and up to find "market levels." Hence, the Commission should remove those elements of price regulation (such as Service Band Indexes) that restrict downward pricing flexibility.

22. Restricting downward pricing flexibility by incumbent LECs can inhibit price competition by providing a further basis for a price umbrella, allowing CAPs to price above competitive levels. Limitations on downward pricing flexibility can hold LECs' prices above their costs, causing customers to pay excessive prices or buy from a less efficient supplier. When LECs are required to charge prices that are at odds with the cost of and demand for services, competitors will exploit their vulnerability by targeting the affected customers. Such targeting causes LECs to lose the contribution to common costs they could otherwise realize from those customers, leaving a larger share of common costs to be borne by their remaining customers. As noted by the Commission staff:

> "If only the LECs are subject to rigid rate structure rules, they will be at a competitive disadvantage in their ability to respond to the market. LEC customers may choose to take service from a competitor in order to avoid artificially high LEC rates or to obtain alternative rate structure options."[17]

23. Subject to an incremental cost-based price floor, LECs should also be allowed to offer alternative pricing plans such as term and volume discounts, which are widely used by CAPs and IXCs:

> "An ever-present factor in evaluating almost any service is price. Unfortunately, this is a difficult factor to quantify since CAPs keep their actual pricing close to their vests. Practical experience says that CAPs can prove to be as much as 15% lower than local exchange carriers for an equivalent circuit; exactly how much an end user can save depends on service ordered, size of contract, and volume and term commitment."[18]

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[17] Access Reform Task Force, FCC Staff Analysis, *Federal Perspective on Access Charge Reform*, April 30, 1993, p.34.

[18] Briere, Daniel and Finn, Christoper, "CAPitalizing on Local Access," *Network World*, September 6, 1993

Such discount plans are standard pricing practice in nearly every industry we have studied:

> "Steel manufacturers grant the automobile companies substantially lower prices than they offer other industrial buyers. They do so because auto manufacturers use such large volumes they could easily operate their own mill or send negotiators around the world to secure better prices... Xerox gives volume discounts based on a buyer's total purchases of copiers, typewriters, or printers. Digital Equipment Corporation gives discounts for multiple purchases of a single model, but in addition gives discounts based on a buyer's total expenditure on all products from the company."[19]

Similarly, discount pricing, including term and volume discounts, are competitive necessities in a telecommunications environment where there is little product differentiation between different suppliers. Any regulations which inhibit the use of such discounts impedes competition and prevents customers from obtaining the lowest possible price for the services they purchase.

24. Finally, the Commission should not limit upward pricing flexibility so long as the LECs' prices comply with their respective price caps. In particular, the Commission should not impose limits on LECs' ability to subsequently increase a price after a price decrease. Such restrictions create a disincentive for reducing prices in the first place. Especially in dynamic markets such as telecommunications services, the best information about what customers want and what they are willing to pay comes from the market itself. By raising and lowering prices, by offering services in various configurations and packages, and by observing and measuring the results, LECs can gain the valuable information they need to serve their customers well and compete with unregulated firms who have almost complete flexibility in responding to different market conditions.

5. Eliminate the earnings sharing provision of the price cap formula

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[19] Thomas T. Naglle and Reed K. Holden The Strategy and Tactics of Pricing A Guide to Profitable Decision Making, New Jersey Prentice Hall, 1995, p. 219.

25. While a price cap plan with a sharing requirement is better than traditional rate of return regulation, sharing reduces the incentives for efficiency, investment and innovation. Sharing is also contrary to competitive parity, since competitors are not profit-constrained, while the LEC is. Moreover, under sharing, it is likely that the Commission will continue to regulate the rate base by prescribing depreciation rates, implicitly forcing the LECs to artificially overstate their earnings for sharing purposes, which increases LECs' investment risk and reduces incentives for LEC investment. Regardless of the level of competition faced by LECs, sharing reduces economic efficiency and should be eliminated. While the benefits of pure price cap regulation are not contingent on the presence of competition, rapidly emerging or significant levels of competition increase the advantages of pure price caps over sharing plans. This explains why at least 19 states have already adopted pure price caps plans with no sharing requirement as the proper regulatory framework for the transition to full competition. Similar plans are currently under consideration in additional states, and the numbers will undoubtedly continue to grow.

