ATTACHMENT A

CHANGES IN INTERSTATE PRICE REGULATION:

REPLY COMMENTS

Prepared for Pacific Bell and Nevada Bell

by

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CHANGES IN INTERSTATE PRICE REGULATION: REPLY COMMENTS

I. INTRODUCTION

Pacific Bell and Nevada Bell (Pacific) have asked me to respond to the paper prepared by Professor B. Douglas Bernheim on behalf of AT&T.[1] While Professor Bernheim's recommendations that geographic and product markets need to be defined with greater precision than the Federal Communications Commission (FCC) has proposed have some merit, for the most part his economic analysis is irrelevant to Pacific's proposal for streamlined regulation in competitive geographic areas. It also presents a vision of excessive regulation that would unduly hamstring the local exchange carriers (LECs) and unjustly favor AT&T and other competitors to the LECs. Although it is clearly necessary to control whatever market power the LECs may currently have, such control should be commensurate with the actual degree of market power.

In particular, I provide the following responses to Professor Bernheim's analysis. First, the concerns that he raises about product and geographic market definitions are not germane to Pacific's proposal. Streamlined regulation of access services in competitive geographic areas is consistent with the appropriate definition of the relevant market. Second, Professor Bernheim's assessment of and prescriptions for controlling market power overstate the degree of market power that Pacific currently possesses and, therefore, call for excessive regulation of interstate services. Third, Professor Bernheim's specific proposals—"comprehensive price caps" or divestiture of competitive services—would harm competition and consumers.

[1] B. Douglas Bernheim, "An Analysis of the FCC's Proposal for Streamlined Regulation of LEC Access Services," December 5, 1995.

II. PROFESSOR BERNHEIM'S COMMENTS REGARDING PRODUCT AND GEOGRAPHIC MARKET DEFINITION ARE NOT GERMANE TO PACIFIC'S PROPOSAL

Professor Bernheim's primary criticism of the FCC's proposal is that it treats the separate components of access service as separate product markets. Professor Bernheim also faults the proposal for defining geographic markets too broadly. Pacific's proposal has neither flaw. In fact, Professor Bernheim's reasoning would appear to support Pacific's proposal.

Turning first to the geographic market definition, Professor Bernheim states that basing regulatory relief on an overly broad geographic market definition would provide the opportunity to exploit market power in some parts of the area. However, by confining eligibility to areas where a competitive alternative has been demonstrated, Pacific's proposal does not suffer from this alleged limitation. Services offered to customers outside competitive geographic areas would continue to be price-regulated under Pacific's proposal. In addition, customers within competitive areas could still purchase services from price-capped tariffs.

Indeed, there is convincing evidence of strong competition in selected geographic areas in Pacific's territory, as reported in Pacific's Comments. The recent California Public Utilities Commission (CPUC) Decision in its price cap review proceeding corroborates Pacific's showing. In that decision, the CPUC found that

> Pacific's data on HiCap services reveals that Commission regulatory policies to open this telecommunications market segment are succeeding in the largest markets...The evidentiary record does indicate that the speed of LECs' intraLATA toll market share loss is extraordinary.[2]

Professor Bernheim's approach properly considers both actual and potential competition in its assessment of market power. Both Pacific's evidence and the California Commission's findings strongly suggest that California's competitive geographic areas will feature *actual* competitors. In this regard, I agree with the analysis of Professor Schmalensee and Dr. Taylor[3]

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[2] California Public Utilities Commission, Investigation on the Commission's Own Motion into the Second Triennial Review of the Operations and Safeguards of the Incentive-Based Regulatory Framework for Local Exchange Carriers, Decision 95-12-052, December 20, 1995.

[3] Richard Schmalensee and William Taylor, "Pricing Flexibility for Interstate Carrier Access Services: Reply Comments," Attached to the Reply Comments of the United States Telephone Association in CC Docket No. 94-1, January 10, 1996.

that the measures of competition that AT&T proposes (and Professor Bernheim endorses)—measures based on end-use customers, rather than the available capacity—are incorrect and should not be required in establishing the existence of sufficient competition in selected areas.

