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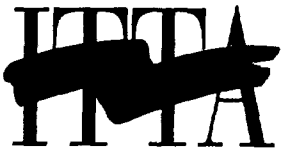

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November 5, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Ex Parte: Price Cap performance for Local Exchange Carriers
CC Docket No. 94-1; 96-262

Dear Ms. Salas:

This letter is to advise you that the following persons met with William Rogerson, Chief Economist of the Office of Plans and Policies, Jim Schlichting, Deputy Bureau Chief of the Common Carrier Bureau, and Rich Cameron on November 4, 1998 to urge the Commission to enact an interim productivity factor for midsize price cap LECs pending further examination of productivity differences between midsize and large ILECs: Ted Heckmann of Cincinnati Bell Telephone, Mike Shultz of Citizens Communications, Don Innes of Citizens Communications, Dr. Jeffrey Rohlfs of Strategic Policy Research Inc., Kirsten Pehrsson of Strategic Policy Research Inc., and David Zesiger of ITTA.

Please contact me if you have any questions regarding this matter.

Respectfully submitted,

David Zesiger

David W. Zesiger
Executive Director

Attachment

Cc: William Rogerson
Jim Schlichting
Rich Cameron
Ted Heckmann
Mike Shultz
Donn Innes
Dr. Jeffrey Rohlfs

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May 14, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M St., N.W. Room 222
Washington, D.C. 20554

Ex Parte: Price Cap Performance for Local Exchange Carriers
CC Docket No. 94-1

Dear Ms. Salas:

On July 11, 1997, Cincinnati Bell Telephone Company (CBT) and Citizens Utilities Company (Citizens), both Independent Telephone & Telecommunications Alliance members and 2% mid-size LECs, filed individual Petitions for Reconsideration (PFR) in CC Docket No. 94-1, Price Cap Performance Review for Local Exchange Carriers. Both PFRs specifically addressed the inappropriateness of applying the Commission's single 6.5% X-Factor to all Price Cap LECs.

CBT's PFR provided an empirical study, using CBT data and the Commission's TFP methodology (neither ITTA nor its members endorse this method), that provided the Commission with the following factual basis:

1. The 6.5% X-Factor is not appropriate for CBT. The specific data resulted in an annual TFP differential of 2.8% annually over the 1991 – 1995 time period; and

2. The study continues to support earlier Commission conclusions in CC Docket 87-313 that mid-size LECs cannot achieve, and should not be held, to the same level of productivity growth as the RBOCs. This study established that a 1.5% annual difference existed between CBT's and the RBOC average productivity growth rates.

Based on this uncontradicted evidence, CBT petitioned the Commissions to reconsider its decision to establish a single 6.5% X-Factor for all LECs and asked that a separate study be performed using non-RBOC data.

Ten months have passed since CBT filed its PFR. During that time the Commission Staff has given no indication of when it will consider, let alone make a recommendation to the Commission to act on CBT's petition. Given this significant delay, ITTA, on behalf of its price

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cap companies, urges the Commission to move this issue forward. In addition, ITTA hereby submits an updated version of the study in further support of CBT's pending PFR. This study has been expanded to include the data for Aliant Communications. The findings, enhanced with the inclusion of the Aliant data, continue to support the earlier conclusions that the 6.5% X-Factor is inappropriate for 2% mid-size LECs and that a significant difference exists between the productivity growth rates for the RBOCs and 2% mid-size LECs. This study has already been informally reviewed with several of the Commissioners' Legal Advisors and Staff from the Competitive Pricing Division (see ITTA Ex Parte Letter, CC Docket No. 94-1, dated April 23, 1998) and is now being formally submitted as indicated in those ex parte visits.

Based on the facts presented in earlier PFRs, the empirical data set forth in CBT's PFR and supplemented here, ITTA strongly believes that the Commission has sufficient evidence to order a lower X-Factor for 2% mid-size price cap LECs. ITTA proposes the following recommendation for Commission action:

1. The Commission should immediately establish an interim X-Factor of 5.0%. This recommendation is supported by the 1.0% – 1.5% differential in productivity growth that the empirical data illustrates between 2% mid-size LECs and RBOCs;

2. The Commission should allow an exogenous adjustment to reflect that this new X-Factor should have been allowed at the time 2% mid-size companies were mandated to implement the 6.5% X-Factor; and

3. In the next Price Cap review, the FCC should complete an X-Factor analysis based on data from 2% mid-size companies that shall be used in future filings.

