TW Ex. #2A

Before the

PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of The Ohio Bell Telephone Company for Approval of an Alternative Form of Regulation.

Case No. 93-487-TP-ALT

Supplemental Testimony

of

DAVID J. RODDY

witness for intervenor

Time Warner AxS

August 8, 1994

TABLE OF CONTENTS

SUPPLEMENTAL TESTIMONY

Introduction

Q. Please state your name, position and business address.

A. My name is David J. Roddy. I am Vice President and Senior Economist at Economics and Technology, Inc., a consulting firm specializing in telecommunications economics, regulation and public policy. My business address is One Washington Mall, Boston, Massachusetts 02108.

Q. Dr. Roddy, have you previously submitted pre-filed direct testimony in this proceeding?

A. Yes, I submitted testimony on May 5, 1994 on behalf of Time Warner A_xS.

Q. What is the purpose of your supplemental testimony at this time?

A. I have two objectives at this time; both concern the productivity and input price issues that are a major focus of this proceeding. The "productivity offset" or "X factor" value is a critical component of Ohio Bell Telephone's ("OBT's") Alternative Regulation Plan. The number that the Commission selects will have a significant impact on Ohio ratepayers. At the hearings on July 19, 1994, Ohio Bell witness Dr. Laurits Christensen revised his productivity offset recommendation as a result of a recent Bureau of Labor

Statistics ("BLS") report.[1] The first objective of this supplemental testimony is to explain to the Commission Dr. Christensen's BLS-based revisions. In that regard, I show why my original productivity and input price study[2] represents an approach that is more accurate and much fairer to Ohio ratepayers. Additionally, Dr. Christensen claimed that a new national study conducted by him further supports his results for Ohio Bell Telephone.[3] The second objective of this Supplemental Testimony is to determine if this conclusion by Dr. Christensen is correct.

Summary of testimony

Q. Dr. Roddy, what were your original recommendations regarding the value of the X factor?

---

1. Public Utilities Commission of Ohio, *In the Matter of the Application of the Ohio Bell Telephone Company for Approval of an Alternative Form of Regulation*, Case No. 93-487-TP-ALT, Christensen Testimony, Transcript Volume XVI, at 9-11 citing Report No. USDL 94-327, "Multifactor Productivity Measures, 1991 and 1992," U.S. Department of Labor, *Bureau of Labor Statistics*, Washington, D.C., July 11, 1994.

2. Direct Testimony of David J. Roddy on behalf of Time Warner A_xS, Public Utility Commission of Ohio, Docket No. 93-487-TP-ALT, *In the Matter of the Application of the Ohio Bell Telephone Company for Approval of an Alternative Form of Regulation*, May 5, 1994.

3. Christensen (OBT) at Tr. Vol. XVI, 17-19 citing L. Christensen, P. Schoech, and M. Meitzen, "Productivity of the Local Operating Telephone Companies Subject to Price Cap Regulation," Christensen Associates, submitted as Attachment 6 to the *Comments of the United States Telephone Association*, FCC CC Docket 94-1, May 9, 1994 at 12. ("Christensen 1994 National Study"). Some of the underlying data, including the input price data, for the Christensen 1994 National Study was not included in the original May 1994 Filing. It was subsequently provided in the *Response of the United States Telephone Association to Ad Hoc's Motion to Compel and Motion for Extension of Time*, June 2, 1994 ("Christensen 1994 Supplementary National Data").

A. In my direct testimony, I stated that the correct calculation of the X Factor includes the historic post-divestiture LEC productivity growth rate, *plus* the LEC input price differential, *plus* the appropriate "stretch factor." Based on the results of my study of Ohio LEC data for 1984-1992, I found an historic productivity growth rate of approximately 3.0% and an historic input price differential of approximately 1.0%. Addition of a 1.0% stretch factor[4] yields a final X Factor of 5.0%. Thus the recommended price adjustment formula is GDP–PI *minus* 5.0.

Q. Have you changed your recommendations as a result of the points raised in Dr. Christensen's July 19, 1994 testimony?

A. No, I have not. Both of the issues that Dr. Christensen raised actually reinforce my conclusions.

Q. Dr. Roddy, will you please summarize the major conclusions of your Supplemental Testimony?

A. There are two major conclusions of my testimony. First, Dr. Christensen's reliance on BLS national economy data ignores the actual input price history of OBT that he calculated and the input price history of Ohio LECs that I calculated. Second, the recent national productivity study conducted by Dr. Christensen — when properly analyzed — firmly supports my findings and conclusions. That national study actually weakens

4. The stretch factor was discussed in the May 5, 1994 direct testimony of Dr. Lee L. Selwyn on behalf of Time Warner A_xS.

