Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of	)	
	)	
Price Cap Performance Review for Local Exchange Carriers	)	CC Docket No. 94-1
	)	
Treatment of Operator Services Under Price Cap Regulation	)	CC Docket No. 93-124
	)	
Revision to Price Cap Rules for AT&T	)	CC Docket No. 93-197

REPLY COMMENTS OF
THE NATIONAL CABLE TELEVISION ASSOCIATION, INC.

The National Cable Television Association ("NCTA"), by its attorneys, submits the following reply comments to the Commission's Fourth Further Notice of Proposed Rulemaking in Price Cap Performance Review for Local Exchange Carriers ("Fourth Notice"). The Fourth Notice addresses further changes to the method for establishing price caps for local exchange carriers ("LECs').

INTRODUCTION AND SUMMARY

These comments show that the changes under consideration by the Commission are unnecessary, and potentially counterproductive. Price caps are best used as a transitional regulatory tool. Local telephone market competition will put an end to the need for price cap regulation. Therefore, Commission resources are best devoted to promoting competition. Another round of fine-tuning of the X-factors and sharing mechanisms will not be necessary if significant local exchange competition develops.

The Commission must recognize that, during the transition to competition, the LECs will have the continuing incentive and ability to engage in cross-subsidy under any price cap or

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incentive regulation plan. Neither the existing plan, nor the changes proposed in the Fourth Notice, will prevent cross-subsidy. In particular, as demonstrated below, the Total Factor Productivity ("TFP") approach to measuring the X-factor is inherently flawed. In a world in which the LECs are planning massive investments to enter new markets, such as long distance and broadband video, X-factors will be biased downwards. The result will be cross-subsidy.

I. A LONG TERM PRICE CAP PLAN IS NOT A PANACEA

The price cap approach to regulation works best as a mechanism to govern prices during a relatively brief transition to competition.[1] However, the transition to local competition may not be that brief. Until local telephone markets do become competitive, the LECs will have the continuing incentive and ability to engage in cross-subsidy under any price cap plan. Neither the existing plan, nor the changes proposed in the Fourth Notice, will prevent cross-subsidy.

The benefits of price cap regulation are strongly attenuated when relatively near-term deregulation is not an option. As demonstrated in the accompanying Affidavit of Dr. Leland Johnson, which NCTA originally submitted as part of its comments to the Second Further Notice[2] in this proceeding, where a firm retains monopoly power, price cap plans lead to many of the same anticompetitive incentives as a rate of return regulation plan.

As Dr. Johnson shows, with regulated monopoly, it is simply impossible for either the regulator or the regulated firm to make a credible commitment to a firm price cap. Substantial over-earnings will inevitably lead to political pressure for a downward rate adjustment. Low earnings will lead regulated firms to seek an upward rate adjustment. Consequently, regulated firms will behave as if they are subject to a rate of return constraint. Over-investment and cross-subsidy are the likely result. As discussed further below, the specific long-term proposals in the Fourth Notice will not change this fundamental dynamic.

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1 This was the case with price cap regulation of AT&T. Since the introduction of AT&T price caps in 1987 the Commission has been able to give AT&T increasing flexibility, leading to the broad deregulation recently adopted. Revisions to Price Cap Rules for AT&T Corp., 10 FCC Rcd 3009 (1995).

2 See Second Further Notice of Proposed Rulemaking in CC Docket No. 94-1, Further Notice of Proposed Rulemaking in CC Docket No. 93-124 and Second Further Notice of Proposed Rulemaking in CC Docket No. 93-197, rel. Sept. 20, 1995.

Several parties address the relationship between competition and long term price cap regulation. BellSouth argues: "...the continuing development of competition for LEC interstate access services will allow the Commission to lessen -- and ultimately to eliminate -- all price cap regulation."[3] U S West proposes that because "competition is alive and thriving in all price cap LECs' territories," the Commission should do away with productivity factors and simply cap prices at their current levels.[4] Ameritech and NYNEX argue that the level of the productivity factor should be tied to competitive developments.[5]

BellSouth is, of course, correct that regulation can and should be reduced if competition develops. But local telephone markets are not competitive today, the further development of competition is not guaranteed, and in any event, the onset of competition may be substantially delayed.[6] The recently enacted Telecommunications Act recognizes that many steps must be taken even before local markets have an opportunity to become competitive. These objective facts concerning the prospects for local competition have profound implications for this proceeding.