Given the limited time for consideration of this request before rates must be finalized for the July 1, 1998 Annual Price Cap filing, ITTA urges that the Commission act expeditiously on this request. Please feel free to contact me if you have any questions.

Very truly yours,

David W. Zesiger

David W. Zesiger

cc: Katie King
Paul Gallant
Jim Casserly
Kyle Dixon
Tom Power
Kevin Martin
Jane Jackson

Attachment (1)

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One Size Does Not Fit All:
Further Evidence Against the Adequacy of a Single X-Factor

Jeffrey H Rohlfs
Kirsten M. Pehrsson[1]

April 23, 1998

The Federal Communications Commission (FCC), in its *Fourth Report and Order*,[2] decided to use a single X-Factor for all price-cap local exchange carriers (LECs). Last summer, we responded with a paper arguing that using a single X-Factor is inequitable and does not capture the inherent difference between RBOCs and smaller companies like Cincinnati Bell Telephone and Aliant.[3] We specifically respond to the FCC's evidence justifying a single X-Factor. In particular, we presented specific evidence that the FCC's X-Factor was inappropriate for Cincinnati Bell. In this paper, we are able to buttress our earlier findings by broadening the analysis to include another mid-sized company — Aliant. Including an additional company in the analysis affords the

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1 Dr. Rohlfs is a principal in Strategic Policy Research, Inc., an economics and telecommunications policy consulting firm located in Bethesda, Maryland. He formerly served as Head of Economic Modeling Research at Bell Labs. Ms. Pehrsson is a Senior Consultant at SPR.

2 FCC, In the Matter of Price Cap Performance Review for Local Exchange Carriers, Access Charge Reform, *Fourth Report and Order in CC Docket No. 94-1 and Second Report and Order in CC Docket No. 96-262*, CC Docket No. 94-1 and CC Docket No. 96-262, adopted May 7, 1997, released May 21, 1997.

3 Jeffrey H. Rohlfs and Kirsten M. Pehrsson, *One Size Does Not Fit All: The Inadequacy of a Single X-Factor for All Price-Cap Companies*, submitted before the Federal Communications Commission, *In the Matter of Price Cap Performance Review for Local Exchange Carriers; Access Charge Reform*, CC Docket Nos. 94-1 and 96-262, Attachment to Petition for Reconsideration, July 11, 1997.

opportunity for sensitivity analyses that prove our estimates to be robust. It also reveals Aliant results that are consistent with those for Cincinnati Bell.

Interim Plan Versus New Plan

Under the FCC's interim price-cap plan, LECs had a choice of X-Factors. LECs which chose the highest X-Factor were exempt from any sharing of earnings. LECs which chose a lower X-Factor incurred obligations to share earnings above certain prespecified levels.

A drawback to this approach is that sharing dilutes the incentives of LECs to improve efficiency. In general, one would expect LECs that operate under sharing regimes to be less efficient in the long run than similar companies operating under pure price caps. For this reason, the FCC abandoned the interim approach in favor of a pure price-cap plan.

We certainly do not criticize the FCC's decision to eliminate sharing. Nevertheless, the interim plan did have the advantage of distinguishing among LECs. It did not envision that one size of price-cap plan fits all companies.

A variform approach to price caps is desirable because price-cap LECs are so diverse. At one extreme are urban companies, such as Cincinnati Bell. At the other extreme are companies which serve entirely rural communities. All these companies are very different from the Regional Bell Operating Companies (RBOCs). Each RBOC is 10 times as large as the smaller companies and each serves diverse areas, including urban and rural communities. Conceivably, the RBOCs are sufficiently homogeneous that a single X-Factor is appropriate for all of them. However, it would be an amazing coincidence if that same X-Factor were also appropriate for Cincinnati Bell and Aliant, as well as companies which serve entirely rural communities. We demonstrate in this paper that there is, in fact, no such coincidence.

The FCC's new price-cap plan should take account of differences among price-cap LECs. It need not give companies a choice of X-Factors (in exchange for differential sharing obligations). It could instead have different X-Factors for companies with different prospects for productivity growth. We discuss below how multiple X-Factors can be used without diluting efficiency incentives.