OBT's arguments regarding the correct input price differential to be used in the alternative regulation plan. Thus, I continue to recommend a price regulation plan of GDP–PI *minus* 5.0.

LEC PRODUCTIVITY AND INPUT PRICES

Dr. Christensen's reliance on BLS national economy productivity data ignores the actual input price history of OBT that he calculated and the input price history of Ohio LECs that I calculated.

Q. Dr. Roddy, how do your comments in this supplemental testimony relate to OBT's proposed alternative regulation plan?

A. The Ohio PUC faces a variety of concerns as part of its review of Ohio Bell Telephone's ("OBT") application for alternative regulation. One of the most important issues is the determination of a specific numerical value for the productivity offset which is sometimes called the "X Factor". OBT has recommended a variety of values for the X factor. Based on an original calculation of 2.8% OBT productivity, Dr. Christensen subtracted a BLS figure of 0.9% to arrive at an X Factor of 1.9%.[5] This produced a price adjustment formula of GDP–PI *minus* 1.9. Since the BLS figure has been revised to 0.3%, OBT's apparent recommendation would be 2.8% minus 0.3% for a final price adjustment formula of GDP–PI *minus* 2.5%.[6] In contrast, my recommendations lead to a price adjustment formula of GDP–PI minus 5.0.[7]

---

5. Christensen Testimony, Ohio Bell Exhibit 26.0, at 15. Also see Romo Testimony, Ohio Bell Exhibit 25A.0, at 2.

6. Thus, the downward revision of the BLS figure by 0.6 percentage points would cause an upward revision in OBT's X Factor of 0.6 percentage points. However, Dr. Christensen also mentions a 2.2% X Factor figure as well. Christensen (OBT) at Volume XVI, 10.

7. Roddy Direct Testimony at 37.

Q. As a general matter, how should the "X factor" in the price adjustment formula (sometimes referred to as a "productivity offset") be established?

A. As I noted above, there are three components of the "X Factor." These are the historic LEC productivity growth rate, the historic rate of LEC input price growth relative to GDP–PI, and a "stretch factor". The issue that I discuss in this supplemental testimony concerns the difference between the growth rate of LEC input prices and the growth rate of GDP–PI.

Q. Does Dr. Christensen's analysis incorporate the fact that LEC input prices have grown much more slowly than GDP–PI in the 1984-1992 time period?

A. No, it does not. As I noted in my direct testimony, he incorrectly assumes that LEC input prices rise at a rate of GDP–PI plus the BLS productivity rate.[8] Before the BLS revision, this was GDP–PI *plus* 0.9%; after the July 11, 1994 BLS revision, this becomes GDP–PI *plus* 0.3%.

Q. How is this different from your input price recommendation?

A. I make a calculation based on actual historical data for Ohio LECs. This contrasts with Dr. Christensen who simply makes an assumption (without any recent supporting data) that OBT input prices grew at a rate of GDP–PI *plus* 0.9%. In contrast, my results show

8. Roddy Direct Testimony at 28.

that Ohio LEC input prices rose at a rate of GDP–PI *minus* 1.0% for the 1984-1992 time period. Thus the price adjustment should incorporate an input price differential of 1.0%.

Q. Why does the input price differential need to be included?

A. Basically, we are adjusting for the fact that LEC input prices have grown much more slowly than GDP–PI. Since the price adjustment formula uses GDP–PI directly, this factor must be incorporated explicitly into the price adjustment mechanism. This is because one of the goals of the alternative regulation plan should be to emulate the workings of a competitive market. In a competitive environment, firms would pass on input price changes only to the extent that they actually occur.

Q. Could you please explain the BLS government data revision that Dr. Christensen mentioned at the hearings on July 19, 1994?

A. Yes, I will. A summary of the input price issue is contained in Figure 1. That figure clearly shows the difference between the incorrect Christensen assumption and his calculations based on actual OBT data shown in his responses to data requests. The incorrect assumption shows the GDP–PI *plus* 0.9% on the far right of the line. The actual Christensen input price calculation for OBT was 2.6% which (since GDP–PI grew at 3.7%) is represented in the Figure as GDP–PI *minus* 1.1% on the far left of the line.[9]

---

9. Ohio Bell Response to Data Request No. 2 at response 68 (November 4, 1993). My figure for the top 5 Ohio LECs is very similar at GDP–PI *minus* 1.0. I use the Christensen OBT value in Figure 1 to contrast his own actual calculations with his incorrect assumption.

