

ON BEHALF OF BELL SOUTH TELECOMMUNICATIONS, INC.
REBUTTAL TESTIMONY OF ANIRUDDHA (ANDY) BANERJEE, Ph.D.
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
DOCKET NOS. 030867-TL, 030868-TL, 030869-TL & 030961-TI
NOVEMBER 19, 2003

1 **I. INTRODUCTION AND SUMMARY**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT**
3 **POSITION.**

4 A. My name is Aniruddha (Andy) Banerjee. I am a Vice President at NERA
5 Economic Consulting located at One Main Street, Cambridge, Massachusetts
6 02142.

7 **Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS PROCEEDING?**

8 A. No. However, I am adopting the Direct Testimony of William E. Taylor (also of
9 NERA Economic Consulting), which was filed on behalf of BellSouth
10 Telecommunications, Inc. ("BellSouth") on August 27, 2003.

11 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL, PROFESSIONAL, AND**
12 **BUSINESS EXPERIENCE.**

13 A. I earned a Bachelor of Arts (with Honors) and a Master of Arts degree in
14 Economics from the University of Delhi, India, in 1975 and 1977 respectively. I
15 received a Ph.D. in Agricultural Economics from the Pennsylvania State University
16 in 1985, and subsequently served there as an Assistant Professor of Economics. I
17 have over eight years of experience teaching undergraduate and graduate courses in
18 various fields of Economics, and have conducted academic research that has led to
19 several publications and conference presentations.

20 Since 1988, I have held various positions in the telecommunications
21 industry. Prior to my present position, I have been an economist in the Market
22 Analysis & Forecasting Division at AT&T Communications in Bedminster, NJ, a

1 Member of Technical Staff at Bell Communications Research in Livingston, NJ,
2 and a Research Economist at BellSouth Telecommunications in Birmingham, AL.
3 In these positions, I was responsible for conducting economic and market analysis,
4 building quantitative demand models for telecommunications services, developing
5 economic positions and strategies, and providing expert testimony support on
6 regulatory economic matters.

7 In my present capacity, I provide quantitative and regulatory economic
8 analysis for telecommunications industry clients principally on matters of concern
9 to local exchange carriers. I have testified before state and federal regulators on
10 interconnection and unbundling, universal service, local and long distance
11 competition, and inter-carrier compensation. I have participated in several
12 proceedings on antitrust damage issues, price and alternative regulation, and
13 telephone company mergers. I have published and presented at international
14 forums several papers, including those on telephone service quality performance,
15 mobile telephony growth, telecommunications privatization, and Internet
16 economics. My curriculum vitae is attached to this testimony as Exhibit AXB-1.

17 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

18 A. In this rebuttal testimony, I respond to allegations that BellSouth's petition to
19 rebalance rates does not satisfy the requirements of the Competitive Market
20 Enhancement provisions of Chapter 364. Specifically, I have been asked to address
21 the economic issues associated with Section 364.163 (1), including claims that
22 granting the petition would not remove support from basic local telephone service
23 ("BLTS") or stimulate greater competition for local services to the benefit of
24 residential consumers.

25 **Q. WHAT ARE YOUR PRINCIPAL CONCLUSIONS?**

26 A. My principal conclusions are:

- 27 1. The BellSouth rebalancing plan will promote greater competition to the benefit
28 of residential consumers. Claims to the contrary are flawed as a matter of
29 economic principle and are inconsistent with experience in the industry.

- 1 • Entry to serve low-revenue customers will be stimulated by the rebalancing
2 plan. Many entrants have chosen to use unbundled network element
3 platforms (“UNE-Ps”) to serve residential customers; thus, it is useful to
4 compare UNE-P rates with basic local service prices. Both Dr. Gabel’s and
5 BellSouth’s wire center-level data show little or no profit can be had from
6 low-revenue customers at current BLTS rates. Raising these rates would
7 allow entrants to serve profitably a greater share of residential customers.
- 8 • Dr. Gabel claims that rebalancing will not stimulate competitive entry
9 because entrants compare total potential revenues with total costs. This claim
10 is false. Although the overall entry decision rests on this comparison, the
11 decision to serve *low-revenue* customers (that purchase BLTS and little, if
12 any, of the other services) is based on whether serving *those* customers will
13 contribute to the firm’s profits. Thus, rebalancing that reduces rates for
14 higher usage customers (by reducing their toll rates) alongside offsetting rate
15 increases for basic service will allow entrants to serve more low-revenue
16 customers without impeding competition for more lucrative customers.
- 17 • Dr. Gabel’s argument that unregulated competitive firms set prices to
18 maximize total profits, and “may” thus sell some products below costs to
19 stimulate overall demand, does not justify a regulatory policy to *impose* such
20 pricing on incumbent local exchange carriers (“ILECs”). Unregulated
21 competitive firms may offer promotional prices for some components of
22 their services, but they are also free to set the prices, terms, and conditions
23 for the rest of their services so as to maximize *overall* profits. For example,
24 wireless mobile companies are able to set package prices and require
25 subscribers to keep their service long enough to more than compensate for
26 the cost of “free” handsets. In contrast, ILECs are not allowed to require
27 BLTS customers to purchase the other services at prices that generate
28 offsetting contributions to costs.
- 29 • The margin between unbundled network element (“UNE”) rates and retail
30 rates should not be adjusted to stimulate competition. UNE rates should be
31 based purely on cost considerations. Lowering UNE rates to artificially
32 stimulate entry would be particularly poor regulatory policy because doing so
33 would (1) harm competition by reducing the competitive parity between the
34 ILEC and the CLEC, and (2) undermine the incentives for network
35 investment and modernization.
- 36 2. Allegations that BellSouth’s BLTS is not supported are inconsistent with
37 economic principles and with evidence presented in the rebuttal testimony of
38 Bernard Shell.
- 39 • Dr. Gabel’s claim that *residential* BLTS (“RBLTS”) is not supported is

- 1 based on an incorrect definition of the relevant service. Accordingly, his
2 analysis that allegedly “shows” that RBLTS is not supported is irrelevant and
3 should be ignored by the Commission. Dr. Gabel argues that the ILECs have
4 overstated the TSLRIC of RBLTS by including certain shared costs in their
5 TSLRIC estimates. However, his claim and the analysis based on it rest on a
6 false distinction between RBLTS and business BLTS. BLTS is a *single*
7 service, with at least two classes of customers—residential and business
8 customers. Thus, the allegedly shared costs of structure and installation are
9 truly part of the TSLRIC of BLTS.
- 10 • As Mr. Shell explains in his rebuttal testimony, if customers did not demand
11 BLTS, the network would be fundamentally different and the structure costs
12 associated with BLTS would not be incurred.
- 13 • Dr. Cooper’s claim that the cost of the loop is a common cost is not
14 consistent with economic principles or with the Commission’s prior rulings.
15 The fact that several different services may use the loop does not mean that
16 the loop should be considered, in Dr. Cooper’s words, “a common cost of
17 those services.” The loop is one component of “network access” service,
18 which is demanded by the customer in its own right. The customer may
19 demand the loop simply to be able to *receive* calls, even if he or she never
20 *made* calls.
- 21 • Dr. Cooper’s claim that local rate increases should be apportioned to
22 residential and business customers in proportion to their share of the
23 access/toll rate reductions ignores the fact that the ultimate benefits of
24 competition come from setting prices as close as possible to economically
25 efficient levels, as well as from long-term benefits that accrue when entrants
26 find it profitable to serve a wider spectrum of consumers. Following Dr.
27 Cooper’s recommendation would harm economic efficiency and fail to
28 promote competition for residential customers.
- 29 3. The competitive forces operating in the telecommunications markets should be
30 allowed to ensure that access charge reductions continue to be passed through to
31 consumers.
- 32 • Competition has been vigorous for toll services, especially since BellSouth
33 was authorized to provide in-region interLATA toll services.
- 34 • Competition for toll and bundled services, i.e., packages of local and toll
35 services, should be allowed to set rates for toll services. Thus, market forces
36 should be relied upon to ensure that competitive rates are charged.

1 **II. PROPOSED RATES WILL STIMULATE GREATER COMPETITION AND**
2 **BENEFIT CONSUMERS**

3 **Q. DO YOU AGREE WITH THE OPC WITNESSES (DAVID J. GABEL AND**
4 **BION C. OSTRANDER) THAT REBALANCING WILL NOT STIMULATE**
5 **COMPETITIVE ENTRY?**

6 A. No. Dr. Gabel's arguments [at 10] that the proposed reforms will not "create a
7 more attractive competitive local exchange market for the benefit of residential
8 customers or enhance market entry... because they fail to demonstrate support of
9 residential BLTS" and similar claims by Mr. Ostrander are incorrect. Raising basic
10 rates will clearly expand the scope of entry to serve residential customers—
11 especially "low-revenue customers"—who subscribe to BLTS but purchase little, if
12 any, of the other services. Competitors estimate likely total revenues and total
13 costs to make *overall entry* decisions; however, they determine which *types of*
14 *customers* to compete for by comparing likely revenues with costs for every
15 customer category. Thus, allowing ILECs to raise RBLTS rates should stimulate
16 competition for a wider spectrum of residential customers and, in particular, the
17 low-revenue customers.

18 **Q. ASSUMING—CONTRARY TO THE EVIDENCE THAT YOU DISCUSS IN**
19 **THE NEXT SECTION—THAT RBLTS IS PRESENTLY NOT SUPPORTED**
20 **(AS ARGUED BY DR. GABEL), WOULD REBALANCING STILL LEAD**
21 **TO GREATER COMPETITION?**

22 A. Yes. Even if, contrary to the evidence presented below, RBLTS were not
23 subsidized in the strict economic sense, i.e., even if residential service as a whole
24 were priced above the relevant TSLRIC, approving the rebalancing proposal would
25 still enhance CLECs' incentives to serve low-revenue residential customers.