Turning to the product market definition, both Pacific and I agree with Professor Bernheim that defining access service product markets in terms of existing service components is incorrect. Pacific's proposal assigns access services to the same product market in competitive geographies. In view of the facts that Pacific endorses unrestricted resale of its access products *and* there is vigorous resale in the end-use markets (interstate toll services), Professor Bernheim's reasoning appears to support Pacific's product market definition.

Professor Bernheim's major concern regarding product market definition seems to be price discrimination.[4]

> First, the FCC's approach to product market definition fails to account for the potential effects of price discrimination in a reduced regulatory environment. In particular, this approach does not establish product markets that are based on customer characteristics (aside from geographic location) which might be used as a basis for price discrimination...This would permit them to meet competition for large customers while exploiting market power over smaller customers
>
> The feasibility of this potential LEC strategy depends in large part upon the competitiveness and efficacy of resale...If the potential for resale...is sufficient to thwart LEC efforts to price discriminate across identifiable classes of customers, it is not necessary to segment markets along this dimension.[5]

In fact, resale in both the end-use and intermediate product markets is sufficiently strong to eliminate the need to segment access services by customer class. To see this, start with Professor Bernheim's recommendation (p. 6) that the end-use product market (interstate toll services) be the basis for identifying access service product markets.[6] The FCC has a well-

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[4] As Professor Kahn and I noted in our paper attached to Pacific's Comments, price discrimination is not necessarily bad. In fact, experience from the airline industry shows that in imperfectly competitive industries, price discrimination can increase with intensified competition to the ultimate benefit of consumers. Alfred E. Kahn and Timothy J. Tardiff, "Changes on Interstate Price Regulation: An Economic Evaluation of the Pacific Bell and Nevada Proposal," December 11, 1995.

[5] Bernheim, pp. 3-4.

[6] In granting nondominant status to AT&T, the FCC found that all interstate toll services were in the same product market.

established policy of requiring and promoting resale for these services. In particular, there are two FCC orders that require unlimited resale in the domestic long-distance telecommunications market.[7] In 1976, the FCC took its first step in supporting the emergence of resale; it required unlimited resale of private lines.[8] In particular, the FCC found that the restrictions on private line resale in AT&T's tariffs were unjust and unlawfully discriminatory, and ordered that the restrictive language be removed from all carriers' tariffs. The FCC then extended unlimited resale to all public switched network services in 1980.[9] Again, the FCC concluded that tariff restrictions on resale—this time switched network services—were unjust and unreasonably discriminatory. In addition to the benefits of lower rates and improved network usage, the FCC expected resale to increase innovation and deployment of new technologies.[10]

Price discounts available to small and medium sized business customers and attentive customer service are the key factors that have contributed to the growth of resale in the US domestic long-distance market. Not only have resellers concentrated on a previously neglected market segment (small and medium-sized businesses), but they have offered discounts off interexchange carrier (IXC) rates of 15-30 percent. It is also true that the regulatory (ubiquitous equal access) and technological advances (fiber optic networks) contribute to the resellers' ability to provide services comparable to the high quality IXC services.

The impact of resale of interstate toll services on the derived demand for carrier access services is that both switched and dedicated access services are used across customer classes. For example, resellers avail themselves of high volume services such as AT&T's MEGACOM and pass on the savings from using dedicated access to small and medium-sized customers. Pacific's willingness to allow direct resale of its access services reinforces the conclusion that there is no need to maintain customer class distinctions for access services.

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[7] Subsequent FCC proceedings determined the extent to which resellers are regulated.

[8] *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities*, Docket No. 20097, REPORT AND ORDER, 60 FCC 2d 261 (1976).