C. REMOVAL OF REMAINING SERVICES FROM PRICE REGULATION

26. Because "competition is the best regulator," most economists favor eliminating price regulation as soon as actual or potential competition limits the exercise of market power. In determining whether an industry is suitable for deregulation, economists generally do not require that an industry has the characteristics of a perfectly competitive market. They recognize that many industries perform well despite a highly concentrated market structure, and that even industries with a "dominant" firm are not likely to be improved by imposing industry regulation. Regulation imposes particularly severe costs for industries that are characterized by rapid technological change because it takes time for regulators to search for and adopt policy changes

Hence, in addressing the removal of LEC services from price cap regulation, we explain why the Commission should take a forward-looking approach and adopt standards that allow removal as soon as there is evidence that LEC services in a relevant market are vulnerable to significant competition.

27. Market statistics serve only as a guide to investigate the extent of market power, which must be assessed by evaluating the factors described below in their specific market circumstances. In making this assessment, the Commission should not lose sight of the substantial costs of regulation. The test for removing constraints on LEC pricing should not be proof of a complete absence of market power. Instead, price cap regulation of a service should be eliminated as soon as there is enough actual or potential competition in a given market so that market outcomes are likely to be superior to regulated outcomes.

28. Moreover, in making the determination to remove a service from price cap regulation, the Commission should err on the side of the market, for two reasons. First, by waiting for even more competition to materialize, the Commission risks denying the benefits of that competition to consumers that enter into long term relationships with suppliers in a regulated environment. Those consumers would be better off if the LEC and alternative providers could compete for their demands. Second, the decision to ease regulatory constraints does not have to be permanent. The Commission could re-impose regulations if market forces prove inadequate. Accordingly, the Commission should use this proceeding as an opportunity to set basic rules for the removal of services from price cap regulation as soon as there is a demonstration of a competitive alternative.

1. LECs need flexibility to define the scope of competitive alternatives

29. Given the dynamics of technology and market demand in interstate access services, as well as shifting cross-elasticities among services, LECs should be allowed reasonable latitude to

present evidence that is relevant to defining the product, geographic and customer scope of their markets for the purposes of demonstrating competition and seeking regulatory relief. It is critical that LECs retain the flexibility to tailor competitive showings to the developing marketplace.

30. The relevant scope of services to be removed from regulation could be defined by product, geography, customer characteristics, and/or some combination of the three. It is a set of product offerings in a geographic area for which a hypothetical monopoly supplier of those products would be able to raise price by a significant amount for a significant period of time to a significant group of customers. For example, some services may be competitive throughout a LEC's service area, while others in a more limited geographic area, and still others for a limited subset of customers. For example, businesses with more than a certain number of lines may have a competitive alternative for a number of services, while customers with fewer lines may not have the same alternatives over the same service group. Regardless, so long as a showing of a competitive alternative is made for a given portion of the market, price regulation should be removed for that portion.

2. The use of addressability in assessing competition in relevant markets

31. Having determined the scope of services to be removed from price caps, the Commission must also establish the criteria for evaluating the presence of a competitive alternative. We strongly urge the Commission to base the decision on measures of competition that are directly related to the likelihood that a LEC can raise the price or lower output of a service. For example, if a ten percent price increase would likely result in the loss of more than ten percent of a LEC's traffic, the price increase would not be profitable. In many markets, a few customers may account for more than two thirds of a LEC's total traffic. These customers can turn to alternative providers, and would do so in response to any appreciable price increase or reduction in service

quality by the LEC. Moreover, price increases may result in the reduction of overall demand for a service, further reducing revenues. The LEC is unlikely to raise price or lower output significantly in these markets, without regard to its current market share.

32. One metric for assessing competition is "addressability," which captures the ability of a LEC to raise prices or lower output to particular customers or service areas. A market is addressable when customers representing enough volume have available one or more alternative providers, so that a price increase by the LEC would be unprofitable. The alternative provider's service should be available at a price that is comparable to the price being paid to the LEC. An alternative carrier with facilities that pass by or are in close proximity to a customer would be an example.