26 **Q. PLEASE EXPLAIN WHY RAISING RBLTS RATES WILL STIMULATE**
27 **COMPETITION FOR LOW-REVENUE CUSTOMERS.**

28 A. Most of the entry to serve residential customers thus far has been in the form of

1 UNE-P competition.¹ Thus, Dr. Gabel's comparison of Florida residential retail
2 rates with UNE-P rates provides a useful starting point to illustrate the economic
3 principles involved. According to Dr. Gabel's testimony, there is a "gross margin"
4 of only \$0.11 between the average UNE-P price and RBLTS rates in Florida.
5 BellSouth's wire center-level data also show that those margins are negligible or
6 even negative.² This negligible gross margin implies that low-revenue consumers
7 who use RBLTS but little, if any, of the other services will simply not be profitable
8 to serve. In fact, as described by Dr. Gabel, the average residential rate in his
9 example includes taxes and surcharges, so the actual gross margin would be lower
10 since taxes would have to be remitted to the relevant governmental entities.
11 Moreover, once we take account of the entrants' retailing costs, the loss is even
12 larger. In this context, even if the *incumbent's* RBLTS rates were above TSLRIC,
13 competitors seeking to enter or to expand to serving a wider range of residential
14 customers would find it profitable to serve the low-revenue customers *only if* rates
15 were rebalanced.

16 **Q. PLEASE ILLUSTRATE THIS ISSUE WITH A HYPOTHETICAL**
17 **EXAMPLE.**

18 A. Consistent with experience, assume that different customers spend differing
19 amounts on LEC-provided telephone service. For the purposes of the hypothetical
20 example, assume that these spending amounts range from \$20.70 (from Table 1 in
21 Dr. Gabel's direct testimony) for those who purchase only RBLTS to various
22 greater amounts per month for higher-usage customers who purchase many vertical
23 services and make greater use of the network. In this context, it can be shown that

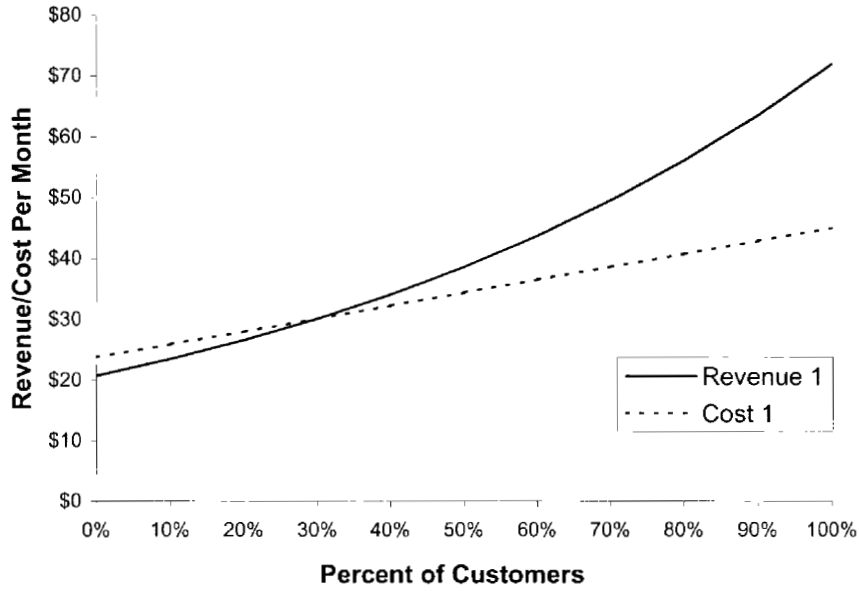
¹ As noted in Dr. Taylor's direct testimony [at 8], 57 percent of CLEC-served access lines at the end of 2002 in Florida were provided through UNE or UNE-P arrangements, while nationally that share was 55 percent. More significantly, the share of UNE and UNE-P based lines among those served by CLECs rose nationally from only 24 percent in December 1999 to over 55 percent three years later.

² BellSouth Telecommunications, Inc.'s Responses to the Staff of the Florida Public Service Commission's Second Set of Interrogatories, Response to Item No. 47.

1 increasing the RBLTS rate from its present supported, below-competitive level
2 would expand the range of customers for which entrants would be willing to
3 compete. This is illustrated in the hypothetical scenarios depicted by Figures 1 and
4 2 below.

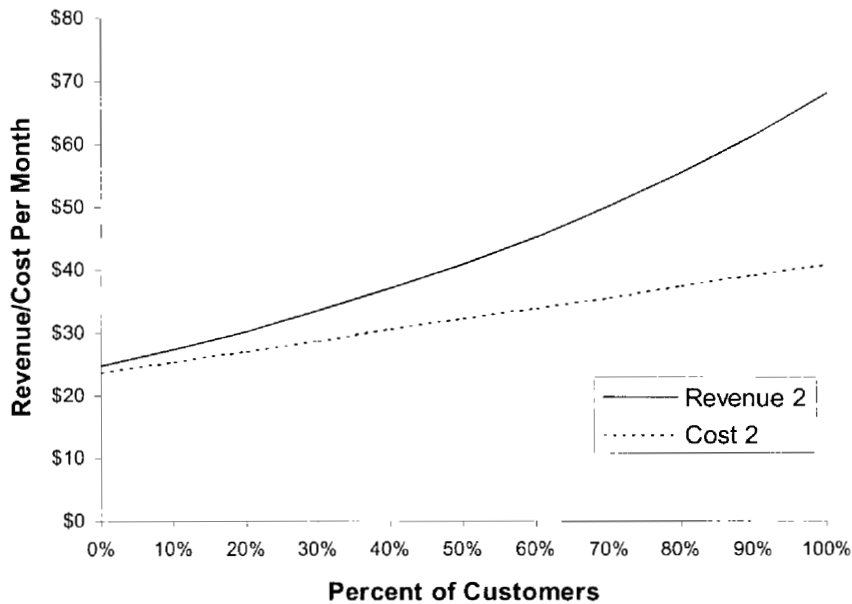
5 Figure 1 shows that, at the current RBLTS rate (\$20.70), only about 70
6 percent of customers would generate enough revenues to yield a positive margin
7 above the average UNE-P rate plus other costs for retailing, vertical services, and
8 usage. But, if the RBLTS rate were to rise by \$4.00 per month, and toll rates and
9 access charges were lower, then *all* customers would generate enough revenue to
10 yield a positive margin. This would be the case even if we assumed that the access
11 charge reduction would cause the higher-usage customers to generate lower access
12 revenues and costs. As Figure 2 shows, with falling revenues and costs at the
13 margin, e.g., on every minute of toll service, both the revenue curve and the cost
14 curve would get flatter than in Figure 1, although the revenue curve would now
15 start at \$24.70, rather than at \$20.70. As a result, in this hypothetical example,
16 profits would become possible for a wider range of customers with the RBLTS rate
17 higher than it is currently.

1 **Figure 1. Illustration of CLEC's Potential Profit Margin Without Rate**
2 **Rebalancing**



3
4

1 **Figure 2. Illustration of CLEC's Potential Profit Margin With Rate**
2 **Rebalancing**



3

4 **Q. WHAT IS YOUR ASSESSMENT OF DR. GABEL'S CLAIM [AT 46-49]**
5 **THAT REBALANCING WILL NOT STIMULATE COMPETITIVE ENTRY**
6 **BECAUSE ENTRANTS COMPARE TOTAL POTENTIAL REVENUES**
7 **WITH TOTAL COSTS?**

8 A. Dr. Gabel's argument is fundamentally flawed. He claims [at 47] that:

9 It is completely irrelevant to a firm's decision, say, to supply local access
10 lines, that it might make an expected loss on BLTS ... if total expected
11 revenues, including those earned from retailing vertical and ADSL
12 services, and wholesaling or retailing long distance services, cover the
13 total expected cost of entry and the BLTS losses must be incurred to gain
14 this overall position of profit.

15 The flaw in this argument is that it ignores the fact that the decision to serve
16 specific types of customers—notably low-revenue customers—rest on whether the
17 different customer types are likely to contribute to the firm's profits. Thus, raising

1 RBLTS rates will stimulate competition for low-revenue customers as illustrated
2 above. Dr. Gabel's contention ignores the fact that entrants can—and do—focus
3 most on capturing the customers who purchase vertical services, ADSL, and long
4 distance services. Thus, they have little incentive to serve customers who do not
5 contribute to their profit margin.

6 **Q. DR. GABEL ALSO MAINTAINS [AT 48-54] THAT ENTRY STIMULATED**
7 **BY RAISING THE PRICE OF RBLTS WILL BE OFFSET BY**
8 **OFFSETTING PRICE REDUCTIONS FOR OTHER SERVICES AND,**
9 **THUS, “NET PROFITABILITY WOULD NOT CHANGE AT ALL.” DOES**
10 **THIS MEAN THAT THE PATTERN OF COMPETITION WILL NOT BE**
11 **AFFECTED BY REBALANCING?**

12 A. No. Dr. Gabel's argument ignores the fundamental fact that different customers
13 purchase different combinations and amounts of telecommunications services. As
14 explained above, rebalancing rates will provide competitors with a greater chance
15 of realizing positive margins from low-revenue customers, even if they earn
16 somewhat less from serving customers who use the network more for toll calls.
17 Thus, the pattern of competition and entry will be affected, whether or not net
18 profitability from entering the overall market changes. Moreover, rebalancing rates
19 will bring efficiency gains as well. See Dr. Taylor's direct testimony [at 12-13].

20 **Q. DR. GABEL ARGUES [AT 41] THAT “THE LACK OF CLEC ENTRY [IN**
21 **FLORIDA, COMPARED TO ILLINOIS] COULD BE ADDRESSED JUST**
22 **AS EFFECTIVELY BY LOWERING UNE PRICES.” DOES THE LOW**
23 **MARGIN BETWEEN RBLTS AND UNE-P RATES IMPLY THAT IT**
24 **WOULD BE APPROPRIATE TO LOWER UNE-P RATES?**

25 A. No. According to applicable FCC regulations, UNE-P rates must be set based on
26 costs. Setting UNE-P rates with an eye towards stimulating entry rather than on the
27 basis of costs would be entirely inappropriate because doing so (1) would lead to
28 inefficient and excessive use of the UNE-P option, (2) discourage facilities-based

1 competition, and (3) artificially disadvantage the ILECs and reduce their incentives
2 to invest in and upgrade their networks. In the end, lowering UNE-P rates purely
3 for the reason provided by Dr. Gabel would discourage network investment by *both*
4 entrants and incumbents.