NYNEX and Ameritech attempt to integrate the long term price cap plan with competitive considerations by suggesting a formula that would allow automatic reductions in the X-factor as certain competitive milestones are reached.[7] These proposals are seriously flawed for several reasons. First, the milestones suggested do not necessarily correlate to actual competition. Premature relaxation of price regulation could lead to excessive prices for consumers. Second, competition may increase productivity. If this is the case, so long as the market is not competitive it will not be appropriate to reduce the X-factor. If the extent of

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3 See BellSouth Comments, CC Docket No. 94-1, Jan. 11, 1996, at 5.

4 See US West Comments, CC Docket No. 94-1, Jan. 11, 1996, at 5.

5 See Ameritech Comments, CC Docket No. 94-1, Jan. 11, 1996, at 10-11; NYNEX Comments, CC Docket No. 94-1, Jan. 11, 1996, at 5.

6 See Hatfield Associates, Inc., The Enduring Local Bottleneck II: A Preliminary Assessment, January 9, 1996, filed with the Reply Comments of MCI in the Second Further Notice.

7 Supra n. 5.

competition falls short of the level needed to restrain prices, the productivity adjustment will be necessary to protect ratepayers. Third, this proposal puts too much discretion in the hands of the regulated firm because it will permit the LECs to manage the price cap adjustment process. For example, LECs could be incented to take the minimum steps necessary to achieve productivity factor reductions. They could then withhold the cooperation necessary to allow competition to develop further.

The proposals contained in the Commission's Second Further Notice do not adequately address these competition issues. The Second Further Notice is focused on removing regulatory safeguards as competition develops. While the Commission should ultimately address the deregulation question, the Second Further Notice puts the cart before the horse. The Commission should engage in a comprehensive and coordinated effort to promote competition in local markets. If the Commission does this, and if genuine competition develops, then it will be appropriate to consider long term deregulation of the LECs. Adjustments to long-term productivity should be considered, if at all, in the context of this comprehensive and coordinated effort.

II. THE SPECIFIC PROPOSALS CONTAINED IN THIS NOTICE WILL NOT IMPROVE UPON THE CURRENT SITUATION

The comments demonstrate that the specific proposals under consideration in this proceeding will not facilitate effective supervision of LEC pricing. Nor will these proposals move the Commission away from the elements of rate of return regulation that create incentives for cost misallocation and cross-subsidy. As the Commission noted in the Fourth Notice, the TFP approach requires decisions regarding cost of capital, depreciation rates and a host of other costs factors.

A. The LECs' TFP Approach Should Not Be Adopted

The Commission points out in the Fourth Notice that the TFP approach requires decisions regarding cost of capital, depreciation rates and a host of other cost factors.[8] The comments in this proceeding demonstrate that many variables that are essential to the design and implementation of rate of return regulation are critical to implementing and designing a Total Factor Productivity approach. The record does not demonstrate that the TFP approach represents an improvement over current methods of setting the productivity factor.

The LECs are apparently planning massive investments to enter new markets, including long distance and broadband video. Newer services will require substantial investment and expenses, particularly in the early years of service. For example, provision of video services by LECs will require enormous investments in the loop portion of local networks. The Commission's recent Infrastructure Report notes that "although the overall level of growth in fiber has been high, its use in the local loop in absolute terms is presently relatively small."[9] This means that inputs necessary to provide these services will grow more rapidly than the revenues, with the result that TFP will be biased downwards.

The Video Dialtone Section 214 Applications filed by the LECs illustrate this problem. As NCTA previously showed, the assumptions and analysis underlying those applications are flawed because they overestimate revenues and underestimate costs.[10] Nevertheless, the applications show large initial expenditures for VDT and low initial revenues. For example, the Section 214 Applications of U S WEST (subsequently withdrawn) indicated that costs will

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8 Price Cap Performance Review for Local Exchange Carriers, FCC 95-406, rel. Sept. 27, 1995 at paras. ("Fourth Notice").

9 Jonathan M Kraushaar, Infrastructure of the Local Operating Companies Aggregated to the Holding Company Level, April 1995.

10 See, e.g., NCTA Petition to Reject or, in the Alternative, to Suspend and Investigate, U S West Communications, Inc., Tariff No. 5, Transmittal No. 613, Apr. 24, 1995.

exceed revenues for its video dialtone projects for six to eight years.[11] This will have the effect of reducing reported Total Company TFP in each of these years.