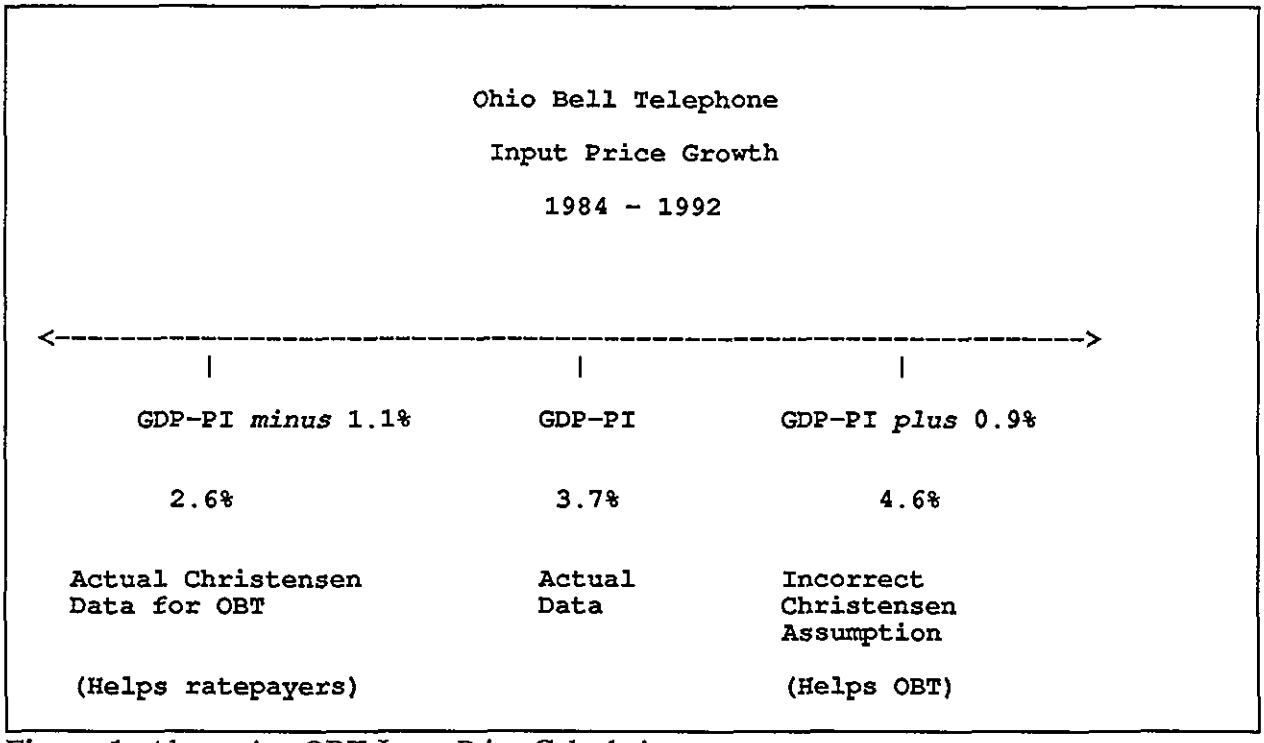

Figure 1 Alternative OBT Input Price Calculations

Q. But how does the BLS revision affect Figure 1?

A. Since the 0.9% BLS value has been revised to 0.3%, Dr. Christensen's (still incorrect) assumption moves slightly to the left to a point we could show as GDP–PI *plus* 0.3%.[10]

Q. Does this BLS revision help Ohio ratepayers?

10. The 0.3% value is taken from Report No. USDL 94-327, "Multifactor Productivity Measures, 1991 and 1992," U.S. Department of Labor, *Bureau of Labor Statistics*, Washington, D.C., July 11, 1994.

A. Yes, it does somewhat. However, his assumption is still incorrect. The result is not nearly as accurate as if we had used the actual input price growth that OBT actually experienced over the 1984 through 1992 time period. The accurate approach requires the use of the GDP–PI *minus* 1.0 formulation.