Response to the FCC's Evidence

In the *Fourth Report and Order*, the FCC adduces a variety of evidence to justify its decision to use a single X-Factor. In this section, we respond to that evidence.

Court Cases

The FCC cites court cases to demonstrate that using a single cost standard is not "inherently" unreasonable.[4] To be sure, a single standard might be the only practical alternative under some circumstances; *e.g.*, if the regulatory body has minimal staff and/or cost data are lacking. However, these considerations obviously do not apply to the FCC.

Indeed, the FCC staff has already developed a computer model of productivity growth. The model that the FCC has disclosed is populated with RBOC data. However, the same model could easily have been populated with data from other LECs.[5] We were able to populate the model with Cincinnati Bell and Aliant data in a few days' time. The FCC could certainly have done likewise.[6] One would certainly have expected that members of the Commission staff would already have populated the model with data from LECs other than RBOCs in order to observe the results. Yet, no results of applying the model to non-RBOC data were discussed in the *Fourth Report and Order*.

Reference to Corrected Norsworthy Model

In justifying the use of a single X-Factor, the FCC does not refer to its own model. Instead, it refers to the Norsworthy model, as corrected by Christensen.[7] The corrected Norsworthy model yields estimates of productivity growth between 2.9 percent per year and 3.1 percent per year. It is hard to see how these estimates can possibly justify setting an X-Factor of 6.5 percent per year for all price-cap LECs.

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4 *Ibid.*, ¶ 160.

5 Data from some companies will undoubtedly be incomplete and/or have data problems. Nevertheless, sufficient data are probably available in every case to draw valid inferences about differences in productivity.

6 Moreover, our task was made more difficult, because the Commission altered its spreadsheet (159chrts.xls) to substitute values for the underlying formulae. We therefore had to take time to reconstruct the formulae. The Commission can use its unaltered spreadsheets and does not have to do such reconstruction.

7 *Fourth Report and Order*, ¶ 135.

There Is a Basis for Distinction

The FCC observes, "Furthermore, the record contains no convincing proposals that would allow us readily to identify any characteristics by which we could assign individual X-Factors to different price-cap carriers, so there could be multiple 'no sharing' X-Factors."[8] This statement seems to imply that the FCC, like a court of law, can consider only evidence that is submitted by the adversaries in the case. In reality, the FCC has already ranged far afield of the evidence submitted by the parties. Indeed, the whole new price-cap plan is based on productivity analysis conducted by the FCC Staff — analysis which differs substantially from any that has been submitted by the parties. It is a logical next step to use the same model to investigate the efficacy of different X-Factors for non-mandatory price-cap LECs.

There are several ways that the FCC might distinguish among LECs and have different X-Factors. The simplest possibility is to have one X-Factor for the mandatory price-cap LECs and a different X-Factor for other price-cap LECs. This possibility would be appropriate if the FCC Model indicated that non-mandatory companies are homogeneous but different from the mandatory companies. That outcome does not, however, seem likely. Two other possibilities are suggested by a study that we conducted in 1991 and filed at the FCC. According to that study:

- Companies that already have low unit costs tend to have slower productivity growth.[9] If the FCC model supports this finding, there should be a lower X-Factor for companies that already have low unit costs.
- LECs whose holding companies are smaller tend to have slower productivity growth. If the FCC model supports this finding, there should be a lower X-Factor for small holding companies.[10]

The FCC should test these (and other) possibilities with its own cost model. If differences in productivity growth are not related to any of these factors, the FCC would then have an evidentiary basis to support a single X-Factor. We believe that, on the contrary, such analysis would

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8 *Ibid.*, ¶ 158.

9 We denoted this finding as the Roseanne Barr effect. That is, it is easier for Roseanne Barr to lose weight than for Arnold Schwarzenegger.

10 J. Rohlfs, "Differences in Productivity Gains Among Telephone Companies," prepared for CENTEL, September 3, 1991.

provide an evidentiary basis for different X-Factors for different companies.[11] Conceivably, there could be a different X-Factor for each company. However, rough justice (and administrative simplicity) could probably be achieved by having relatively few X-Factors for companies that fall into various categories.