A simple numerical example illustrates this problem. First, consider a company with a historical productivity growth of 5 percent. This means that outputs are growing more rapidly than inputs by five percent per year:

	Year 1	Year 2	Productivity Change
outputs	100.0	105.0	
inputs	100.0	100.0	.05

Now consider that in year 2 the firm enters a new line of business that requires an additional increase of inputs of one percent but that because of low initial penetration outputs increase by only a half a unit. The following is the result:

	Year 1	Year 2	Productivity Change
outputs	100.0	105.5	
inputs	100.0	101.0	.045

Measured productivity for the firm as a whole has fallen because of entry into the new line of business. Of course, if the firm happens to be successful in the new line of business, TFP will grow in later years. However, in the meantime, the firm may avoid rate reductions that would reflect the productivity in the mature portion of its business. In effect, consumers of these monopoly services will be subsidizing the entry by the firm into new competitive businesses.

Finally, the TFP approach advocated by the LECs should not be adopted because it will produce anomalous results. The Christenson study shows a TFP of only 2.8 percent.[12] This is significantly lower than the 5.3 percent productivity factor that five of the seven Regional Bell Operating Companies ("RBOCs") adopted voluntarily.[13] In these circumstances, a TFP of only 2.8 percent is plainly outside the range of reasonableness.

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[11] See US West, Ex Parte Presentation, Re-W-P-C-6919; W-P-C-6921; W-P-C-6922, W-P-C-6944, and W-P-C-6945, filed January 17, 1995, Attachment E.

[12] See Laurits R. Christensen, Philip E. Schoech, and Mark E. Meitzen, "Total Factor Productivity Methods for Local Exchange carrier Price Cap Plans," December 18, 1995, submitted with Comments of the United States Telephone Association.

[13] AT&T and Ad Hoc find significantly higher productivity factors are warranted.

B. Interstate and Not Total Company Productivity Factors Should Be Used to Calculate the X-Factor

Under the LEC plans, total company TFP, rather than interstate TFP, serve as the basis for the X-factor. But interstate services are apparently experiencing greater productivity gains than intrastate services.[14] By calculating the X-factor based on total company TFP, rather than interstate TFP, productivity gains will be lower than would be the case if only interstate productivity were included. It follows that the use of total company TFP will unjustly disadvantage customers of interstate services.

C. A Large Input Productivity Differential Appears To Be Present

The LECs argue that there is not likely to be an input productivity differential. However, a key driver of productivity in telecommunications is likely to be the continuing reductions in the cost of inputs used by local telephone companies. Dr. Norsworthy for AT&T measures the differential directly to prove that it is positive and substantial.[15] This positive differential, which was influenced by the equipment competition engendered by divestiture, is likely to continue into the future. Telecommunications technologies are benefiting from the tremendous productivity inherent in the semiconductor and computer industries.

D. LECs Should Use Commission Prescribed Depreciation Rates

The LECs used so-called market depreciation rates in their TFP calculation. If the Commission adopts a TFP approach to setting the X-factor, there is no basis for giving the LECs added ability to manage the level of that factor by using arbitrary depreciation levels.

The study by Baseman and Van Gieson submitted with the comments of MCI shows that Commission prescribed depreciation rates have largely eliminated depreciation reserve deficits.[16] Baseman and Van Gieson find that a substantial portion of the disagreement between

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[14] AT&T Comments, CC Docket No. 94-1, Jan. 11, 1996, at 13-17.

[15] See John R. Norsworthy, "Analysis of TFP Methods for Measuring the X-Factor of the Local Exchange Carriers' Interstate Access Services," submitted with Comments of AT&T.

[16] Kenneth C. Baseman and Harold Van Gieson, "Depreciation Policy in the Telecommunications Industry: Implications for Cost Recovery by the Local Exchange Carriers," submitted with Comments of MCI, CC Docket No. 94-1, Jan. 11, 1996.

the Commission and the LECs on the issue of depreciation relates to Subscriber Metallic Cable, i.e., copper loop plant. The LECs wish to further accelerate the depreciation of this plant in order to install fiber necessary to provide broadband services. As Baseman and Van Gieson note:

> To the extent replacing metal with fiber cannot be justified for basic local service, the costs of the change should be borne by customers of non-basic service. Granting larger depreciation expense today to finance early replacement of metal with fiber would require basic service customers to subsidize customers of non-basic services.[17]

In the existing monopoly circumstances, there is simply no basis for allowing the LECs to compute TFP based on depreciation rates that they select for their own strategic purposes.