5 **Q. PLEASE RESPOND TO DR. GABEL'S CLAIM [AT 40] THAT THE**
6 **OBSERVED DIFFERENCES IN COMPETITION BETWEEN FLORIDA**
7 **(WITH A UNE-P COST OF \$20.59) AND ILLINOIS (WITH A UNE-P COST**
8 **OF \$12.22) "IS MORE EASILY EXPLAINED BY THE DIFFERENCES IN**
9 **UNE-P RATES FOUND IN THE TWO STATES, NOT THE PRICE OF**
10 **BLTS."**

11 A. I disagree with this claim inasmuch as it suggests the "don't raise the bridge, lower
12 the river" argument for why relatively greater competitive entry has occurred in
13 Illinois to serve residential and small business customers than in Florida.³
14 Following the logic of Dr. Gabel's argument, it would appear that the margins
15 available to CLECs in Florida are much thinner than in Illinois not because the
16 RBLTS rate in Florida is too low relative to the UNE-P rate, but because the
17 UNE-P rate is too high relative to the RBLTS rate.

18 As explained above, my understanding is that UNE costs must be the sole
19 basis for setting UNE rates. If the cost is known (and determined properly), the
20 UNE rate should become immutably linked to that cost. Dr. Gabel's argument, on
21 the other hand, strongly suggests that this Commission should consider tinkering
22 with the UNE-P rate in order to get competitive entry rates up. Once they have
23 been set properly, UNE-P rates are not—and should not be—a discretionary tool for
24 managing competitive entry. Instead, as Section 364.164 (and the thinking behind
25 it) recognizes, removing the support for the RBLTS rate and allowing it to rise to

³ Illinois is a leader in setting cost-based rates for local exchange services that undertook efforts to "rebalance" rates long before most other states. Also, measured rate local exchange service is available in Illinois. Arguably, whatever the level of UNE-P rates, some of these factors may have had a salutary effect on competitive entry in Illinois to serve residential and small business customers.

1 the competitive and economically efficient level would prove conducive to
2 competitive entry.

3 Assuming that BellSouth's UNE rates have been properly set at economic
4 costs as required by the FCC, any lowering of UNE rates at this stage would
5 necessarily imply that they be set *below cost* simply to stimulate entry. Doing so
6 would be particularly poor regulatory policy because it would lead to the
7 competitive distortions and economic inefficiencies described above.

8 **Q. WHAT IS YOUR RESPONSE TO DR. GABEL'S ARGUMENT [AT 61-66]**
9 **THAT UNREGULATED COMPETITIVE FIRMS SET PRICES TO**
10 **MAXIMIZE TOTAL PROFITS, AND "MAY" THUS SELL SOME**
11 **PRODUCTS BELOW COSTS TO STIMULATE OVERALL DEMAND?**

12 A. Although this practice may occur in certain situations, it does not justify a
13 regulatory policy to *impose* such pricing on ILECs. In unregulated competitive
14 markets, firms are free to offer promotional prices for selected products or services
15 provided they do not violate antitrust laws; however, they are also free to set the
16 prices, terms, and conditions for their other products or services so as to maximize
17 *overall* profits. Thus, the example of free cellular phones (handsets) is not
18 analogous to the situation in the wireline market; customers of wireless mobile
19 companies frequently accept service contracts that require them to spend certain
20 minimum amounts on service for long enough to recover the *combined* cost of the
21 service and the "free" phones. In contrast, ILECs cannot *require* RBLTS customers
22 to purchase other services that generate offsetting contributions to costs. Even
23 circumstances that do not involve contracts, e.g., selling razors at or below cost that
24 are compatible only with the razor manufacturer's own blades, or buy one get one
25 free offers, are markedly different than those that require a single competitor to sell
26 service at levels that are not determined by market forces. The difference is that
27 when firms undertake such practices in unregulated markets, they do so in the
28 expectation that they will be able to enhance their overall profits; they are not
29 forced to charge prices that do not generate competitive returns.

1 Consider the example of razors and blades, which are “complementary
2 products,” i.e., any price-related stimulation of the demand for one also increases
3 the demand for the other. Although Gillette may sell the razor for a “low price,” it
4 can do so, as Dr. Gabel recognizes, because razors and blades “must be used
5 together...[and] replacement blades ... fit only the systems for which they have
6 been designed.” In the case of telephone service, RBLTS is demanded in its own
7 right and customers may *or may not* decide to use other services heavily enough to
8 offset any losses incurred on RBLTS. There are likely to be many customers that
9 purchase little, if any, of the other telephone services offered by their local
10 exchange carrier. For example, those customers may use their cable modem for
11 Internet access, and their wireless or toll provider for calling, or reserve the use of
12 the access line in RBLTS for incoming calls only. That is, the services in question,
13 unlike razors and blades, are not truly complementary. Thus, these customers may
14 not purchase the other telecommunications services in sufficient quantities to make
15 it worthwhile for either the incumbent or the entrants to serve them at current rates.
16 Current rates are not set at competitive levels, and competitors will continue to
17 forsake the low-revenue customers and compete only for the more lucrative
18 customers who purchase more, especially network usage, services.

19 **Q. WHAT TYPE OF PRICING WOULD YOU EXPECT TO SEE FROM**
20 **CLECS IF DR. GABEL WERE CORRECT ABOUT THE IMPLICATIONS**
21 **OF THE EXAMPLES OF PRICING FOR COMPLEMENTARY**
22 **PRODUCTS?**

23 A. Dr. Gabel refers to the economics of pricing complementary services to support the
24 notion that competitive standards are consistent with selling certain products below
25 even marginal cost provided demand is raised for related products. If Dr. Gabel
26 were correct about competitive pricing for complementary products, it is clear that
27 CLECs would be offering such prices for telephone service because the *overall*
28 local exchange market had been opened to competition and numerous firms had
29 entered to serve the higher-revenue segment.

1 The observed behavior of CLECs does not suggest, however, that they view
2 the network access part of RBLTS and the usage services as complementary in the
3 same sense as razors and blades in Dr. Gabel's example. CLECs, by and large,
4 prefer to sell bundles of services, in which they include network access, local usage,
5 long distance, vertical, and other optional services. That doesn't suggest a strategy
6 in which CLECs first try to lure residential customers with "low" (even below-cost)
7 rates for RBLTS and, once they have signed up, ply them with higher-margin usage
8 services. The discounts that CLECs offer tend to apply to the service bundle as a
9 whole, rather than to a component service in the bundle.

10 **Q. ARE THE UNDERLYING ECONOMICS OF PRICING FOR THE**
11 **COMPLEMENTARY PRODUCTS THAT DR. GABEL DESCRIBES**
12 **CONSISTENT WITH THE ECONOMICS OF WIRELINE LOCAL**
13 **TELEPHONE SERVICES?**

14 A. No. Dr. Gabel's analysis and examples fail to recognize the differences in market
15 and regulatory conditions between the examples he provides and competition for
16 BLTS. For reasons explained by Professor Alfred Kahn, the economics of BLTS
17 are very different from the economics of the wireless, shaving, and other
18 unregulated industries like those described by Dr. Gabel:

19 Competition in unregulated markets often involves—indeed
20 introduces—a great deal of price discrimination in favor of demand-
21 elastic or low "value of service" customers: witness the positive
22 association of such discrimination with airline competition. The
23 elasticity of demand for *subscription* to cellular telephone service is
24 probably higher than for usage of the service, once subscribed to, and
25 undoubtedly far higher than for basic telephone service. Similarly,
26 potential users of credit cards are more sensitive to the fixed fee than the
27 careless or more profligate among them to the interest charge on unpaid
28 balances. So here competition has produced a combination of give-away
29 cellular equipment with high-markup cellular usage; give-away credit
30 card service with high interest charges: that is where the big money is.
31 In these cases, selling underpriced cellular phones, credit cards (and
32 razors) and overpriced cellular usage, credit (and razor blades) is an
33 effective means of price discrimination, with the latter serving as a
34 counting device to identify users for whom the value of the combined

1 service is high and charging them correspondingly more, in the
2 aggregate, than customers for whom the consumer surplus is relatively
3 low, as reflected in their purchasing relatively few razor blades, cellular
4 usage or credit.

5 In situations in which prices uniformly set at marginal costs would not
6 recover total costs, such price discrimination can clearly be welfare-
7 enhancing—I suspect this is the case with cellular phone service, airlines
8 and probably also goods sold in shopping malls. It would certainly not
9 make economic sense to prohibit it in unregulated industries generally.

10 Nor should it be forsworn in regulated industries, either, for exactly the
11 same reason. But that fact does not exempt its specific applications from
12 the necessity of complying with the relevant principles I have just
13 summarized. *The justifications that I have inferred in the several*
14 *examples just described clearly do not apply to or justify the*
15 *underpricing of residential dial tone, the incremental costs of which are*
16 *very high and the demand highly inelastic relative to those of usage.*⁴

17 Professor Kahn also notes that:

18 As I have already suggested, where, as in most of these examples, first
19 best, marginal cost pricing is not feasible and some of the products or
20 services are complementary, it is necessary, in designing second-best
21 efficient prices, to take into account the cross-elasticities of their
22 demands. The demand for the goods sold in shopping malls, credit card
23 loans and for cellular telephone service might well be more responsive to
24 the price of admission—parking in the first case, the fixed fee in the
25 second, the cost of the equipment in the third—than to the “usage”
26 charges themselves. In that event, the price discrimination (or
27 “counting”) effected by pricing the former services at zero and below
28 marginal costs, respectively, and the complementary products or services
29 correspondingly above marginal costs is probably welfare-enhancing.
30 But it is almost certainly not true that telephone usage is more sensitive
31 to the admission fee—the charge for dialtone alone—than to its own
32 direct charges—so the logic of the practice in unregulated industries
33 frequently cited by defenders of the regulated telephone rate structures
34 simply does not apply.⁵

⁴ Alfred E. Kahn, *Letting Go: Deregulating the Process of Deregulation*, MSU Public Utilities Papers, 1998, at 80-81 (emphasis added).

⁵ *Id.*, fn. 111. Also see A.E. Kahn and W.B. Shew, “Current Issues in Telecommunications Regulation:
(continued...)”