Gaming of Multiple X-Factors

The FCC expresses concern that multiple X-Factors could be gamed by LECs.[12] This concern is certainly understandable. However, gaming would likely be a problem only if the multiple X-Factors are constructed so as to reward poor performance. There would be no problem of gaming if the multiple X-Factors were based on exogenous variables. Furthermore, X-Factors that are lower for low-cost companies encourage good performance. With lower X-factors, companies are allowed to capture a larger portion of the benefits yielded by gains in efficiency over the long run. They thereby enhance the efficiency incentives under price caps.

Choice of X-Factors

The FCC observes that virtually all the mandatory price-cap LECs have opted for the higher X-Factor during at least part of the interim price-cap period.[13] However, this finding obviously cannot justify a single X-Factor for *non-mandatory* price-cap LECs. In reality, the elections of non-mandatory price-cap LECs indicate considerably greater heterogeneity. For example, Southern New England Telephone Company elected the lower X-Factor for both years of the interim plan. Alltel has indicated its lower prospects for productivity growth by declining to elect price caps at all. Until this year, Cincinnati Bell did likewise. Furthermore, Cincinnati Bell and Aliant chose price-caps, in part, to enjoy the greater pricing flexibility that it needs to meet competition — not because it expects productivity growth in excess of 6.5 percent per year. A price-cap regime with multiple X-

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[11] We hasten to add that we do not necessarily endorse the FCC's methods for estimating productivity. Nevertheless, the FCC should use a consistent analytical approach. Arbitrarily combining parts of one model (*e.g.*, the Staff Model) with parts of other inconsistent models (*e.g.*, the Norsworthy model, as corrected by Christensen) cannot lead to rational policies.

[12] *Fourth Report and Order*, ¶ 159.

[13] *Ibid.*, ¶ 157.

Factors would have the advantage of encouraging LECs with lower prospects for productivity growth to elect price caps. If the X-Factors are properly crafted, the outcome could be lower prices for consumers, as well as benefits to the firms.

In any event, one must be cautious in using elections of X-Factors to draw inferences about future productivity growth for the following reason:

> Price-caps are generally conceived as a win-win policy. That is, the productivity gains resulting from price caps are supposed to be shared by the company and its customers. The company's gains are manifest in earnings above its cost of capital. These earnings are expected to grow over the period of a price-cap plan. They decline, but not necessarily to zero, when a new price-cap plan begins.
>
> A company that has been under price-caps may elect a higher X-Factor to postpone sharing productivity gains that it made in the past. Such an election does not necessarily indicate that the company expects rapid productivity growth in the future.

Analysis of Cincinnati Bell and Aliant's Productivity

The FCC chose an overall X-Factor of 6.5 percent, of which 6.0 percent was to reflect productivity and 0.5 percent the CPD (consumer productivity dividend). The average of the 1991-1995 year-to-year X-Factor estimates calculated for the RBOCs was 5.2 percent. The FCC provides several reasons for selection of the 6.0 percent value from the range which varied from 3.4 percent to 6.8 percent. It referred to the RBOCs' consistent achievement of productivity growth near or at the upper end of the range of reasonableness (established at 6.3 percent). The FCC also notes the strong upward trend in productivity growth from 1992 to 1995.

In this section, we present estimates of Cincinnati Bell and Aliant's productivity growth to compare with that of the RBOCs. The estimates are based primarily on the productivity model developed by the FCC Staff. We did, however, need to make adjustments with respect to unregulated costs, measurement of local usage, and interstate special access. The consistent and upward-trending RBOC productivity growth holds using the slightly modified FCC's methodology that we used to perform the comparison. In contrast, however, the productivity growth for both Cincinnati Bell and Aliant over that period was neither consistent nor upward-trending.

Unregulated Costs

The productivity model developed by the FCC Staff does not include outputs associated with unregulated activities. Formally, this omission is manifest in the exclusion of Miscellaneous Revenues, which include revenues from unregulated activities.

As a matter of theory, a productivity model that excludes the outputs of unregulated activities should also exclude the inputs used to produce them. Otherwise, output growth and input growth are inconsistent and cannot be compared to estimate total factor productivity. The FCC Staff Model does not exclude the inputs used in unregulated activities. Failure to exclude such inputs is theoretically suspect. Nevertheless, that methodology may be reasonable for estimating RBOC productivity growth, since unregulated activities constitute only a small part of RBOC output.