[9] *Regulatory Policies Concerning Resale and Shared Use of Common Carrier Domestic Public Switched Network Services*, CC Docket No. 80-54, REPORT AND ORDER, 83 FCC 2d 167 (1980).

[10] Ibid, at 172.

In summary, there appears to be little dispute that dedicated and switched access are in the same product market for large users. Further, resale at both the end-use and intermediate product level extends the availability of the benefits of dedicated access to smaller classes of customers. Therefore, access services are in the same product market and, in competitive geographic areas, streamlined regulation in this market is warranted.

III. PROFESSOR BERNHEIM OVERSTATES THE DEGREE OF MARKET POWER

Under Professor Bernheim's view of the world, regulators would likely be actively restricting LECs for the foreseeable future. Although he calls for a presumption of competitiveness (which is entirely reasonable), the stringent (and inappropriate) tests that he proposes for demonstrating competition would result in overly pervasive regulation of the LECs. Indeed, contrary to the intent of the Notice to provide additional flexibility to *regulated* services, Professor Bernheim would apparently withhold *any* relaxation of regulation until the existence of sufficient competition has been established: "...reduced regulation of interstate access prices should not occur until the affected services are demonstrably competitive." (p. 3)

The degree to which Professor Bernheim would go in placing burdensome regulation on the LECs is illustrated by his discussion of the implications of inefficient prices (p. 16). Rather than call for timely rebalancing of rates (as Professor Kahn and I did in our Comments), Professor Bernheim would put the LECs in double jeopardy by discounting the evidence on competitive inroads in these situations. The LECs would have to suffer the competitive losses caused by inefficient prices without recourse to increased flexibility that the competition warrants. In addition to the obvious harm that such restrictions would impose on the LECs and consumers, this additional hurdle in the process of demonstrating competition invites endless debates on the degree to which prices are inefficient and on whether or not existing entrants are "real competitors."

Professor Bernheim's primary concern seems to be that the LECs will leverage their non-competitive access services anticompetitively. Accordingly, he advocates continuing price regulation of both the non-competitive component and the services in the downstream market.

When anticompetitive use of non-competitive components (i.e., essential facilities) is a possibility, the correct remedy is to focus on the essential facilities themselves, not on the retail

services that the LECs may happen to bundle with the essential facilities.[11] The resulting rules are simple:

> (1) essential facilities should be made available on an unbundled, non-discriminatory basis; and
>
> (2) the LEC's retail service using an essential facility must pass an imputation test, i.e., the amount of contribution (revenue minus incremental cost) realized from selling the retail service must be at least as large as the contribution realized from selling the essential facility to a competitor.[12]

Professor Bernheim's discussion ignores the fact that both federal and state regulation have strongly emphasized non-discriminatory access for years and these policies are functioning as intended. Indeed, the IXCs themselves are the primary customers of access services and would have no difficulty in detecting and reporting discriminatory treatment. For years, LECs have been competing in downstream markets while supplying access to competitors with services such as interstate corridor toll, cellular, information services, and the like, with no apparent evidence of anticompetitive conduct.

The CPUC's treatment of essential facilities in the context of contracts illustrates proper regulation.[13] LECs have freedom to negotiate contract terms (including, of course, prices) subject to a price *floor* that satisfies an imputation test. No further pricing restrictions, e.g., price ceilings, bands limiting the range of price flexibility, or the like are imposed.

The lessons from this California example are clear. When the downstream market is competitive (e.g., the package of services included in a contract), the only legitimate price control is a price floor that protects against predatory pricing and/or price squeezes when essential facilities are involved. Further pricing restrictions (either in competitive downstream

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[11] With the growth of competition that is occurring in Pacific's territory, the extensiveness of essential facilities diminishes accordingly. In fact, in competitive areas, the existence of essential facilities is problematic.