1 **Q. ARE THE PASSAGES FROM ILEC COMMENTS CITED BY DR. GABEL**
2 **TO SUPPORT HIS ARGUMENTS CONSISTENT WITH THE POSITION**
3 **THAT RATES SHOULD BE REBALANCED?**

4 A. Yes. Dr. Gabel fails to recognize that the market includes many different types of
5 customers; thus, while competitors can and will enter the market based on
6 comparisons of total revenue and total costs, they probably do so selectively. That
7 is, while ILECs are *required* to serve the low-revenue customers, CLECs may avoid
8 those customers if they wish and compete instead for the more lucrative parts of the
9 market. Indeed, the concluding sentence from Verizon comments quoted by Dr.
10 Gabel [at 54] actually contradicts his use of those comments to refute the need to
11 rebalance rates: “No CLEC competes solely for the local telephone service
12 revenues of potential customers, and no ILEC would either *if it had a choice*.”⁶ The
13 point is that CLECs can and do consider all revenue streams associated with entry,
14 but they focus on the high-revenue customers who generate positive contribution
15 above direct costs, whereas the ILECs *do not have that choice*. The ILECs must
16 serve customers who take only RBLTS with few other services and CLECs who
17 have a choice are not likely to compete to serve such customers unless rates are
18 rebalanced.

19 Similarly, Dr. Gabel’s use [at 55-56] of an excerpt from Dr. Taylor’s
20 testimony in a Massachusetts proceeding is actually perfectly consistent with the
21 need to rebalance rates.

22 [S]ometimes we ask the question, can a LEC make money in residential
23 service, for example? And for that, what matters is the full panoply of
24 services that a CLEC or ILEC can expect to provide *when it attracts a*
25 *customer*. So *for that* it makes...sense to include the revenues and the

(...continued)

Pricing,” *Yale Journal on Regulation*, Vol. 4, No. 1, Spring, 1987, at 251-252.

⁶ Emphasis added.

1 costs from vertical services in the calculation.⁷

2 Again, the point is that CLECs can make money when they can sell the full
3 panoply of services. However, they will take steps, e.g., use rate structures and
4 marketing efforts, to attract only the customers likely to take numerous (mostly
5 higher-margin) services, rather than compete for low-revenue customers.

6 **Q. MR. OSTRANDER [AT 38-40] CONTENDS THAT THE ILECS HAVE**
7 **PROVIDED NO INFORMATION OR SUPPORT THAT REBALANCING**
8 **WILL LEAD TO NEW SERVICE INTRODUCTIONS OR**
9 **MODERNIZATION EFFORTS. DO ECONOMIC CONSIDERATIONS**
10 **IMPLY THAT REBALANCING WILL BRING SUCH BENEFITS?**

11 A. Yes. Basic economic considerations indicate that improvements will occur in both
12 areas because the profit opportunities are clearly increased by the plan. Whether or
13 not RBLTS rates are currently subsidized, we would expect to see greater
14 investment in, and competition for, basic services as a result of rebalancing because
15 the potential returns will increase.

16 **Q. ACCORDING TO DR. COOPER [AT 32], THE “COMMISSION SHOULD**
17 **REQUIRE THAT THE INCREASE IN BASIC MONTHLY CHARGES BE**
18 **ALLOCATED IN PROPORTION TO ACCESS MINUTES OF USE**
19 **BETWEEN THE CLASSES.” WOULD FOLLOWING THIS**
20 **RECOMMENDATION PROMOTE EFFICIENT COMPETITION?**

21 A. No. Dr. Cooper’s recommendation ignores the fact that the ultimate benefits of
22 competition have to do with allocative efficiency, namely, setting prices closer to
23 efficient competitive levels (as explained in Dr. Taylor’s direct testimony), as well
24 as longer-term benefits that accrue when entrants find it profitable to serve a wider
25 spectrum of consumers. Adopting Dr. Cooper’s proportional allocation approach

⁷ Massachusetts Department of Telecommunications and Energy, Price Cap Regulation for Verizon, DTE 01-31, Phase II Order, April 11, 2003, at 82.

1 may seem fair on the surface but it would not promote competition for residential
2 customers who already benefit from disproportionately low rates (compared to
3 business local rates) in Florida. Thus, apportioning the rate increase based on toll
4 rate reductions would simply perpetuate an inefficient rate structure and weaken
5 incentives of competitors to compete for low-revenue customers.

6 **III. THE OPPOSING PARTIES' ANALYSES OF SUPPORT FOR RBLTS ARE**
7 **NOT CONSISTENT WITH ECONOMIC PRINCIPLES**

8 **A. Dr. Gabel's Analysis is Based on an Incorrect Service Definition**

9 **Q. PLEASE SUMMARIZE DR. GABEL'S ARGUMENT THAT RBLTS IS**
10 **CURRENTLY NOT SUPPORTED.**

11 A. Dr. Gabel's argument in this regard runs as follows.

- 12 1. To show that RBLTS is supported, one must compare the revenues from RBLTS
13 with the associated TSLRIC.
- 14 2. The ILECs' TSLRIC estimates are too high because the ILECs incorrectly
15 include costs shared among RBLTS, business BLTS, other business services and
16 data services.
- 17 3. The ILECs do so because they have presented estimates of the costs of TSLRIC
18 for the combined set of business, residential, and data services.
- 19 4. When the alleged shared costs are excluded from the study, it turns out the
20 RBLTS is actually priced above TSLRIC.

21 **Q. IS DR. GABEL'S ANALYSIS OF BELL SOUTH'S TSLRIC STUDY**
22 **CORRECT?**

23 A. No. Dr. Gabel distinguishes incorrectly between the costs of residential and
24 business BLTS. Dr. Taylor's direct testimony considers whether RBLTS presently
25 receives subsidy support, i.e., whether (or not) the revenues from RBLTS are
26 sufficient to cover the associated TSLRIC. However, that does not mean that the
27 cost of RBLTS should be computed separately from that of business BLTS.
28 Residential customers are just one class of customers for BLTS. The costs of BLTS
29 may differ according to qualities such as loop length and population density. But

1 neither the service nor the underlying costs of providing the physical service differ
2 simply because a customer is a given classification. Thus, Dr. Gabel's attempts to
3 distinguish between the costs of RBLTS and business BLTS are misguided.

4 We can further see the fallacy of Dr. Gabel's approach by carrying it to its
5 logical extreme. Thus, if we examine the costs for serving a single residence
6 customer using Dr. Gabel's method, we would find that there are almost no direct
7 costs. For example, the only costs added when I am served by BellSouth would be
8 simply the costs of the port at the central office and the drop wire from the pole to
9 my house. All of the costs of the installation, poles, etc. would (according to Dr.
10 Gabel's logic) be deemed shared by the other customers, so serving me would add
11 almost nothing to the company's costs. The problem is that Dr. Gabel suggests the
12 wrong increment.

13 **Q. IF BLTS IS A SINGLE SERVICE THAT INCLUDES BOTH RESIDENTIAL**
14 **AND BUSINESS CUSTOMERS, SHOULDN'T YOU DETERMINE**
15 **WHETHER BLTS IS SUPPORTED BY COMPARING THE**
16 **INCREMENTAL COSTS OF BLTS WITH THE TOTAL REVENUES OF**
17 **RESIDENTIAL AND BUSINESS BLTS?**

18 A. No. Doing so would hide the fact that residential and business customers pay
19 different prices for the same service. Assume that the monthly TSLRIC of BLTS is
20 \$20 per line and there are as many residential subscriber lines as business
21 subscriber lines. Also assume that residential customers pay \$10 per line per
22 month, while businesses pay \$30 per line per month. In this circumstance, total
23 revenues would equal the TSLRIC and it would appear that BLTS was not
24 supported. Of course, the fact is that residential customers are being supported
25 because they pay less than the TSLRIC per line. Thus, we should assess support
26 separately for these two customer classes because they each pay different amounts
27 for the same service.

28 **Q. BUT, WOULD YOU NOT AGREE THAT PRIVATE LINE SERVICES**

1 **SHARE THE SAME FACILITIES AS THOSE USED BY BLTS?**

2 A. I have not studied BellSouth's network design in detail; however, I believe the key
3 point is that the network demand that drives the preponderance of the current local
4 access plant is the demand for BLTS. Thus, without BLTS, costs would decline by
5 a considerable amount. The amount of the decline is extremely difficult to
6 estimate; thus, the Commission has historically accepted the approach used by
7 BellSouth (see Mr. Shell's testimony). Moreover, if BLTS were not offered then it
8 is entirely possible that the rest of the network would never be built, or that it would
9 be built in a very different way, e.g., using point-to-point wireless technology.
10 Thus, in principle, it may be appropriate to assign all of the shared structure costs to
11 BLTS.

12 **Q. WHAT IS YOUR OPINION OF DR. GABEL'S POSITION ON RETAILING**
13 **COSTS?**

14 A. With regard to retailing costs, it is clear that if customers did not take BLTS from
15 BellSouth they would not be purchasing any of the other services, e.g., vertical
16 services. Therefore, it is reasonable to assign the billing and collection costs to
17 BLTS.

18 **B. Dr. Cooper's Claim that the Loop Cost is a Common Cost is Not**
19 **Consistent with Economic Principles**

20 **Q. DO YOU AGREE WITH DR. COOPER [AT 16-26] THAT THE LOOP**
21 **COST SHOULD BE CONSIDERED "A COMMON COST" OF THE**
22 **SERVICES THAT ARE CARRIED OVER THE LOOP?**

23 A. No. The local loop enables end users to gain access to the public switched
24 telephone network. It may alternatively be characterized as a network access
25 service that enables customers to utilize various forms of usage services, e.g., local
26 calling, long distance (toll) calling, Internet calling, Call Waiting and other custom
27 features, voice messaging, etc. On the basis of this attribute, Dr. Cooper argues that

1 the local loop is a shared or common facility and, hence, a source of common cost.
2 Because he views the loop as an intermediate product used to support toll, local,
3 and other services rather than as a service that would be demanded in its own right
4 by the end-user, Dr. Cooper would exclude loop costs from the direct incremental
5 cost of RBLTS. However, from an economic perspective, the local loop's cost is
6 *not* a common cost of all telecommunications services. Rather, it is a service that is
7 demanded in its own right. As Alfred E. Kahn and William B. Shew explain:⁸

8 First, does subscriber access have a separate identifiable incremental cost
9 associated causally with providing it? The answer is, unquestionably,
10 yes. Connecting a customer to the network uses scarce resources, even if
11 he or she never uses the connection. The customer who subscribes to
12 two access lines imposes a greater cost on the system than the customer
13 who subscribes to one, even if they make the same number of calls, at the
14 same times and places.