That methodology is not, however, reasonable for Cincinnati Bell and Aliant. Unregulated activities are a larger fraction of Cincinnati Bell and Aliant's output than of RBOC output.[14] Furthermore, Cincinnati Bell and Aliant's unregulated activities have followed quite a different pattern than regulated activities; so regulated activities are not an adequate proxy for unregulated activities.[15]

For this reason, we exclude unregulated inputs from our analysis. Our estimates of unregulated inputs for Aliant and Cincinnati Bell are based on annual ARMIS reports.

Local Usage

Aliant data on the number of local calls exhibits a significant drop between 1990 and 1991. In that same period, the number of switched access minutes increased. In order to compensate for any possible data error or other anomaly in that period and to avoid overestimating productivity increases, we substituted a local dial equipment minutes (DEM) series for the local call data series. Local DEMs indicated a steady and consistent increase throughout the period.

We performed sensitivity analyses against our results to test effect of substituting local DEMs for local call data. Using local DEMs instead of local call data increased Cincinnati Bell's

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[14] An important reason for this difference is that Cincinnati Bell and Aliant are not subject to all the separate-subsidiary requirements that the RBOCs are subject to.

[15] In particular, unregulated activities have declined irregularly over the past several years, while regulated activities have grown fairly steadily.

price/productivity differential average for 1991-1995 by 0.5 percent per year. We also measured the effect of substituting local DEMs for call data in the RBOC calculation. Substitution of DEM for call data caused no change in the price/productivity differential average for 1991-1995. (Results for Cincinnati Bell and RBOCs using call data are provided in Tables 4 and 5, in the Appendix.)

These sensitivity analyses confirm the robustness of our estimates. They show that using different methodological approaches yields similar results, and that the gap with RBOC productivity is not merely the anomalous result of a particular measurement scheme. Also, because our use of DEMs increases the measured price/productivity differential average for Cincinnati Bell but does not affect that for the RBOCs, this adjustment serves to make our estimate of the productivity differential more conservative.

Special Access

Cincinnati Bell's data on the number of special-access lines have large year-to-year fluctuations. In any event, the data on number of special-access lines are probably not an adequate quantity index for output for special access. We therefore, exclude special-access from our analysis, as we did in our previous analysis.

The special-access line data for Aliant appeared to be consistent and thereby provide the opportunity to perform a sensitivity analysis on the impact on measured productivity caused by excluding special access for Cincinnati Bell. The analysis shows the impact is slight. The effect of excluding special access from Aliant is to decrease the price/productivity differential average for 1991-1995 by only 0.3 percent per year. The effect of excluding special access from the RBOC calculation is to decrease the price/productivity differential average for 1991-1995 by 0.9 percent per year. (Results for Aliant and RBOCs including special access in the calculation are provided in Tables 5 and 6, in the Appendix).

These sensitivity analyses also confirm the robustness of our estimates. As before, they show that using different methodological approaches yields similar results, and that the gap with RBOC productivity is not merely the anomalous result of a particular measurement scheme. Also, as the decrease in measured RBOC productivity is greater than that for Aliant, this adjustment serves to make our estimate of the difference more conservative.

Results

In our analysis, we are not especially concerned with the absolute levels of productivity growth. Rather, we examine the *difference* in productivity growth between RBOCs, Cincinnati Bell, and Aliant. To ensure comparability, we treat all three entities the same; *i.e.*, we exclude special access and use local DEM instead of local call data.

Table 1 shows results of applying the FCC's methodology, modified as described above, to Cincinnati Bell data. The table shows that Cincinnati Bell's average price/productivity differential from 1990 to 1995 was 3.1 percent per year. The average from 1991 to 1995 was 3.3 percent per year. Table 2 shows results of applying FCC's methodology, modified as described above, to Aliant data. The table shows that Aliant's average price/productivity differential from 1990 to 1995 was 2.6 percent per year. The average from 1991 to 1995 was 2.7 percent per year.

The RBOC results, adjusted for special access and substituting DEMs for local calls, are shown in Table 3. The RBOC price/productivity differential, excluding special access, averaged 4.6 percent per year from 1990 to 1995 and 4.3 percent from 1991 to 1995.