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[17] Id., at 20 (footnote omitted).

CONCLUSION

The Commission should not adopt the LECs' TFP proposals. Rather, it is critical at this point in the transition to competition that the agency focus its energies on policies that promote competition. The fine-tuning of productivity adjustment mechanisms is no substitute for competition, and may create the false sense, if implemented, that LEC rates are subject to effective supervision.

Respectfully submitted,

Daniel L. Brenner
Neal M. Goldberg
David L. Nicoll
1724 Massachusetts Avenue, N.W.
Washington, D.C. 20036
(202) 775-3664

Counsel for the National Cable
Television Association, Inc.

March 1, 1996

ATTACHMENT A

DECLARATION OF

LELAND L. JOHNSON, Ph.D.

Before the
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Washington, DC 20554

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DECLARATION OF LELAND L. JOHNSON, Ph.D.

I, Leland L. Johnson, declare the following:

I am a consultant in telecommunications economics residing in Woodland Hills, California. I retired in March 1993 from the RAND Corporation, Santa Monica, California, where I had been employed, with two interruptions for government service, since 1957. I received my Ph.D. in Economics from Yale University in 1957. During 1978-1979, I was Associate Administrator for Policy Analysis and Development in the National Telecommunications and Information Administration in Washington D.C. During 1967-1968, I was Research Director of the President's Task Force on Communications Policy in Washington. In these capacities, I have written widely on issues of monopoly and competition, government regulation, and appropriate public policy. In recent years, I have focused on telephone company entry into video, including effects of advances in fiber optics and other technologies, and the economic implications of providing telephone and video

services over integrated transmission facilities. I have presented numerous seminars and briefings, and have testified before Congressional subcommittees and government administrative agencies. I am author of the book *Toward Competition in Cable Television* (MIT Press and AEI Press), published in 1994. An attached resume describes my background in further detail.

Summary

The National Cable Television Association has asked me to evaluate the proposition that price cap regulation, as a substitute for rate-of-return regulation, provides an adequate safeguard against subsidization of competitive ventures by an LEC out of its less competitive telephone revenues. As I explain below, any price cap scheme that a regulatory agency could reasonably be expected to adopt will fail to protect against the threat of cross-subsidization.

All price cap regimes of which I am aware are similar to rate-of-return regulation with a formal time lag between cost changes and price changes. Consequently, the dangers of cross-subsidization inherent in rate-of-return regulation, while mitigated, are not eliminated with price caps.

To fully protect against cross-subsidization would require a complete severing of the tie between prices and costs. This result could be achieved only if both federal and state price cap regimes involve a productivity adjustment factor -- the "X" Factor -- that is free of obligations by the LEC to share earnings and is maintained entirely outside the LEC's control. Thus, either a given X-Factor would have to be retained, or any adjustments would have to be made independently of individual LEC's actions, until effective competition in today's monopoly or near monopoly markets is achieved.

It is difficult, indeed, to imagine a regulatory agency credibly committing itself to a price cap regime with an X-Factor that is fixed into the sufficiently distant future regardless

of the intervening experience of the individual LEC. At bottom, regulators cannot ignore the company's profits and losses. If profits are persistently high, regulators would be under strong public pressure to revise the price cap formula. Conversely, low profit levels or losses would bring pressure to adjust the formula in the other direction.

In its interim price cap plan, the Commission has established three X-Factors from which the LECs may choose, including a relatively high one of 5.3 percent with which the electing LEC is free of the obligation to share earnings. Nevertheless, the Commission's interim plan clearly fails to sever the tie between prices and costs. To be sure, the three X-Factors from which the LECs may choose are set by the Commission outside the control of individual LECs. However, under the interim plan the LECs are free to move from one X-Factor to another each year, with the degree of longer term flexibility being dependent on the Commission's forthcoming decisions about the characteristics of a permanent plan. Thus, no LEC is committed in the long-run to any particular X-Factor over which it has no control.

In general, price cap schemes, especially those free of sharing obligations, represent an improvement over traditional rate-of-return regulation. But price caps by themselves are insufficient to ensure against anticompetitive cross-subsidization, because they cannot mimic faithfully the outcomes of competitive markets. Even with price caps in place, the Commission must continue its oversight of cost assignments between more competitive and less competitive markets, until both have become effectively competitive.

In support of these basic points, this declaration is divided into three parts, followed by a brief concluding section.