15 Second, does charging for access separately serve a purpose? The
16 answer is that it serves the very important purpose of economic
17 efficiency if buyers are confronted, in each of their purchase decisions,
18 with prices that reflect the respective incremental costs to society of their
19 taking more or less of each available good and service or, to put it
20 another way, what costs society would save if they took less of each.

21 Thus, other economists generally disagree with the view that the cost of the
22 local loop is a common or shared cost because it conflicts with the fundamental
23 principle of cost causation.⁹ That principle tells us to ask why the resources used in
24 providing the loop have been expended. Applied to loops, the answer is simple: a
25 customer gaining access to the network *causes* the costs associated with the loop.

26 That is true whether that access is gained as part of a standard bundled offering like

⁸ Kahn and Shew, *op cit.*, at 201.

⁹ See, e.g., John T. Wenders, *The Economics of Telecommunications. Theory and Policy*, Cambridge, MA: Ballinger, 1987; Alfred E. Kahn, "Pricing of Telecommunications Services: A Comment," *Review of Industrial Organization*, 8, 1993, at 39-41; William E. Taylor, "Efficient Pricing of Telecommunications Services: The State of the Debate," *Review of Industrial Organization*, 8, 1993, at 21-37; and Lester D. Taylor, "Pricing of Telecommunications Services: Comment on Gabel and Kennet," *Review of Industrial Organization*, 8, 1993, at 15-19.

1 RBLTS or, in the new environment, by purchasing an unbundled loop. Once the
2 loop is provisioned, the cost is incurred. The way in which it is *used* (if at all) does
3 not change that cost.

4 Loop subscribers essentially acquire the right to access the network and
5 receive services of his or her choosing. Actual usage of the loop does not matter for
6 cost causation. The loop has been provisioned—and a cost incurred—regardless of
7 whether the customer uses the loop at all, accesses only one service, or accesses
8 multiple services. The cost of that loop should be recoverable regardless of actual
9 use. Moreover, the costs of toll and local usage service are distinct from those of
10 the local loop. As Professor Kahn explains:

11 [W]hen we say the “cost” of a subscriber loop is some amount, it can
12 mean nothing except that some act of purchase by a consumer causes a
13 telephone company and society to incur that cost....Consumers impose
14 the cost of the loop on a telephone company and society by the act of
15 subscribing to telephone service. The causation principle therefore
16 requires that the cost of providing the loop be fully incorporated in the
17 cost of basic service. Conversely, if as I understand to be essentially the
18 case, actual use of the loop for local or long distance calling or for other
19 services imposes no loop costs on the supplier and if subscribers were to
20 refrain from placing those calls or using any of those other services it
21 would not save any of those costs, there is no sense in which usage or
22 other services can be held causally responsible for them.¹⁰

23 The contrary position—that the loop’s cost should depend on how it is
24 used—is based on a fallacy. To see why that is so, ask whether the cost of the loop
25 should be recovered differently from different customers, depending on how many
26 services (including none at all) they access with it. If the answer is “yes,” then we
27 find absurd results. For example,

- 28 • by this reasoning, shouldn’t the cost of constructing a highway be
29 considered a shared or joint cost to butchered meats, milk, stereo
30 equipment, and dry cleaning if distributors of these products use that
31 highway to receive them?

¹⁰ Alfred E. Kahn, *Letting Go: Deregulating the Process of Deregulation*, at 71-72.

- 1 • shouldn't a car be considered a shared cost of motels since access to
2 motels is facilitated by the car?¹¹

3 **Q. DOES DR. COOPER'S ARGUMENT [AT 23] THAT THE TREND IS**
4 **TOWARD SALES OF BUNDLED SERVICES IMPLY THAT LOOP COSTS**
5 **ARE COMMON COSTS?**

6 A. No. The fact that telecommunications firms today compete by selling bundles of
7 services does not alter the manner in which cost is incurred or caused. Regardless
8 of how many usage services are bundled together with network access service, the
9 fact remains that the cost of the loop arises entirely to provide network access and
10 that cost is distinct from the cost of any usage service. Moreover, customers may
11 take varying amounts of usage, i.e., not in fixed proportion to network access, so
12 that it is important to assess the cost of each service separately.

13 Simply because a network access line (or loop) may be used for (and is
14 necessary for) access to other telecommunications services, it does *not* mean that it
15 is not a separate service with a separate cost. The same arguments made by Dr.
16 Cooper could be made for the telephone set, which once was bundled into the price
17 of basic service and is necessary for local and toll calls and other telephone
18 services. According to Dr. Cooper's flawed logic, the cost of the telephone set
19 should be allocated to all of the services that require its use, yet it is clear that
20 telephone sets are separate facilities with separate and definable costs. The same is
21 true of the network access line or local loop.

22 **Q. SUPPOSE, AS DR. COOPER DESCRIBES [AT 17], A LEC WERE TO**
23 **WITHDRAW ITS RBLTS, BUT NOT THE LOOP OR ITS OTHER**
24 **SERVICES. WOULDN'T THE LOOP STILL BE NEEDED AND DOESN'T**
25 **THAT MAKE THE LOOP A SHARED FACILITY?**

¹¹ Steve G. Parsons, "Seven Years After Kahn and Shew: Linger Myths on Costs and Pricing Telephone Service," *Yale Journal on Regulation*, 11, 1994, at 159, note 35

1 A. There is no denying the fact that the local loop is required within a wireline network
2 to deliver *any* wireline service. However, the essential fact remains that the only
3 way I could avoid the cost of the loop is by discontinuing RBLTS from that LEC
4 altogether. I could not selectively drop the loop but continue to consume the other
5 services.

6 I agree that in the *purely hypothetical case*, if an LEC were to discontinue
7 the *usage* part of RBLTS but were to continue to provide the loop along with toll,
8 switched access, and other services, then the cost of the loop would not be avoided.
9 But this thought experiment just tells us something we knew already: that no loop
10 costs are associated with the provision of local usage. The same is true of any other
11 services that use the loop. Moreover, if the loop remained entirely unused, the
12 costs would still be the same.

13 **Q. DR. COOPER CLAIMS [AT 22-24] THAT VARIOUS FCC DECISIONS**
14 **SUPPORT THE IDEA THAT THE LOOP IS A COMMON COST. PLEASE**
15 **INDICATE THE SALIENT FCC FINDINGS ON HOW LOOP COSTS**
16 **SHOULD BE RECOVERED.**

17 A. First, the FCC's various actions in setting up recovery of the *full* interstate portion
18 of the cost of the local loop through fixed subscriber line charges—and reducing
19 recovery of loop costs from carrier access usage charges—speak loudly about what
20 the FCC truly believes.

21 Second, consider the FCC's language in its recent access reform docket.¹²
22 In that decision, the FCC accepted many of the salient features of an integrated
23 proposal by the Coalition for Affordable Local and Long Distance Service
24 (“CALLS”)—a group of prominent local exchange and long distance carriers

¹² FCC, *In the Matter of Access Charge Reform* (CC Docket No. 96-262), *Price Cap Performance Review for Local Exchange Carriers* (CC Docket No. 94-1), *Low Volume Long Distance Users* (CC Docket No. 99-249), and *Federal-State Joint Board on Universal Service* CC Docket No. 96-45, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, and Eleventh Report and Order in CC Docket No. 96-45 (“*CALLS Order*”), May 31, 2000.

1 including AT&T and Sprint—for universal service and access charge reform.
2 Significantly, the FCC increased the subscriber line charge on residential and
3 business customers with the aim eventually of recovering the entire interstate
4 portion of the non-traffic-sensitive local loop in fixed flat-rated charges. The
5 following excerpts from the *CALLS Order* amply demonstrate the FCC’s firm
6 commitment to the view that the cost of the local loop is not—and should not—be
7 shared with usage services.

8 In promulgating its access charge rules, the Commission has recognized
9 that, to the extent possible, costs of interstate access should be recovered
10 in the same way that they are incurred. This approach is consistent with
11 principles of cost-causation and promotes economic efficiency. Thus,
12 non-traffic sensitive costs should be recovered through fixed, flat-rated
13 fees. Similarly, traffic sensitive costs should be recovered through
14 corresponding per-minute access rates. The Commission’s rules,
15 however, are not fully consistent with this goal. In particular, because
16 the Commission has taken a cautious approach in addressing
17 affordability concerns, it has taken measured steps toward this goal by
18 limiting the amount of the allocated interstate cost of a local loop that is
19 assessed directly on residential and business customers as a flat monthly
20 charge.¹³

21 With the passage of the 1996 Act, the Commission determined that it
22 was necessary to make substantial revisions to access charges. In the
23 *Access Charge Reform Order*, the Commission instituted reforms that
24 changed the manner in which price cap LECs recover access costs by
25 aligning the rate structure more closely with the manner in which costs
26 are incurred. Prior to such reform, some costs that did not vary with
27 usage, in particular the local loop, were not wholly recovered through flat
28 charges. The SLC, which is a flat charge that recovers the interstate
29 portion of local loop costs from an end user, is subject to a cap that,
30 particularly for residential customers, is often below the level that would
31 enable the LEC to recover the entire interstate cost of the local loop.
32 [footnote omitted].¹⁴

33 The Eighth Circuit upheld the Commission’s increases to various LEC

¹³ *Id.*, at ¶12.

¹⁴ *Id.*, at ¶18.