The difference between the Cincinnati Bell and Aliant and RBOC results is enormous. The Cincinnati Bell difference amounted to 1.5 percent per year from 1990 to 1995 and 1.0 percent per year from 1991 to 1995. The Aliant difference amounted to 2.0 percent per year from 1990 to 1995 and 1.6 percent per year from 1991 to 1995. The differentials were even greater in 1994 and 1995, when Cincinnati Bell was subject to incentive regulation and Aliant was subject to price caps. The differential for Cincinnati Bell averaged 4.8 percent per year for those years, while the differential for Aliant was only slightly higher than for 1991-1993. These data strongly suggest that Cincinnati Bell and Aliant both have lower prospects for productivity growth than do RBOCs. This finding is consistent with past studies, which also demonstrated that Cincinnati Bell's productivity growth is slower than that of larger LECs.[16]

Efficiency of Cincinnati Bell and Aliant

The lower productivity growth does not indicate that Cincinnati Bell nor Aliant are less efficient than the RBOCs. On the contrary, Cincinnati Bell is a low-cost company. Cincinnati

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[16] *See* J. Rohlfs, "Incentive Regulation and Estimates of Productivity," prepared for Cincinnati Bell Telephone Company (Attachment I), June 9, 1989. *See* also Rohlfs (1991).

Bell's price for interstate switched access was only $0.021 per minute in 1995. This can be compared to the average RBOC price of $0.028 per minute. The Cincinnati Bell price was almost 40 percent lower than the RBOC price. These price differences reflect differences in unit costs allocated to the interstate jurisdiction. As discussed above, further productivity gains are more difficult for companies that already have low cost.

Aliant's price for interstate switched access was slightly higher than the RBOCs' in 1995. Aliant is a small holding company, and previous research has shown that small holding companies exhibit lower productivity growth.[17] Also, unlike some RBOCs, Aliant serves a large rural population — 40 percent of Aliant's access lines are outside the a metropolitan Lincoln/Lancaster area.

Conclusions

Our productivity analysis demonstrates that Cincinnati Bell and Aliant have had slower productivity growth than the RBOCs. The slow growth does not indicate poor performance by either company. On the contrary, Cincinnati Bell has lower unit costs than the RBOCs and Aliant has comparable unit costs, even though it is much smaller and serves a significant rural population. It is difficult for Cincinnati Bell, Aliant, or any other firm to realize productivity gains at the same rate that higher-cost firms can improve their productivity.

More importantly, one size of price-cap plan does not fit all LECs. It is unfair and inequitable for the FCC to use the same X-Factor for firms that have substantially different prospects for productivity growth. Multiple X-Factors can be developed and used without significant administrative burdens and without allowing gaming by LECs.

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[17] *See* Rohlfs (1991).

Table 1:

Cincinnati Bell Estimates based on FCC Staff Model
(Using DEMs, excluding Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			CBT
	CBT	U.S. Nonfarm Business Sector	Differential	CBT	U.S. Nonfarm Business Sector	Differential	Price/Productivity Differential
Year	A	B	C = B - A	D	E	F = D - E	G = C + F
1990	-0.03%	3.31%	3.34%	-1.64%	-0.47%	-1.17%	2.2%
1991	2.11%	2.06%	-0.05%	-0.16%	-0.89%	0.73%	0.7%
1992	-5.09%	2.88%	7.97%	-0.90%	1.10%	-2.01%	6.0%
1993	-1.37%	3.72%	5.08%	3.20%	0.55%	2.65%	7.7%
1994	6.49%	3.50%	-2.99%	3.80%	0.50%	3.30%	0.3%
1995*	-1.30%	3.09%	4.39%	-2.37%	0.16%	-2.53%	1.9%
Averages							
[1990-95]	0.14%	3.09%	2.96%	0.32%	0.16%	0.16%	3.1%
[1991-95]	0.17%	3.05%	2.88%	0.71%	0.28%	0.43%	3.3%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

Table 2:

Aliant Estimates based on FCC Staff Model
(Using DEMs, excluding Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			Aliant
	Aliant	U.S. Nonfarm Business Sector	Differential	Aliant	U.S. Nonfarm Business Sector	Differential	Price/Productivity Differential
Year	A	B	C = B - A	D	E	F = D - E	G = C + F
1990	1.73%	3.31%	1.58%	-0.05%	-0.47%	0.43%	2.0%
1991	3.36%	2.06%	-1.31%	-2.52%	-0.89%	-1.63%	-2.9%
1992	1.07%	2.88%	1.81%	2.84%	1.10%	1.73%	3.5%
1993	-0.36%	3.72%	4.08%	1.05%	0.55%	0.50%	4.6%
1994	4.31%	3.50%	-0.81%	4.42%	0.50%	3.92%	3.1%
1995*	4.09%	3.09%	-1.00%	6.45%	0.16%	6.29%	5.3%
Averages							
[1990-95]	2.37%	3.09%	0.73%	2.03%	0.16%	1.87%	2.6%
[1991-95]	2.50%	3.05%	0.55%	2.45%	0.28%	2.16%	2.7%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

Table 3:

RBOC Estimates based on FCC Staff Estimates (Using DEMs, Excluding Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			LEC
Year	Total RBOCs A	U.S. Nonfarm Business Sector B	Differential C = B - A	Total RBOCs D	U.S. Nonfarm Business Sector E	Differential F = D - E	Price/Productivity Differential G = C + F
1990	1.88%	3.31%	1.43%	4.43%	-0.47%	4.90%	6.3%
1991	-0.85%	2.06%	2.91%	-0.92%	-0.89%	-0.03%	2.9%
1992	2.68%	2.88%	0.21%	3.66%	1.10%	2.56%	2.8%
1993	2.27%	3.72%	1.44%	3.24%	0.55%	2.69%	4.1%
1994	-0.19%	3.50%	3.69%	1.69%	0.50%	1.18%	4.9%
1995*	1.31%	3.09%	1.78%	5.16%	0.16%	5.00%	6.8%
Averages							
[1990-95]	1.18%	3.09%	1.91%	2.88%	0.16%	2.72%	4.6%
[1991-95]	1.04%	3.05%	2.01%	2.56%	0.28%	2.28%	4.3%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

APPENDIX:

Sensitivity Analyses (Tables 4-7)

Table 4:

Cincinnati Bell Estimates based on FCC Staff Model
(Using Local Calls, excluding Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			CBT
	CBT	U.S. Nonfarm Business Sector	Differential	CBT	U.S. Nonfarm Business Sector	Differential	Price/Productivity Differential
Year	A	B	C = B - A	D	E	F = D - E	G = C + F
1990	-0.03%	3.31%	3.34%	-6.60%	-0.47%	-6.13%	-2.8%
1991	2.11%	2.06%	-0.05%	-0.66%	-0.89%	0.23%	0.2%
1992	-5.09%	2.88%	7.97%	-1.82%	1.10%	-2.92%	5.1%
1993	-1.37%	3.72%	5.08%	3.41%	0.55%	2.86%	7.9%
1994	6.49%	3.50%	-2.99%	5.02%	0.50%	4.52%	1.5%
1995*	-1.30%	3.09%	4.39%	-5.19%	0.16%	-5.35%	-1.0%
Averages							
[1990-95]	0.14%	3.09%	2.96%	-0.97%	0.16%	-1.13%	1.8%
[1991-95]	0.17%	3.05%	2.88%	0.15%	0.28%	-0.13%	2.8%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

Table 5:

RBOC Estimates based on FCC Staff Estimates
(Using Local Calls, excluding Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			LEC
Year	Total RBOCs A	U.S. Nonfarm Business Sector B	Differential C = B - A	Total RBOCs D	U.S. Nonfarm Business Sector E	Differential F = D - E	Price/Productivity Differential G = C + F
1990	1.88%	3.31%	1.43%	5.69%	-0.47%	6.16%	7.6%
1991	-0.85%	2.06%	2.91%	0.78%	-0.89%	1.67%	4.6%
1992	2.68%	2.88%	0.21%	3.89%	1.10%	2.79%	3.0%
1993	2.27%	3.72%	1.44%	2.14%	0.55%	1.59%	3.0%
1994	-0.19%	3.50%	3.69%	1.34%	0.50%	0.84%	4.5%
1995*	1.31%	3.09%	1.78%	4.85%	0.16%	4.69%	6.5%
Averages							
[1990-95]	1.18%	3.09%	1.91%	3.12%	0.16%	2.96%	4.9%
[1991-95]	1.04%	3.05%	2.01%	2.60%	0.28%	2.32%	4.3%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