- the behavior expected of an unregulated firm holding a monopoly or near monopoly, to show how government regulation of prices triggers the threat of anticompetitive cross-subsidization.
- the characteristics of the Commission's price cap regime that render it incapable of fully protecting against cross-subsidization.
- the relevance of state regulatory policies to issues of cross-subsidization involving interstate services.

Cross-Subsidy in the Absence of Regulation

One of the reasons for concern about the threat of cross-subsidy by LECs arises from their monopoly of local exchange services. Any increase in rates would have only a very small effect on subscribership.[1] Although competition is emerging for some business services, the LECs retain their monopoly hold over residential and small business users, with new transmission suppliers confronted by bottlenecks to network access held by the incumbents.[2]

However, the presence of monopoly by itself is not enough to trigger a serious threat of cross-subsidy. If the firm is able to increase profits by raising prices in the monopoly market, it would do so even in the absence of another market to be subsidized. In the absence of regulation, the firm presumably would seek to set prices in its monopoly market

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[1] In the absence of regulatory constraint, LECs could substantially raise their basic service prices with little effect on telephone subscribership. In other words, the price elasticity of demand is low. Empirical studies of price-sales relationships disclose low price elasticity for basic telephone service, in the neighborhood of -0.10. For a 1 percent increase in the basic monthly rate, the number of residential subscribers would fall by only one-tenth of a percent, resulting in a total revenue increase by nearly the same percentage as the price rise. Lester D. Taylor, *Telecommunications Demand in Theory and Practice*, Klewer Academic Publishers, 1994 at 280.

[2] For detailed analysis of the bottleneck that exists in local exchange access as a consequence of the lack of good alternatives, see Economics and Technology, Inc. and Hatfield Associates, Inc. *The Enduring Local Bottleneck*, 1994.

to maximize profits, with any higher (or lower) prices resulting in a reduction in profit. If, in this circumstance, the firm finds an opportunity to enter a competitive market, any payments for subsidies to that market would represent an up-front financial loss. In other words, the firm would be unable to further raise prices in its monopoly market as a way to obtain additional revenues for subsidies elsewhere, for it would already have fully exploited whatever monopoly power it has.

To be sure, firms may choose to sell products temporarily at a loss. Indeed, any new activity--in telecommunications or elsewhere--must be expected to operate at a loss during its early life. That loss must be compensated from one source or another--such as contributions by shareholders, bank loans, or support from a corporate parent. The issue is not whether a new venture must receive financial help early in its life to cover start-up costs, but whether a threat of predatory pricing exists: the threat that the enterprise will persistently price its services at below cost to drive out or seriously disadvantage its competitors.

Predatory pricing is commonly thought to occur only rarely. A successful predatory strategy would require the firm to underprice the service in question to such a degree and over such a long period that it drives out or severely handicaps competitors. With the firm at that point having a monopoly or near-monopoly, it would then have to raise prices to cover not only current costs, but also the up-front losses (plus risk-adjusted cost of capital to cover the years in which the losses were suffered). Such a scenario strains the imagination. In the words of three legal analysts "[t]he evolving consensus among both economists and judges is that aggressive (but entirely legitimate) competition is too often confused with

'predation.'"[3] In the words of the Supreme Court, predation is "rarely tried, and even more rarely successful."[4]

This is not to say that the unregulated firm is essentially immune from behaving anticompetitively. The vast literature in antitrust law and economics demonstrates the wide range of such strategies pursued in the past, and their potential for the future.[5] The point here is that cross-subsidization, as one tool of strategic behavior, is not notably attractive relative to other anticompetitive strategies, because attendant upfront financial losses may be difficult or impossible to recover.

The Inability of Price Caps to Protect Against Cross-Subsidization

In contrast, anticompetitive cross-subsidization is a notably attractive possibility for the monopoly firm whose prices are regulated so that it is unable simply to maximize profits. The threat of such behavior arises if the nature of regulation enables the firm to shift costs (undetected) from the competitive market to the monopoly market. Two aspects are key: the ability to shift costs and the nature of the regulatory regime.

The ability to shift costs depends on the nature of the relationship between the two markets. My concern here is with competitive -- or potentially competitive -- services that share investment or recurring expenses with basic local exchange services. Examples are planned video dialtone systems that would share fiber broadband networks with local exchange services, and the variety of increasingly competitive private line and other common

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[3] Michael K. Kellogg, John Thorne, and Peter W. Huber, *Federal Telecommunications Law* (Little, Brown and Co., 1992), pp. 143-144. For a comprehensive treatment of why the prospects for successful predatory pricing are dim, see Frank H. Esterbrook, "Predatory Strategies and Counter-Strategies," *University of Chicago Law Review* (1981), pp. 263-337.