1 SLC caps, however, and found that “Texas Counsel’s contention that
2 increasing the SLC price ceiling violates the prohibition against using
3 non-competitive services to subsidize competitive services [wa]s
4 unpersuasive.” In doing so, the court reaffirmed the *Commission’s long*
5 *standing view that the subscriber “causes” local loop costs, whether the*
6 *subscriber uses the service for intrastate or interstate calls. These costs*
7 *are, in any event, recovered from the end user, either through direct end-*
8 *user charges or indirectly through higher rates or additional charges paid*
9 *to IXCs. The court further affirmed the Commission’s conclusion that it*
10 *was appropriate and rational for the Commission to impose these costs*
11 *on the end user. The court concluded as a result that increasing SLC*
12 *caps on certain lines did not result in a windfall for IXCs.*¹⁵

13 **IV. ADDITIONAL REGULATORY INTERVENTION IS NOT NEEDED TO**
14 **ENSURE THAT CUSTOMERS BENEFIT FROM RATE REBALANCING**

15 **Q. MR. OSTRANDER CLAIMS [AT 32-33] THAT INCREASES IN BASIC**
16 **RATES ARE PERMANENT WHILE TOLL REDUCTIONS MAY BE**
17 **SHORT LIVED. IS THERE ANY NEED FOR THE COMMISSION TO**
18 **IMPOSE ADDITIONAL REGULATORY MEASURES TO ENSURE THAT**
19 **TOLL REDUCTIONS ARE NOT ERODED?**

20 A. No. Competitive trends will insure that rate reductions in toll will not be short
21 lived. As explained by Staff witness Gregory L. Shafer [at 14-15], wireless
22 carriers have put substantial competitive pressure on long distance carriers and the
23 proposed access rate reductions will give the long distance carriers the opportunity
24 to lower their rates and/or offer new calling plans to win back traffic. Moreover,
25 competition for intrastate and interstate toll traffic has become quite vigorous as
26 ILECs such as BellSouth have been allowed to provide in-region long distance
27 service; thus, there is every reason to assume that regulatory intervention is not
28 needed to insure that rate reductions associated with access charge reductions will

¹⁵ *Id.*, at ¶95 (footnotes omitted, emphasis added)

1 continue to be passed through.¹⁶

2 **Q. MR. OSTRANDER CONTENDS [AT 4] THAT THE PROPOSALS LET**
3 **THE LECS GET THE BEST OF ALL WORLDS BECAUSE “THE LECS**
4 **TRADE-OFF AT-RISK ACCESS REVENUES FOR INCREASES IN**
5 **INELASTIC REVENUES OF RESIDENTIAL BASIC LOCAL SERVICE**
6 **CUSTOMERS.” PLEASE RESPOND TO THIS CONTENTION.**

7 A. Mr. Ostrander’s contention unwittingly actually supports the proposal. The
8 recognition that carrier access revenues are at risk is implicit acknowledgement that
9 carrier access service is relatively more price-elastic than RBLTS and that fact
10 alone supports the need to rebalance rates. From an economic standpoint, the
11 economic efficiency (and consumer surplus) gained from lowering the price of a
12 more price-elastic service outweighs the economic efficiency (and consumer
13 surplus) lost from raising the price of a less price-elastic service in a corresponding
14 manner. As a result, economic efficiency and consumer welfare rises upon such
15 rate rebalancing.

16 Mr. Ostrander’s statement is also somewhat misleading because he cannot
17 possibly know how much ILEC revenues would be affected by the proposed rate
18 rebalancing. Therefore, it is far from certain that the trade-off that Mr. Ostrander
19 mentions will necessarily enable ILECs to “get the best of both worlds.” It is true
20 that wireline network access service has traditionally been regarded as highly price-
21 inelastic, although that has been changing as wireless and broadband have
22 increasingly served as replacements for wireline services. However, as long as
23 these alternatives are not pressing enough to force RBLTS to actually become
24 price-elastic, any increase in the RBLTS rate would raise the ILEC’s revenues, just
25 as a lowering of access charges and, ultimately, long distance rates would lower the

¹⁶ BellSouth’s data show that between 44 and 52 percent of *new* presubscribed long distance customers in Florida have chosen carriers other than BellSouth Telecommunications or BellSouth Long Distance in every month over the past two years.

1 ILEC's revenues (provided long distance services too remain price-inelastic).¹⁷
2 What is impossible to predict precisely is how much of the increased RBLTS
3 revenue is likely to be lost as competitive entry occurs. Within the family of
4 wireline services, increasing competition likely makes the firm-specific price
5 elasticity of demand is higher than the overall market price elasticity for network
6 access. Thus, BellSouth is likely to gain less additional revenue from an increase in
7 RBLTS rates than if it were the only provider of RBLTS in its service territory, and
8 progressively less so as other sources of RBLTS emerge.

9 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

10 A. Yes.

¹⁷ Price elasticity measures the consumer's sensitivity to price. When a service is price-elastic, any change in price is likely to induce significant consumer response; when the service is price-inelastic, that change in price is likely to induce a more muted response. At the extreme, when the price elasticity tends to zero, there is almost no response at all to a price change. Thus, as long the price elasticity of a service is in the "inelastic" range (between zero and -1), a price increase (decrease) will increase (reduce) revenue. And, once the price elasticity reaches the "elastic" range, a price increase (decrease) will reduce (increase) revenue. Both RBLTS and long distance service have traditionally fallen in the inelastic range, the former even more so. However, as competition builds for both, the price elasticity of both services (especially at the individual carrier level) is likely to go up. Whether they are anywhere near the elastic range, or will be following the proposed rebalancing, is unknown at this time. Thus, Mr Ostrander's prediction is, at best, premature and, at worst, unduly alarmist and false.

Exhibit AXB-1

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Dr. Banerjee is a Vice President at NERA. He is responsible for providing analysis of, and expert witness testimony on, regulatory and economic issues of concern to telecommunications companies and other public utilities, preparing and responding to interrogatories in regulatory proceedings, and conducting econometric/statistical analysis to support marketing and market research activities of telecommunications companies. Dr. Banerjee works on a range of issues including Internet economics, price cap and incentive regulation, antitrust violations and remedies for damages, protections against anti-competitive pricing, local and long distance competition, pricing of interconnection and unbundled services, pricing and optimal tariff design, reciprocal and inter-carrier compensation, resale and avoided cost, benchmark and proxy cost models, universal service, service quality, and cellular telephony. His market research activities are carried out, as needed, in collaboration with leading providers of telecommunications data or directly with telecommunications companies.

Before coming to NERA, Dr. Banerjee was a Research Economist (and internal economic consultant) at BellSouth Telecommunications where he was responsible for providing economic policy guidelines to key decision-makers and the Officer Body, preparing testimony and cross-examination questions, responding to interrogatories, and building econometric models to answer business questions. He provided quantification support for BellSouth's successful initiative of designing and securing price cap regulation for itself in each of its nine states, and contributed to BellSouth's policies on local and toll imputation, universal service, interconnection pricing, rate rebalancing, and per use pricing of vertical services. In the process, Dr. Banerjee collaborated with outside consultants from McKinsey and Company and Strategic Policy Research, Inc. He also represented

BellSouth's participation in the National Telecommunications Demand Study, an ongoing study of demand trends in the telecommunications industry.

Prior to BellSouth, Dr. Banerjee was an economic consultant as a Member of the Technical Staff at Bell Communications Research and a Staff Supervisor at AT&T. Dr. Banerjee has several years of experience teaching graduate and undergraduate courses in economic theory, statistics, econometrics, industrial organization, and public finance. He has conducted research on the dynamics of futures markets and various aspects of time series econometrics. He has presented a number of papers on telecommunications economics issues at national business and academic conferences.

EDUCATION

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Ph.D., Agricultural Economics, 1985

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EMPLOYMENT

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.

2002- Vice President. Responsible for applying economic theory, regulatory economics, and econometric analysis to a variety of issues and problems facing both regulated and non-regulated firms (including public utilities). Provide expert witness testimony and strategic advice.

1995-2002 Senior Consultant, Communications Practice. Responsible for applying economic theory, regulatory economics, and econometric analysis to a variety of tasks: supporting telecommunications firms in litigation and regulatory matters, market research, and strategic planning. Provided expert witness testimony and strategic advice.

BELLSOUTH TELECOMMUNICATIONS

1992-1995 Research Economist, Statistics and Econometrics Group.
Developed, led, and disseminated economic and econometric research on issues of concern to BellSouth Telecommunications in particular and the telecommunications industry in general. Contributed to each of the following areas: regulatory economics, demand analysis (growth and elasticities), market potential, diffusion, pricing, cost, new product planning, forecasting, market research, competitive analysis, and the development of strategy/policy positions for BellSouth. Supervised and collaborated with other BellSouth economists and strategic planners and outside consultants.

BELL COMMUNICATIONS RESEARCH

1989-1992 Member of Technical Staff, Regulatory Economics and Pricing Theory, Demand Response Analysis Group. Developed various statistical and econometric methods and models that are applicable to the study of demand for various types of telephone service. The focus was on analysis, forecasting, and rate design support to client companies including BellSouth, U S West, NYNEX, and Bell Atlantic. Developed software for demand and market potential analysis using advanced mathematical/statistical languages. Transformed original techniques research into business tools for analysts within client companies.

AT&T COMMUNICATIONS

1988-1989 Staff Supervisor, Market Analysis and Forecasting, Consumer Markets and Services. Assisted and contributed to demand analysis and forecasting efforts of the group. The focus was on demand issues related to AT&T's business and residential long distance telephone services.

THE PENNSYLVANIA STATE UNIVERSITY

1985-1988 Assistant Professor, Department of Economics. Developed and taught undergraduate and graduate courses in economics and econometrics. Conducted personal research in economics and econometrics. Supervised graduate student research leading to M.S. and Ph.D. degrees in economics. Developed the econometrics component of a new graduate program in policy analysis at Penn State. And, advised undergraduate economics students on their curriculum and course selection. Taught courses on introductory macro-economic theory, introductory and

intermediate micro-economic theory, industrial organization, public sector economics, statistics, and introductory econometrics. Developed and taught advanced graduate econometrics and time series courses (frequency-domain econometrics and spectral analysis, dynamic simultaneous equations systems and state space models, causality, model testing and validation, nonlinear time series, and asymptotic theory.

- 1982-1985 Instructor, Department of Economics. Taught a number of undergraduate economics courses including macro-economic theory, micro-economic theory, public sector economics, and statistical foundations of econometrics.
- 1979-1982 Research Assistant, Department of Agricultural Economics & Rural Sociology. Assisted in research activities of Professor Robert D. Weaver of the Department of Agricultural Economics. Research areas included: stabilization of prices of internationally traded agricultural commodities; choice under risk-aversion by a firm faced with multiple sources of uncertainty; impacts of public policy on risk-averse firms; market efficiency, role of information, distribution of asset returns, and market equilibrium; and productivity and cost relations in the wheat, corn, and soybean producing areas of the U.S. using crop survey data from the U.S. Department of Agriculture. Most of the work consisted of literature research, writing computer programming, and econometric data analysis.

