

The Myth of Below-Cost UNE Prices

Abstract: The claim that UNE-P prices are “below cost” is evaluated by comparing such revenues with the wholesale expenses of providing the service. Embedded wholesale expenses related to the provision of UNE-P service are estimated to be about \$17.47 per line/month, falling below the average UNE-P revenue of \$24.43 by about \$7 per month. This \$7 margin implies a 20% return to embedded capital on average. The analysis confirms the declaration of SBC CFO Randall Stephenson that the company “makes money” and is “[incented] to invest” at a UNE-P price of about \$20, which provides SBC a return to capital of 17%.

Bell Operating Companies (“BOCs”), financial analysts, reporters, and others repeatedly claim that the wholesale prices for the combination of unbundled network elements (“UNEs”) known as UNE-Platform or UNE-P are “below cost.”¹ The average revenue received by a BOC for UNE-P -- the combination of an unbundled loop, switching, and transport -- is about \$22 to \$25, depending on the estimate.² The variance is wide, however, with UNE-P revenues as low as about \$13 in some states, but well over \$30 in others. These wholesale revenues are frequently below the typical revenues for residential consumers of about \$35 for local service, and well below small business revenues.³ To support a claim that UNE-P prices are “below cost,” it is necessary to compare such prices to an estimate of the wholesale cost of providing UNE-P services.⁴

¹ See, e.g., SBC Press Release (September 17, 2002) where, according to SBC President Richard Daley, TELRIC pricing is “below cost” and is an “irrational and unsustainable subsidy that is threatening the future of our telecommunications infrastructure;” Mark Wigfield, Dow Jones Newswires (Feb 18, 2002); *Status & Implications of UNE-Platform in Regional Bell Markets*, Capital Commerce Markets (November 2002); *How Much Pain From UNE-P?* Global Equity Research, UBS Warburg (Aug. 20, 2002).

² See T. R. Beard and C. Klein, *Bell Companies as Profitable Wholesale Firms: The Financial Implications of UNE-P*, PHOENIX CENTER POLICY PAPER NO. 17 (November 2002): www.phoenix-center.org.

³ UBS Warburg, *supra*.

⁴ For an earlier effort to compute wholesale costs for UNE-P, see Beard and Klein, *supra*.

Repeated claims of “below cost” UNE-P prices contrast sharply with the claims of at least one BOC senior executive, and are not consistent with the assessment of wholesale costs made by the BOC themselves. For example, SBC’s Chief Financial Officer (“CFO”), Randall Stephenson stated in September 2002 at an investor conference:⁵

... in the State of Texas its about a \$20 [to] \$21 UNE-P. In the State of Texas you have a ... rational model; ... at \$20 to \$21 you have good vibrant competition, and it’s not at such a level where we cannot earn money or are disincented to invest.

Clearly, any claim that UNE-P revenues in Texas are “below cost” conflicts plainly with the opinion of SBC’s CFO. Mr. Stephenson also claimed that “if it starts to slip below that level, you’ve got a model that’s not sustainable.” It is true that UNE-P revenues are below \$20 in some states, though not many. As a starting point, it is reasonable to conclude that SBC views its wholesale costs per UNE-P line as somewhere between \$15 and \$20, since Mr. Stephenson also claims that a UNE-P price of \$15 is “below cost.”

The purpose of this brief paper is to attempt to reconcile Mr. Stephenson’s claims with data submitted by the company (and the other BOCs) to the FCC as part of the Automated Reporting Management Information System (“ARMIS”). The ARMIS data contains detailed expense and investment data, and this data can be used to assess Mr. Stephenson’s claims regarding UNE-P

⁵ Speech by SBC Chief Financial Officer Randall Stephenson at the BAS 32nd Annual Investment Conference, September 2002.

revenues, costs, and the incentive to invest.⁶ Importantly, the goal here is to estimate wholesale costs, not retail costs.