[4] *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 106 S.CT. 1348, 1357-1358 (1986).

[5] For a comprehensive treatment, see J.A. Ordover and G. Saloner "Predation, Monopolization and Antitrust," in R. Schmalensee and R. Willig, [eds.] Handbook of Industrial Organization (North Holland, 1989).

carrier business transmission services that share networks with monopoly residential service. As illustrated in the Section 214 applications by the LECs for video dialtone in recent years, it is all too easy for the companies to underestimate the cost to be assigned to the more competitive services, with the shortfall shifted to less competitive ones, and the Commission and state regulatory agencies left to sort out conflicting claims by the affected parties.

The other type of competitive activity operates separately from the LECs networks -- for example, the operation in a foreign country of a cable or telephone system in competition with an incumbent, or a myriad of other activities into which some LECs have sought to diversify. In such cases, it is relatively easy to keep separate the costs of such ventures from the LEC's core business. While such outside activities may lose money, it would be difficult to pass these losses undetected back to monopoly telephone ratepayers. Consequently, such activities are not of concern in this declaration. My use of the term "competitive service" or "more competitive service" is meant throughout to encompass only the first type above -- offerings that share investment and expense outlays with local exchange service.

With respect to the nature of the regulatory regime, rate-of-return regulation traditionally used by regulatory agencies has been widely criticized precisely on grounds that its "cost plus" approach to regulation encourages improper cost shifting and generally inefficient behavior. The objective of this regulatory approach is to give the firm the opportunity to earn a "fair" rate of return on its investment--a return adequate to cover its cost of capital required to pursue its business activities. After all expenses, including depreciation, are subtracted from revenues, the net figure is divided by the "rate base," or the value of undepreciated investment, to derive the rate of return. If this figure is deemed to be too low, the firm is permitted to raise prices; conversely in situations of excessive rates

of return. The greater are the firm's costs, the smaller is the computed rate of return and the greater is the pressure for regulators to permit a price increase. In short, the firm may have weak incentives to operate efficiently if it can easily pass costs on in the form of higher prices.

If the firm can shift costs from more competitive to less competitive markets, it can subsidize its competitive activities through price hikes in the latter. In contrast to the unregulated firm, the up-front costs of predatory pricing would come at the expense of ratepayers rather than of stockholders--a situation that makes predatory pricing a more plausible strategy than depicted above for the unregulated firm. It is this possible chain of events that has prompted concerns about cross-subsidization by the LECs.

Widespread dissatisfaction with rate-of-return regulation has led to the adoption of price caps at both the state and federal levels. This alternative regulatory regime focuses on prices rather than profits. In theory, by capping prices, regardless of the firm's costs, incentives for efficient behavior will be strengthened, making it difficult or impossible for the firm to raise prices in its less competitive markets for subsidies elsewhere.

For this reason, it is widely held that the imposition of price cap regimes on the LECs helps to alleviate the most worrisome aspects of traditional rate of return regulation. By forestalling the pass-through to consumers of whatever costs are incurred by the regulated firm, price caps may strengthen incentives to behave efficiently. By reducing costs through improved efficiency, the firm is rewarded with extra profits. By failing to reduce costs, due to continuing inefficiencies, the firm is penalized by the squeeze on profits imposed by the price cap constraint on price hikes.

In the words of Professor Alfred Kahn:

> In its pure form direct price regulation eliminates any entitlement of regulated companies to recover from monopoly customers any reductions in rate of return resulting from price cuts in competitive markets. It correspondingly eliminates any incentive of the regulated companies to shift costs from unregulated or competitive to less competitive services. Under price caps--or any form of incentive regulation that breaks the link between observed costs and prices--the LEC is no more able to cross-subsidize than an unregulated firm: if it invests money in the destruction of its rivals, it will have to absorb that investment as a reduction in its earnings and hope to recoup its losses later under more favorable circumstances.[6]

However, "pure" price caps, under which rates are totally divorced from costs, as described by Professor Kahn, do not exist, nor can they reasonably be expected to exist. Regulators cannot ignore the company's profits and losses. If profits are persistently high, regulators would be under strong public pressure to revise the price cap formula. Conversely, low profit levels or losses would bring pressure to adjust the formula in the other direction.