33. The addressability concept is similar to that of the "uncommitted entrant" in the 1992 DOJ/FTC Horizontal Merger Guidelines. An uncommitted entrant is a firm that is not an actual supplier in a relevant market, but has capacity in place that can be used to serve demand in that market with little additional sunk expenditures. The Horizontal Merger Guidelines treat an uncommitted entrant as if it were an actual supplier in the estimation of market shares. As an example, consider a market in which firm A has the capacity to serve 80% of market demand and firms B, and C, each have the capacity to serve 10%. Suppose there is another firm, an uncommitted entrant, with the capacity to supply 100% of market demand. Under the Horizontal Merger Guidelines, rather than use historic market share, the forward looking division of the market would be calculated as 40% for firm A, 5% for firms B, and C, and 50% for the uncommitted entrant.

34. While there is no magic number on which to base a removal of price controls, we propose that a 25 percent test be applied in the following way. If more than 25 percent of a relevant

market defined by the LEC is addressable, and consumers are willing and able to switch suppliers at relatively low cost, there should be a strong presumption that the public interest would be served by the removal of price controls in that market. This means that the LEC would have to raise prices at least 25% to recover the loss of those customers -- an action that would spur further competitive losses. The Commission, of course, should be able to rebut this presumption. However, such rebuttal should be based on actual market evidence that competition is not sufficient to protect consumer interests, relative to the regulated baseline. If less than 25 percent of a relevant market is addressable, the burden should be on the LEC to show that the removal of price controls would be in the public interest. The LEC might be able to meet this burden by showing that barriers to the entry of new competitors are low, or that there is a history of increasing competition as revealed by declining prices and that this trend is likely to continue

35. A LEC seeking to remove a service from price cap regulation should also be allowed to present other indicators of competition, including evidence of:

- the rate at which entry and addition of capacity is occurring; the size, resources and customer relationships of actual and potential competitors;
- the degree of vertical integration of actual and potential competitors and their ability to offer a wide range of access, exchange, interexchange and/or enhanced services;
- reductions in entry barriers due to technological innovations (e.g., upgrading cable networks to provide access services; provision of access services by wireless carriers at prices competitive to wireline carriers);
- non-price (service) competition, especially in the case of differentiated services;
- the presence of large, sophisticated buyers with low costs of switching suppliers, who are able to play one supplier against another, and can induce bidding contests to erode prices.

3. Market share is the wrong measure for assessing competitive alternatives

36. In contrast to addressability, market share is not an accurate measure of competitive alternatives. Market share is a backward looking measure and focuses on past competitive losses, rather than forward looking competitive alternatives. Most fundamentally, it is the availability of competitive alternatives, not the number of customers who have signed up for a competitor's services that controls market power. In addition, market share data can mask the true competitive situation under any of the following conditions, all of which apply to LECs' interstate access services:

a. **If markets are defined too narrowly or too broadly**, market shares may overstate the ability of a firm to raise price or lower output. This is particularly important in telecommunications where rapid changes in technology make market boundaries difficult to define and where customers may substitute alternative types of services that provide similar functions (such as special access for switched access). For markets defined too broadly, the concern is that general market share statistics may mask individual markets where a competitive alternative is present.

b. **A large market share does not connote market power when other firms can and will enter the market** in response to higher prices, lower output, or degradation of service. CAPs have demonstrated an ability to enter and compete for customers in many markets. Often, such entry requires little or no sunk investment, because new competitors can offer services by packaging existing LEC offerings or because facilities-based competitors are already established in neighboring markets.