[12] See Kahn and Tardiff for further discussion of essential facilities. The imputation rule is described in Alfred E.. Kahn and William E. Taylor, "The Pricing of Inputs Sold to Competitors: A Comment," of Inputs Sold to Competitors: A Comment," *Yale Journal on Regulation*, Vol. 11, No. 1, 1994, pp. 225-240 and Jerry A. Hausman and Timothy J. Tardiff, "Efficient Local Exchange Competition," *Antitrust Bulletin*, Vol. 40, No. 3, Fall 1995, pp. 529-556.

[13] California Public Utilities Commission, In the Matter of Alternative Regulatory Frameworks for Local Exchange Carriers, Decision 94-09-065, September 15, 1994.

markets where essential facilities may be involved or in contract situations) would incorrectly and anticompetitively favor other competitors that do not face such restrictions.

IV. PROFESSOR BERNHEIM'S STREAMLINING PROPOSALS WOULD NOT PROMOTE EFFICIENT COMPETITION

Professor Bernheim has proposed and briefly described two alternative revisions to current price regulation: "comprehensive price caps" and divestiture of competitive services. Each of these proposals entails excessive regulatory intervention and would not promote efficient competition.

Professor Bernheim's price cap proposal calls for separate price regulation of individual non-competitive components *and* price regulation of bundled services that use non-competitive components. In addition, he suggests other restrictions, e.g., requiring the offer of particular bundles and requiring equal contribution from bundles and individual non-competitive components. Apart from the fact that his discussion provides insufficient detail to evaluate the proposal, it is both impractical and would distort the competitive process.

The impracticality of the proposal comes from the fact that the creation of new bundles of existing components would appear to require an entirely new price cap. This requirement would not only create excessive regulatory costs, but it would inhibit only the LECs, who will be competing against the bundled offerings of other providers.

The proposal would distort competition for a number of reasons. First, as described above, when essential facilities are involved, the focus of regulation should be on the prices and terms and conditions of the essential facility itself (and the correct imputation standard), not on price regulation of the downstream service. Otherwise, as in the competitive contract situation, the LECs would face pricing restrictions not imposed on their competitors.

Second, imposing an equal contribution margin would severely and unduly restrict the pricing flexibility of the LECs. Unlike AT&T and other competitors, whose prices respond to demand and market conditions, the LECs would be required to maintain equal margins, irrespective of demand conditions. This requirement would provide a price umbrella for competitors for some services.

Third, the proposal could well prevent the LECs from recovering their economic costs. Professor Bernheim argues that non-competitive components be offered at "cost-based, non-discriminatory prices" (p. 12). If, as others have proposed, he means that these components should be priced at cost (no contribution), the equal contribution requirement would imply that the prices of all bundles using these components would not be allowed to include any contribution to fixed and common costs. Accordingly, the LECs' competitive services would have to recover all such costs. This outcome could severely handicap the LECs, even to the point of making cost-recovery impossible.

Professor Bernheim devotes two paragraphs to his divestiture proposal. He blithely downplays the possibility of economies of scope in suggesting that divesting competitive services would be relatively painless. Indeed, the FCC has recognized the importance of scope economies in allowing LECs to offer personal communications services (PCS).[14] In fact, there can be substantial costs in requiring that certain LEC services be offered on a separated basis. For example, I recently estimated that the cost of offering voice messaging on a stand-alone basis would be 30 percent higher than the costs LECs currently incur with their vertically integrated structure.[15]

In addition, divestiture flies in the face of the trend towards vertical integration that is occurring in the industry. Companies like AT&T and MCI are poised to enter local exchange markets in a big way. Similarly, alliances such as Sprint/Comcast/Cox/Tele-Communications, Inc. combine the forces of long-distance, local, cable TV, and wireless industries. These fundamental market facts speak to the advantages of vertical integration, both on the cost and the demand sides (the benefits to consumers from being able to purchase bundles of services on a "one-stop shopping" basis.) To deny LECs the pro-competitive benefits of vertical integration at a time when their major competitors have such advantages would be an

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[14] See, for example, *Amendment of the Commission's Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, RM-7140, RM-7175, RM-7618, SECOND REPORT AND ORDER, 8 FCC Rcd 7700, 7751 (1993).

