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May 30, 2000

Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

**Re: Price Cap Performance Review for Local Exchange Carriers;
Access Charge Reform, CC Docket Nos. 94-1, 96-262**

Dear Ms. Salas:

AT&T Corp. ("AT&T") files this ex parte presentation to respond to the United States Telephone Association's ("USTA") May 5, 2000 ex parte presentation in the above-captioned proceeding. In that filing, USTA and its consultant William Taylor attempted to respond to AT&T's demonstration that the FCC could readily calculate an interstate only X-factor by using AT&T's Direct Method, which is mathematically equivalent to the more complex TFP formula the FCC has used in the past (and which USTA continues to advocate).

Taylor's new submission contains nothing that calls into question any part of AT&T's analysis. Indeed, Taylor concedes that the Direct Method is mathematically equivalent to the FCC's TFP formula. The Direct Method simply isolates the variables that actually determine the historical X-factor under the FCC's (and USTA's) more complex formula. While Taylor continues to insist that an "economically meaningful" X-factor can only be calculated based on the FCC's formula, which includes the TFP and input price variables, Taylor has done nothing to refute AT&T's mathematical showing that those terms effectively cancel out and have no bearing on the outcome.

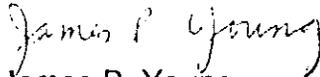
Moreover, contrary to USTA's assertion in its cover letter, *retention* of the total company X-factor would not withstand the scrutiny of the U.S. Court of Appeals. The D.C. Circuit did not find that "interstate productivity is neither measurable nor economically defined," as USTA claims. On the contrary, the Court upheld the FCC's 1997 order establishing a total-company X-factor solely on the basis that the FCC had found that it could not calculate an interstate-only X-factor on the record before it. See *USTA v. FCC*, 188 F.3d 521, 528-29 (D.C. Cir. 1999). As both the FCC and the Court

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indicated, the principal difficulty in calculating an interstate-only X-factor was the question of how to segregate interstate inputs from intrastate inputs. *USTA*, 188 F.3d at 528-29. As AT&T has now shown, however, an equivalent X-factor can be calculated directly without explicitly measuring input prices and input quantities. This Direct Method easily permits calculation of an interstate-only X-factor, because the interstate-only components of that formula can be readily determined.

The D.C. Circuit acknowledged that the FCC had "declared itself ready to consider some adjustment if it were shown that inclusion of intrastate data systematically biased the X-factor estimate downward." *USTA*, 188 F.3d at 528. AT&T has now demonstrated that such a systematic downward bias in fact exists. Indeed, to ignore the mathematical identity of the Direct Method and the FCC's TFP formula, and to ignore the ease with which the Direct Method permits calculation of an interstate-only X-factor, would be arbitrary and capricious under the Administrative Procedure Act. Therefore, for the reasons set out in the attached paper and in AT&T's previous submissions in this docket, the FCC should adopt an interstate-only X-factor.

Very truly yours,


James P. Young
Attorney for AT&T Corp.

**Response to Ex Parte Comments of William E. Taylor
Steve Friedlander, 5/30/00**

Introduction

In its 1997 order in the price cap review proceeding, the FCC adopted a TFP (total factor productivity) model to determine the historical X-factor. AT&T's subsequent analysis of the FCC model showed that much of the data used in the model essentially "cancels out" and that X-factors equivalent to those obtained by the FCC could be calculated more directly via an approach that has been described as the "Direct Method." AT&T then showed how the Direct Method can be used to calculate the X-factor using interstate data.

Because there appears to have been some confusion as to what the FCC's X-factor calculations really measure, it is important to understand how the FCC model works. AT&T's Direct Method sheds light on the FCC's analysis by properly focusing attention on those variables that actually determine the historical X-factor and avoiding the complex calculations needed to develop indices that have no real bearing on the results. This makes it easier to identify those aspects of the X-factor calculations upon which the various parties agree and those aspects upon which the two sides diverge.

In AT&T's Direct Method, the X-factor is calculated directly on the basis of the growth rates for LEC output (Q) and LEC revenue (REV), as well as the economy-wide measures of productivity growth (TFP) and input price changes (IP):

$$X = \% \Delta Q_{LEC} - \% \Delta REV_{LEC} - \% \Delta TFP_{US} + \% \Delta IP_{US}.$$

It worth emphasizing that what matters is the trend in these variables over the entire period being studied. Thus, for example, the X-factor for the 1990-98 period during which price cap regulation has been in effect depends on the extent to which these variables have grown from 1990 and 1998 can be written as:

$$X = (1/8) * [\ln(Q_{98}/Q_{90}) - \ln(REV_{98}/REV_{90}) - \ln(TFP_{US98}/TFP_{US90}) + \ln(IP_{US98}/IP_{US90})].$$

Areas of Agreement

There is no dispute that the above formulas accurately depict the FCC's X-factor calculations. As Taylor points out, "...there is no disagreement or confusion regarding the mathematical derivation that shows that X can be written in two ways: as a difference in growth rates of TFP and input prices between the LECs and the economy and as the difference in growth rates of real revenue and output for the LEC," and "When applied to total company data, the methods are equivalent" (Taylor, para. 5).