c. **A large market share may not permit a firm to raise price or lower output if customers have significant buying power.** Large customers, [such as the big three facilities-based interexchange carriers,] can switch suppliers and have devastating consequences on a supplier's profitability. In these circumstances, even a firm that has a very large market share may have little power to price above its long run incremental cost of service. The large customer can turn to an alternative provider, and the mere threat of a switch is enough to discipline LEC pricing across the board. In many circumstances, the customer can sponsor the entry of a CAP if existing suppliers are not an acceptable alternate source. Moreover, if regulators wait until the switch is made, the benefit of the reclassification is lost because the LEC has been prevented from competing for the customer's demand

d. **In markets where buyers enter into private negotiations for supply or self supply, market share may not correctly measure actual market presence.** A large buyer may enter into a supply arrangement that is not known to market regulators. Substantial volumes of traffic are unreported, resulting in significant "reporting bias" in

the estimation of market shares. Even if market shares are known at present, buyers could have private deals in the making that would drastically alter existing competitive relationships. To count only those services purchased by IXCs from either LECs or CAPs dramatically overstates the market share of LECs. Moreover, CAPs and IXCs have very strong incentives to keep such information private, for it has great strategic value in the regulatory process.

37. In summary, if the Commission wants to promote competition and allow customers to enjoy the full benefits of competition, it should allow LECs to use addressability and other indicators of competitive alternatives when seeking to remove a service from price cap regulation. Unnecessary restrictions on pricing flexibility should be removed and rules and procedures that delay the introduction of new services should be eliminated.

AFFIDAVIT OF RICHARD J. GILBERT

I, Richard J. Gilbert, being duly sworn, depose and say that the foregoing testimony is true and correct to the best of my knowledge and belief.

Richard J. Gilbert

Subscribed and sworn to before me this 7th day of December, 1995.

Kathy A. Stephan
Notary Public

My Commission Expires

4-11-97

KATHY A. STEPHAN
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AFFIDAVIT OF ROBERT G. HARRIS

I, Robert G. Harris, being duly sworn, depose and say that the foregoing testimony is true and correct to the best of my knowledge and belief.

Robert G. Harris

Subscribed and sworn to before me this 7th day of December, 1995.

Kathy A. Stephan
Notary Public

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Present Position	Professor of Economics, University of California, Berkeley, 1983-present Professor of Business Administration (by Courtesy), University of California, Berkeley, 1990-present
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Associate Professor of Engineering-Economic Systems (with tenure), Stanford University, 1982-1983

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Assistant Professor of Economics, University of California, Berkeley, 1976-1979

Research Associate, Department of Economics and Institute for Energy Studies, Stanford University, 1975-1976

U.S. Navy, Lieutenant, senior grade, 1967-71

Fellowships

Visiting Fellow, Churchill College, University of Cambridge, 1979
Visiting Fellow, Nuffield College, University of Oxford, 1979
Fulbright Scholar, South America, 1989

Professional Activities

President, *Industrial Organization Society*, 1993-1994
Associate Editor, *Journal of Economic Theory*, 1983-1989
Associate Editor, *Journal of Industrial Economics*, 1990-1993
Associate Editor, *Review of Industrial Organization*, 1990-1993
Associate Editor, *Energy Journal*, 1992-1993

Vice-Chair, American Bar Association Antitrust Economics Committee, 1993-present

Co-Director, Program on Workable Energy Regulation, 1990-1993.

Review Panel, National Science Foundation, Economics Program, 1985

Review Panel, National Science Foundation, Regulation Program, 1985-1986

Conference Organizer: Post-Chicago Economics Conference, Washington, D.C., May 26-27, 1994.

Conference Organizer: International Comparisons of Electricity Regulation, Toulouse, May 1993.
Conference Organizer: Economics of Energy Conservation, Berkeley, June 1992.

Conference Organizer: Telecommunications Policy Research Conference, 1988, 1989

Conference Organizer: Developments in Electricity Regulation, Berkeley, June 1987

Session Organizer: 1987 Meeting of the Econometrics Society, 1994 and 1984 Meetings of the American Economic Association, 1983 Meetings of ORSA/TIMS Associations.

Advisor to U.S. Department of Energy, Energy Assessment Panel on Energy Security, 1992

Referee for: *American Economic Review, Econometrica, International Economic Review, Journal of Political Economy, Quarterly Journal of Economics, Rand Journal, Review of Economic Studies*. Occasional referee for other journals

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