Price cap regulation can best be regarded as resembling rate-of-return regulation with a formal time lag. Price cap regimes typically specify a set of prices with upward adjustments for inflation and downward adjustments to reflect productivity growth. Abstracting from changes to reflect other exogenous factors, consumers can expect real prices to fall depending on the size of the productivity growth factor -- commonly called the "X-Factor." The price cap regime is subject to formal review generally at specified intervals (typically three or four years) whereupon past performance is evaluated (including the historic rate of return) and adjustments made in the productivity factor and other elements of the formula to bring the projected rate of return in line with what regulators would regard as

[6] *Statement of Alfred E. Kahn*, FCC CC Docket 94-1, June 28, 1994, p. 13, in Bell Atlantic *ex parte* submission to FCC, September 23, 1994.

just and reasonable. In no sense can the company's prices be regarded in the long-run as frozen irrespective of costs, as would be required in a pure price cap regime.

Most notably, Professor Kahn agrees that pure price cap regimes do not exist.

> To be sure, we have to my knowledge yet to see a scheme of pure price regulation. All of the schemes of which I am aware contemplate review within a few years of how they are working. Since the indexation formulas are inevitably based on estimates--in particular, estimates of how the costs of the regulated companies may be expected to behave relative to the basis for indexation (such as the Consumer or GNP price index)--it is difficult to imagine a scheme under which the government would surrender for all time the option of testing the accuracy of those estimates against actual experience. Such reexaminations have typically involved some correction of the formula if profits prove to be too high or too low--in which event price regulation turns out to resemble rate of return regulation.[7]

The fact that pure price caps do not exist is well illustrated by the Commission's price cap regime for the LECs, which has recently been modified in accordance with the Commission's interim price cap plan adopted in March 1995.[8] Under the plan, each LEC has a choice among three X-Factors. The smallest X-Factor -- 4 percent -- carries with it the obligation of 50-50 sharing of earnings between a 12.25 percent and a 13.25 percent rate of return, and 100 percent sharing above 13.25 percent. The next largest X-Factor -- 4.7 percent -- includes 50-50 sharing for rates of return between 12.25 and 16.25 percent, and 100 percent sharing with rates above 16.25 percent. Both of these X-Factors include a "low end" adjustment mechanism whereby the LEC may obtain an above-cap price adjustment if its rate of return falls below 10.25 percent. The third and largest X-Factor of 5.3 percent involves no sharing, nor a low end adjustment.

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[7] Alfred E. Kahn, *Review of Regulatory Framework*, Canadian Radio-television and Telecommunications Commission, Telecom Public Notice CRTC 92-12. Filed on behalf of AGT, April 13, 1993 p. 21. Emphasis in original.

[8] First Report and Order, Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1, FCC 95-132 (released April 7, 1995).

The low end adjustment is a striking example of how the Commission has failed to decouple costs and prices. If, under the first two options, the carriers' rate of return falls below 10.25 percent, perhaps because of aggressive battles with competitors with the LEC engaging in below-cost pricing, it is "entitled to adjust its rates upward to target earnings to an amount not to exceed the lower mark [10.25 percent]."[9] The Commission defends this "limited upward adjustment" on grounds that it "should ensure that the LEC will remain healthy and able to provide needed services, while retaining substantial incentives to take the action necessary to improve its performance and thereby raise its earnings above this minimal level."[10] Perhaps so, but this adjustment illustrates stunningly the fact that because regulators cannot ignore the firm's financial condition, they cannot adopt a price cap regime that truly decouples prices and costs.

As a second illustration, suppose that an LEC selects the second option of 4.7 percent and has a rate of return of 13 percent which, since it is above 12.25 percent, requires 50-50 sharing. If the LEC then engages in cross-subsidization, its rate of return will fall, let us say, to below 12.25 percent. At the same time, the up-front loss caused by cross-subsidization is partially compensated by the elimination of sharing (and the corresponding additional decrease in prices that would have been required in the absence of cross-subsidization). The LEC may conclude that the long term strategic advantage of cross-subsidization more than offsets the near-term reduction in its rate of return, when part of this reduction is offset by the elimination of sharing.

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[9] LEC Price Cap Order, Policy and Rules Concerning Rates for Dominant Carriers, CC Docket No. 94-1, 5 FCC Rcd at 6802 (para 127).

[10] Id.