Table 6:

Aliant Estimates based on FCC Staff Model
(Using DEMs, including Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			Aliant
	Aliant	U.S. Nonfarm Business Sector	Differential	Aliant	U.S. Nonfarm Business Sector	Differential	Price/Productivity Differential
Year	A	B	C = B - A	D	E	F = D - E	G = C + F
1990	1.73%	3.31%	1.58%	-0.17%	-0.47%	0.31%	1.9%
1991	3.36%	2.06%	-1.31%	-1.81%	-0.89%	-0.92%	-2.2%
1992	1.07%	2.88%	1.81%	3.04%	1.10%	1.93%	3.7%
1993	-0.36%	3.72%	4.08%	1.30%	0.55%	0.75%	4.8%
1994	4.31%	3.50%	-0.81%	4.85%	0.50%	4.35%	3.5%
1995*	4.09%	3.09%	-1.00%	6.32%	0.16%	6.16%	5.2%
Averages							
[1990-95]	2.37%	3.09%	0.73%	2.26%	0.16%	2.10%	2.8%
[1991-95]	2.50%	3.05%	0.55%	2.74%	0.28%	2.46%	3.0%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

Table 7:

RBOC Estimates based on FCC Staff Estimates
(Using DEMs, including Special Access)

Components of FCC LEC Price Cap X-Factor [Excluding CPD]

	Input Price Growth Rates			Total Factor Productivity Growth Rates			LEC
Year	Total RBOCs A	U.S. Nonfarm Business Sector B	Differential C = B - A	Total RBOCs D	U.S. Nonfarm Business Sector E	Differential F = D - E	Price/Productivity Differential G = C + F
1986	4.94%	2.81%	-2.13%	#N/A	0.92%	#N/A	#N/A
1987	0.56%	2.53%	1.97%	#N/A	-0.02%	#N/A	#N/A
1988	-1.58%	3.73%	5.31%	#N/A	0.46%	#N/A	#N/A
1989	-2.36%	3.04%	5.40%	1.10%	-0.55%	1.66%	7.1%
1990	1.88%	3.31%	1.43%	5.63%	-0.47%	6.11%	7.5%
1991	-0.85%	2.06%	2.91%	0.39%	-0.89%	1.28%	4.2%
1992	2.68%	2.88%	0.21%	4.10%	1.10%	2.99%	3.2%
1993	2.27%	3.72%	1.44%	4.87%	0.55%	4.32%	5.8%
1994	-0.19%	3.50%	3.69%	2.55%	0.50%	2.04%	5.7%
1995*	1.31%	3.09%	1.78%	5.49%	0.16%	5.33%	7.1%
Averages							
[1990-95]	1.18%	3.09%	1.91%	3.84%	0.16%	3.68%	5.6%
[1991-95]	1.04%	3.05%	2.01%	3.48%	0.28%	3.19%	5.2%

*Columns B and E for 1995 are estimated, based on the average of 1990-1994.

INDEPENDENT
TELEPHONE & TELECOMMUNICATIONS
ALLIANCE

November 5, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Ex Parte: Price Cap performance for Local Exchange Carriers
CC Docket No. 94-1; 96-262

Dear Ms. Salas:

This letter is to advise you that the following persons met with William Rogerson, Chief Economist of the Office of Plans and Policies, Jim Schlichting, Deputy Bureau Chief of the Common Carrier Bureau, and Rich Cameron on November 4, 1998 to urge the Commission to enact an interim productivity factor for midsize price cap LECs pending further examination of productivity differences between midsize and large ILECs: Ted Heckmann of Cincinnati Bell Telephone, Mike Shultz of Citizens Communications, Don Innes of Citizens Communications, Dr. Jeffrey Rohlfs of Strategic Policy Research Inc., Kirsten Pehrsson of Strategic Policy Research Inc., and David Zesiger of ITTA.

Please contact me if you have any questions regarding this matter.

Respectfully submitted,

David Zesiger

David W. Zesiger
Executive Director

Attachment

Cc: William Rogerson
Jim Schlichting
Rich Cameron
Ted Heckmann
Mike Shultz
Donn Innes
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