UNIVERSITY OF DELHI, INDIA

- 1977-1979 Lecturer, Department of Economics, Shri Ram College of Commerce. Taught undergraduate economics courses including micro-economic theory, public finance, and economic planning and policy.

PAPERS AND PUBLICATIONS

CONTRIBUTIONS TO NERA REPORTS

“NERA Reply Declaration” (on FCC’s unbundled network element policy and effects on competition and entry), with William E. Taylor, Charles Zarkadas, and Agustin Ros, for BellSouth Corporation (filed with FCC in CC Docket Nos. 01-338, 96-98, and 98-147), July 17, 2002.

“A Unified Inter-Carrier Compensation Mechanism for all Forms of Interconnection: Calling Party’s Network Pays or Bill and Keep?” (with William E. Taylor), for BellSouth Corporation, filed November 5, 2001.

“Efficient Inter-Carrier Compensation for Internet-Bound Traffic: Reply to Time Warner Telecom,” (with William E. Taylor), ex parte with FCC on behalf of Qwest Corporation, October 23, 2000.

“An Economic and Policy Analysis of Efficient Intercarrier Compensation Mechanisms for ISP-Bound Traffic,” (with Agustin Ros and William E. Taylor), ex parte with FCC on behalf of U S WEST Communications, Inc., November 12, 1999.

“Determining Fair and Reasonable Rates Under Competition: Response to Major Themes at the FPSC Workshop,” for BellSouth Telecommunications, Inc., November 1998.

“Costing and Pricing Principles for Determining Fair and Reasonable Rates Under Competition,” for BellSouth Telecommunications, Inc., September 1998.

“Local Telecommunications Competition: An Evaluation of a Proposal by the Communications Staff of the Florida Public Service Commission,” with William E. Taylor, for BellSouth Telecommunications, Inc., November 1997.

“Costing and Pricing Principles for Competitive Telecommunications: A Critique of David Gabel’s Recommendations,” for BellSouth Telecommunications, March 1997.

“Comments (on Universal Service and the Hatfield Model),” with William E. Taylor, for BellSouth Telecommunications, Inc. (filed with the Federal Communications Commission for CC Docket No. 96-45), August 1996.

“Telephone Company Provision of Broadband Services: Economies of Scope, Competition, and Public Policy,” for BellSouth Interactive Media Services, 1995.

“Economic Welfare Benefits from Rate Rebalancing,” for Stentor Resource Centre Inc., 1995.

TESTIMONY

Declaration, on behalf of Qwest Communications International, Inc., evaluating alternative statistical methods for selecting an appropriate benchmark to determine state eligibility for federal universal service support. Federal-State Joint Board on Universal Service, December 20, 2002.

Rebuttal Testimony opposing Oregon Public Utility Commission Staff and other intervenors on adjustments to rate structure design proposed by Qwest Corporation for its intraLATA long distance services, on behalf of Qwest Corporation, Oregon Public Utility Commission, Docket No. UT 125 Phase II, May 3, 2001. [Appeared at Hearings, May 2001]

Rebuttal testimony opposing the position of Global NAPs, a competitive local exchange carrier, that it is owed reciprocal compensation for the carriage of Internet-bound traffic, on behalf of BellSouth Telecommunications, Inc., Florida Public Service Commission, Docket No. 991267-TP, December 20, 1999. [Appeared at Hearings, January 2000]

Affidavit, on behalf of the United States Telephone Association, Review of the Depreciation Requirements for Incumbent Local Exchange Carriers, CC Docket No. 98-137, November 23, 1998 (with William Taylor).

Affidavit supporting BellSouth Telecommunications Inc.'s motion to dismiss liability case brought by Public Storage Inc. of California because of lack of personal jurisdiction, before the U.S. District Court of the Central District of California, Case No. 90-3943 R (RZX), September 1998.

Affidavit and Reply Affidavit supporting the application by BellSouth Corporation for provision of in-region, interLATA services in Louisiana, Round 2, CC Docket No. 98-121, July-August 1998.

Affidavit and Reply Affidavit supporting the application by BellSouth Corporation for provision of in-region, interLATA services in Louisiana, CC Docket No. 97-231, October-December 1997.

Testimony critiquing the Hatfield Cost Model for setting unbundled network element rates for GTE in Alabama, on behalf of GTE South and Contel of the South in Arbitration with AT&T, Alabama Public Service Commission, Docket No. 25704, November 1996. [Testified at Hearings, December 1996]

Testimony critiquing the Hatfield Cost Model for setting unbundled network element rates for GTE in Texas, on behalf of GTE Southwest in Arbitration with ASCI, Texas Public Utility Commission, Docket No. 16,473, November 1996. [Testified at Hearings, December 1996]

Testimony critiquing the Hatfield Cost Model for setting unbundled network element rates for GTE in Oklahoma, on behalf of GTE Southwest in Arbitration with AT&T, Oklahoma Corporation Commission, Cause No. PUD 960000242, November 1996. [Testified at Hearings, November 1996]

Direct Testimony critiquing the use of the Benchmark Cost Model for setting the unbundled loop rate for BellSouth in Georgia, on behalf of BellSouth Telecommunications, to Georgia Public Service Commission, Docket 6759-U, October 1996. [Testified at Hearings, October 1996]

Consolidated Direct and Rebuttal Testimony critiquing bill and keep compensation for interconnection, on behalf of BellSouth Telecommunications, to Florida Public Service Commission, Docket 950985-TP (Petitions by Continental Cablevision, Metropolitan Fiber Systems of Florida, and MCI Metro Access Transmission Services), November 1995. [Testified at Hearings, January 1996]

Direct Testimony on unbundling by local exchange carriers and related cost issues, on behalf of BellSouth Telecommunications, to Florida Public Service Commission, Docket 950984-TP (Petitions by Metropolitan Fiber Systems of Florida, and MCI Metro Access Transmission Services), November 1995. [Testified at Hearings, January 1996]

Rebuttal Testimony critiquing bill and keep compensation for interconnection, on behalf of BellSouth Telecommunications, to Florida Public Service Commission, Docket 950985-TP (Petition by Teleport Communications Group), September 1995.

Direct Testimony addressing interconnection rate structure design, on behalf of BellSouth Telecommunications, to Florida Public Service Commission, Docket 950985-TP (Petition by Teleport Communications Group), September 1995.

Testified on behalf of BellSouth Telecommunications in Universal Service Proceeding, Tennessee Public Service Commission, Docket 95-02499, October 1995.

Prepared NERA testimony/comments/affidavits presented to:

- state regulatory commissions on
 1. Price cap, local competition, interconnection, and unbundling issues (Arizona, Connecticut, Kentucky, Louisiana, Mississippi, Pennsylvania, New Mexico, Vermont)
 2. Regulatory Reform (Arizona)
 3. Rate case (Arizona, New Mexico)
 4. Universal service issues (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Jersey, New Mexico, North Carolina, South Carolina, Tennessee)
 5. Loop cost subsidies: measurement and testing (New Mexico, North Dakota)
 6. Resale and avoided cost (Alabama, Louisiana, Tennessee)
 7. Network Cost models (Alabama, Georgia, Massachusetts, Missouri, New Jersey, New York, Oklahoma, Pennsylvania, Texas)
 8. Estimation of Loop Cost (New York)
 9. Local company entry into interLATA long distance (Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee)
 10. TELRIC pricing of unbundled elements (Alabama, Delaware, Maryland, Mississippi, New Jersey, North Carolina, South Carolina, Tennessee, Virginia, Washington DC, West Virginia)
 11. Access charge reform (Arizona, Nebraska, Pennsylvania)
 12. Rate rebalancing and welfare impacts (Ohio)
 13. Pricing flexibility under price caps (New Mexico, North Carolina, Wyoming)
 14. Cost recovery for Operations Support Systems and service quality and performance measurement (Alabama, Arizona, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee)
 15. Reciprocal compensation for cellular, paging, and internet service providers (Alabama, Arizona, Colorado, Florida, Georgia, Idaho, Kentucky, Louisiana, Massachusetts, Mississippi, Montana, Nebraska, New Mexico, North Carolina, Oregon, South Carolina, Tennessee, Washington)
 16. Payphone rates and new services test (Arizona, Louisiana, South Carolina, Tennessee)
 17. Telephone company mergers (Arizona, Minnesota, Montana, Utah, Washington, Wyoming)
 18. Reclassification of competitive services (Arizona, Nebraska, Washington, Wisconsin)
 19. Fair competition and promotions (Alabama)

- Federal Communications Commission in dockets or ex partes on
 1. Unbundled Network Element rules and pricing (for BellSouth)
 2. CMRS interconnection (for NYNEX)
 3. Benchmark and proxy cost models (for BellSouth, Southwestern Bell, and NYNEX)
 4. Universal service (for BellSouth)
 5. InterLATA authority (for BellSouth)
 6. Access reform (for BellSouth)
 7. Regulatory forbearance for hicap services (for BellSouth)
 8. Depreciation reform (for USTA)
 9. Inter-carrier compensation for Internet-bound traffic (for U S WEST/Qwest)
 10. Unified Compensation Mechanism for All Forms of Interconnection (for BellSouth)
- Canadian Radio-television and Telecommunications Commission in price cap proceeding (for Manitoba Telephone System)
- Telefonica Spain, on matters of reciprocal compensation
- Civil Action No. 94-324 (GK), FreBon International Corp. v. Bell Atlantic Corp., et al., Defendant's Expert Disclosure Statement
- Case No. 99-1706, U.S. District Court, Southern District of Florida, *Supra* Telecommunications & Information Systems v. BellSouth Telecommunications, Expert Reply Report on Economic Assessment of Damages
- Arbitration V, CPR Institute for Dispute Resolution Arbitral Tribunal, *Supra* Telecommunications & Information Systems v. BellSouth Telecommunications, Expert Reply Report on Economic Assessment of Damages

TELECOMMUNICATIONS-RELATED PAPERS

“Drivers of Demand Growth for Mobile Telecommunications Services: Evidence from International Panel Data,” 2003, forthcoming in book published by the International Telecommunications Society. Co-authored with Agustin Ros.