Once this central fact is acknowledged, the following statements from USTA's May 5, 2000 ex parte can be dismissed as pure rhetoric that is of no relevance:

"AT&T's direct method does not measure the productivity and input price components of the X-factor. It is a drastic departure from the economically meaningful approach taken by the Commission" (Linda L. Kent letter).

"The direct method diverts attention from the variables that determine the historical real rate of change of unit costs, ... namely the differential rates of growth of TFP and input prices for LECs compared with the U.S. economy" (Taylor, para. 3)

While it may be an interesting academic exercise to divide the X-factor into its TFP and input price components, AT&T's analysis shows that it is by no means necessary to do so. Thus although the direct method may "divert attention" from these components, it does properly focus attention on those variables that actually determine the historical X-factor in the FCC model.

It is also beside the point to assert that "The FCC has determined that X ought to be based on historical TFP rather than on historical trends in prices" (para. 7). Despite the FCC's determination, these two alternatives can lead to the same result, for as Taylor himself acknowledges, the X-factor can be expressed in different ways that are equivalent.¹ It is possible that the FCC was not aware of this equivalence when it adopted the use of TFP analysis.

The various parties also agree that the revenue term in the above equation needs to be adjusted for the level of LEC earnings. Because the objective in this proceeding is to measure the trend in LEC costs, revenues need to be adjusted to remove any excess (or deficient) earnings, so that the trend in adjusted revenues provides a reasonable estimate of the trend in costs. There is thus no disagreement that some type of adjustment is needed. Taylor's assertion that "The problem with AT&T's analysis is that it makes the implicit assumption that revenues equal costs for whatever services to which its method is to be applied" (para. 9) simply makes no sense. Like the other analyses presented in this proceeding, AT&T adjusted aggregate revenues in order to obtain an estimate of the trend in LEC costs.

¹ AT&T's analysis of the FCC model showed that growth in input prices minus growth in TFP is equal to growth in revenue minus growth in output, i.e., growth in revenue per unit of output, provided that both revenue and the input price index contain the same adjustment for excess earnings. Since growth in revenue per unit of output can be regarded as a measure of the historical trend in prices, the same X value can be obtained from either a TFP-based or price-based series of calculations.

Areas of Disagreement

The three areas of disagreement consist of the adjustment for excess earnings, the use of interstate versus total company data, and the measurement of LEC output. Because the latter issue was not addressed in USTA's recent ex parte, only the first two items need to be covered here.

Not surprisingly, the adjustment for excess earnings has been one of the more contentious issues in this proceeding. This adjustment depends critically on estimates of the LECs' cost of capital. Using two alternative approaches, AT&T estimated that the LECs' cost of capital declined by about 260 basis points from 1990 to 1998² – slightly less than the 282 basis point decline implied in the FCC's capital rental price calculations. USTA's consultant Gollop, on the other hand, implicitly assumed an increase in the LECs' cost of capital from 10.3% to 19% over the same period. As explained in AT&T's reply comments (Appendix A, pp. 1-3), the revenue adjustments associated with Gollop's cost of capital index result in the RBOCs' aggregate rate of return rising from 10.3% in 1990 to 19% in 1998.³

In contrast with AT&T's analysis, no evidence was provided in support of the dramatic rise in the cost of capital claimed by Gollop. Needless to say, no such evidence exists. Even USTA's cost of capital consultant, James H. Vander Weide, estimated that the trend in the "market competitive cost of capital" has been relatively flat, going from 13.5% in 1991 to 13.78% in 1998.⁴

In any event, it is necessary to make some assumption about the LECs' cost of capital and its trend over the study period. One simply cannot avoid examining the trend in LEC costs and earnings. When Taylor asserts that "The direct method is a rate of return methodology that has been rejected by the Commission," he is simply bemoaning the fact that AT&T's estimated cost of capital, or any other reasonable estimate for that matter, does not exhibit the same upward trend as the rates of return realized by the LECs. But neither do the cost of capital estimates of the FCC or Vander Weide.

The final issue is that of interstate versus total company data. Taylor repeats his pious incantations against the use of interstate data: "...if interstate TFP growth is not defined, then the Direct Method formula is incorrect" (para. 3). However, as AT&T has emphasized repeatedly, it is not necessary to estimate a "theoretically pure" measure of interstate productivity growth to calculate an interstate X-factor. The primary objective is to estimate the trend in the aggregate cost of interstate services. Although the LECs object to the use of interstate cost data for relying on cost allocations, they have failed to

² AT&T Comments in Dockets 94-1 and 96-262 (1/7/00), Appendix A, pp. 6-7; "Selected Issues in Calculating the X-Factor," AT&T Ex Parte (2/24/00), pp. 9-11.