Consider another possibility where the LEC selects the 5.3 percent X-Factor with no sharing, in order to protect its higher rate of return, let us say, of 16 percent. Because it has the option of later moving to another X-Factor, it may be encouraged to take risks, including risky ventures involving cross-subsidization. With the up-front costs of cross-subsidization, its rate of return falls to, say, 12.25 percent. In response, it shifts to the 4 percent X-Factor option which not only involves no sharing at that rate of return, but also a much smaller subsequent annual reduction in real prices (4 percent instead of 5.3 percent). Thus, its cross-subsidized venture results in a burden being placed on telephone ratepayers, reflected in smaller price decreases than otherwise would have existed.

This outcome would have been prevented if the LEC had been forced to retain the 5.3 X-Factor until the time that effective competition emerges. In contrast, however, the Commission currently permits carriers to select a new X-Factor annually. It is aware that "permitting a carrier to change its choice of X-Factor annually could create opportunities for abuse," and it is inquiring into the issue of how much flexibility the LECs should have to change their selections.[11] Judged by its interim plan, however, the Commission is a long way from establishing a single X-Factor, with no sharing or low end adjustment, while retaining that X-Factor (or with modifications entirely outside the control of individual LECs) until the LEC faces effective competition in its existing monopoly or near monopoly markets. In other words, it is a long way from adopting a pure price cap regime that "breaks the link" (to use Professor Kahn's phrase) between costs and prices.

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[11] *Fourth Further Notice of Proposed Rulemaking*, CC Docket No. 94-1, Released September 27, 1995, ¶¶ 119, 120.

The Relevance of State Regulatory Regimes

Moreover, even if the Commission were able to adopt a pure price cap scheme, a threat of cross-subsidy would remain as a consequence of potential cost misallocations between the intrastate and interstate jurisdictions. For example, a competitive interstate service (such as video dialtone) might be subsidized by shifting some of its costs to residential telephone subscribers forced to pay higher local exchange rates than otherwise. Only if the states also have pure price cap regimes in place would this threat be forestalled.

The states, however, are far from achieving this goal. While some retain rate of return regulation, others have adopted various incentive schemes with sharing of profits and consequent opportunities for gaming by the LECs.[12]

By late 1994, several states had adopted price cap plans with sharing provisions, including California, New Jersey, and Rhode Island.[13] By no stretch of the imagination can these price cap regimes be regarded as decoupling prices and costs. The New Jersey plan, for example, permits an increase (or requires a decrease) in the individual rates for Bell Atlantic's affected services by the percentage change in the prior year's Gross National Product Price Index minus a two percent X-Factor.[14] Accordingly, rates are to fall by two percent per year in real terms (subject to possible adjustments to reflect other exogenous factors).

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[12]For a comprehensive survey of state programs, see David E. M. Sappington and Dennis L. Weissman, *Designing Incentive Regulation for the Telecommunications Industry*, (draft), American Enterprise Institute, Washington D.C. March 1995

[13]Id. Ch. 3 at 13.

[14]Plan for Alternative Form of Regulation for New Jersey Bell Telephone Company, New Jersey Board of Regulatory Commissioners, Docket No. T092030358.

Three aspects of the New Jersey plan show how far it is from a pure price cap regime. First, the plan stipulates that the company will not be required to reduce real rates during any year in which the average intrastate rate of return on equity for its rate regulated services for the applicable twelve-month period falls below 11.7 percent. Consequently, if shifting interstate service costs onto local telephony reduces the return to below 11.7 percent, the company can pass these costs onto local subscribers by denying a rate decrease to which they otherwise would have been entitled.

Second, if the company's intrastate return on equity exceeds 13.7 percent, the excess earnings are to be shared equally between the company and its customers. Consequently, by shifting interstate service costs onto local telephony, the company may avoid triggering this sharing provision, again denying customers benefits to which they otherwise would be entitled.

Third, the price cap plan expires at the end of 1999. Consequently, excessive interstate costs shifted to local telephony in the next few years will provide the basis for a subsequent lower X-Factor. In this event, telephone customers will face smaller real rate decreases after 1999 than otherwise.

The key difficulty illustrated throughout arises from the control by the LEC over the X-Factor to which its prices are subject. With that control, it is able to game the system with the consequence that it is able -- again with time lag -- to pass additional costs to its monopoly subscribers.

Conclusions

The Commission is a long way from adopting a pure price cap plan, defined as one in which prices are fully divorced from costs. Even a plan that involves no sharing is susceptible to gaming. Moreover, even if the Commission were able to implement a pure