The findings are summarized as follows. First, wholesale operating expenses for SBC are estimated to be about \$9.49 per line/month. Second, capital expenses (including a return) for the company are estimated to be \$6.42 per line/month. So, total wholesale costs are just about \$16 per line/month. This estimated wholesale cost is plainly consistent with the range established by Mr. Stephenson. With revenues of \$20 per line/month, SBC is clearly “making money” and receiving a return to capital sufficient so that the company is “[incented] to invest.”

Across all BOCs, the average wholesale operating expense per line is about \$10, and capital expenses are about \$7.50, for an average total wholesale cost of about \$17.50 per line/month. Compared to UNE-P revenues, UNE-P is a profitable wholesale business at the BOC-wide level. In some states, UNE-P revenues may fall below estimated wholesale expenses, but we do not perform state-specific calculations in this paper.

Wholesale Costs per Access Line

In order to evaluate the relationship of UNE-P revenues to wholesale costs, an estimate of wholesale cost is required. To this end, the ARMIS data is used to estimate the cost of a hypothetical wholesale provider of telecommunications plant.⁷ Thus, each BOC is divided into wholesale and retail components, and only the cost of the wholesale segment is relevant to this analysis. Profitability is assessed

⁶ A firm will be disincented to invest if the return on investment is less than the firm’s cost of capital.

⁷ The ARMIS data is available online at www.fcc.gov/wcb/armis/db.

in Section III by subtracting from UNE-P revenues both wholesale operating and wholesale capital expenses. This computation is made at the BOC-wide level, and for the BOCs on average. Estimates of operating and capital expenses are described in detail in the following sections.

Wholesale Operating Expenses

BOC expenses related primarily to the provision of switched access line services can be ascertained using ARMIS Form 43-01 (Year 2001), by including only costs that are allocated in ARMIS 43-01 to “Common Line” (i.e., loops), “Traffic Sensitive Switching,” and “Traffic Sensitive Transport.”⁸ These expenses are summarized for the Interstate portion alone in ARMIS, so they must be converted to total expenses by dividing the reported expenses by the appropriate separations factor: Common Line expenses are divided by 0.25, switching expenses are divided by the ratio of interstate to total (“Subject to Separations”) dial equipment minutes (“DEMS”), and transport expenses are divided by twice the aforementioned DEMS ratio.⁹ The analysis is limited to the summary categories only, with the exception of “Plant Non-Specific” expenses, which contains some cost elements that should be allocated between wholesale and retail segments.

While Form 43-01 provides expense data at the state level, it appears that the allocation of expenses across states does not allow for reasonable state-specific estimates of expenses to be computed. For example, negative expenses are listed in some cases.¹⁰ Also, expenses of nearly all types appear to

⁸ The operating costs listed in Table 4 are further disaggregated in other ARMIS forms, including ARMIS Forms 43-03 and 43-04.

⁹ These calculations follow exactly those made a BOC expert witness. See Direct Testimony of Dr. Debra J. Aron, Texas Docket No. 25834 (Nov. 4, 2002). The DEMS factors are computed from ARMIS Form 43-04, Row 1216.

¹⁰ For example, Corporate Operations Expenses (Row 1160) in Missouri are negative.

be over-allocated to New York, Georgia, Texas, and Colorado – states where the BOCs' corporate headquarters are located.¹¹ We have no reason to believe that operating expenses differ more substantially across states within a BOC region than they do across BOCs. ARMIS includes a substantial degree of allocation across states, and we wish to avoid to the greatest extent possible any arbitrariness or strategic motivations that may accompany such allocations.¹²

All "Plant Specific" expenses are included in our measure of wholesale costs. Since some of these costs may be related to data services, this assumption, if anything, overstates actual wholesale expenses per line. From "Plant Non-Specific" expenses, we exclude costs related to Terminal Equipment, and half (50%) of those costs related to artwork, furniture, general computers, and similar items are assigned to the retail segment.¹³ "Corporate Operations" expenses are assigned using an expense allocation factor, where the factor is equal to the adjusted plant expenses divided by total expenses (excluding "Corporate Operations" and "Depreciation").¹⁴ "Access" expenses are a retail expense.¹⁵ Depreciation is a capital expense and is discussed in the next section.