³ These alternative cost of capital estimates, along with their impact on the X-factor, are summarized in AT&T's 2/24/00 ex parte, pp. 11-12 and Table 1.

⁴ USTA Comments in Dockets 94-1 and 96-262 (1/7/00), Attachment 5. As explained by William H. Lehr, Vander Weide's estimation of the trend in the LECs' weighted average cost of capital was substantially biased upwards, mainly because of its unrealistic assumption that only 17% of new LEC investment is financed by debt. AT&T Reply Comments in Dockets 94-1 and 96-262 (1/24/00), Appendix B, pp. 8-9.

show why such data is necessarily biased. Specifically, they have not provided any reason to believe that the trend in reported interstate costs over time is biased downward, causing the X-factor to be biased upward.

Moreover, X-factors estimated by the LECs also rely on allocated costs – namely the costs allocated to the LECs’ regulated activities under the Commission’s Part 64 rules for allocating costs between regulated and non-regulated activities.⁵ The use of allocated costs based on accounting data is thus unavoidable. AT&T’s position is simply that costs allocated to the interstate jurisdiction provide a better measure of the trend in costs for interstate services than do the costs allocated to the LECs’ entire regulated operations.

It is also worth noting that use of total company data raises further difficulties of measuring total output. Much of the growth in local services, which comprises nearly 60% of total output in the FCC model, has occurred via growth in various features and ancillary services that can not be measured in terms of simple physical units. Limiting the analysis to interstate services avoids the complications inherent in measuring output of intrastate services. Most of the LECs’ interstate output consists of wholesale services provided to other carriers, which are more conducive to measurement in terms of relatively simple physical units.

It is therefore highly misleading to characterize the use of total company data as “economically correct” while use of interstate data is alleged to be “economically meaningless.” Both approaches necessarily entail the use of approximations and imperfect data.

Taylor’s Other Arguments

Two other arguments made by Taylor merit a response.

First, Taylor attempts to minimize the differences between the LECs’ mix of interstate services and their mix of intrastate services, noting that “about 80% of the price cap LECs’ interstate access revenues are recovered on a flat-rate basis” (para. 15). This may be true, but ignores the fact that a substantial portion of these flat-rated services has experienced substantial growth and is characterized by significant economies of density – e.g, special access and dedicated switched transport.⁶ Similarly, there is also some truth to Taylor’s statement that “As a factual matter, the growth rate of interstate services no longer exceeds that of intrastate services” (para. 15). This is true for the last few years when DEMs (dial equipment minutes) are used to measure the quantity of local service, as in the FCC’s analysis. However, what matters here is the historical growth reflected in the studies used to determine the X-factor. These studies rely on data going back to 1985 or 1990, during which growth in interstate services has substantially exceeded that of intrastate services. Taylor’s point would be relevant only if the X-factor were based on post 1995 data.

⁵ These costs are reflected in the “capital rental price” component of the models presented by various parties in this proceeding, including that of USTA.

⁶ This point is discussed in AT&T’s 2/24/00 *ex parte*, p. 7.

Second, Taylor claims that AT&T mischaracterized his 1996 testimony in a North Carolina regulatory proceeding, asserting that he never implied that an intrastate measure of TFP exists or that a TFP-based productivity offset can be calculated for intrastate services. Taylor's response totally misses the point. AT&T cited Taylor's North Carolina testimony in support of the proposition that X-factors can and ought to differ between state and interstate jurisdictions. Whether or not such differentials are based on TFP measurements is completely beside the point. The point is that Taylor clearly articulated the need for lower X-factors at the state level and implied that this is based on differences in productivity growth among services: "It is reasonable to expect that productivity growth experienced historically in this market [for interstate access services] would be substantially greater than the overall rate of productivity growth experienced by local exchange companies in supplying all services."⁷

Conclusion

Taylor's entire argument boils down to the following propositions:

- The FCC's X-factor determination is based on TFP analysis.
- There is no such thing as interstate TFP.
- The X-factor must therefore be based on total company TFP, as any attempt to calculate an interstate X is economically meaningless.

Once it is recognized that X-factors equivalent to those calculated by the FCC can be calculated on the basis of growth in LEC revenue, there is no longer any requirement that the X-factor must be explicitly based on a TFP calculation. The central objective in this proceeding is to estimate the trend in LEC costs, of which TFP growth is only one component. LEC objections against measuring interstate TFP only serve to divert attention from the primary objective of how best to determine the trend in costs for interstate services regulated by the FCC.

⁷ Amended Direct and Rebuttal Testimony of Dr. William E. Taylor (Carolina Telephone and Telegraph Co. and Central Telephone Co.), North Carolina Utilities Commission, Docket No. P-7, sub. 825, P-10, sub. 479, February 9, 1996, at 36.