[15] Jerry A. Hausman and Timothy J. Tardiff, "Benefits and Costs of Vertical Integration of Basic and Enhanced Telecommunications Services," prepared for filing with the Federal Communications Commission in CC Docket No. 95-20, on behalf of Bell Atlantic, BellSouth, NYNEX, Pacific Bell, Southwestern Bell, and U S West, April 6, 1995.

anticompetitive development. In this regard, Professor Kahn's advice on the importance of scope economies is especially germane.

> "There is nothing unfair about an advantage that is an efficiency advantage. We want, in competition, people who have advantages of efficiency that may arise from combining the provision of different services for economies of scope, to be able to exercise them in the market...
>
> Competition means let your economies of scope compete with my economies of scope, and don't hamstring mine as compared to yours...
>
> ...what your question seems to imply is that we should somehow protect people who are less efficient in providing services, in the name of preserving competition. I would regard that as suppressing competition under the false banner of preserving competition."[16]

V. CONCLUSION

Professor Bernheim's criticisms of the FCC's product and geographic market definitions are irrelevant to Pacific's proposal. By confining streamlined regulation to competitive areas, Pacific's plan would not permit exploiting the market power in a less competitive area to cross-subsidize services in more competitive areas. In addition, Pacific's proposal to classify access services in competitive areas into the same product market is consistent with economic principles and appears to be supported by Professor Bernheim's reasoning.

Professor Bernheim's overriding concern over anticompetitive leveraging of an LEC's control over non-competitive services into downstream competitive markets is both overstated and misdirected. As the CPUC has found, many LEC services, including carrier access services, are becoming increasingly competitive, so that the premise of extensive bottleneck control is incorrect now or soon will become so. Even when control over non-competitive services prevails, Professor Bernheim's proposals for mitigating the effects of that control are flawed. Both his "comprehensive price caps" and divestiture proposals would unduly restrict the LEC's legitimate responses to competition, including sufficient price flexibility and the

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[16]Cross Examination Testimony of Alfred E. Kahn, before the Canadian Radio-television and Telecommunications Commission, CRTC 92-78, November 3, 1993, Transcript, vol. 3, pp. 537-538.

capability of employing scope economies. Although such restriction would benefit particular competitors, such as AT&T, they would harm the competitive process and the consumers that are supposed to benefit from efficient competition.

ATTACHMENT B

COMPETITION IN CALIFORNIA TELECOMMUNICATIONS MARKETS: IMPLICATIONS FOR LOCAL COMPETITION POLICIES

Prepared for
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October 10, 1995

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Testimony of

Dr. Robert G. Harris

Before the
Public Utilities Commission
of the State of California

on behalf of

Pacific Bell

Rulemaking No. 95-04-043
Investigation No. 95-04-044

October 10, 1995

PREPARED TESTIMONY OF DR. ROBERT G. HARRIS
IN R. 95-04-043/I. 95-04-044

Q. Would you please state your name and business address?

A. My name is Robert G. Harris. I am a principal in the Law & Economics Consulting Group, Inc. My business address is 2000 Powell Street, Suite 600, Emeryville, California 94608.

Q. What are your professional qualifications?

A. I am an Associate Professor in the Haas School of Business, University of California, Berkeley. I earned Bachelor of Arts and Master of Arts degrees in Social Science from Michigan State University and Master of Arts and Doctor of Philosophy degrees in Economics from the University of California, Berkeley. At Berkeley, I teach undergraduate, MBA and PhD courses, including Business & Public Policy; Economics for Managerial Decisions; Antitrust and Economic Regulation; and Telecommunications Strategies and Policies. I serve as a Co-Director of the Consortium for Research in Telecommunications Policy and Strategy, a collaborative program of UC Berkeley, Northwestern University, the University of Chicago and the University of Michigan. My academic research has analyzed the effects of economic regulation and antitrust policy on economic performance, and the implications of changing technologies and economics for public policies, especially in the telecommunications and transportation industries.