While the wholesale segment does not have retail customers, it will have wholesale

¹¹ For example, per-line expenses in Georgia are 30% more than the next highest cost state, Mississippi. Colorado is reported as having per-line costs 48% higher than Montana.

¹² When performing similar calculations, SBC aggregates up to the BOC-region level. See SBC Ex Parte, CC Docket No. 01-338 (Oct. 30, 2002).

¹³ These expenses are detailed in ARMIS Form 43-03, Rows 6121, 6122, 6123, and 6124. Terminal equipment is reported in Row 6310.

¹⁴ The average allocation factor is 72%, so much of Corporate Operations is assigned to the wholesale segment.

¹⁵ Access expenses are reported as zero in ARMIS Form 43-01 for "Common Line" and "Traffic Sensitive" cost categories

customers. For each BOC, we assume that the wholesale customer service and billing operations is equal in size to the BOC's current expenses related to the billing and collection of access charges from interexchange carriers (a wholesale business). ARMIS Form 43-01 provides this expense data.¹⁶

Wholesale Capital Expenses

ARMIS Form 43-01 provides average net investment data for the "Common Line" and "Traffic Sensitive" cost categories, which are converted to a per-line net plant by application of the allocation factors to produce total net investment and then dividing by switched access lines.¹⁷

Net plant can be converted into a monthly capital payment by multiplying net plant by the annual capital charge factor and dividing by twelve. Application of the annual capital charge factor to investment produces a monthly payment that includes the depreciation and return on the investment, including tax effects.¹⁸

¹⁶ We include total expenses in the "Billing and Collection" category from ARMIS Form 43-01.

¹⁷ Following Aron, *supra*, switched access lines are increased by 5% to account for unbundled lines that are excluded from ARMIS data. SBC reported that its net plant for analog access is \$499 per line in the former Ameritech region. Our computations compute a net plant for this region of \$550. Thus, we adjust the net plant calculations downward to 91% of the computed value from ARMIS to produce an estimate for analog dialtone lines. See SBC Ex Parte, CC Docket No. 01-338 (Oct. 30, 2002).

¹⁸ The capital charge factor is $[1 - A(N, r)(t/N)] / [(1 - t)A(N, r)]$, where t is the tax rate, N is the depreciation life, $A(N, r)$ is the present value of a \$1 annuity for N years computed at the after-tax rate of return equal to r percent. Depreciation life is computed as the inverse of the percentage of net plant depreciated each year (i.e., the ratio of the change in accumulated depreciation and net plant). According to ARMIS Form 43-02, accumulated depreciation is about 10% of net plant per year on average, implying a 10-year depreciation life. The depreciation life varies by BOC (Verizon 9 years; BellSouth 10 years; SBC 11 years; Qwest 12 years). The tax rate is computed from the BOCs' Form 10-K (average of 38%). The cost of capital is based on the following assumptions: a) the cost of short-term debt is 1.31%, which is the yield on 3-Month Non-Financial Commercial Paper in December 2002; b) the average of A and

(Footnote Continued. . .)

Summary of Cost Estimates

Table 1 summarizes the BOC-specific and BOC-wide average wholesale operating, capital, and total expenses.¹⁹ Wholesale operating expenses per line range between \$9.49 to \$10.91 across BOCs, and average \$10.15.

	Wholesale Operating Expense	Capital Expense	Total Wholesale Expense
Verizon	10.80	7.15	17.95
BellSouth	10.91	9.35	20.27
SBC	9.49	6.42	15.91
Qwest	9.55	7.72	17.27
BOC-Wide	10.15	7.32	17.47

Capital costs average \$7.32 per line/month, ranging from \$6.42 to \$9.35. Total wholesale expense per line - including capital costs - are \$17.47 on average. BellSouth has the highest and SBC has the lowest total wholesale expense. This relation holds for UNE-P revenues as well, though BellSouth's revenue advantage substantially exceeds the cost differential.

