA markets leads to lower intraLATA toll rates. Consequently, Illinois consumers may benefit if entry into these markets continues to be permitted.