In the late 1970s and early 1980s, I was substantially involved in the transformation of transportation regulatory policies in the United States. As an

advisor to the U.S. Department of Transportation, I drafted a major report to Congress on the rationalization of the railroad industry and the need for progressive regulatory policies. From 1980 to 1981, I was a Deputy Director at the Interstate Commerce Commission, where I played a leadership role in implementing the railroad and motor carrier regulatory reform acts passed by Congress in 1980.

For the past decade, I have been a participant in the telecommunications policy debate, testifying before the relevant committees of the House of Representatives and U.S. Senate on proposed legislation and before the Federal Communications Commission and regulatory commissions in California, Colorado, the District of Columbia, Indiana, Illinois, Iowa, Kansas, Michigan, Nevada, Ohio, Oregon, Pennsylvania, Tennessee, Utah, Virginia, Washington and Wisconsin. In 1988, I was commissioned by the California Economic Development Corporation to prepare a report on "California Telecommunications Policies for the 21st Century." My report emphasized the growing importance of telecommunications to California's high technology economy and advocated a transition to pro-competitive policies and incentive regulation to stimulate accelerated deployment of advanced communications services in the state. Those recommendations were incorporated in a report entitled Vision 2010, which was circulated in 1989 by the Governor of California to business, education, labor and civic leaders throughout the state. During the subsequent six years, many of the recommendations of Vision 2010 have been adopted in regulatory policy decisions and legislation in California. My curriculum vitae is Attachment 2 to this testimony.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to assess the competitive conditions in California telecommunications markets, the development and current state of competition in those markets, the prospects of increased competition in the near future, and the effects of the Commission's proposed rules on local exchange entry and competition and on the financial prospects of Pacific Bell. My analysis is presented in the report, "Competition in California Telecommunications Markets: Implications for Local Competition Policies," which is Attachment 1 to my testimony.

Q. Does this conclude your testimony?

A. Yes, it does.

A. Introduction and Summary

This report offers an assessment of competitive conditions in California telecommunications markets, the prospects for increased competition in the near future, potential competitors in local exchange services and the effects of the Commission's proposed rules on local exchange competition and on the competitive prospects of Pacific Bell. There are three main conclusions:

- First, competition in local exchange services will be driven by very large, established companies which are expanding from their current lines of business into local exchange services. In contrast to the *de novo* entry by new startups in CPE, long distance and special access — which may have justified preferential treatment of startups likes MCI — competitors in local exchange services will include corporate giants AT&T, MCI/BT and the Sprint/Teleport/TCI/France Telecom/Deutsche Telecom alliance. These companies do not need — and should not receive — preferential treatment to compete in local exchange services.

- Second, the rules currently proposed by the Commission are strongly biased against Pacific Bell and other incumbent LECs. By artificially advantaging Competitive Local Carriers (CLCs), the proposed rules will distort entry investment decisions and technological innovation; customers will make uneconomic choices because prices will not reflect real efficiency differences; and market outcomes will not be based on competitive merit.

- Third, because the proposed rules competitively advantage CLCs, the investors of Pacific Bell will be denied a reasonable opportunity to earn a fair rate of return on their investments in California. To ensure that Pacific Bell has a fair opportunity to compete with CLCs in California telecommunications markets, it is crucial that the Commission modify its proposed rules.