Q. How does the BLS government data revision affect your study and your recommended productivity offset?

A. Since I use the actual Ohio LEC input prices, it has no affect on my calculations and recommendations. Referring to Figure 1 shows that the actual OBT historical input prices are completely unaffected by the recent BLS report. Specifically, my calculations for Ohio LECs do not need to be revised at all as a result of the new BLS data.[11] The conclusion remains the same: whether one uses actual OBT data or actual Ohio LEC data, it is very clear that Ohio LEC input prices grew at a rate less than GDP–PI.

The recent national productivity study conducted by Dr. Christensen — when properly analyzed — firmly supports my findings and conclusions; that study actually weakens OBT's arguments regarding the correct input price differential to be used in the alternative regulation plan.

Q. At the hearings on July 19, 1994, Dr. Christensen referred to a recent national productivity study conducted by him. Are you familiar with that study?

---

11. The same is true of Dr. Christensen's actual calculations which resulted in the 2.6% OBT input price growth rate. Dr. Christensen found a 1.1% input price differential for OBT; I found a very similar 1.0% input price differential for Ohio LECs. Roddy Direct Testimony at 32-33.

A. Yes, he was referring to the Christensen 1994 National Study cited earlier at footnote 3 herein, which was submitted to the FCC on behalf of the United States Telephone Association ("USTA") in May of 1994. I have analyzed that study in detail and have prepared a critique of it which was also submitted to the FCC.[12]

Q. Why did Dr. Christensen mention this study at the hearings?

A. It appears that he mentioned the study because he believed that it supported his conclusions concerning OBT's recommended X Factor.[13]

Q. Do you agree with his assessment?

A. No, I do not. There are three components to the X factor: the historic productivity calculation, the historic input price calculation, and the "stretch factor" determination. It is true that his OBT productivity calculation and his national productivity calculation are very similar. However regarding input prices, there is a large difference between his national calculations and his recommendations in this proceeding.

Q. What input price growth rate did Christensen's 1994 national productivity study find?

---

12. D. Roddy and L. Selwyn, "An Empirical Estimate of the LEC Price Cap 'X Factor' Based Upon Historic National LEC Productivity and Input Price Trends", Reply Comments of the Ad Hoc Telecommunications Users Committee, FCC CC Docket 94-1, *In the Matter of Price Cap Performance Review for Local Exchange Carriers*, June 29, 1994.

13. Christensen (OBT), at Volume XVI, 17-18.

A. The data show that national LEC input prices grew at a 1.1% growth rate for the 1984 through 1992 time period.[14] Dr. Christensen's own national data show that national LEC input prices started at an index value of 1.000 in 1984 and grew to a value of 1.088 in 1992.[15] This is an 8.8% growth for 8 years which equals 1.1% per year. Since GDP–PI grew at a 3.7% rate,[16] national LEC input prices grew at a rate of GDP–PI *minus* 2.6%.

Q. Does this support your conclusions regarding the input price differential?

A. Yes, it certainly does. My main point is that LEC input prices have grown far more slowly than GDP–PI in the 1984 through 1992 time period. The 1.1% national LEC rate is clearly much less than the GDP–PI rate of 3.7%.

Q. What input price differential do you recommend?

A. Based on the Ohio LEC data analysis reported in my direct testimony (and supported by Dr. Christensen's OBT data analysis), I found a 1.0% input price differential. That continues to be my recommendation.

---

14. *Response of the United States Telephone Association to Ad Hoc's Motion to Compel and Motion for Extension of Time*, June 2, 1994 at Table 1.

15. *Id.*

16. U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, Vol. 73, No. 9, September, 1993 at 53.

Q. What conclusion should the Commission reach regarding the input price differential?

A. The GDP–PI grew at a rate of 3.7% for the 1984 through 1992 time period. Ohio data show that Ohio LEC input prices grew at 2.7%. Ohio Bell Telephone data show that OBT input prices grew at 2.6%. National LEC data show that national LEC input prices grew at 1.1%. The conclusion is inescapable. LEC input prices since divestiture grew far more slowly than GDP-PI.

Conclusions

Q. Dr. Roddy, will you please summarize your major conclusions?

A. There are two major conclusions of my testimony. First, Dr. Christensen's reliance on BLS national economy data ignores the actual input price history of OBT that he calculated and the input price history of Ohio LECs that I calculated. Second, the national productivity study conducted by Dr. Christensen — when properly analyzed — firmly supports my findings and conclusions. That national study actually weakens OBT's arguments regarding the correct input price differential to be used in the alternative regulation plan. Thus, I continue to recommend a price regulation plan of GDP–PI *minus* 5.0.

Q. Does that conclude your supplemental testimony at this time?

A. Yes, it does.