“Patterns in Global Fixed and Mobile Telecommunications Development: A Cluster Analysis,” 2003, forthcoming in *Telecommunications Policy*.

“Does Incentive Regulation “Cause” Degradation of Retail Telephone Service Quality?” *Information Economics and Policy*, Vol. 15, 2003, pp. 243-269.

“Interconnection Rules and Inter-Carrier Compensation: Implications for Carrier Incentives and Economic Welfare,” 2000. Co-authored with Agustin Ros.

“Telecommunications Privatization and Tariff Rebalancing: Evidence from Latin America” (with Agustin Ros), *Telecommunications Policy*, Vol. 24, 2000, pp. 233-252.

“The Internet: Implications for Regulation and Public Policy,” 1999. Co-authored with Agustin Ros.

“The Internet: Market Characteristics and Regulatory Conundrums,” 1999. Co-authored with Agustin Ros. Chapter in *Forecasting the Internet: Understanding the Explosive Growth of Data Communications*, edited by Lester D. Taylor and David G. Loomis, Kluwer Academic Publishers.

“Using Covariances of Share Changes to Determine Substitutability” (an application to media advertising), 1997. Co-authored with Michael Salinger.

“The Case Against Imputation of Access Charges in IntraLATA Toll Prices: Economic Efficiency and Fairness Reconsidered,” BellSouth Telecommunications, 1994.

“Pricing of Local Exchange Interconnection Service From the Perspective of Economic Theory,” BellSouth Telecommunications, 1993.

“Economies of Scale and Scope, Subadditivity of Costs, and Natural Monopoly Tests for Regulated Utilities,” BellSouth Telecommunications, 1993.

“Fairness and Economic Efficiency in Regulation: Imputation v. Equal Contributions in IntraLATA Toll Pricing,” Report to the Task Force on Imputation of Access Charges in IntraLATA Toll Price, BellSouth Telecommunications, 1993.

“Economic Analysis of Efficient versus Imputation-Based Pricing by a Regulated Public Utility,” Report to the Task Force on Imputation of Access Charges in IntraLATA Toll Price, BellSouth Telecommunications, 1993.

“E: A Maximum Likelihood Estimation Program, A User’s Guide to Some Applications,” Bell Communications Research, 1992.

“Error Components Panel Data Modeling of Share Equation Systems: An Application to Telecommunications Access Demand,” Bell Communications Research, 1989.

“Analysis of Demand Migration and Take Rates for Special Access High Capacity Services,” Bell Communications Research, 1990.

“Business Outbound Service System: An Empirical Modeling Framework,”
AT&T, 1989.

MISCELLANEOUS PAPERS

“Does Futures Trading Destabilize Cash Prices? Evidence for U.S. Live Beef Cattle,” (with R.D. Weaver), Journal of Futures Markets, Vol 10(1), 1990, (pp. 41-60).

“Market Structure and the Dynamics of Retail Food Prices,” (with R.D. Weaver and P. Chattin), Northeastern Journal of Agricultural and Resource Economics, Vol 18(2), 1989, (pp. 160-170).

“Cash Price Variation in the Live Beef Cattle Market: The Causal Role of Futures Trade,” (with R.D. Weaver), Journal of Futures Markets, Vol 2(4), 1982, (pp. 367-389).

“Unemployment Rate Dynamics and Persistent Unemployment Under Rational Expectations: A Comment,” (with V. Moorthy), Working Paper No. 8-87-1, Department of Economics, The Pennsylvania State University, 1987.

“The Standard Errors of Characteristic Roots of a Dynamic Econometric Model: A Computational Simplification,” Working Paper No. 5-87-3, Department of Economics, The Pennsylvania State University, 1987.

“Market Structure, Market Power, and Dynamic Price Determination in the Retail Food Industry,” (with R.D. Weaver), Working Paper No. 5-87-2, Department of Economics, The Pennsylvania State University, 1987.

“Does Futures Trading Destabilize Cash Prices? Evidence for Live Beef Cattle,” (with R.D. Weaver), Working Paper No. 5-87-1, Department of Economics, The Pennsylvania State University, 1987.

“Existence of Portfolios with Simultaneous Trading in Unrelated Speculative Assets,” Working Paper No. 8-86-2, Department of Economics, The Pennsylvania State University, 1986.

“Models of Cash-Futures Market Complexes for Commodities Characterized by Production Lags,” Working Paper No. 7-86-2, Department of Economics, The Pennsylvania State University, 1986.

“Cash Price Stability in the Presence of Futures Markets: A Multivariate Causality Test for Live Beef Cattle,” (with R.D. Weaver), Staff Paper No. 45, Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University, 1981.

“Optimal Interpolation and Distribution of Time Series by Related Series Using a Spectral Estimator for the Residual Variance,” Bell Communications Research, 1990.

“Size and Power Characteristics of Three Tests of Nonlinearity in Time Series,” AT&T, 1989.

“Model Testing and Selection in Applied Econometrics,” AT&T, 1989.

CONFERENCE PRESENTATIONS

“Public Policy and Strategic Planning in Telecommunications: Implications for Pricing, Fair Competition, and Interconnection,” International Telecommunications Society Asia-Australian Regional Conference, Perth, Australia, June 22-24, 2003.

“Demand Growth for International Mobile Telephony,” International Telecommunications Society Asia-Australian Regional Conference, Perth, Australia, June 22-24, 2003.

“Drivers of Demand Growth for Mobile Telecommunications Services: Evidence from International Panel Data,” International Telecommunication Society 14th Biennial Conference, Seoul, South Korea, August 18-21, 2002.

Discussant of “Providing Location and Context Aware Services for Mobile Commerce: Technological Approaches, Applications, and Policy Issues” by Charles Steinfield and Junghyun Kim, and “Explaining the Success of NTT DoCoMo’s I-Mode Wireless Internet Service,” by Martin Fransman, International Telecommunication Society 14th Biennial Conference, Seoul, South Korea, August 18-21, 2002.

Discussant of “The Impotence of Imputation,” by T.Randolph Beard, David Kaserman, and John Mayo, 21st Annual Eastern Conference of the Advanced Workshop in Regulation and Competition, Rutgers University, Newport, RI, May 22-24, 2002.

“Does Incentive Regulation “Cause” Degradation of Retail Telephone Service Quality?” 20th Annual Eastern Conference of the Advanced Workshop in Regulation and Competition, Rutgers University, Tamiment, PA, May 23-25, 2001. Also presented at 19th Annual International Communications Forecasting Conference, Washington DC, June 26-29, 2001, and National Association of Regulatory Utility Commissioners, Summer Committee Meetings, Seattle, WA, July 17, 2001.

“Telecommunications Privatization and Tariff Rebalancing: Evidence from Latin America and Relevance to India,” India Telecom 2000 Conference Keynote Speech, New Delhi, India, October 31-November 2, 2000.

“Interconnection Rules and Inter-Carrier Compensation: Implications for Carrier Incentives and Economic Welfare,” (with Agustin Ros), 19th Annual Eastern Conference of the Advanced Workshop in Regulation and Competition, Rutgers University, Lake George, Bolton Landing, NY, May 24-26, 2000. Also presented at International Telecommunication Society 13th Biennial Conference, Buenos Aires, Argentina, July 2-5, 2000.

“The Internet: Implications for Regulation and Public Policy,” (with Agustin Ros), 27th Annual Telecommunications Policy Research Conference, Alexandria, VA, September 25-27, 1999.

“The Internet: Market Characteristics and Regulatory Conundrums,” (with Agustin Ros), International Communications Forecasting Conference, Denver, CO, June 15-18, 1999.

“Telecommunications Privatization and Tariff Rebalancing: Evidence from Latin America,” (with Agustin Ros), 18th Annual Eastern Conference of the Advanced Workshop in Regulation and Competition, Rutgers University, Newport, RI, May 26-28, 1999.

“An Estimate of Current Universal Service Obligations and the Likely Impact of Federal and State Universal Service Plans,” (with Agustin Ros and Neil Zoltowski), International Communications Forecasting Conference, St. Louis, MO, June 9-12, 1998.

“Competitive Telecommunications and its Aftermath: Economic Policy Issues and Modeling Needs,” International Communications Forecasting Conference, Dallas, TX, April 16-19, 1996.

“On Modelling the Dynamics of Demand for Optional and New Services,” International Communications Forecasting Conference, Toronto, Canada, June 13-16, 1995.

“The Case Against Imputation of Access Charges in IntraLATA Toll Prices: Economic Efficiency and Fairness Reconsidered,” Rutgers University Advanced Workshop in Regulation and Public Utility Economics, Seventh Annual Western Conference, San Diego, CA, July 6-8, 1994.

“Future Directions in Modeling the Demand for Vertical Services,” National Telecommunications Demand Study Conference, La Jolla, CA, March 24-25, 1994.

“E: A Maximum Likelihood Estimation Program,” National Telecommunications Forecasting Conference, Crystal City, VA, June 1-4, 1993.

Discussant of “The National Telecommunications Demand Study,” National Regulatory Research Conference on Telecommunications Demand, Denver, CO, August 3-5, 1992.

“Using Demographics to Predict New Service Take Rates: Discrete Choice Analysis vs. Categorical Data Analysis,” National Telecommunications Forecasting Conference, Atlanta, GA, May 5-8, 1992.

“Price Cap Regulations for the LECs: Implications for Demand and Revenue Forecasting,” National Telecommunications Forecasting Conference, Boston, MA, May 30, 1991.

“Demand Migration for Special Access High Capacity Services,” Rutgers University Advanced Workshop in Regulation and Public Utility Economics, Third Annual Western Conference, San Diego, CA, July 11-13, 1990.

“Error Components Panel Data Modeling of Telecommunications Access Demand,” Bellcore-Bell Canada Telecommunications Demand Analysis Conference, Hilton Head, SC, April 22-25, 1990, and Bell Atlantic Business Research Conference, Baltimore, MD, October 24-27, 1989.

“Analysis of Integrated Demand Systems,” Rutgers University Advanced Workshop in Regulation and Public Utility Economics, Second Annual Western Conference, Monterey, CA, July 5-7, 1989.

Panel Discussion on “The Regulatory and Operational Impacts of Price Caps,” National Telecommunications Forecasting Conference, San Francisco, CA, May, 1989.

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