This report is organized as follows. Section B surveys the changing competitive conditions in California telecommunications markets. It explains how and why changes in several critical conditions — technology, composition of demand and regulation — are increasing both actual and potential competition. Technological changes are reducing entry barriers and enabling "intermodal" competition across communications networks (e.g., cable telephony, wireless "loops"). Changes in the composition of demand have greatly increased the importance of telecommunications services, the sophistication of buyers of those services, and buyers' awareness of and sensitivity to small differences in price, quality and service offerings. As the intensity of communications usage by some customers has increased, so has the concentration of revenues, facilitating entry by enabling

revenues by reaching a small share of customers. Changes in regulatory policies have promoted entry and competition in many markets, while failure to make corresponding changes in rate regulation have disadvantaged Pacific Bell in responding to the growing competition. Because the California telecommunications market is one of the most attractive in the world, competition is, in many respects, further developed and is likely to advance faster here than elsewhere. The extraordinarily large number of applicants for local exchange certification by the Commission is evidence of the prospects for local exchange competition in California.

The prospects for local exchange competition notwithstanding, the CLCs continue to emphasize Pacific Bell's "bottleneck monopoly" over the "local loop" and basic exchange service in their public advocacy. Yet by the standard definition of monopoly power — the power "to control price and exclude competition"[1] — Pacific Bell has failed badly. The real price of Pacific Bell's basic exchange service has fallen since the AT&T divestiture, from $16.50 in 1984 to $14.75 today.[2] Moreover, the regulated price of basic network access[3] is, at least for many Pacific Bell customers, well below its cost, as shown in Figure 1, and the basic residential exchange service rate is among the lowest in the country, as shown in Figure 2.

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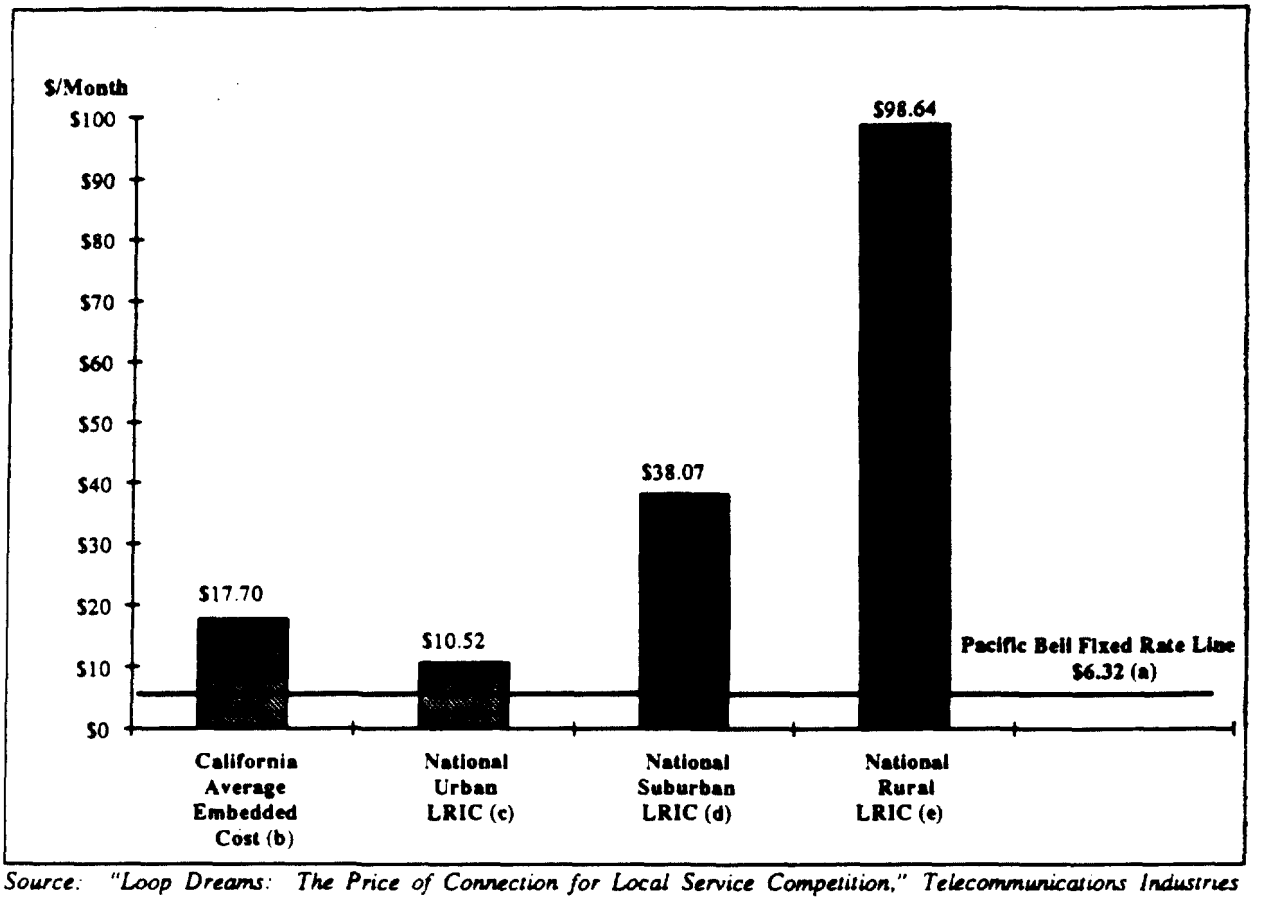
[1] Sherman Act, Section 2 (15 U.S.C. Section 2)