AA rated corporate bonds in December 2002; and an average of the cost of equity of 7.52% computed using the Discounted Cash Flow ("DCF") method (which, in its most basic form, sets the cost of equity equal to the dividend yield plus the expected growth rate in earnings or dividends) using the average of the BOC dividend yields and consensus growth estimates as of December 2002 (www.marketguide.com); and d) a capital structure of 40% debt and 60% equity, with short-term debt making up 20% of debt. As of December 2002, the inputs for the DCF method were (Dividend Yield, Long-term Growth): Verizon (3.89%, 4.08%), BellSouth (2.95%, 4.06%), and SBC (3.74%, 3.85%). Given problems with Qwest's financial statements, we exclude Qwest from the computation.

¹⁹ Retail costs are computed using ARMIS Form 43-03. Based on the allocations in ARMIS Form 43-01, we assume 75% of expenses in this form are allocated to switched access lines (25% to special access lines). Depreciation is excluded, as it is a capital cost.

Revenues, Expenses, and Profit

To evaluate the *accounting* profitability (not *economic* profitability) of UNE-P wholesale services sold by the BOCs.²⁰ The gross margin is equal the difference between UNE-P revenues and wholesale operating expenses, whereas the net margin is equal to revenues minus total wholesale expenses.²¹

On average, the gross margin for the BOCs is \$14.28, or 58% of wholesale revenues. The margins vary substantially, with the largest margins found in the BellSouth region (\$21.89) and the smallest in the SBC region (\$11.08).

	UNE-P Rev.	Gross Margin	Net Margin	Implied Return (Pre Tax)
Verizon	24.43	13.63	6.48	21%
BellSouth	32.80	21.89	12.53	26%
SBC	20.57	11.08	4.66	17%
Qwest	24.63	15.08	7.36	19%
BOC-Wide	24.43	14.28	6.96	20%

Including capital expenses in the computation of wholesale net margins does not alter the conclusions -- wholesale margins remain positive. On average, the wholesale net margin is \$6.96, or 28% of revenues. Again, SBC has the lowest margin (\$4.66) and Bellsouth the highest (\$12.53). Implied returns to capital are summarized in the final column of Table 2. These implied returns are computed by increasing the cost of capital until net profits are zero. On average, the return to capital for wholesale access lines is 20%. Thus, from the perspective of a wholesale provider of

²⁰ Economic profits are based on forward-looking, economic costs. The computations in this paper are more akin to accounting profits, since they are based on embedded and current costs.

²¹ UNE-P revenues are provided by Beard and Klein (2002), *supra*, and are based on the revenue estimates of a CLEC providing service in 46 states. If the UNE-P prices of Commerce Capital Markets are used, the profit margins remain positive for all BOCs, with an average return to capital of 19%. See Beard and Klein, *supra*, and Capital Commerce Markets, *supra*.

telecommunications plant, UNE-P is *profitable*. As mentioned previously, since UNE-P prices vary by state, profitability will vary by state.

Conclusions

The purpose of this paper was to consider the claim that UNE-P prices are “below cost.” Specifically, the paper attempts to reconcile with ARMIS data the declaration of SBC CFO Randall Stephenson that the company “makes money” and is “[incented] to invest” at a UNE-P price of about \$20, and that a UNE-P price of \$15 is below cost.

The analysis contained in the paper suggests that embedded wholesale expenses related to the provision of UNE-P service average about \$17 per line/month for SBC and the BOCs as a whole. Thus, Mr. Stephenson’s statement is consistent with the cost data filed by BOCs in the ARMIS data. Current UNE-P revenues provide the BOCs, on average, a 20% return to capital.

Importantly, the analysis did not estimate forward-looking expenses or investments, but considers only the relationship of UNE-P revenues to embedded expenses (what some call “actual” costs). The relevant standard for setting UNE prices is Total Element Long Run Incremental Cost, which bears no fixed relationship to embedded expenses.

By George S. Ford, Ph.D.

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