[2] The 1984 residential rate included: $8.25 monthly subscription fee, $2.00 intrastate access charge and $1.20 touch tone fee. This total was inflated to 1995 dollars using the CPI. See *Economic Report of the President*, February 1995, Table B-59.

[3] The basic network access of $6.32 per month is derived as follows: flat rate tariff price ($11.25) + the EUCL ($3.50) - the direct embedded costs included in the rate, such as usage and touch tone. (See Pacific Bell's IRD Cost Show Filing, Exhibit 670, p. A13).

Figure 1: Comparison of Pacific Bell Price to Basic Exchange Service Costs



Source: "Loop Dreams: The Price of Connection for Local Service Competition," Telecommunications Industries Analysis Project, July 1995 NARUC Meeting.

(a) Includes $11.25 monthly subscription charge and $3.50 EUCL. This is an estimate of the network access price based on the price less the direct embedded costs included in the rate, such as usage and touch tone. (See Pacific Bell's IRD Cost Show Filing, Exhibit 670, p. A13).

(b) Includes all California LECs.

(c) Assumes loop feeder distance of approx. 6,000 ft. and density of approx. 3,000 households per sq. mile.

(d) Assumes loop feeder distance of approx. 33,000 ft. and density of approx. 1,000 households per sq. mile.

(e) Assumes loop feeder distance of approx. 66,000 ft. and density of approx. 400 households per sq. mile.

Figure 2: Comparison of Prices of Basic Residential Exchange Service

	Flat Rate*	Touch Tone Included
Birmingham	20.10	Yes
Providence	17.26	Yes
Boston	16.85	No
Atlanta	15.90	No
Cleveland	15.25	No
Denver	14.79	Yes
Washington	14.60	No
Hartford	14.53	No
Indianapolis	13.17	No
Charlotte	12.51	No
Phoenix	12.40	Yes
Detroit	11.95	No
St. Louis	11.35	No
Los Angeles	**11.25**	**Yes**
Houston	11.05	No
Baltimore	10.90	Yes
Dallas	10.40	No
Seattle	10.00	Yes
Newark	8.19	No

Note: *Basic rate for 1 party service.

Source: NARUC, "Bell Operating Companies Exchange Service Telephone Rates," December 31, 1994.

Just because the price of basic exchange service is below its cost does not mean, though, that the residential customer is receiving a subsidy. A customer is receiving subsidized service when the total "bill" for the services the customer purchases does not cover the total costs of providing those services. Because usage services have been priced well above cost,[4] while network access lines have been priced below costs, customers who buy a substantial level of usage subsidize those who do not. The nature of cross-subsidies has had, and will have, enormous implications for competition in local

[4]With the notable exception of local usage, which is provided at a zero price for residental flat rate service.